Electronic Submittal

SFOBB EAST SPAN

FOUNDATION REMOVAL PROJECT

Statement of Qualifications

June 3, 2014

Submitted to:

CALTRANS

State of California

Department of Transportation

Submitted by: **Kiewit/Manson, AJV**

June 3, 2014

Ms. Denetia Floyd-Smith, Contract Analyst
State of California Department of Transportation
Administration
Division of Procurement and Contracts
1727 30th Street
Sacramento, CA 95816-7006

Re: San Francisco-Oakland Bay Bridge East Span Foundation Removal Project (Foundation Removal)
Request for Qualifications–Contract No. 040135CM

Dear Ms. Floyd-Smith:

The San Francisco Bay is a valued resource for Californians. Completing the final phase of the Bay Bridge Replacement Program—the Foundation Removal—will allow this resource to continue to function smoothly. The California Dept. of Transportation (Caltrans) is recognized nationwide as one of the best and seeks a partner that will provide expert advice and support throughout preconstruction and provide resources and expertise to perform the construction contract itself.

We are that partner: Kiewit/Manson, AJV (Kiewit/Manson) brings together two of the most versatile marine construction companies in North America. We have the right combination of preconstruction experience, demolition capability, and marine capacity. Our long history working with Caltrans includes constructing the San Francisco–Oakland Bay Bridge Skyway and E2/T1 segments.

To address the project's intricacies, we have added Contract Drilling & Blasting LLC (CDB) and Environmental Science Associates (ESA) to our team. CDB brings specialized and innovative techniques, including those that Caltrans used to develop the Pier E3 study. ESA is a San Francisco-based subcontractor offering extensive Bay Area environmental experience exclusively to our team. Their knowledge of the permitting sequence and local agencies will help navigate the environmental review process and maintain compliance.

The Foundation Removal is a complex project, and we are committed to using the preconstruction phase to evaluate and remove risks by innovating sound approaches so there are fewer surprises. As Construction Manager, we will work closely with Caltrans to maintain quality and streamline the process by providing advice regarding schedule, price, phasing, and risk management. We will offer input to the design through constructability reviews and direct involvement in the on- and off-site demonstrations. We'll also provide access to the Port Mann Bridge in Vancouver, BC, where Kiewit and CDB are currently blasting seven in-water piers in the Fraser River and producing data that can expand the E3 demolition model.

Like Caltrans, we understand the complexities of marine construction. Our on-site experience on Skyway and E2/T1, our recent work on CMGC projects, access to similar ongoing work, extensive hands-on expertise, and the most capable marine construction fleet on the west coast make Kiewit/Manson a combination that cannot be matched by any other team; one that will help Caltrans move smoothly from preconstruction through the final demolition on time, within budget, and to Caltrans' satisfaction.

Kiewit and Manson were there with Caltrans at the beginning of the Bay Bridge Replacement Program and we look forward to working with you again to complete this historic project.

Sincerely,

A.T. (Tom) Skoro
Attorney-in-Fact

TABLE OF CONTENTS

Form A - Transmittal Letter and Form G - Proposer SOQ Certification
- Form A - Transmittal Letter
- Form G - Proposer SOQ Certification

Section 1 - Legal Structure
- Form E - Proposer's Organization Information
- Form F - Proposer's Small Business and Disabled Veterans Business Enterprise Declaration Affidavit
- DVBE Requirements Std. Form 840
- Bidder Declaration GSPD-05-105

Section 2 - Financial Capacity
- Performance and Payment Bond Verification
- Insurance Certifications

Section 3 - Safety Program
- Safety Record
- Citation Summary
- Safety Program Summary

Section 4 - Firm Experience and Past Performance
- Narrative Summaries
- Form B - Project Descriptions
- Summary of Claims

Section 5 - Proposer Organization and Key Personnel
- Form D - Proposed Key Personnel Information
- Licensing Evidence

Section 6 - Project Understanding and Approach

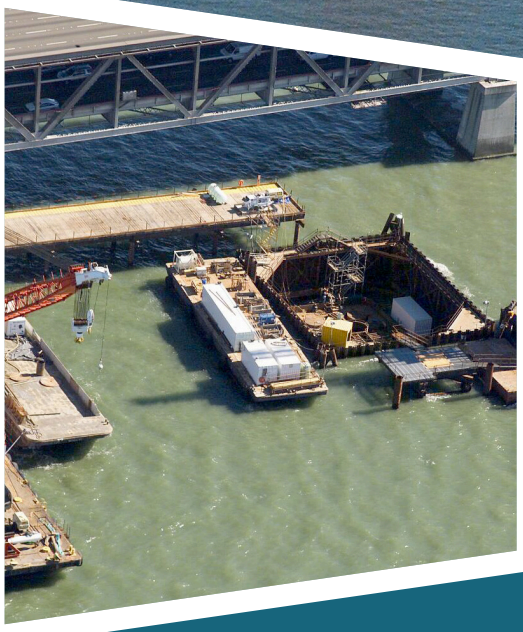
Appendix A - Resumes

Appendix B - Legal Documents
- Power(s) of Attorney
- Organization Documents

Frequently Used Abbreviations

Alaska Department of Fish and Game **(ADFG)**
Alaska Railroad Corp. **(ARRC)**
Benicia–Martinez Bridge SR-680 **(Benicia Bridge)**
British Columbia Ministry of Transportation **(Ministry)**
California Department of Fish and Wildlife **(CDFW)**
California Department of Transportation **(Caltrans)**
California Environmental Quality Act **(CEQA)**
California State Lands Commission **(CSLC)**
Clean Water Act **(CWA)**
Contract Drilling & Blasting LLC **(CDB)**
Environmental Science Associates **(ESA)**
Kiewit Infrastructure Group Inc. **(KIG)**
Kiewit Infrastructure West Co. **(Kiewit)**
Kiewit/Manson, AJV **(Kiewit/Manson)**
Manette Bridge 303/4A Replacement **(Manette Bridge)**
Manson Construction Co. **(Manson)**
National Environmental Policy Act **(NEPA)**
National Historic Preservation Act **(NHPA)**
National Marine Fisheries Service **(NMFS)**
National Oceanic and Atmospheric Administration **(NOAA)**
Naval Facilities Engineering Command **(NAVFAC)**
Northern Rail Extension Phase 1 **(Tanana River Bridge)**
P-327: Demolition and Replacement of Pier 12 and Upgrade to Pier 13 **(Pier 12)**
Pitt River Bridge and Mary Hill Interchange **(Pitt River Bridge)**
Port Mann Bridge/Highway 1 Improvements **(Port Mann Bridge)**
Port of Long Beach Pier T Marine Terminal Construction, Phases I, II, III **(Pier T)**
Regional Water Quality Control Board **(RWQCB)**
Replace Piers 10 & 11, Naval Station San Diego **(Piers 10 & 11)**
Rivers and Harbors Act **(RHA)**
San Francisco–Oakland Bay Bridge Pile Installation Demonstration Project **(PIDP)**
San Francisco Bay Conservation and Development Commission **(BCDC)**
San Francisco–Oakland Bay Bridge **(SFOBB)**
San Francisco–Oakland Bay Bridge Foundation Removal Project **(Foundation Removal)**
San Francisco–Oakland Bay Bridge—Skyway Segment **(Skyway)**
San Francisco–Oakland Bay Bridge, SAS Foundations E2/T1 **(E2/T1)**
U.S. Army Corps of Engineers **(USACE)**
U.S. Fish and Wildlife Service **(USFWS)**
Washington State Department of Transportation **(WSDOT)**
Willis Ave Swing Bridge **(Willis Avenue Bridge)**

San Francisco–Oakland Bay Bridge
East Span Replacement - Skyway Segment



Form A - Transmittal Letter and Form G - Proposer SOQ Certification

Form A - Transmittal Letter and
Form G - Proposer SOQ Certification

"The professionalism shown by this contractor is at the top of what I've seen in my 20-year contract administration career. They run a very carefully planned and safe project."

— William Howe, Assistant Resident Engineer,
San Francisco–Oakland Bay Bridge
East Span Replacement Skyway Segment,
Caltrans

Form A - Transmittal Letter

Form A
TRANSMITTAL LETTER

SOQ Date: June 3, 2014

California Department of Transportation
Division of Procurement and Contracts
1727 30th Street
Sacramento, CA 95816-7006
Attn: Denetia Floyd-Smith, Contract Analyst

The undersigned ("Proposer") submits this proposal and statement of qualification submittal (this "SOQ") in response to that certain Request for Qualifications dated as of April 22, 2014 (as amended, the "RFQ"), issued by California Department of Transportation ("Department") to provide preconstruction services and demolish the related facilities within the State Route 80, as described in the RFQ.

Enclosed, and by this reference incorporated herein and made a part of this SOQ, are the following:

Transmittal Letter (this Form A)

Form G, Proposer's SOQ Certification

Section 1: Legal Structure

Section 2: Financial Capacity

Section 3: Safety Program

Section 4: Firm Experience and Past Performance

Section 5: Proposer Organization and Key Personnel

Section 6: Project Understanding and Approach

Appendices A & B (Resumes and Legal Documents)

Proposer acknowledges receipt, understanding, and full consideration of all materials posted on the BidSync website (http://www.BidSync.com) as set forth in Section 1.3, and the following addenda and sets of questions and answers to the RFQ:

Questions and Answers	5-21-14
Addendum #1	4-24-14
Addendum #2	5-01-14
Addendum #3	5-07-14
Addendum #4	5-22-14 (Caltrans Addendum #1 dated 5-21-14)

Proposer represents and warrants that it has read the RFQ and agrees to abide by the contents and terms of the RFQ and the SOQ. If the Proposer consists of more than one entity, all members of the Proposer entity agree to accept joint and several liability for performance under the Contract. Proposer understands that Department is not bound to award a contract and may reject each SOQ Department may receive. Proposer further understands that all costs and expenses incurred by it in preparing this SOQ and

Proposer's business address:

4650 Business Center Drive

(No.) (Street) (Floor or Suite)

Fairfield CA 94534 USA

(City) (State or Province) (ZIP or Postal Code) (Country)

State or Country of Incorporation/Formation/Organization: Delaware

1. Sample signature block for corporation or limited liability company:

[Insert Proposer's name]

By: _____

Print Name: _____

Title: _____

2. Sample signature block for partnership or joint venture:

Kiewit/Manson, AJV

By: *[Insert general partner's or equity member's name]*

By: _____

Print Name: A.T. (Tom) Skoro

Title: Senior Vice President, Kiewit Infrastructure West Co.

By: _____

Print Name: Eric V. Haug

Title: President, Manson Construction Co.

[Add signatures of additional general partners or equity members as appropriate]

3. Sample signature block for attorney in fact:

Kiewit/Manson, AJV

By: _____

Print Name: A.T. (Tom) Skoro

Attorney in Fact

CALIFORNIA ALL PURPOSE ACKNOWLEDGMENT

State of Washington

County of King

On June 3, 2014 before me, Kathy E. Kratzer, a notary public, personally appeared A.T. (Tom) Skoro, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to within the instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Notary Public Signature

Notary Public Seal

CALIFORNIA ALL PURPOSE ACKNOWLEDGMENT

State of Washington

County of King

On June 3, 2014 before me, Shannon Horrell, a notary public, personally appeared Eric V. Haug, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to within the instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Notary Public Signature

Notary Public Seal

SHANNON M. HORRELL
COMMISSION EXPIRES
NOTARY
PUBLIC
04-17-16
STATE OF WASHINGTON

ADA Notice: For individuals with sensory disabilities, this document may be available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

Form G - Proposer SOQ Certification

Form G
PROPOSER SOQ CERTIFICATION

A COPY OF THIS CERTIFICATION MUST BE COMPLETED AND SIGNED BY PROPOSER AND, IF A PROPOSER IS A PARTNERSHIP, LIMITED PARTNERSHIP, JOINT VENTURE OR OTHER ASSOCIATION, THEN A SEPARATE CERTIFICATION MUST BE SIGNED BY AN AUTHORIZED REPRESENTATIVE OF EACH MEMBER AND SUBMITTED WITH THE STATEMENT OF QUALIFICATIONS.

DECLARATION

STATE OF Washington)
)SS:
COUNTY OF King)

I, (printed name) A.T. (Tom) Skoro, being first duly sworn, state that I am the (title) Senior Vice President, Kiewit Infrastructure West Co. of the Proposer.

I certify that I have read and understood the information contained in the Request for Qualifications issued by the California Department of Transportation for the SFOBB East Span Foundation Removal Project and the attached Statement of Qualifications (SOQ), and that to the best of my knowledge and belief all information contained herein and submitted concurrently or in supplemental documents with this SOQ is complete, current, and true. I further acknowledge that any false, deceptive, or fraudulent statements in the SOQ will result in denial of pre-qualification status.

(Signature)

A.T. (Tom) Skoro
(Name Printed)

ACKNOWLEDGMENT

State of Washington
County of King

On June 3, 2014 before me, Kathy E. Kratzer, Notary Public [here insert name and title of the officer] personally appeared, A.T. (Tom) Skoro [Insert name of signer above], who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Notary Public Signature Kathy E Kratzer

Notary Public Seal

NOTICE TO APPLICANTS:
A material false statement, omission, or fraudulent inducement made in connection with this Statement of Qualifications is sufficient cause for denial of the application. In addition, such false submission may subject the person or entity making the false statement to criminal charges. (Title 18 USC 1001, false statements; California Penal Code section 132, offering altered or antedated or forged documents or records; and section 134, preparing false documentary evidence).

Form G
PROPOSER SOQ CERTIFICATION

A COPY OF THIS CERTIFICATION MUST BE COMPLETED AND SIGNED BY PROPOSER AND, IF A PROPOSER IS A PARTNERSHIP, LIMITED PARTNERSHIP, JOINT VENTURE OR OTHER ASSOCIATION, THEN A SEPARATE CERTIFICATION MUST BE SIGNED BY AN AUTHORIZED REPRESENTATIVE OF EACH MEMBER AND SUBMITTED WITH THE STATEMENT OF QUALIFICATIONS.

DECLARATION

STATE OF Washington _____)
)SS:
COUNTY OF King _____)

I, (printed name) Eric V. Haug, being first duly sworn, state that I am the (title) President, Manson Construction Co. of the Proposer.

I certify that I have read and understood the information contained in the Request for Qualifications issued by the California Department of Transportation for the SFOBB East Span Foundation Removal Project and the attached Statement of Qualifications (SOQ), and that to the best of my knowledge and belief all information contained herein and submitted concurrently or in supplemental documents with this SOQ is complete, current, and true. I further acknowledge that any false, deceptive, or fraudulent statements in the SOQ will result in denial of pre-qualification status.

Eric V. Haug
(Signature)

Eric V. Haug, President, Manson Construction Co.
(Name Printed)

ACKNOWLEDGMENT

State of Washington
County of King

On 6·3·14 before me, Shannon Horrell, Notary Public [here insert name and title of the officer] personally appeared, Eric V. Haug, President [Insert name of signer above], who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Notary Public Signature Shannon M. Horrell

SHANNON M. HORRELL
NOTARY PUBLIC
COMMISSION EXPIRES 04-17-16
STATE OF WASHINGTON

Notary Public Seal

NOTICE TO APPLICANTS:
A material false statement, omission, or fraudulent inducement made in connection with this Statement of Qualifications is sufficient cause for denial of the application. In addition, such false submission may subject the person or entity making the false statement to criminal charges. (Title 18 USC 1001, false statements; California Penal Code section 132, offering altered or antedated or forged documents or records; and section 134, preparing false documentary evidence).

Manette Bridge Replacement

Section 1 - Legal Structure

Section 1 - Legal Structure

“The contractor demonstrated high quality of workmanship, attention to detail, and worked effectively to prosecute the work under the contract.”

—Michele L. Britton, Project Engineer,
Manette Bridge Replacement,
WSDOT, Port Orchard P.E.O

SECTION 1–LEGAL STRUCTURE

RFQ 3.2

LEGAL STRUCTURE *RFQ 3.2(A)*

Kiewit Infrastructure West Co. (Kiewit) and Manson Construction Co. (Manson) have partnered to form a joint venture team, Kiewit/Manson, AJV (Kiewit/Manson), which is the organization proposing on the San Francisco–Oakland Bay Bridge East Span Foundation Removal (Foundation Removal). A copy of our Joint Venture Agreement and Power of Attorney (POA) is attached in Appendix B. Percentage equity interest are as follows: Kiewit, 75%; Manson, 25%.

TRANSMITTAL LETTER *RFQ 3.2(B)*

Kiewit/Manson will be the contracting entity with the California Department of Transportation (Caltrans). As established by our Joint Venture Agreement, we will be jointly and severably liable for performance under the Foundation Removal Preconstruction Services Contract. The team has provided a signed transmittal letter, Form A, in the previous section.

MAJOR PARTICIPANTS *RFQ 3.2(C)*

Kiewit and Manson are both employee-owned entities and have previous experience managing demolition projects in aquatic environments, as well as construction manager/general contractor (CMGC) projects. Both Kiewit and Manson have a decades-long history of working in the Bay Area. Notably, we teamed together to construct the San Francisco–Oakland Bay Bridge Skyway Segment (Skyway) and E2/T1 SAS Foundations (E2/T1) adjacent to the upcoming Foundation Removal project.

Our major subcontractors include Contract Drilling & Blasting LLC (CDB) and Environmental Science Associates (ESA).

CONFLICTS OF INTEREST *RFQ 3.2(D)*

Kiewit and Manson belong to only one proposer organization—Kiewit/Manson, AJV—and we are unaware of any conflict of interest as it relates to the performance of this contract.

FORM–E PROPOSER'S ORGANIZATION INFORMATION

RFQ 3.2(E)

Kiewit/Manson has completed Form E. It is attached here.

FORM F–SMALL BUSINESS AND DISABLED VETERANS BUSINESS ENTERPRISE PROJECT GOAL DECLARATION AFFIDAVIT *RFQ 3.2(F)*

Both Kiewit and Manson have executed Form F on behalf of the joint venture, which demonstrates our individual and joint commitment to providing the maximum opportunity for disabled veteran-owned and small businesses to participate in the Foundation Removal.

Form E - Proposer's Organization Information

Form E
PROPOSER'S ORGANIZATION INFORMATION

Name of Proposer: **Kiewit/Manson, AJV**

Instructions for Form completion: Responses to each subject area shall be addressed within the table below. Should additional space be needed, Proposers are advised to increase space following question as appropriate. Form E shall have no SOQ page limitation.

Proposer (Individual Firm / Joint Venture / Partnership / LLC)
Name of Entity: Kiewit/Manson, AJV Address: 4650 Business Center Drive Fairfield, CA 94534 Contact Name: A. T. (Tom) Skoro Title: Attorney-in-Fact Telephone No.: 360-693-1478 Fax No.: 360-693-5582 E-mail: tom.skoro@kiewit.com
Local / Regional Contact
Name: Jeffrey Arviso Address: 4650 Business Center Drive Fairfield, CA 94534 Telephone No.: 360-340-2476 Fax No.: 253-943-4021 E-mail: jeffrey.arviso@kiewit.com

Form F - Proposer's Small Business and Disabled Veterans Business Enterprise Declaration Affidavit

Form F

PROPOSER'S SMALL BUSINESS AND DISABLED VETERANS BUSINESS ENTERPRISE PROJECT GOAL DECLARATION AFFIDAVIT

Name of Proposer: Kiewit/Manson, AJV

It is understood and agreed by the Proposer that it has carefully examined all documents that form this Request for Qualifications (RFQ) and acknowledges that California Department of Transportation (Department) will establish a Disabled Veterans Business Enterprise goal based on the total project value for this CMGC Project. This affidavit further serves to confirm that Kiewit/Manson, AJV will take all necessary and reasonable steps to the satisfaction of Department to ensure that Small Businesses and Disabled Veterans Business Enterprises have the maximum opportunity to compete for and perform on the Construction Contract(s), when issued.

STATE OF Washington)
)
COUNTY OF King)

Each of the undersigned, being first duly sworn, deposes and says that A.T. (Tom) Skoro
(Contact Name)

is the Senior Vice President of Kiewit Infrastructure West Co. and Eric V. Haug is the President
(Title) (Company) (Contact Name) (Title)

of Manson Construction Co., which entity(ies) are the Joint Venture
(Company) (Joint Venture/Partnership, Other)

of Kiewit/Manson, AJV, the entity making the foregoing Statement of Qualification.
(Joint Venture Company)

The Proposer hereby affirms that it will meet the DVBE goal described in this solicitation and will take all necessary and reasonable steps to the satisfaction of Department to ensure that Small Businesses and Disabled Veterans Business Enterprises have the maximum opportunity to compete for and perform on the Construction Contract(s) when issued.

(Signature)	(Signature)
A.T. (Tom) Skoro	Eric V. Haug
(Name Printed)	(Name Printed)
Senior Vice President, Kiewit Infrastructure West Co.	President, Manson Construction Co.
(Title)	(Title)

State of Washington
County of King
Subscribed and sworn to (or affirmed) before me on this 3rd day of June, 2014, by A.T. (Tom) Skoro, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

Notary Public Signature

Notary Public Seal

State of Washington
County of King
Subscribed and sworn to (or affirmed) before me on this 3rd day of June, 2014, by Eric V. Haug, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

Notary Public Signature

Notary Public Seal

[Duplicate or modify this form as necessary so that it accurately describes the entity making the proposal and so that it is signed on behalf of all partners/members of the proposing firm.]

DVBE Requirements
Std. Form 840

CALIFORNIA DISABLED VETERAN BUSINESS ENTERPRISE (DVBE) PROGRAM REQUIREMENTS

(Revision Date 08/25/2009)

Please read the requirements and instructions carefully before you begin.

AUTHORITY. The Disabled Veteran Business Enterprise (DVBE) Participation Goal Program for State contracts is established in Public Contract Code (PCC), §10115 et seq., Military and Veterans Code (MVC), §999 et seq., and California Code of Regulations (CCR), Title 2, §1896.60 et seq.

The minimum DVBE participation percentage (goal) is 5% for this solicitation unless another percentage is specified in the solicitation.

INTRODUCTION. The bidder must complete the identified forms and fully document at least one of the options (A or B) in this document to comply with this solicitation's DVBE program requirements. Bids or proposals (hereafter called "bids") that **fail to submit all required forms and fully document and meet one of the DVBE program requirement options shall be considered non-responsive**.

Information submitted by the intended awardee to comply with this solicitation's DVBE requirements will be verified by the State. If evidence of an alleged violation is found during the verification process, the State shall initiate an investigation, in accordance with the requirements of the PCC §10115, et seq., and MVC §999 et seq., and follow the investigatory procedures required by the CCR §1896.80. Contractors found to be in violation of certain provisions may be subject to loss of certification, penalties and/or contract termination.

Only State of California, Office of Small Business and DVBE Services (OSDS), certified DVBEs (hereafter called "DVBE") who perform a commercially useful function relevant to this solicitation, may be used to satisfy the DVBE program requirements. The criteria and definition for performing a commercially useful function are contained herein on the page entitled **Resources & Information**. Bidders are to verify each DVBE subcontractor's certification with OSDS to ensure DVBE eligibility.

PLEASE READ ALL INSTRUCTIONS CAREFULLY. These instructions contain information about the DVBE program requirements, bidder responsibilities, requirements for performing and documenting the available options (Option A, Option B) as detailed below, and the DVBE Bid Incentive. Bidders are responsible for thorough review and compliance with these instructions. Complete and document your option selection and related information on the forms identified herein.

To meet the DVBE program requirements, bidders must complete and fully document at least one of the following compliance options:

Option A - Commitment to full DVBE participation - For a bidder who is a DVBE or who is able to meet the commitment to use identified certified DVBE(s) to fulfill the full DVBE participation goal.

Option B - Business Utilization Plan - For a bidder using an annual plan (subject to pre-bid submission approval) to satisfy DVBE participation requirements. Applies only to solicitations for goods and information technology. *If this solicitation specifies higher participation goals than the bidder's utilization plan, the bidder is required to meet these goals.*

OPTION A – COMMITMENT -- Commit to meet or exceed the DVBE participation requirement in this solicitation by either Method A1 (bidder is a California certified DVBE) or A2 (bidder is not a California certified DVBE). Bidders must document DVBE participation commitment by completing and submitting

the attached Documentation of Disabled Veteran Business Enterprise Program Requirements (STD. 840) and the Bidder Declaration (GSPD-05-105) located elsewhere within the solicitation document. Failure to complete and submit the required forms as instructed shall render the bid non-responsive.

At the State's option prior to award of the contract, a written confirmation from each DVBE subcontractor identified on the Bidder Declaration must be provided. As directed by the State, the written confirmation must be signed by the bidder and/or the DVBE subcontractor(s). The written confirmation may request information that includes but is not limited to the DVBE scope of work, work to be performed by the DVBE, term of intended subcontract with the DVBE, anticipated dates the DVBE will perform required work, rate and conditions of payment, and total amount to be paid to the DVBE. If further verification is necessary, the State will obtain additional information to verify the above requirements.

Method A1. Certified DVBE bidder:

a. Commit to performing at least 5% of the contract bid amount (unless otherwise specified) with the prime bidder's firm or in combination with another DVBE(s).

b. Document option intention on the STD. 840 (Section A) and document DVBE participation on the Bidder Declaration GSPD-05-105.

c. At the State's option a DVBE bidder working in combination with other DVBEs shall submit proof of its commitment by submitting a written confirmation from the DVBE(s) identified as a subcontractor on the Bidder Declaration. When requested, the document must be submitted to the address or facsimile number specified and within the timeframe identified in the notification. Failure to submit the written confirmation as specified may be grounds for bid rejection.

Method A2. Non-DVBE bidder:

a. Commit to using certified DVBE(s) for at least 5% (unless otherwise specified) of the bid amount on the STD. 840.

b. Document DVBE participation on the Bidder Declaration GSPD-05-105.

c. At the State's option prior to contract award, a bidder is to submit proof of its commitment by submitting a written confirmation from each DVBE identified as a subcontractor on the Bidder Declaration GSPD-05-105. The awarding department contracting official named in the solicitation may contact each listed DVBE, by mail, fax or telephone, for verification of the bidder's submitted DVBE information. When requested, the document must be submitted to the address or facsimile number specified and within the timeframe identified in the notification. Failure to submit the written confirmation as specified may be grounds for bid rejection.

OPTION B – THE DVBE BUSINESS UTILIZATION PLAN (BUP) option permits bidders to submit an approved DVBE BUP to satisfy DVBE participation solicitation requirements up to 5%. **DVBE BUPs apply only to solicitations for goods and Information Technology (IT) goods and services.** DVBE BUPs are a company's commitment to expend a minimum of 5% of its total statewide contract dollars with DVBEs -- this percentage is based on all of its contracts held <u>in</u> California, not just those <u>with</u> the State. DVBE BUPs must be submitted to and approved by the DGS-PD prior to the bid due date. *If this solicitation specifies higher participation goals than the bidder's utilization plan, the bidder is required to meet these goals.* Please call the DGS-PD, Office of Small Business and DVBE Services for assistance. Bidders choosing this option must properly complete and submit STD. 840 (Section A), the Bidders Declaration (GSPD-05-105), and include a copy of its approval letter with the bid; failure to submit these documents shall render your bid non-responsive.

DVBE BID INCENTIVE. Unless stated elsewhere in the solicitation that the DVBE incentive has been waived, in accordance with Section 999.5(a) of the Military and Veterans Code an incentive will be given to bidders who provide DVBE participation. For evaluation purposes only, the State shall apply an incentive to bids that propose California certified DVBE participation as identified on the Bidder

Declaration GSPD-05-105 and confirmed by the State. The incentive amount for awards based on low price will vary in conjunction with the percentage of DVBE participation. Unless a table that replaces the one below has been expressly established elsewhere within the solicitation, the following percentages will apply for awards based on low price.

Confirmed DVBE Participation of:	DVBE Incentive:
5% or Over	5%
4% to 4.99% inclusive	4%
3% to 3.99% inclusive	3%
2% to 2.99% inclusive	2%
1% to 1.99% inclusive	1%

As applicable: (1) Awards based on low price - the net bid price of responsive bids will be reduced (for evaluation purposes only) by the amount of DVBE incentive as applied to the lowest responsive net bid price. If the #1 ranked responsive, responsible bid is a California certified small business, the only bidders eligible for the incentive will be California certified small businesses. The incentive adjustment for awards based on low price cannot exceed 5% or $100,000, whichever is less, of the #1 ranked net bid price. When used in combination with a preference adjustment, the cumulative adjustment amount is not to exceed $100,000.

(2) Awards based on highest score - the solicitation shall include an individual requirement that identifies incentive points for DVBE participation.

RESOURCES AND INFORMATION

For questions regarding bid documentation requirements, **contact the contracting official at the awarding department for this solicitation.**

U.S. Small Business Administration (SBA): Use the Central Contractor Registration (CCR) on-line database. *Internet contact only* –Database: www.ccr.gov/.	**FOR:** Service-Disabled Veteran-owned businesses in California (Remember to verify each DVBE's California certification.)
Local Organizations (see the DVBE Resource Packet available from DGS-PD DVBE Program Section listed below)	**FOR:** List of potential DVBE subcontractors
DGS-PD **Office of Small Business and DVBE Services (OSDS)** 707 Third Street, Room 1-400, West Sacramento, CA 95605 Website: www.pd.dgs.ca.gov/smbus OSDS Receptionist, 8 am-5 pm: (916) 375-4940 PD Receptionist, 8 am-5 pm: (800) 559-5529 Fax: (916) 375-4950 Email: osdchelp@dgs.ca.gov	**FOR:** • Directory of California-Certified DVBEs • Certification Applications • Certification Information • Certification Status, Concerns • General DVBE Program Info. • DVBE Resource Packet • DVBE Business Utilization Plan • Small Business/DVBE Advocates

SAMPLE:

DVBEs are invited to participate as a potential subcontractor to perform a commercially useful function specific to ***DGS' IFB No. 12345*** for ***fencing materials in Chowchilla.***

DVBE responses due to me 1/1/02;
Bids due to the State 1/15/02.

Contact: ***ABC Company***
Jane Doe, General Manager
123 Main Street, Sacramento, CA 95814
voice: ***555/555-5555***; fax: ***555/555-5556***
or e-mail: ***jane.doe@abcco.com***

Commercially Useful Function Definition

California Code of Regulations, Title 2, § 1896.61(l):

The term "DVBE contractor, subcontractor or supplier" means any person or entity that satisfies the ownership (or management) and control requirements of §1896.61(f); is certified in accordance with §1896.70; and provides services or goods that contribute to the fulfillment of the contract requirements by performing a commercially useful function.

As defined in MVC §999, a person or an entity is deemed to perform a "commercially useful function" if a person or entity does **all** of the following:

- Is responsible for the execution of a distinct element of the work of the contract.
- Carries out the obligation by actually performing, managing, or supervising the work involved.
- Performs work that is normal for its business services and functions.
- Is not further subcontracting a portion of the work that is greater than that expected to be subcontracted by normal industry practices.

A contractor, subcontractor, or supplier will not be considered to perform a commercially useful function if the contractor's, subcontractor's, or supplier's role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of disabled veteran business enterprise participation.

STATE OF CALIFORNIA – GENERAL SERVICES PROCUREMENT DIVISION

DOCUMENTATION OF DISABLED VETERAN BUSINESS ENTERPRISE PROGRAM REQUIREMENTS

STD. 840 (REV. 8/2009)

A. Designation Of Option – Check the appropriate box(es) to indicate the option(s) with which you choose to comply, complete the applicable sections and attach the required supporting documentation. You are advised to read all instructions carefully prior to completing this form. Remember that only California certified DVBEs who can provide related goods and/or services may be used to satisfy these program solicitation requirements. DVBEs must perform a commercially useful function. During contract performance, all requests for substituting DVBE subcontractors must be made in accordance with the provisions of California Code of Regulations, Title 2, §1896.64(c).

☒ **OPTION A** – ***I commit to meeting the full DVBE Agreement participation requirement.***

Complete: STD. 840, Section A (check the box on this form) and
Bidder Declaration form GSPD-05-105 (located elsewhere in the solicitation)

☐ **OPTION B** – ***I submit a copy of my firm's "Notice of Approved DVBE Business Utilization Plan."***

Complete: STD. 840, Section A (check the box on this form) and
Bidder Declaration form GSPD-05-105 (located elsewhere in the solicitation)

STATE OF CALIFORNIA – GENERAL SERVICES PROCUREMENT DIVISION

DOCUMENTATION OF DISABLED VETERAN BUSINESS ENTERPRISE PROGRAM REQUIREMENTS

STD 840 (REV. 8/2009)

Date Contacted	DVBE Company Name		
05/19/2014	C & W Diving		
DVBE Contact Name & Reference #	Telephone Number	Fax Number	E-mail (if available)
Aaron Everett	(619) 474-2700	(619) 477-2700	aaron@cw diving.com
Street Address, City, State, and Zip Code			
375 Burma Rd., Oakland, CA 94607			

☒ *DVBE was selected and is listed on the GSPD-05-105* ☐ *DVBE Approved BUP is Attached.*

Date Contacted	DVBE Company Name		
/ /			
DVBE Contact Name & Reference #	Telephone Number	Fax Number	E-mail (if available)
	( ) - ext.	( ) -	
Street Address, City, State, and Zip Code			

☐ *DVBE was selected and is listed on the GSPD-05-105* ☐ *DVBE Approved BUP is Attached.*

Date Contacted	DVBE Company Name		
/ /			
DVBE Contact Name & Reference #	Telephone Number	Fax Number	E-mail (if available)
	( ) - ext.	( ) -	
Street Address, City, State, and Zip Code			

☐ *DVBE was selected and is listed on the GSPD-05-105* ☐ *DVBE Approved BUP is Attached.*

DVBE Program Requirements Supplier Checklist (Rev. 2-28-2005)

Please do not submit this checklist with your bid. It is provided for your use only. Checking every box of your elected compliance option does not guarantee that your bid will be deemed compliant.

☒	**OPTION A: COMMITMENT TO DVBE AGREEMENT PARTICIPATION**
☒	STD. 840 included with bid
☒	Designated the Commitment Option in Section A – Checked the first box of the form STD. 840
☒	Bidder Declaration form GSPD-05-105 completed and included with bid
☒	Proposed DVBE participation meets the 5% requirement (unless a different percentage is specified)
☐	**OPTION B: BUSINESS UTILIZATION PLAN (BUP)** *If this solicitation specifies higher participation goals than the bidder's utilization plan, the bidder is required to meet these goals.*
☐	***Prior to the bid due date*** – Submitted a BUP to DGS-PD and received approval
☐	STD. 840 included with bid
☐	Designated the BUP Option in Section A – Checked the third box of the form STD. 840
☐	Attached a copy of the BUP Approval letter from DGS-PD
☐	Bidder Declaration form GSPD-05-105 completed and included with bid

Bidder Declaration GSPD-05-105

Solicitation Number 040135CM

BIDDER DECLARATION

1. Prime bidder information **(Review attached Bidder Declaration Instructions prior to completion of this form)**:

a. Identify current California certification(s) **(MB, SB, SB/NVSA, DVBE):** _____ **or None** X (If "None", go to Item #2)

b. Will subcontractors be used for this contract? **Yes** X **No** ___ (If yes, indicate the distinct element of work your firm will perform in this contract e.g., list the proposed products produced by your firm, state if your firm owns the transportation vehicles that will deliver the products to the State, identify which solicited services your firm will perform, etc.). Use additional sheets, as necessary.

Preconstruction advisory services (This information only applies to preconstruction)

c. If you are a California certified DVBE:
(1) Are you a broker or agent? **Yes** ___ **No** ___
(2) If the contract includes equipment rental, does your company own at least 51% of the equipment provided in this contract (quantity and value)? **Yes** ___ **No** ___ **N/A** ___

2. If no subcontractors will be used, skip to certification below. Otherwise, list all subcontractors for this contract. (Attach additional pages if necessary):

Subcontractor Name, Contact Person, Phone Number & Fax Number	Subcontractor Address & Email Address	CA Certification (MB, SB, DVBE or None)	Work performed or goods provided for this contract	Corresponding % of bid price	Good Standing?	51% Rental?
C&W Diving Aaron Everett 619-474-2700 (P) 619-477-2700 (F)	375 Burma Rd Oakland, CA 94607 aaron@cwdiving.com	DVBE, SB	Diving, vessel support, underwater videography, survey	5%	Yes	N/A
Environmental Science Associates Erich Fischer 916-564-4500 (P) 916-564-4501 (F)	2600 Capitol Ave St 200 Sacramento, CA 95816 efischer@esaassoc.com	None	Preconstruction Services	10%	Yes	N/A
Contract Drilling & Blasting LLC Albert VanNiekerk 612-819-5752 (P) 904-241-4015 (F)	470 Broadway #314 Bayonne, NJ 07002 albert.vanniekerk@cdbllc.biz	None	Preconstruction Services	10%	Yes	N/A

CERTIFICATION: By signing the bid response, I certify under penalty of perjury that the information provided is true and correct.

BIDDER DECLARATION Instructions

All prime bidders (the firm submitting the bid) must complete the Bidder Declaration.

1.a. Identify all current certifications issued by the State of California. If the prime bidder has no California certification(s), check the line labeled "None" and proceed to Item #2. If the prime bidder possesses one or more of the following certifications, enter the applicable certification(s) on the line:

- Microbusiness (MB)
- Small Business (SB)
- Small Business Nonprofit Veteran Service Agency (SB/NVSA)
- Disabled Veteran Business Enterprise (DVBE)

1.b. Mark either "Yes" or "No" to identify whether subcontractors will be used for the contract. If the response is "No", proceed to Item #1.c. If "Yes", enter on the line the distinct element of work contained in the contract to be performed or the goods to be provided by the prime bidder. Do not include goods or services to be provided by subcontractors.

Bidders certified as MB, SB, SB/NVSA, and/or DVBE must provide a commercially useful function as defined in Military and Veterans Code Section 999(e)(2)(A) for DVBEs and Government Code Section 14837(d)(4)(A) for small/microbusinesses. For questions regarding commercially useful function determinations made in conjunction with certification approval, contact the Department of General Services, Procurement Division, Office of Small Business and DVBE Certification (OSDC), OSDC Certification and Compliance Unit via email at: osdchelp@dgs.ca.gov

Bids must propose that certified bidders provide a commercially useful function for the resulting contract or the bid will be deemed non-responsive and rejected by the State. For questions regarding the solicitation, contact the procurement official identified in the solicitation.

Note: A subcontractor is any person, firm, corporation, or organization contracting to perform part of the prime's contract.

1.c. This item is only to be completed by businesses certified by California as a DVBE.

(1) Declare whether the prime bidder is a broker or agent by marking either "Yes" or "No". The Military and Veterans Code Section 999.2 (b) defines "broker" or "agent" as a certified DVBE contractor or subcontractor that does not have title, possession, control, and risk of loss of materials, supplies, services, or equipment provided to an awarding department, unless one or more of the disabled veteran owners has at least 51-percent ownership of the quantity and value of the materials, supplies, services, and of each piece of equipment provided under the contract.

(2) If bidding rental equipment, mark either "Yes" or "No" to identify if the prime bidder owns at least 51% of the equipment provided (quantity and value). If **not** bidding rental equipment, mark "N/A" for "not applicable."

---

2. If no subcontractors are proposed, do not complete the table. Read the certification at the bottom of the form and complete "Page ____ of ____" on the form.

If subcontractors will be used, complete the table listing all subcontractors. If necessary, attach additional pages and complete the "Page ____ of ____" accordingly.

2. *(continued)* **Column Labels**

Subcontractor Name, Contact Person, Phone Number & Fax Number—List each element for all subcontractors.

Subcontractor Address & Email Address—Enter the address and if available, an Email address.

CA Certification (MB, SB, DVBE or None)—If the subcontractor possesses a current State of California certification(s), verify on the OSDC website (www.pd.dgs.ca.gov/smbus) that it is still valid and list all current certifications here. Otherwise, enter "None". [Note: A SB/NVSA should not be participating as a subcontractor]

Work performed or goods provided for this contract—Identify the distinct element of work contained in the contract to be performed or the goods to be provided by each subcontractor. Certified subcontractors must provide a commercially useful function for the contract. (See paragraph 1.b above for code citations regarding the definition of commercially useful function.) If a certified subcontractor is further subcontracting a greater portion of the work or goods provided for the resulting contract than would be expected by normal industry practices, attach a separate sheet of paper explaining the situation.

Corresponding % of bid price—Enter the corresponding percentage of the total bid price for the goods and/or services to be provided by each subcontractor. Do not enter a dollar amount.

Good Standing?—Provide a response for each subcontractor listed. Enter either "Yes" or "No" to indicate that the prime bidder has verified that the subcontractor(s) is in good standing for all of the following:

- Possesses valid license(s) for any license(s) or permits required by the solicitation or by law
- If a corporation, the company is qualified to do business in California and designated by the State of California Secretary of State to be in good standing
- Possesses valid State of California certification(s) if claiming MB, SB, and/or DVBE status
- Is **not** listed on the OSDC website as ineligible to transact business with the State

51% Rental?—This pertains to the applicability of rental equipment. Based on the following parameters, enter either "N/A" (not applicable), "Yes" or "No" for each subcontractor listed.

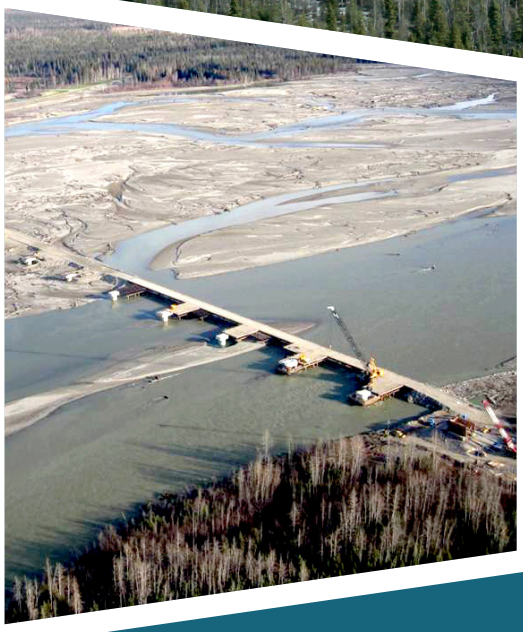
Enter "**N/A**" if the:

- Subcontractor is NOT a DVBE (regardless of whether or not rental equipment is provided by the subcontractor) or
- Subcontractor is NOT providing rental equipment (regardless of whether or not subcontractor is a DVBE)

Enter "**Yes**" if the subcontractor is a California certified DVBE providing rental equipment and the subcontractor owns at least 51% of the rental equipment (quantity and value) it will be providing for the contract.

Enter "**No**" if the subcontractor is a California certified DVBE providing rental equipment but the subcontractor does NOT own at least 51% of the rental equipment (quantity and value) it will be providing.

Read the certification at the bottom of the page and complete the "Page ____ of ____" accordingly.



Section 2 - Financial Capacity

Section 2 - Financial Capacity

"The Railroad used the project-manager-general-contractor method with Kiewit winning the proposal process. After a year of working together, we all agreed on a specific price. That takes all the ambiguity out of the design and construction. We're half-way done now and there really haven't been any unknowns."

—Mark Peterburs, Project Director,
Tanana River Bridge CMGC,
Alaska Railroad Corporation

SECTION 2–FINANCIAL CAPACITY

RFQ 3.3

Kiewit/Manson has the financial capacity to enter into a contract with Caltrans, and we have the resources to successfully complete the Foundation Removal. Our surety, Travelers Casualty and Surety Company of America (Travelers) and Liberty Mutual Insurance Company (Liberty), are licensed to do business in California and have an A.M. Best Company rating of A+ in Class XV. The attached letter from Travelers and Liberty demonstrates our ability to comply with the project bonding requirements.

"Kiewit Infrastructure West Co. is one of the outstanding and reputable construction organizations in North America. Its skill, integrity, and financial responsibility are unquestioned."

—Lisa Buller, Travelers

PERFORMANCE BOND *RFQ 3.3(A)*

As evidenced by our attached letter of bondability, we are able to provide a Payment Bond and Performance Bond to Caltrans, each in the amount equal to 100% of the contract price.

INSURANCE CERTIFICATIONS

RFQ 3.3(B)

We've attached written evidence from Zurich demonstrating Kiewit/Manson's ability to provide insurance for this project as indicated in the RFQ and draft Preconstruction Services Contract.

May 30, 2014

State of California Department of Transportation
Division of Procurement and Contracts
1727 30th Street
Sacramento, CA 95816-7006

RE: San Francisco-Oakland Bay Bridge (SFOBB) East Span Marine Foundation Removal Project
Kiewit/Manson, AJV

Dear Sir or Madam:

Please be advised that the Kiewit/Manson, AJV is composed of two participants, Kiewit Infrastructure West Co. and Manson Construction Co. The Co-surety group of Travelers Casualty and Surety Company of America and Liberty Mutual Insurance Company hereby provides the following surety letter as required by Section 1.15.1 Bond Requirements of the Request for Qualifications issued by the State of California Department of Transportation (the "RFQ") for the San Francisco-Oakland Bay Bridge East Span Marine Foundation Removal Project. It is our considered opinion that Kiewit Infrastructure West Co. and Manson Construction Co. are two of the outstanding construction organizations in North America. Their combined skill, integrity, and financial responsibility as a joint venture are unquestioned.

Kiewit/Manson, AJV is qualified to perform the above captioned project which has an estimated value of $107,000,000.00. It is our intention to provide any required bid, performance and/or payment bonds if requested to do so by Kiewit/Manson, AJV.

This authorization is subject to our standard underwriting throughout the RFP process, including a review of acceptable bond forms, contract financing, contract terms and other standard underwriting considerations.

Sincerely,
Travelers Casualty and Surety Company of America
Liberty Mutual Insurance Company

Travelers Casualty and Surety Company of America

By: Karen Swanson
Karen Swanson, Attorney-in-Fact

Liberty Mutual Insurance Company

By: Karen Swanson
Karen Swanson, Attorney-in-Fact

WARNING: THIS POWER OF ATTORNEY IS INVALID WITHOUT THE RED BORDER

TRAVELERS

POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Attorney-In Fact No. 227923

Certificate No. 005885112

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint

Eric Zimmerman, Karen Swanson, Brent E. Heilesen, James B. Binder, Peter J. Comfort, Jennifer L. Snyder, Julie R. Truitt, Peggy A. Firth, Tamarie Ellingsen, Steve Marinkovich, Christopher Kinyon, Jamie Diemer, Amanda Rush, Casey Jackson, Joy Jennings, Leah Shamberg, Martha Juarez, Stephanie Hansen, Taylor Murray, Tabitha Tomlinson, Carley Espiritu, and Mandy Keltner

of the City of Tacoma, State of Washington, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

WARNING: THIS POWER OF ATTORNEY IS INVALID WITHOUT THE RED BORDER

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 28th day of April, 2014.

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

State of Connecticut
City of Hartford ss.

By: _____
Robert L. Raney, Senior Vice President

On this the 28th day of April, 2014, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.
My Commission expires the 30th day of June, 2016.

MARIE C. TETREAULT NOTARY PUBLIC CONNECTICUT

Marie C. Tetreault
Marie C. Tetreault, Notary Public

58440-8-12 Printed in U.S.A.

WARNING: THIS POWER OF ATTORNEY IS INVALID WITHOUT THE RED BORDER

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is in full force and effect and has not been revoked.

WARNING: THIS POWER OF ATTORNEY IS INVALID WITHOUT THE RED BORDER

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 30 day of May, 20 14

Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, call 1-800-421-3880 or contact us at www.travelersbond.com. Please refer to the Attorney-In-Fact number, the above-named individuals and the details of the bond to which the power is attached.

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.
This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 6543587

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That American Fire & Casualty Company and The Ohio Casualty Insurance Company are corporations duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Barbara A. Johnson; Brent E. Heilesen; Carley Espiritu; Christopher Kinyon; Diane M. Harding; Eric A. Zimmerman; Jake Oja; James B. Binder; Jamie Diemer; Jeffrey L. Zimmerman; Jennifer L. Snyder; Julie R. Truitt; Karen Swanson; Kathy L. Patton; Kellie Hogan; Kristine A. Lawrence; Lisa M. Anderson; Mandy Keltner; Mitchell R. Smee; Peggy A. Firth; Peter J. Comfort; Phylis C. Robison; Sandra J. Kulseth; Wyntrene Mace

all of the city of Tacoma, state of WA each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 23rd day of April, 2014.

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 23rd day of April, 2014, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of American Fire and Casualty Company, Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Plymouth Twp., Montgomery County
My Commission Expires March 28, 2017
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Gregory W. Davenport, the undersigned, Assistant Secretary, of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 30 day of May, 2014.

By: Gregory W. Davenport
Gregory W. Davenport, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

ZURICH

May 30, 2014

State of California Department of Transportation Administration
Division of Procurement and Contracts
1727 30th Street
Sacramento, CA 95816-7006
Attention: Denetia Floyd-Smith, Contract Analyst

RE: San Francisco-Oakland Bay Bridge (SFOBB) East Span Marine Foundation Removal Project
Request for Qualifications
Kiewit/Manson, AJV, Insurability Letter

Dear Denetia Floyd-Smith:

Please accept this letter as our verification that Kiewit/Manson, AJV will furnish the kinds and amount of insurance as required in the Request for Qualifications, section 1.15.2 Insurance Requirements and Section 3.3(B), should they be awarded the above referenced project.

The above captioned is subject to review of the insurance requirements and commercial availability at the time of the request.

Sincerely,

Philip G. Dehn
Authorized Representative

Zurich American Insurance Company
550 West Washington Blvd.
Chicago, IL 60661

Telephone 312.496.9510
Internet htp://www.zurichamerican.com

Piers 10 & 11 Demolition and Replacement

Section 3 - Safety Program

"This project was not only completed within the specific monetary threshold, but completed eight months ahead of schedule. A tremendous amount of planning and oversight was necessary to achieve this monumental task and make this large project a resounding success."

—C. Schanze, Commander, CEC,
Piers 10 & 11 Demolition and Replacement,
U.S. Navy

SECTION 3–SAFETY PROGRAM

RFQ 3.4

Kiewit/Manson designs its safety plans consistent with our culture that *Nobody Gets Hurt*. We work collaboratively with craft, subcontractors, and clients to provide a safe environment for the public and everyone on the project site. This culture is at the core of a safety program that includes training, craft engagement, and experienced staff and craft. By establishing expectations, recognition, and accountability for safety performance, Kiewit/Manson's program provides the framework to meet the project's safety goal to maintain public, marine, and employee safety.

SAFETY RECORD *RFQ 3.4.1(A)*

The joint venture of Kiewit/Manson is a newly-formed legal entity established solely to respond to this RFQ. As a newly-formed entity, Kiewit/Manson does not have a statistical safety record, nor do we have a common citation history as requested in RFQ Section 3.4. Therefore, we are providing safety statistics and citation history for both members of the joint venture: Kiewit and Manson.

Kiewit Infrastructure West Co.

Kiewit's safety statistics in **Figure 1** demonstrate that employees embrace the safety culture.

YEAR	EMR	RECORDABLE RATE	LOST WORK RATE
2013	0.53	0.95	0.24
2012	0.55	0.74	0.26
2011	0.58	0.76	0.17
3-Year Average	**0.55**	**0.82**	**0.22**
2010–2012 3-Year Industry Average	1.00	3.87	1.47

Figure 1: Kiewit has a long and safe work history with a safety program that meets or exceeds Occupational Safety and Health Administration (OSHA) requirements.

Kiewit's Experience Modification Rate (EMR) for the past three years has been below 0.58, well under the industry average. Average total recordable injury-illness rate and average lost work rate are also well below the applicable statistical standards for the business category.

Having such an effective safety program positively impacts the business. It means Kiewit sends people home safely from our project sites.

Alternate Dispute Resolution System

Kiewit is not party to an alternative dispute resolution system as provided for in Labor Code §3201.5.

California OSHA And Federal OSHA Citations

On June 30, 2010, Kiewit Pacific Co. (KPC) changed its name to Kiewit Infrastructure West Co. This was a change in name only; KPC's financial capacity, management structure, and operational capacity were unaffected. Based on this, we reviewed the Cal-OSHA and OSHA web site and identified four citations.

Kiewit Infrastructure West Co. has two pending serious citations that are under appeal. Both occurred on October 22, 2012 and Cal-OSHA issued the citations under Inspection No. 314863846.

Citation 1 proposes an $18,000 penalty, and alleges Kiewit "did not correct an unsafe work practice by allowing an employee to work within the employer-identified exclusion zone between truck trails and the concrete 'K' rail," citing Title 8 CCR 3203(a)(6).

Citation 2 carries an $18,000 penalty and alleges Kiewit "did not secure the load against dangerous displacement," citing Title 8 CCR 3704. Both citations and penalties are under appeal.

Two other findings originally categorized as serious, willful, or repeat were reduced, settled as "other," or deleted. The following is a summary of the citations:

Citation number 311729172 was issued to KPC on February 9, 2010. It involved a closed guarding on a winch and trolley system on top of gantries located inside a tunnel. It was reclassified as "other" and KPC received a $1,000 fine.

KPC received citation number 314445545 on February 15, 2011. The citation involved a step used to access a crossover on a tunnel invert arch form that exceeded the maximum allowable 12 in. height. This finding was deleted.

Manson Construction Co.

Manson's safety statistics for the previous three years are outlined in **Figure 2**.

YEAR	EMR	RECORDABLE RATE	LOST WORK RATE
2013	0.81	4.15	0.98
2012	0.85	2.90	0.53
2011	0.77	3.44	1.02
3-Year Average	**0.81**	**3.49**	**0.84**
2010–2012 3-Year Industry Average	1.00	3.87	1.47

Figure 2: Manson has consistently maintained rates lower than the 1.0 industry average for over three years.

Alternate Dispute Resolution System

Manson is not party to an alternative dispute resolution system as provided for in Labor Code §3201.5.

California OSHA And Federal OSHA Citations

An OSHA citation was issued on September 8, 2010, after incident inspection. The decking around the superstructure of a derrick barge crane within the crane's swing radius was not blocked off to prevent employee injury. Manson responded by blocking the entryway with chains and signage, and painted the deck with the crane's swing radius sweep area in yellow and black. These changes were made fleet-wide to each of Manson's 20 derrick barges. Manson was fined $7,000.

SAFETY PROGRAM SUMMARY

RFQ 3.4.1(B)

Everyone should expect to work in a hazard-free environment. Through proper planning and continuous communication we can eliminate most safety hazards and prevent damage, injury, and loss to our employees, subcontractors, consultants, and other project participants.

Craft are the cornerstone of safety success. Kiewit/Manson's program will provide an understanding of safe work principles, open communication among all personnel levels, and convey clear expectations.

The program addresses:

- creating and working with a craft voice in safety (CVIS) team
- establishing the 5 Key Elements of safe work
- safety training
- hazard communication
- subcontractors and consultants
- the public

This comprehensive program starts with craft engagement, which leads to an empowered workforce with the understanding that everyone has stop-work authority as it relates to safety. Kiewit/Manson's program provides a hands-on approach, ultimately reducing lost and restricted workdays due to jobsite injury.

Craft Voice in Safety

CVIS is a safety committee made up of workers from the project's various trades and departments including subcontractors' employees. The team's goal is to motivate all employees, both craft and staff, to recognize specific project risks and to meet Kiewit/Manson's objective that *Nobody Gets Hurt*.

CVIS is effective because it empowers craft to speak up and make safety recommendations. Vests and hard hats clearly identify the CVIS team, so other craft can reach out to them with safety concerns. Staff members also participate on the team to make certain that management addresses the team's action items.

During construction CVIS will meet weekly to discuss the effectiveness of jobsite safety measures. The team will detail action items and assignments and post them for all craft to read.

The team will contribute to safety training, including assisting with new-hire orientation and introductions, planning and running the monthly safety meeting, and providing additional hands-on training, as needed.

A safety recognition program developed by CVIS will provide incentives to take action and reinforce the important role of project safety.

CVIS will implement accountability and disciplinary procedures, and if an incident occurs, assist with the investigation and then communicate with everyone on the project site.

The 5 Key Elements

During construction Kiewit/Manson will use the 5 Key Elements as the safety program's basis (**Figure 3**). These elements establish clear, concise expectations. Meeting these standards greatly reduces exposure to injury and incidents and is a proven, valuable tool. All employees working on site are accountable for the 5 Key Elements, including subcontractors and consultants. Managers will regularly audit operations for conformance.

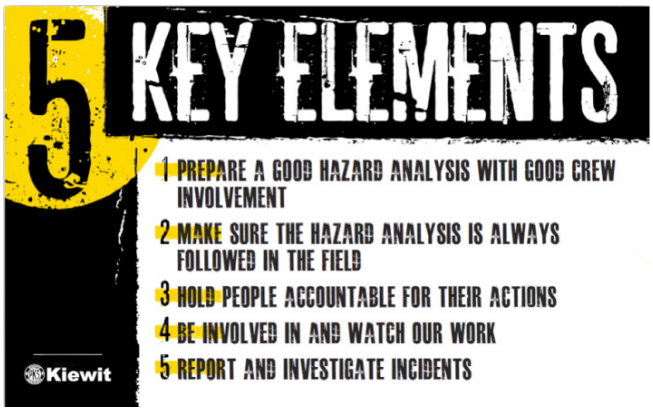


Figure 3: The project will post signs with the 5 Key Elements to reinforce safety expectations.

These elements are:

1. Prepare a Good Job Hazard Analysis (JHA) with Good Crew Involvement

   The hazard analysis will include operation-specific hazards and techniques to eliminate risks. Craft will develop the JHAs with input from the superintendent and engineer. The crew will review and acknowledge they understand by signing the JHA before any operation starts.

2. Always Follow the JHA in the Field

   Each JHA will be a living document; as proficiency, techniques, and tools change, crews will update and re-review the JHA. If a change is needed, crews will stand down and make the change. The project will require complete JHAs for all operations, without exception.

3. Hold People Accountable For Their Actions

   Both staff and craft will be held accountable with recognition and disciplinary action for safety performance. As the job progresses, operations will keep an accountability log to establish consistent actions for similar issues; consistency generates trust.

4. Be Involved In and Watch Our Work

   Kiewit/Manson will set the expectation that front-line supervisors involve themselves in the work. Accomplishing this will require commitment from the entire project team, from craft up through the project manager. Supervisors will stay involved in fieldwork by spending their time in the field.

5. Report and Investigate All Incidents

   Should an incident occur, Kiewit/Manson will make it a priority to find out what went wrong and involve supervision and craft personnel in the investigation. Managers will share incident information on the project and throughout the company. This increases knowledge and reduces risk of future incidents.

Safety Training

A properly trained workforce leads to safe operations through continued safety success and improvement. Craft buy-in and involvement promotes adherence to and ownership of the program.

Training will start the first day on the project with new-hire orientation: the foreman and superintendent will both meet with every new employee to discuss safety expectations and review the work process. In addition to this safety orientation, training includes:

- daily, weekly, and monthly mass safety meetings
- certifying designated operators
- first aid and CPR classes
- small tool safety talks
- fall protection demonstrations
- teaching procedures for working around and over water related to vessel access, personal protection equipment, and marine hazards

Craft will receive additional training for job-specific hazards as the project moves forward and the need arises on topics such as scaffolding, rigging and signaling, working in confined spaces, and maintenance-of-traffic.

Hazard Communication

As operations start, crews will meet to discuss work processes, tools, hazards, and safety measures associated with the operation. The JHA is the primary hazard

communication tool, used daily to inform workers about safe working methods on every operation. Kiewit/Manson will keep an up-to-date material safety data sheet (MSDS) database readily available to the craft and posted in a common area.

Because the work environment will constantly change, the safety program allows for monitoring, evaluating, and updating plans and JHAs. The CVIS and other tools will establish open communication among the project management, Caltrans, and all workers on site.

The Foundation Removal contains aspects not found on traditional construction sites including the potential blasting of footings and working in proximity to the new bridge and marine traffic. Kiewit/Manson's program has the flexibility to adjust for these conditions and effectively address the associated hazards. The 5 Key Elements and CVIS team will adapt to new safety challenges as they present themselves.

Subcontractors and Consultants

Kiewit/Manson intends to employ specialty subcontractors and consultants for various preconstruction and construction phases. Subcontractors and consultants working on site are contractually obligated to match or exceed Kiewit/Manson's safety program. Pre-activity meetings, where hazard identification and mitigation planning occurs, are required before starting on site. Subcontractors participate on the CVIS team and contribute to the hazard communication program. Once established on the project, the subcontractor integrates as a full team member, held to the same expectations and level of accountability as Kiewit/Manson personnel. Subcontract monitors assist in meshing together the subcontractor and Kiewit/Manson, and they provide daily input on safe work principles, policies, and hazard mitigation.

The Public

Kiewit/Manson holds the traveling public's (including marine traffic) safety as a top priority. Using a multi-tiered approach provides several opportunities to improve safety performance. Ideally, an innovative design eliminates the safety hazard and reduce overall exposure. In some instances, as with controlled blasting, Kiewit/Manson will work with Caltrans to address the hazards by suggesting the use of exclusion zones, rolling traffic slow-downs, signage, monitoring and instrumentation, physical barriers, and other measures to keep the public and marine traffic safe. Public safety is integral to a successful project.

Commitment to Safety

Kiewit/Manson is committed to the highest standards of safety performance. We strive for a safe working environment for all people on a project site and we take the public and personnel's safety seriously. Kiewit/Manson recognizes that it takes the effort of staff, craft, subcontractors, consultants, and the client so that *Nobody Gets Hurt*.

"They have the best safety program and results of any contractor I've worked with. Outstanding."

—William Howe, Assistant Resident Engineer, SFOBB Skyway Segment, Caltrans

Section 4 - Firm Experience and Past Performance

"The drilling and blasting work has gone flawless, primarily due to the intense front end preparation and rigorous planning of the events. Although we have only undertaken two of the pedestal blasts so far, both have been completed without incident or issues. Due to blasting regulations, we stopped traffic on the new, adjacent bridge for each blast, however there was never any danger as the blast was very well planned to limit fly material. Blast pressures were monitored in the river and were significantly less than was allowable. Along with protection measures for fish as part of the blast procedures, the entire operation has been very successful."

— Garry Dawson, Project Manager,
Port Mann Bridge Replacement,
Transportation Investment Corp.

SECTION 4–FIRM EXPERIENCE AND PAST PERFORMANCE *RFQ 3.5*

Kiewit/Manson bring skills in aquatic demolition using controlled blasting and conventional techniques, caring for environmentally sensitive areas, and providing innovation during critical preconstruction periods. On past projects we have done all this and delivered on time and on budget, minimized delays, and maximized opportunities for socially disadvantaged businesses.

Figure 1 touches on the extent and depth of Kiewit/Manson's ability to accomplish the Foundation Removal and meet Caltrans' goals.

Kiewit and Manson have worked independently and together on many of the Bay Area's critical infrastructure projects, including planning and constructing all of the marine foundations for the new SFOBB East Span.

Two industry experts supplement our team: CDB and ESA. CDB brings extensive controlled blasting planning, execution, and monitoring experience. ESA engages daily with the Bay Area's regulatory agencies, and their involvement in the preconstruction phase will directly benefit the early work to acquire the permits for this project in good time.

Brief narratives sum up each firm's capability and capacity. Following the narratives we have described relevant experience from the major participants. The highlighted projects involved preconstruction services, marine construction, demolition of temporary or permanent structures, and coordination with multiple parties. Each finished on time within a fixed budget and without a single claim.

	Kiewit	Manson	CDB (Subcontractor)	Managing Similar Demolition Projects *3.5.1(A)*	Demolition in Aquatic Environments Using Conventional Methods *3.5.1(B)*	Demolition in Aquatic Environments Using Innovative Approaches Including Controlled Blasting *3.5.1(B)*	Successful Aquatic and Environmental Stewardship *3.5.1(C)*	Use of Innovative Designs, Methods, and Materials *3.5.1(G)*	On-Time Completion with a Fixed Price *3.5.1(D)*	Achieving Small Business Goals *3.5.1(E)*	Minimizing Delays and Claims *3.5.1(F)*
Port Mann Bridge Replacement	●		●	●	●	●	●	●	●	●	●
Willis Avenue Bridge Replacement	●		●	●	●	●	●	●	●	●	●
Pitt River Bridge Replacement	●			●	●	●	●	●	●	●	●
SFOBB East Span Replacement - Skyway Segment	●	●		●	●		●	●	●	●	●
Tanana River Bridge CMGC	●				●		●	●	●	●	●
Manette Bridge Replacement		●		●	●		●	●	●	●	●
Pier 12 Demolition and Replacement		●		●	●		●	●	●	●	●
Piers 10 & 11 Demolition and Replacement		●		●	●		●	●	●	●	●
Pier T Marine Terminal Construction		●		●	●		●	●	●	N/A	●

Figure 1: Kiewit and Manson, along with CDB, have teamed repeatedly in the past and bring considerable relevant marine, demolition, and CMGC experience to the Foundation Removal project.

SECTION 4(A)–KIEWIT CONSTRUCTION EXPERIENCE AND PAST PERFORMANCE *RFQ 3.5(A)*

An employee-owned company, Kiewit is one of North America's largest transportation construction and engineering firms and offers services for highways, bridges, rail, mass transit, and marine facilities. Kiewit's capabilities are reinforced by one of the largest privately-owned fleets of construction equipment in North America, allowing them to rapidly mobilize necessary resources for any size project. *Engineering News-Record* consistently ranks Kiewit among the top transportation contractors in the U.S.— No. 1 Domestic Heavy, No. 2 Transportation, No. 3 Overall. Kiewit's ability to self-perform most work is a fundamental differentiator.

Large scale, technical marine projects are one of Kiewit's strengths. Over the past 10 years, Kiewit has constructed more than 140 marine projects, delivered using CMGC, design-build, and traditional bid-build procurement.

Bay Area Presence

Kiewit has been working continuously in Northern California since building the original SFOBB West Span foundations in 1933. Other major in-bay transportation projects include the $90 million BART Trans-Bay Tube, all the in-water foundations for the Skyway and E2/T1 segments for the SFOBB East Span replacement, and the Benicia–Martinez Bridge SR-680 (Benicia Bridge).

Kiewit maintains a local 77-acre construction and marine facility. With a 285-ft.-long bulkhead, Vallejo Yard is ideal for barge berthing and water access for heavy lift equipment. The adjacent highway and rail line offer easy access for material deliveries. The site has offices ready for occupancy during the preconstruction phase and later for material management.

Both the Vallejo Yard and our regional office in Fairfield, CA are less than 60 minutes from the project site. Keeping work local lowers cost and makes project management easier for Caltrans.

Marine Fleet

Kiewit owns and operates one of the largest marine construction fleets on the West Coast and many vessels are already permitted for work in California. The fleet's range provides the ability to value-engineer least-cost solutions for Caltrans. It includes 12 floating cranes ranging from 37 to 700 tons, 29 flat deck barges, four dump barges, and two spud barges.

Among these is the 700-ton DB General, the largest derrick barge on the West Coast. The DB General's reach and capacity may lend itself to the development of innovative and schedule-sensitive approaches that counter project constraints.

Personnel Resources

With more than 200 staff and many more craft located in the Bay Area and hundreds more up and down the coast, Kiewit will call on this expertise, as needed, to work with the regulatory community, develop demolition and access options, and carry out the final plans in the field.

Managing Similar Demolition Projects

As marine construction experts, Kiewit's work regularly includes demolition and removal of in-water foundations in sensitive environments with active marine traffic. The company is currently managing a nearly identical foundation removal effort for the final phase of the Port Mann Bridge, a $2.5 billion design-build project near Vancouver, BC. The team is removing 16,400 tons of structural steel and 45,500 cu. yds. of concrete using conventional wire- and saw-cutting and controlled blasting of seven in-water piers (**Figure 2**).

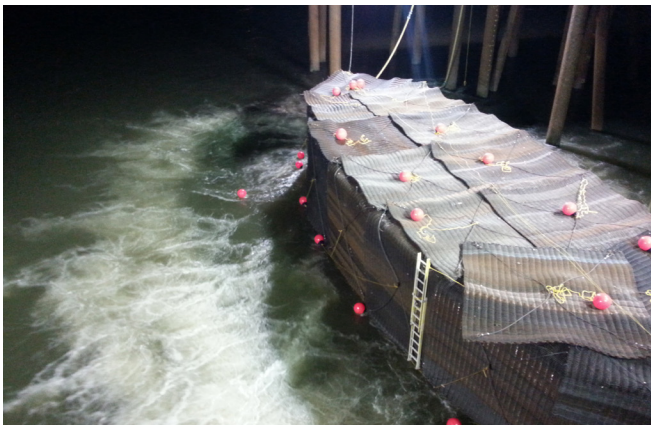


Figure 2: Kiewit has perfected a system using bubble curtains, fish deterrents, and comprehensive monitoring to protect aquatic wildlife during the demolition of large piers, such as these at the Port Mann Bridge.

Demolition in Aquatic Environments

Kiewit has experience performing in-water drilling and blasting demolition on a variety of infrastructure projects. For the Willis Avenue Swing Bridge (Willis Avenue Bridge) in New York City, the Port Mann Bridge, and the Pitt River Bridge and Mary Hill Interchange (Pitt River Bridge) near Vancouver, BC, Kiewit used controlled blasting to remove in-water piers below the waterline.

For all three, Kiewit worked within extensive permit constraints, safety precautions, monitoring programs, and close-proximity blasting procedures in dense population centers without incident. Kiewit teamed with CDB on both the Port Mann and Willis Avenue bridges.

Successful Aquatic and Environmental Stewardship

A strong and continuous presence in the San Francisco Bay has helped Kiewit develop an active and forward-thinking environmental program. Projects such as Skyway, E2/T1, and the Benicia Bridge used environmental monitoring and protection techniques to reduce effects on the surrounding habitat. Cofferdams, turbidity control, bubble curtains to reduce underwater noise and vibration effects, and wildlife monitoring during marine construction minimized the projects' impact on wildlife and habitat.

Use of Innovative Designs, Methods, and Materials

Kiewit is currently working on a CMGC contract with the Alaska Railroad Corporation for the Northern Rail Extension Phase 1 (Tanana River Bridge).

The CMGC model streamlined the front-end processes and ultimately lowered project cost by more than $30 million. During preconstruction, the team discovered an opportunity to reduce material costs by using non-domestic steel fabrication. Through task-force meetings, brainstorming, and relevant market knowledge, the team determined the steel quality met the client's expectations.

On-Time Completion within a Fixed Price

Budget and schedule performance are pillars of Kiewit's operating principles and everyone, from front-line supervision to quality control, is accountable for schedule and budget performance. Staff constantly monitor performance against the overall project schedule. This allows early discovery of issues to reallocate resources to meet the project's needs.

Achieving Small Business Goals

Kiewit is dedicated to providing opportunities for small and disadvantaged business enterprises (SBE/DBE) and has a record of achieving and exceeding goals on large infrastructure projects. Meeting the project's goals requires management commitment, a process to provide opportunity, effective monitoring, and market knowledge.

On the Port Mann Bridge, Kiewit used First Nations businesses and labor throughout the project,nearly doubling the required participation.

On Skyway, Kiewit awarded more than $78 million to DBEs—86% more than the $36 million required. Thirty-nine DBE companies participated, including material suppliers, service providers, and subcontractors.

Minimizing Delays and Claims

Successful contract management reduces risk and provides the client with a streamlined, no-surprises project. On the Skyway project, when early constructibility issues arose, the team worked with Caltrans and its designers to establish "Mission Control." This addressed constructibility ahead of work occurring in the field to protect the schedule and budget.

"The professionalism shown by this contractor is at the top of what I've seen in my 20-year contract administration career. They run a very carefully planned and safe project."

—Bill Howe, Asst. Resident Engineer, SFOBB Skyway

Form B–Project Description

Kiewit has provided details for five projects: Port Mann Bridge, Willis Avenue Bridge, Pitt River Bridge, Skyway, and Tanana River Bridge.

Summary of Claims

Kiewit has not experienced any claims on its referenced projects.

SECTION 4(A)–MANSON EXPERIENCE AND PAST PERFORMANCE *RFQ 3.5(A)*

Established in 1905, Manson is an employee-owned company with a national presence offering a wide range of skills and services. Manson specializes in marine construction, including in-water demolition and cofferdam installation. The company has a long history of working in the San Francisco Bay including prior work on the SFOBB site and offers a locally based workforce and heavy marine equipment.

Bay Area Presence

Since the 1960s, Manson has been constructing and maintaining much of the Bay Area's major marine infrastructure including the BART tube, the San Francisco–Oakland Bay Bridge, the Port of Oakland, and the downtown San Francisco waterfront. Manson knows the local waterways and has relationships with local subcontractors and suppliers to achieve high-quality work at the most competitive price.

Manson's local facilities in Richmond offer permanent offices, waterfront and rail access, on-dock cranes for loading and unloading materials, and ample space for staging project materials. For Caltrans' San Francisco Bay Bridge Pile Installation Demonstration Project (PIDP) Manson staged the bubble curtains in this yard.

Marine Fleet

Manson owns and operates one of the nation's largest fleets of heavy marine equipment, including:

- 21 derrick barges with 50- to 1,000-ton lift capacities
- 32 flat barges, 5 dump barges, 16 ABS barges
- 8 hydraulic and hopper dredges
- 31 tug and assist boats

The Richmond yard is homeport to four large-capacity floating derrick barges, five flat barges, two spud barges, two tug boats, two crew boats, one survey boat, and several other pieces of heavy marine equipment. This will make for quick response times and lower mobilization costs for the Foundation Removal.

Personnel Resources

With nearly 1,000 employees company-wide and three offices on the West Coast, Manson has significant craft and project management personnel available for this project.

Managing Similar Demolition Projects

Manson's CMGC experience includes the $300 million Elliot Bay Seawall for the City of Seattle. Manson is a 40% partner in the joint venture team for this high-profile, urban project to demolish and replace 3,200 ft. of downtown waterfront seawall. The new seawall will provide seismic stability and enhance downtown accessibility. The preconstruction phase helped set the tone for a project that is now proceeding with a high level of partnering, mutual trust, and open communication.

During the one-year preconstruction phase, the team supported the client by conducting cost estimates, constructibility reviews, industry open houses, community outreach, and providing subcontracting guidance. The preconstruction phase was extremely successful because everyone from the client, contractor, subcontractors, and designers to the waterfront business owners and regulatory agencies worked in unison to identify and control project risks prior to construction. The joint venture negotiated a construction contract with the client and began work earlier this year.

Manson has frequently performed work similar to the Foundation Removal, combining its marine equipment and expertise with conventional demolition equipment and techniques for complex in-water demolition work. The company also has considerable experience installing and using cofferdams on the Bay Bridge site, having installed 20 for the Skyway construction.

Demolition in Aquatic Environments

Safety, noise, and vibration are among the top concerns associated with controlled blasting. From its experience with large-diameter steel pile-driving and waterfront work in congested urban areas, Manson has significant first-hand knowledge developing and implementing site-specific safety protocols, sound attenuation systems, and vibration monitoring programs. Manson performed the PIDP for Caltrans and has been at the forefront of developing this technology in the industry.

The company has also performed four dredging projects with noise and vibration monitoring programs with CDB, the team's proposed blasting firm.

Successful Aquatic and Environmental Stewardship

In-water and over-water work is almost always conducted in environmentally sensitive surroundings. Manson incorporates environmental quality principles in all work plans and quality control programs. As demonstrated by the projects in this proposal, Manson complies with California's stringent air and water quality requirements, and all of Manson's projects are subject to permits such as the U.S. Army Corps of Engineers Section 404/Section 10 and OSHA regulations for hazardous waste operations.

Use of Innovative Designs, Methods, and Materials

Manson's in-house engineering team includes 20 registered professional engineers with expertise in structural and civil engineering. They have a strong record of developing construction engineering solutions for complex challenges. On the Manette Bridge 303/4A Replacement, the Manson-led team worked closely with the Washington State Department of Transportation (WSDOT) to develop and permit an alternate demolition approach to shorten the demolition by four months, saving WSDOT more than $4 million (**Figure 3**).

Figure 3: After completing the new Manette Bridge over busy channel traffic, Manson demolished the old bridge directly adjacent to the new bridge.

On-Time Completion within a Fixed Budget

Manson communicates with partners and the client on a daily basis to resolve issues quickly at the lowest possible level so they do not impact the project. Through the partnering process, whether formal or informal, Manson provides customer satisfaction by fostering communication and a mutual commitment to success. The Replace Piers 10 & 11, Naval Station San Diego (Piers 10 & 11) project is a good example: The team completed work eight months ahead of schedule with zero change orders.

Achieving Small Business Goals

A federal contractor since the 1940s, Manson has a long history of using industry best practices to promote using small businesses from all socioeconomic areas. In addition, many of Manson's port and department of transportation clients have small or local business compliance programs, where Manson meets—and often exceeds—these goals. All of the Manson projects described in this proposal met their small business goals.

"Manson Construction Co. has been an example for all other primes to follow in having honesty, integrity, and honor in their small business program."

—Guy Barton, Owner, Tahlequah Steel Inc., Small Business Subcontractor, Pier 12

Minimizing Delays and Claims

Manson's emphasis on partnering has resulted in an excellent record of minimizing delays, claims, and disputes. When project issues arise, Manson works collaboratively with the client to develop cost-effective and time-saving solutions.

Form B–Project Description

Manson has provided details for four projects: Manette Bridge, Pier 12, Piers 10 & 11, and Pier T.

Summary of Claims

Manson has not experienced any claims on its referenced projects.

SECTION 4(A)–CONTRACT DRILLING AND BLASTING LLC EXPERIENCE AND PAST PERFORMANCE *RFQ 3.5(A)*

Since its inception in 1985, Contract Drilling and Blasting LLC (CDB) has successfully completed numerous drilling and blasting projects in sensitive marine environments and critical infrastructure settings worldwide. Based in Jacksonville Beach, FL CDB excels in managing blasting and blast-monitoring programs and specializes in:

- marine drilling and blasting
- land-based infrastructure drilling and blasting
- specialized rock drilling, soil stabilizing, and concrete repair
- demolishing bridges, buildings, and other structures
- vibration and noise control
- measuring and assessing underwater overpressure

CDB maintains a fleet of specialty drilling equipment including excavator- and track-mounted drills, custom drilling boats licensed by the U.S. Coast Guard to carry explosives, support equipment and storage containers, and an array of in-house and proprietary blast monitoring and recording capabilities. CDB currently holds a federal user permit from the Bureau of Alcohol, Tobacco, and Firearms, as well as blasting licenses in 22 states and British Columbia.

CDB has been instrumental in the success of the ongoing demolition on the Kiewit-managed Port Mann Bridge and Kiewit's recently completed Willis Avenue project. Both faced similar challenges for in-water work, environmental stewardship, and protecting the public. In both cases, the Kiewit-led teams experienced well-planned and successful controlled blasting. Selecting Kiewit/Manson with CDB provides an unparalleled opportunity that takes advantage of the ongoing controlled blasting work at the Port Mann Bridge project.

Managing Similar Demolition Projects

CDB has a strong background in managing technical and complex demolition, such as a power plant expansion located on the Susquehanna River in Pennsylvania that entailed drilling and blasting on existing in-water flow control walls and piers attached to an operating plant. CDB managed this immediate-proximity demolition project while keeping the power plant on-line without service interruption. The project took 51 blasts to complete, and the maximum vibration and overpressures fell well below the required levels.

Demolition in Aquatic Environments

CDB has completed many major navigation channel and harbor expansion demolition projects across North America. The work has included self-performed demolition, drilling and blasting, and working as a principle blast consultant for a wide range of marine demolition operations.

For example, the Port Mann Bridge consists of removing seven large in-water piers in the Fraser River, near Vancouver, BC. Kiewit and CDB are working together to complete the piers' demolition, and have already removed two of the seven. CDB monitors the blasting activities throughout the operation and the results are well within the allowable overpressure, vibration, and turbidity limits. All blasting occurs in close proximity to the new Port Mann Bridge.

Kiewit's Willis Avenue Bridge project, completed in 2012, required the drilling and blast removal of the 77-ft.-diameter concrete swing pier and a 20- by 92-ft. rest pier in New York City's Harlem River (**Figure 4**). Pier removal was within 35 ft. of the newly constructed bridge. Kiewit and CDB worked together to perform the close-proximity blasting without damaging the new structure and the adjacent metropolitan area. Maximum overpressure measured was 10.8 psi at 35 ft.

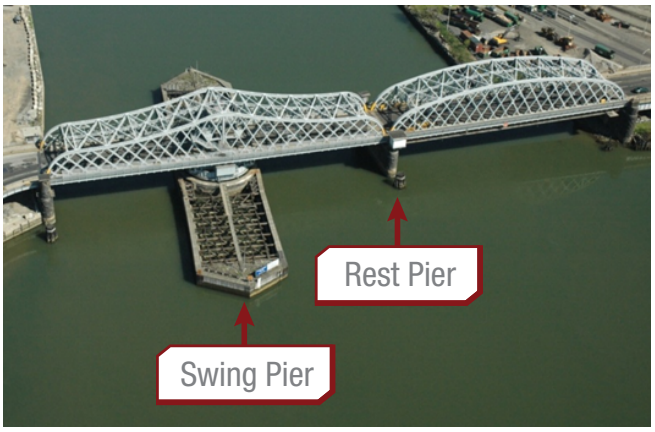


Figure 4: CDB provided drilling and blasting expertise to the Kiewit-led joint venture to demolish the old Willis Avenue Bridge crossing the Harlem River to join Manhattan and the Bronx.

Successful Aquatic and Environmental Stewardship

All in-water drilling and blasting work has the potential to disrupt or damage the local wildlife and surrounding habitat. CDB has demonstrated their ability to complete challenging demolition work without negatively affecting the environment on all of their projects. For instance, a river channel improvements project required drilling and blasting bedrock in the Columbia River shipping channel. The presence of several protected fish species and marine mammal activity required extensive monitoring and restrictions. CDB completed the project within the work window and with no measurable environmental impacts.

Use of Innovative Design, Methods, and Materials

At the Port Mann Bridge, CDB and Kiewit have kept noise and vibrations substantially below permit requirements. To comprehensively monitor the operation, CDB selected seismographs capable of recording particle velocity for three mutually perpendicular components of vibrations in the range generally found with controlled blasting.

From the work on the Port Mann Bridge, CDB and Kiewit can make the blasting data and additional relevant testing and controlled blasting inspection available to the Foundation Removal project. Using the Port Mann Bridge data to supplement the E3 demonstration model to develop the final blasting plan may ease acquisition of environmental and blasting permits, leading to a more cost-effective and timely project for Caltrans.

On-Time Completion within a Fixed Price

To minimize impact to the traveling public, controlled blasting work typically requires very restrictive work windows. CDB has successfully worked within these constraints and delivered projects on time and within budget. CDB's projects in and around some of the most active harbors and navigation channels in the world speaks highly of their expertise, along with their ability to execute close-proximity blasting without impacting the surrounding infrastructure and vessel traffic.

Achieving Small Business Goals

CDB currently holds small-business certification to perform blasting and structure demolition, North American Industry Classification System (NAICS) code #238910–Site Preparation. As a nationally accredited small business, CDB will be instrumental in meeting the project's small business participation goals.

Minimizing Delays and Claims

CDB works closely with clients to meet schedule and cost requirements. On a New York harbor channel navigation improvement project, CDB encountered an unforeseen challenge when the blast agent supplier went out of business. CDB modified the blast design plan to effectively reduce the amount of blasting agent required and still maintained the schedule and blasting effect with no impact to the project.

Form B–Project Description

CDB was instrumental to the ongoing demolitions on the Kiewit-managed Port Mann Bridge and Kiewit's recently completed Willis Avenue project.

Summary of Claims

CDB has not experienced any claims on the referenced projects.

SECTION 4(A)–ENVIRONMENTAL SCIENCE ASSOCIATES EXPERIENCE AND PAST PERFORMANCE *RFQ 3.5(A)*

Founded in San Francisco, Environmental Science Associates (ESA) has been successfully guiding clients through the environmental review process for more than 44 years. ESA offers capabilities and experience in environmental compliance and permitting services for large-scale infrastructure projects, including:

- California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) compliance
- permitting assistance
- monitoring, mitigation, and reporting programs (MMRP)
- analysis and studies for:
  - terrestrial and wetland biology
  - cultural resources
  - air quality and noise
  - hazardous materials
  - hydraulics and hydrology engineering

For the Foundation Removal project, ESA has partnered exclusively with Kiewit/Manson. ESA's deep understanding of the Bay Area's regulatory agency guidelines and procedures will augment the team's abilities. The firm will advise on environmental considerations, permitting, regulations, monitoring, and stakeholder requirements and will assist with the project's compliance coordination.

Regulatory Agency and Requirement Familiarity

On large-scale projects like the Doyle Drive Environmental and Design Study and the Golden Gate Bridge Seismic Retrofit Analysis in the San Francisco Bay Area, ESA has assisted controlling agencies and contractors with environmental compliance.

Golden Gate Bridge Seismic Retrofit Environmental Analysis

Section 4(f) Parkland Documentation, and Phase IIIA Compliance Monitoring

Over the past two decades, ESA has provided environmental documentation and compliance services to the Golden Gate Bridge and Highway Transportation District. This relates to the area's historical significance, threatened and endangered species, and construction impacts on traffic, recreation, and natural resources. As a result, ESA has provided input on seismic and wind retrofit activities, and widespread permitting coordination. In addition, ESA documented site conditions and implemented storm event, cultural resource, and noise and air monitoring activities to support construction.

Doyle Drive Environmental & Design Study

Environmental Impact Report (EIR)/Environmental Impact Statement (EIS), Mitigation, Construction Monitoring, and Permitting (2009–present)

ESA contributed several technical studies to the Doyle Drive EIR/EIS, including wetland, noise, and vibration studies. They also prepared regulatory permit applications for the USACE, the San Francisco Bay Regional Water Quality Control Board (RWQCB), and Caltrans. ESA monitored construction activities and provided planning services during the project's construction phase. This experience is directly transferable to the Foundation Removal project, involving many of the same regulatory agencies.

Demolition Project Experience

ESA has worked on several demolition and retrofit projects. They understand challenges such as noise, vibration, and pressure effects on marine life, as well as the potential effects on mariners and other users in the project's vicinity.

On the California State Lands Commission Pacific Refining Marine Terminal Decommissioning, ESA provided third-party environmental monitoring for deconstructing the offshore marine terminal. They were directly involved in managing the biological and marine resources and hazardous material.

For the Port of Redwood City Terminal Master Plan Wharf 1 and 2 Redevelopment EIR, ESA evaluated issues regarding impacts on a nearby wildlife refuge, increased vessel traffic, and a contaminated groundwater plume beneath the project site for the existing warehouse's demolition and the timber wharves replacement. Manson later constructed this project.

Successful Aquatic and Environmental Stewardship

Kiewit and ESA have worked together to deliver environmentally compliant work under strict regulatory requirements, and ESA dedicates itself to maintaining regulatory compliance. Their value has been proven on past projects such as the El Portal Road Reconstruction in Yosemite National Park.

Under the Kiewit-led design-build team ESA provided general environmental monitoring for the project. The focus was on compliance, inspection, and reporting procedures for construction on protected lands and waterways. The Merced River runs parallel to the project and the team was tasked with protecting this waterway during the project. ESA prepared measures for this, which were then implemented by the Kiewit team.

ESA and Caltrans

ESA has worked and continues to partner with Caltrans Local Assistance and Environmental Branch staff on more than two dozen local assistance projects, including 17 bridge replacement projects in central California.

ESA understands local agency federal aid guidelines and procedures contained in *Caltrans Environmental Handbook, Vol. I to IV*, and has the technical capabilities to prepare the full range of environmental Caltrans studies, water quality reports, noise studies, community impact assessments, biological monitoring and assessment, and others, as necessary to support the Foundation Removal.

Teaming and Third-Party Collaboration

Building successful relationships relies on not only past performance, but on open and candid communication among stakeholders. ESA has a solid track record working in the San Francisco Bay Area with regulatory agencies and commissions on a variety of projects including: the San Francisco RWQCB, San Francisco Bay Conservation and Development Commission, State Lands Commission, USACE, California Department of Fish and Wildlife (CDFW), US Fish and Wildlife Service, National Oceanic and Atmospheric Administration, and the National Marine Fisheries Service. ESA brings this experience exclusively to Kiewit/Manson, and their contribution will be unmatched for the project's environmental components.

On-Time Completion within a Fixed Price

Recently, ESA led the biological and cultural compliance tasks for the first California high-speed rail construction project, which requires significant demolition to build the new rail corridor. ESA's experienced monitors and regulatory specialists were essential in developing implementation measures and understanding the permit conditions and contract requirements associated with field demolition and construction. Throughout, they kept the project schedule and budget at the forefront of the process.

Achieving Small Business Goals

ESA has a strong commitment to small businesses. On a recent transportation project in the Seattle area that did not have a required participation goal, ESA identified DBE/WBE and small business subcontracting opportunities to support archaeological work and public education, committing 4% participation in the contract.

Summary of Claims

ESA has not had any claims associated with any of the projects described here.

Form B - Project Description

Bubble curtain surrounding pier demolition

Temporary trestle accesses demolition

In-water demolition using blast mats

FORM B–PROJECT DESCRIPTION

Name of Proposer: Kiewit/Manson, AJV

Name of Firm: Kiewit Infrastructure West Co.

Project Role: Prime Contractor, Managing Partner of Design-Build Joint Venture

Principal Participant: Kiewit/Flatiron, JV

Designer: Highway - H5M (Hatch Mott MacDonald and MMM Group), Bridge - T.Y. Lin International

Other (Describe): CDB is Kiewit's specialty subcontractor for the in-water foundations controlled blasting.

Years of Experience (provide length of activity as it relates to the following three elements):

Roads/Streets: 6 **Bridges/Structures:** 6 **Utility Relocations:** 6

Project Name, Location, and Nature of Work for Which Company Was Responsible:

Port Mann Bridge/Highway 1 Improvements, Vancouver, BC

Kiewit is the managing joint-venture partner on the $2.5 billion Port Mann Bridge design-build project—the largest transportation infrastructure project in British Columbia's history.

The project's demolition scope includes demolishing seven in-water piers of the existing Port Mann Bridge. Now that the new 1.25-mile-long cable-stayed bridge over the Fraser River is open to traffic, the team, including specialty subcontractor CDB, has begun demolishing the existing bridge and, to date, has removed two of the seven in-water piers. Kiewit and CDB will blast the remaining five piers later in 2014.

Provide Project Description and Describe Site Conditions:

Managing Similar Demolition Projects—3.5.1(A)

Much like the SFOBB foundations, Port Mann's in-water piers are in a navigable waterway populated by a large number of protected marine and wildlife species. Environmental and marine life protection during blasting is a top priority. As a result, the environmental restrictions are broad-based and stringent. The proposed project manager for the Foundation Removal, Fritz Lausier, currently leads the Port Mann project team in planning and executing the demolition work to accomplish it in compliance with the contract and regulatory restrictions.

The in-water foundations are being removed using both conventional and controlled drilling and blasting methods similar to those being considered for the Foundation Removal. Demolition requires extensive support of marine equipment and Kiewit's expertise. The team has used two derrick barges, several flat-deck barges, and skiffs to support the demolition, as well as several methods to access the work including marine equipment and a temporary access trestle—both potential options for the Foundation Removal. The blasting occurs in the Fraser River, a prominent 30-ft.-deep commercial waterway between Coquitlam and Surrey, BC, that has marine and port traffic; the logging industry moves large quantities of timber down the river.

Kiewit also demolished the old 6,900-ft.-long by 65-ft.-wide steel truss superstructure, including removing the road decks, on-land concrete piers, and structural steel.

Demolition in Aquatic Environments Using Conventional Methods—3.5.1(B)

Kiewit used conventional techniques to demolish the superstructure. This included the 2,000-ft.main span over water, a 1,600-ft. approach over water, and a 3,300-ft. approach over land. In total, the project team demolished 16,400 tons of structural steel.

Completely demolishing the complex main span arch bridge required additional planning and precautions. Preparation included constructing a temporary trestle and dredging to allow Kiewit's marine equipment access. Once in place, the team disassembled the bridge in reverse of the original construction sequence. To do this, Kiewit installed temporary bracing in each side span's tower arches and temporary stay cables supported the center span arch and back span deck. Deck and pier demolition included concrete saw- and wire-cutting over the river, during which crews fully contained debris and slurry.

Demolition in Aquatic Environments Using Innovative Approaches Including Controlled Blasting—3.5.1(B)

CDB and Kiewit worked closely on this part of the demolition, with CDB designing and managing the blasting and Kiewit providing marine and other support. The piers, which are less than 15 ft. from the temporary work trestle and 50 ft. from the new bridge, range in size from 26 by 78 ft. to 48 by 144 ft.; the heights range from 22 to 50 ft.

CDB's blast design considered the proximity of the new piers, commercial and residential structures, and utilities. The specified pounds of explosives per delay minimized the overpressure and vibrations and the selected blast pattern accounted for the original footing design with voids in the concrete piers. CDB used a template to precisely place the drill pattern and explosive charges. The pattern effectively demolished the piers without affecting the adjacent structures.

Before detonation, Kiewit covered each blast with a combination of wire-rope blast mats, geo-textile fabric, and chain link fence to prevent flying debris. The team also placed sand bags on top of each shock tube to protect the detonators from the mats.

Seismographs and other instrumentation set up on land and on the new bridge recorded the blasts' ground vibration and water overpressures; the results were well below the allowable threshold. Industry standard overpressure and vibration allowance is approximately 14.5 psi and 2 inches per second. Only transient water pressures of 1.9 psi lasting approximately 35 ms were recorded, versus the 4.35 psi allowable, and vibrations of 0.28 inches per second, also considerably less than allowed.

Numerous and well-planned components were placed around Port Mann's in-water piers. Combined, their use has resulted in the unprecedented overpressures and vibration achievements mentioned above. Details of this system are shown in Section 6, Figure 2.

Successful Aquatic and Environmental Stewardship—3.5.1(C)

To complete the underwater blasting, Kiewit, CDB, and the demolition environmental manager worked with the client to secure permits from over six regulatory agencies including safety organizations, local governments, environmental agencies, and the coast guard. CDB's licensed blaster, the proposed controlled blasting specialist for the Foundation Removal, Kenneth Tully, is well versed in each agency's requirements and provided his insight when developing blast plans. Tully, Kiewit, and the client, worked together to develop a blast plan that met the permit requirements. Kiewit also hired a local third-party blast consultant to perform an independent review of the plan before implementation.

The plan called for adding environmental monitoring and compliance personnel during the demolition work to carry out the operations in full compliance. Additional measures to meet permits and for a safe demolition included shutting down traffic on the new bridge, clearing all personnel and equipment within 250 ft. of the blast, and clearing marine traffic within 1,500 ft. of the blast. The team planned the blasts to occur during low-traffic volumes and during high tide to control the blast perimeter. All are viable measures for the Foundation Removal.

The team successfully removed the first two piers using demolition techniques that protected the aquatic and environmentally sensitive areas in which the piers are situated. Confining the explosives within the pier's concrete, using precise charge stem lengths, controlling the weight of explosives detonating at a given time (pounds of explosives per delay), using acoustic fish deterrents, fish deterrent pre-blasts, and using bubble curtains protected marine life.

Importantly, Kiewit has extensive experience developing and designing bubble curtains with many different consultants. On the Port Mann Bridge, the team collaborated with a third-party designer to develop a double-walled bubble curtain with 2-in. hose anchored to the river bottom. Kiewit and CDB will bring the knowledge and experience from developing this technique to the Foundation Removal's controlled blasting.

Use of Innovative Designs, Methods, and Materials—3.5.1(G)

To comprehensively monitor the operation, CDB selected seismographs capable of recording particle velocity for three mutually perpendicular components of vibrations in the range generally found with controlled blasting. Kiewit and CDB will bring this instrumentation and monitoring knowledge to the Foundation Removal with specialist Albert vanNiekerk.

Through constructability analysis, the team implemented a schedule-saving technique using an oxy-lance torch system. The system cuts through the 12-ft.-tall steel girders in approximately 20 minutes, compared to 120 minutes using a standard torch.

To support the project's sustainability goals, the project uses on-site crushing to recycle the demolition material. The team excavated the concrete rubble created by the in-water blasting with a derrick barge and recycled it for use in crane mats and to support other on-site activities. This reduced the overall project cost and received favorable reviews by the environmental regulatory agencies.

On-Time Completion with a Fixed Price—3.5.1(D)

The Port Mann Bridge is scheduled to finish on time and within its fixed price.

Achieving Small Business Goals—3.5.1(E)

Similar to U.S. small business goals, Canada requires First Nations participation to enhance social equity throughout the region affected by a project. For Port Mann Bridge, the team was required to subcontract $3 million to First Nations businesses and employ 200 man-years of labor in the execution.

To accomplish this, Kiewit assigned a First Nations employment and training coordinator to work directly with representatives from the six First Nations territories in the project area. Through a concerted effort, the project has awarded $13.7 million of subcontracts—more than four times the amount required—and employed over 211 man-years of labor for the First Nations, far exceeding the contract requirements.

Minimizing Delays and Claims—3.5.1(F)

The project has not sought remedy for any contract issues by way of dispute proceedings, litigation, or arbitration. The project has also experienced no claims. The team accomplished this through clear communication and early issue recognition. At the project's start, the team committed to thorough design and constructability reviews to discover and resolve all issues long before construction began—avoiding project changes and delays.

List Any Awards, Citations, and/or Commendations Received for the Project:

2013 Deputy Minister's Contractor of the Year, Bridges and Structures, British Columbia Ministry of Transportation

Name of Client (Owner/Agency, Contractor, etc.): Transportation Investment Corporation

Address: 1300 1075 W. Georgia Street, Vancouver, BC V6E 3C9

Contact Name: Stephen Docherty **Telephone:** (778) 783-1240 **Fax:** (778) 783-1241

Owner's Project or Contract No.: None **Email:** sdocherty@ticorp.ca

Contract Value (US$): $2.2 billion **Final Value (US$):** $2.5 billion (est)
(Values converted using May 7, 2014 exchange rate)

Quantity and Value of Contract Modifications and Causes of the Changes: Several contract modifications were required totaling $275 million. Most contract changes stemmed from additional scope and acceleration requested by the client.

Percent of Total Work Performed by Company: 65% **Commencement Date:** 10/2008

Dates of Construction and/or warranty periods: 10/2008–12/2014

Planned Completion Date: 12/2014 **Actual Completion Date:** Anticipated 12/2014

Description of Schedule Changes: None

Amount of Claims: $0 **Any Litigation?** No

Claims History, Numbers, and Dollars Submitted and Final Results: $0

Design Review Board History: Not applicable to this Canadian project

Conventional demolition techniques

Demolition adjacent to existing structure

Innovation in reuse and recycling

FORM B–PROJECT DESCRIPTION

Name of Proposer: Kiewit/Manson, AJV

Name of Firm: Kiewit Infrastructure West Co.

Project Role: Prime Contractor, Managing Partner of Design-Build Joint Venture

Principal Participant: Kiewit/Marine Weeks, JV **Designer:** Hardesty & Hanover, LLP

Other (Describe): CDB was the subcontractor for in-water drilling and controlled blasting.

Years of Experience (provide length of activity as it relates to the following three elements):

Roads/Streets: 5 **Bridges/Structures:** 5 **Utility Relocations:** 5

Project Name, Location, and Nature of Work for Which Company Was Responsible:

Willis Avenue Bridge, New York City, New York

In 2007, a $612 million contract was awarded to the Kiewit-led joint venture to construct a new four-lane swing bridge over the Harlem River in New York City. The 113-year-old Willis Avenue Bridge carried more than 70,000 vehicles daily. A combination of age, weather, and heavy use led the New York City Department of Transportation (NYCDOT) to replace the structure with a wider, modern structure that would still allow tall vessels to navigate the river. The project included constructing eight abutments, five in-river piers, 23 land piers, and 33 bridge spans, as well as demolishing the existing bridge.

Provide Project Description and Describe Site Conditions:

Managing Similar Demolition Projects—3.5.1(A)

As the managing partner, Kiewit was responsible for safely managing the demolition. This work included the old bridge's main span and the in-water piers 9 and 10. Pier 9 was a 79-ft.-diameter pivoting pier. Pier 10 was a 96-ft.-long by 20-ft.-wide resting pier. To complete safe and controlled demolition, cofferdams were used to assist in the three-day drilling and blasting process. Using a drill rig, templates, and casing pipes, the team drilled holes under the direction of Ken Tully, the controlled blasting specialist proposed for the Foundation Removal. Blasting operations included transporting explosives, loading the boreholes, matting, securing the safety zone, and blasting during high tide. Kiewit and CDB monitored vibration effects using nine portable field seismographs to determine effects on nearby structures and to verify all tolerances had been met.

Kiewit and CDB designed the drilling and blasting program to optimize the piers' fragmentation and to limit effects on the surrounding structures, environment, and community. Strong collaboration by Kiewit, CDB, and NYCDOT kept the schedule on track and limited disruption to marine traffic.

The client chose to co-locate with Kiewit and the designer to form a fully integrated team. This facilitated coordination and communication throughout the project and solved problems immediately and efficiently. The team formed discipline-specific task forces early on in the demolition stage that met regularly to educate all team members on the demolition process. This forum identified and reduced risks and maintained compliance. Open communication and proactive decision-making by the entire group opened the bridge to the public two months ahead of schedule.

Demolition in Aquatic Environments Using Conventional Methods—3.5.1(B)

The team demolished the two in-water piers using a conventional cofferdam approach. Kiewit constructed Pier 10's cofferdam in two phases to account for the proximity of the old and new bridges. Phase one entailed driving 10 pairs of sheets before floating the new swing span into place; phase two required driving the remaining 60 pairs after floating out the old spans.

Pier 9 was a circular pivoting pier, so Kiewit designed its cofferdam in an octagonal shape. Because the pier was completely underwater, Kiewit used the its global positioning system (GPS) coordinates to precisely determine the cofferdam's coordinates. To relieve eventual pressures from the blast, Kiewit clammed out dirt from between the pier and cofferdam. To protect the river environment, crews contained the excavated debris with a fabric filter fence around the adjacent dump scow to catch any splatter when transferring it to the scow.

Using GPS coordinates, the cofferdam, a drill rig, and templates, Kiewit and CDB drilled 3-in. holes through the granite in a 5- by 5-ft. hole pattern, and then covered the entire area with crane mats and additional material before blasting each pier. The piers were loaded with explosives and blasted during high tide. The matting, along with conducting the blasts 40 ft. underwater contained the blast debris inside the cofferdam. Once blasting, excavating, and backfilling were complete, the team removed the cofferdams. The demolition operations were conducted in accordance with all permits.

Demolition in Aquatic Environments Using Innovative Approaches Including Controlled Blasting—3.5.1(B)

Kiewit implemented seismic and acoustic monitoring in accordance with the project's requirements and city regulations. To record ground vibration and water overpressure, Kiewit placed seismographs at the 400-ft. blast zone perimeter for both piers 9 and 10. Vibration monitors were set up on the new bridge and nearby buildings. Some areas required crack gauges on previously existing cracks. The team carefully selected blast material and stemming to properly control overpressure and fly rock. During the operation itself, the project team confined the explosives by loading competent blast holes and using the appropriate type and amount of stemming to maintain the energy inside the structure. Also, to minimize ground vibration, the team had significant initiation delays between blast holes; therefore, a single blasting event was broken into smaller events reducing the pounds per delay.

During the weeks before blasting, the team displayed notice signs on the waterway and local streets. Hours before blasting with the help of the Fire Department City of New York (FDNY), the local streets, sidewalks, waterway, and new bridge were closed. Team personnel were present to prevent public traffic from entering the danger zone. To protect the area's marine life, CDB detonated small charges underwater for 15 to 30 seconds before a main blast to deter any nearby fish. Both blasts were executed without injuries and without damaging the new bridge or nearby structures.

Successful Aquatic and Environmental Stewardship—3.5.1(C)

The team developed a close working relationship with the state and federal permitting agencies to obtain all permits to begin construction and demolition work on time, including all blasting permits. In particular, Kiewit maintained close contact with FDNY's explosives unit, which is responsible for the control of blasting within city limits and issues all permits for using explosives in blasting operations.

Use of Innovative Designs, Methods, and Materials—3.5.1(G)

The team recycled portions of the old Willis Avenue Bridge into a monument in the Harlem River Park. In addition, the team salvaged, cleaned, and cut the granite piers for reuse by Brooklyn Bridge Parks to make benches and walkways. Granite was also reused as ornamental blocks on the new bridge. Recycling parts of the old bridge helped the community embrace the new structure.

On-Time Completion with a Fixed Price—3.5.1(D)

Kiewit worked closely with NYCDOT from the project's initial stages and through completion. Open and frequent communication, along with monthly review meetings led to opening the bridge for users and completing all major work two months ahead of schedule and within budget.

Achieving Small Business Goals—3.5.1(E)

The Kiewit-led team subcontracted a total of 22% of the work to small businesses and had more than 10% participation from disadvantaged business enterprise (DBE) and women business enterprise (WBE), exceeding the project goals. The project also contributed to the area's economic stability by creating over 400 new jobs.

Minimizing Delays and Claims—3.5.1(F)

The team completed all major work on time with no delays in the opening of the bridge. The client is completing a lengthy review process for the bridge's operation and maintenance manuals and final completion notification is expected in June 2014. The project has finished without any delays or claims.

List Any Awards, Citations, and/or Commendations Received for the Project:
2012 Engineering Excellence Diamond Award, American Council of Engineering Companies
2012 Engineering Excellence National Recognition Award, American Council of Engineering Companies
2012 Project of the Year, New York State Society of Professional Engineers
2012 Construction Achievement Award, Metropolitan Section, American Society of Civil Engineers

Name of Client (Owner/Agency, Contractor, etc.): New York City Department of Transportation
Address: 55 Water Street, New York, NY 10041
Contact Name: Rahul Shah **Telephone:** (212) 893-4145 Fax: (212) 442-7044
Owner's Project or Contract No.: BRCR076 **Email:** rshah@dot.nyc.gov
Contract Value (US$): $612 million **Final Value (US$):** $641 million
Quantity and Value of Contract Modifications and Causes of the Changes: $28 million increase from allowable bid item quantity increase/decrease.
Percent of Total Work Performed by Company: 70% **Commencement Date:** 08/2007
Dates of Construction and/or warranty periods: 08/2007–10/2012
Planned Completion Date: 12/2012 **Actual Completion Date:** Expected 06/2014 pending final review of operations and maintenance manuals; all major work was completed on time and opened to public two months ahead of schedule.
Description of Schedule Changes: Approved change orders and added scope
Amount of Claims: $0 **Any Litigation?** No
Claims History, Numbers, and Dollars Submitted and Final Results: $0
Design Review Board History: None

Marine support for in-water demolition

Conventional foundation demolition

Drilling in environmentally sensitive areas

FORM B – PROJECT DESCRIPTION

Name of Proposer: Kiewit/Manson, AJV

Name of Firm: Kiewit Infrastructure West Co.

Project Role: Prime Contractor, Design-Builder

Principal Participant: Kiewit Infrastructure West Co.

Designer: ND Lea Inc., Associated Engineering Ltd., and International Bridge Technologies

Other (Describe): None

Years of Experience (provide length of activity as it relates to the following three elements):

Roads/Streets: 4 **Bridges/Structures:** 4 **Utility Relocations:** 4

Project Name, Location, and Nature of Work for Which Company Was Responsible:

Pitt River Bridge & Mary Hill Interchange, Port Coquitlam, BC

The first phase of the British Columbia Ministry of Transportation's (Ministry) "Gateway Program"—the Pitt River Bridge—was awarded to Kiewit in late 2006. This fast-track, design-build project replaced two existing swing bridges with a single high-level 1,240-ft. cable-stay bridge and approach spans. Kiewit obtained numerous permits and regulatory approvals, safely implemented several major traffic detours for more than 88,000 vehicles passing through the construction zone daily, and accommodated daily marine traffic while erecting the new bridge. The scope also included constructing a new interchange, managing and disposing of highly contaminated soils, and demolishing two existing structures situated beside the new bridge and road.

Provide Project Description and Describe Site Conditions:

Managing Similar Demolition Projects—3.5.1(A)

The demolition work included removing the existing bridges, the control tower, the swing span trestle, and approach roads, as well as a 1-ft.-diameter waterline attached to the south bridge. The old downstream bridge was 1,115 ft. long and rested on nine piers and two abutments; it was constructed of reinforced concrete walls supported on original timber cribs approximately 36 ft. below the riverbed and filled with concrete. The old upstream bridge was 1,180 ft. long and situated on nine concrete piers on top of pile caps supported by concrete-filled steel pipe piling.

Long before demolition began, the team began working with the client to plan the work. Kiewit put together comprehensive demolition plans, clearly demonstrating how the work would meet permit conditions. Regulatory agency representatives reviewed and commented on the plans, and the team discussed alternate means and methods with them. Once finalized, Kiewit followed the plans diligently, closely monitoring the work for compliance and eventually receiving "outstanding" ratings from the permitting agencies.

To facilitate the design-build and demolition process, the team co-located with the designer. The design was produced, reviewed, and approved in an integrated, staged process consistent with the schedule. A task force verified that the design met project requirements, confirmed constructability, and resolved issues before they impacted the schedule.

Demolition in Aquatic Environments Using Conventional Methods—3.5.1(B)

Conventional demolition methods included excavator-mounted hydraulic rams and traditional saw-cutting to demolish the concrete pier above the normal water level. The team hoe-rammed the concrete and steel, loaded it onto a barge, and then transported the material to either the recycler or the waste management site. Divers cut the steel piling underneath the water for the north bridge's piers. Each pier had 24 steel piling—432 in all; half of the piling were cut before demolishing the pier.

Kiewit worked with the permitting agencies throughout the demolition to address concerns related to marine life, mariners, and travelers on the adjacent roadway.

Demolition in Aquatic Environments Using Innovative Approaches Including Controlled Blasting—3.5.1(B)

Kiewit's demolition plan called for controlled blasting of the large underwater pier sections. In conjunction with local agencies, the team devised a plan also to use bubble curtains, underwater vibration monitoring, and blast mats to limit environmental impacts and enhance public safety. These efforts also addressed the client's concern about protecting the new bridge due to its close proximity.

Working during a fish window and under close supervision, the team began drilling using a track-mounted drill with a compressor. Next, the explosives for each pier were set up by two technicians. An excavator placed the blasting mats. The team detonated the explosives at night due to the traffic closures required by the proximity of the new bridge. A crew set up and maintained the perimeter around the blast zone. Two support boats upstream and downstream from the site prevented water traffic from entering the site. The technicians and excavator handled the blasting mats when finished. The team completed the actual detonation in a two-hour window. Afterward, Kiewit used a clamshell dredge to remove the material. The team repeated this process for each pier foundation without incident.

Successful Aquatic and Environmental Stewardship—3.5.1(C)

The team collaborated with several government agencies, including Fisheries and Oceans Canada, the provincial departments for transportation, labor, forests, and the environment, the City of Port Coquitlam, and the Municipality of Maple Ridge. Kiewit obtained all the permits and approvals for the project. Among them were the Fisheries and Oceans 35.2 Authorization and Ministry of Environment Water Act permits.

To preserve the project schedule, the team focused on applying for critical permits and plans as an early action item. An environmental management plan (EMP) was put in place before the work commenced. Specific protection measures used traditional practices such as turbidity control and environmentally friendly vegetable-based hydraulic oil in all equipment, as well as special techniques such as vibration monitoring and bubble curtains. Supervisors responsible for the construction and demolition activities contributed directly to the development of the EMP. This collaborative approach led to an actionable plan that was 100% compliant with all regulatory permits and approvals and to the bridges' successful demolition without incident.

Use of Innovative Designs, Methods, and Materials—3.5.1(G)

Through the design-build process, much like the preconstruction process envisioned for the Foundation Removal, Kiewit and the Ministry worked together to refine the design and develop innovative solutions that were both efficient and economical. In so doing, the project team reduced the preliminary project cost by $24 million bringing it under the Ministry's budget. This allowed for the later addition of a full-length, dedicated bus lane, while still falling within the original budget and limitations.

Revisions to the preliminary designs also focused on project goals and addressed issues related to working in an environmentally sensitive area, improving conditions for shipping traffic, and improving safety. An innovative design change reduced the in-water piers from three to one, minimizing the bridge's environmental footprint and shortening the in-water construction periods. This decreased the impact on native species and improved navigation in the channel, which reduced the risk of vessel impact. The design also maximized the use of precast concrete and pre-fabrication to limit the amount of over-water work.

On-Time Completion with a Fixed Price—3.5.1(D)

This project completed on time and within its fixed price.

Kiewit and the designers began work under a limited notice-to-proceed during final contract negotiations to begin critical design activities and maintain the fast-track schedule. The project team agreed on a staged design submittal schedule that focused on critical path activities. With early project success, the client awarded an additional $16.5 million in scope when the project was 65% complete. The project team wove this new work into the original plan and completed it within the original time frame, all while complying with the restrictive in-water work permit.

Achieving Small Business Goals—3.5.1(E)

The team incorporated small businesses into every aspect of the project. The team used local fabricators to build all precast elements, supply and fabricate specialty equipment, supply construction materials, and perform necessary testing. In the end, 35% of the project was subcontracted. A large portion went to First Nations businesses under a federal program that maximizes opportunities for disadvantaged businesses akin to California's small business program.

Minimizing Delays and Claims—3.5.1(F)

Through close collaboration between all parties identified risks were assigned provisional budgets, and the project closed with no delays or claims in accordance with the original schedule and budget.

List Any Awards, Citations, and/or Commendations Received for the Project: None

Name of Client (Owner/Agency, Contractor, etc.): British Columbia Ministry of Transportation

Address: 2030 – 11662 Steveston Highway, Richmond, BC V7A 1N6

Contact Name: Geoff Freer **Telephone:** (604) 660-8283 **Fax:** (604) 660-8020

Owner's Project or Contract No.: None **Email:** geoff.freer@gov.bc.ca

Contract Value (US$): $173 million **Final Value (US$):** $190 million

(Values converted using May 7, 2014 exchange rate)

Quantity and Value of Contract Modifications and Causes of the Changes: The client added a priority bus lane the length the work, increasing the value by $16.5 million.

Percent of Total Work Performed by Company: 65% **Commencement Date:** 12/2006

Dates of Construction and/or warranty periods: 12/2006–11/2010

Planned Completion Date: 11/2010 **Actual Completion Date:** 11/2010

Description of Schedule Changes: None

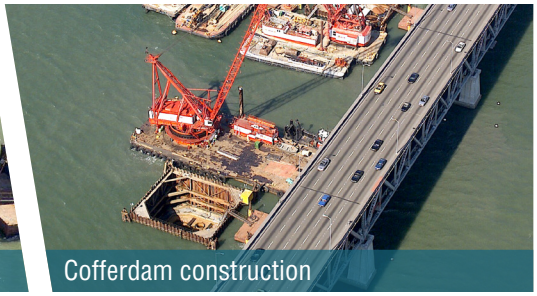
Amount of Claims: $0 **Any Litigation?** No

Claims History, Numbers, and Dollars Submitted and Final Results: $0

Design Review Board History: Not applicable to this Canadian project.

Pile driving using bubble curtains

Working in the bay at the SFOBB site


Cofferdam construction

FORM B–PROJECT DESCRIPTION

Name of Proposer: Kiewit/Manson, AJV

Name of Firm: Kiewit Infrastructure West Co. and Manson Construction Co.

Project Role: Prime Contractor, Managing Partner of Joint Venture

Principal Participant: Kiewit/FCI/Manson, JV **Designer:** T.Y. Lin International (for Caltrans)

Other (Describe): Design assist by Parsons Transportation Group (for joint venture)

Years of Experience (provide length of activity as it relates to the following three elements):

Roads/Streets: 0 **Bridges/Structures:** 6 **Utility Relocations:** 6

Project Name, Location, and Nature of Work for Which Company Was Responsible:

San Francisco–Oakland Bay Bridge Skyway Segment, Oakland, CA

The Skyway included constructing 1.5-mile-long side-by-side bridges in the San Francisco Bay. The contract was the first of several to replace the existing SFOBB East Span, the subject of the Foundation Removal.

Built adjacent to the existing bridge, the Skyway faced nearly identical challenges and risks as those expected for the Foundation Removal, including significant construction in the San Francisco Bay and the corresponding environmental, navigational, and public involvement aspects. Kiewit built much of the foundation work within large cofferdams, and the cofferdam installation and extraction, along with the installation of the permanent piling, met acoustical and water quality protection measures. The work required monitoring and extensive efforts to maintain navigation channels and public safety and to protect the aquatic habitat.

As the managing partner of the joint venture that included Manson, Kiewit was responsible for the entire project including client and designer interaction, project planning, execution, controls, and interfacing with third-parties such as regulatory agencies, unions, media, and key stakeholders, including the cities of San Francisco, Oakland, and Alameda.

Provide Project Description and Describe Site Conditions:

Managing Similar Demolition Projects—3.5.1(A)

The project was built exclusively from the water and accessed only via trestle or floating equipment. The team dredged over 384,000 cu. yd. and disposed of the material over 50 nautical miles offshore, installed and removed 20 cofferdams, performed pile driving and clean-out operations, and erected a fendering system at six of the new bridge's piers. Additionally, crews installed over 600 temporary piling for two pile-founded work trestles, one of which was demolished before the project's conclusion. For these operations, the team accounted for vibratory, pile driving impact noise, water turbidity, and coordinated with mariner traffic.

Demolition in Aquatic Environments Using Conventional Methods—3.5.1(B)

The Kiewit-Manson team gained important on-site experience designing and installing cofferdams, bubble curtains, and trestles—work that will likely be required for the Foundation Removal. The team planned, installed, and removed 20 large cofferdams and two trestles. Cofferdams on piers 7 through 16 for both bridge spans had depths ranging from 16 to 39 ft. The team used two derrick barges to install the cofferdam frames, which weighed up to 359 tons. The frames' spud piling were installed to a depth of 101 ft. using an APE 200 vibratory hammer. The sheet piling were then driven to a depth ranging from 54 to 74 ft. The project team used an APE 300 vibratory hammer to drive the sheet piling. After the pier substructure work was complete, the team removed the cofferdams under the same turbidity and environmental regulation requirements.

At the project's completion the team also used hoe-rams and saw-cutting to demolish the bridge pier table mock-up in a controlled on-site environment.

Demolition in Aquatic Environments Using Innovative Approaches Including Controlled Blasting—3.5.1(B)

The project did not include any demolition with controlled blasting, however, the team did incorporate innovations and methods to improve the project's success, including addressing marine habitat concerns by placing bubble curtains around the area before pile driving.

Successful Aquatic and Environmental Stewardship—3.5.1(C)

The Foundation Removal will be subject to nearly identical regulatory requirements as those enacted for the Skyway. The Kiewit/Manson team is well-versed in these requirements, putting in place specific action plans to address them on Skyway. The project followed the NEPA process, which called for complex environmental regulation of the construction operations involving standard construction permits and several state and federal permits. These permits included: Section 401 and 404 of the Clean Water Act; Section 10 of the Rivers and Harbors Act; Consolidated Dredging-Dredged Material Reuse-Disposal, Dredged Material Management Office (DMMO); Section 7 Endangered Species Act; Coastal Zone Management, San Francisco Bay Conservation and Development Commission; Section 2090, California Department of Fish and Wildlife (CDFW); and Section 106 National Historic Preservation Act (NHPA).

The Kiewit-led team was responsible for understanding and implementing compliance activities and monitoring the effectiveness of each throughout the contract's term. The team complied with all requirements and completed the project with zero environmental violations using techniques like bubble curtains, turbidity curtains, eel grass protection, and monitoring endangered species.

Use of Innovative Designs, Methods, and Materials—3.5.1(G)

The Kiewit-led joint venture was established to capitalize on each team's extensive expertise in the field, expansive equipment fleet, and experience working in the Bay Area. Recognizing the challenge of finalizing this mega-project's design details, the team partnered with Caltrans and its designer to develop a "Mission Control" by co-locating at one office. This hub improved coordination and helped resolve design conflicts to reduce schedule and budget impacts. The team provided value-engineering reviews and addressed constructability during this preconstruction phase to expedite the design completion process. The team also built full-scale mock-ups to help with design conflict identification and resolution.

This innovative partnering approach carried over to construction where the fully integrated team worked together to build the project. For instance, the project team opted to drive the piling months before installing the structural steel footing to reduce work on the critical path, thereby saving valuable schedule time by driving piling, excavating the material inside, and placing concrete before the footing delivery. Additionally, the team minimized on-water construction by pre-assembling several major structural elements at pier 7 in Oakland, including the cofferdam frames and reinforcing steel cages before installation, taking thousands of man-hours off the water and onto land.

On-Time Completion with a Fixed Price—3.5.1(D)

The Skyway was completed on time within its fixed price.

Achieving Small Business Goals—3.5.1(E)

Kiewit awarded more than $78 million to DBEs, 86% more than the $36 million required. Thirty-nine DBE companies participated, including reinforcing steel, electrical, tug boats, and concrete and steel supply.

Minimizing Delays and Claims—3.5.1(F)

The integrated client contractor team at "Mission Control", tasked with identifying and resolving all design conflicts, saved the project from extensive schedule delays and budget impact, leading to a project that was built on time without claims, litigation, or arbitration. To avoid project delays and claims, the team managed a comprehensive coordination plan with two adjoining cities and counties, several local agencies, DBEs, local unions and media, national agencies, and the Caltrans' network.

List Any Awards, Citations, and/or Commendations Received for the Project: None

Name of Client (Owner/Agency, Contractor, etc.): California Department of Transportation

Address: 345 Burma Road, Oakland, CA 94516

Contact Name: William Howe **Telephone:** (510) 622-5107 **Fax:** (510) 286-5229

Owner's Project or Contract No.: 04-012024 **Email:** bill_howe@dot.ca.gov

Contract Value (US$): $1.04 billion **Final Value (US$):** $1.23 billion

Quantity and Value of Contract Modifications and Causes of the Changes: The contract price increased due to additional services requested by the client. These services included: developing a fully-integrated and resolved set of contract plans, constructability reviews, value-engineering recommendations, and constructing a full-scale mock-up to identify and resolve design conflicts early on (Mission Control).

Percent of Total Work Performed by Company: 85% **Commencement Date:** 02/2002

Dates of Construction and/or warranty periods: 02/2002–03/2008

Planned Completion Date: 12/2005 **Actual Completion Date:** 03/2008

Description of Schedule Changes: Revision to original schedule duration reflects client-approved changes.

Amount of Claims: $0 **Any Litigation?** No

Claims History, Numbers, and Dollars Submitted and Final Results: $0

Design Review Board History: None

In-water cofferdam installation from trestle

Temporary trestle for in-water construction

Pile driving in tight work areas

FORM B–PROJECT DESCRIPTION

Name of Proposer: Kiewit/Manson, AJV

Name of Firm: Kiewit Infrastructure West Co.

Project Role: Construction Manager and General Contractor (CMGC)
Principal Participant: Kiewit Infrastructure West Co.
Designer: Hansen Alaska and HDR Alaska
Other (Describe): None

Years of Experience (provide length of activity as it relates to the following three elements):
Roads/Streets: 4 **Bridges/Structures:** 4 **Utility Relocations:** 4

Project Name, Location, and Nature of Work for Which Company Was Responsible:

Northern Rail Extension, Phase 1, Salcha, AK

The Tanana River Bridge, built under the the Northern Rail Extension, Phase 1 contract for the Alaska Railroad Corp. (ARRC), is the longest bridge in Alaska. In 2010, ARRC selected Kiewit to provide preconstruction services under the CMGC procurement model. This involved multiple estimates, schedule analysis, and construction and design feasibility reviews.

The project is a model of effective client-contractor integration and Kiewit's ability to perform CMGC contracts. The success of the "one team" philosophy developed during the preconstruction phase and carried out throughout the construction phase is evident in the $30 million of construction cost savings ideas that resulted in a negotiated $156 million contract, which was further reduced during the execution phase by an additional $3 million. This allowed the project to move forward within the limited budget.

After successfully completing the 14 month preconstruction services phase and submitting a construction proposal, ARRC awarded Kiewit the contract to build a 3,300-ft. bridge over the Tanana River and an 11,000-ft. levee along the river's eastern bank. Kiewit self-performed 95% of the work, including 19 piers and cofferdams, the bridge's substructure, levee embankment work, installing 1,650 ft. of temporary trestle and 1,650 ft. of causeway for each of the two work seasons, and installing 76 individual 12-ft.-tall steel plate girders and bridge decking. The team overcame numerous environmental and marine challenges including extreme cold, limited daylight, changing river channels in the braided river, natural debris in the river, river flooding, ice break up, salmon spawning, varying soil conditions, and marine traffic.

Provide Project Description and Describe Site Conditions:

Managing Similar Demolition Projects—3.5.1(A)

During the preconstruction services, Kiewit worked with the client to determine the best methods to construct this project that has all 19 pier foundations located in the river. This resulted in 3,300 ft. of temporary trestles and access causeway being built for work access. Kiewit also constructed 19 separate 25-ft.-square cofferdams and excavated them to a 35-ft. depth to build new bridge's foundations.

Kiewit and the client collaborated with the Alaska Department of Fish and Game (ADFG) and the USACE to identify and mitigate any issues caused by temporary structures in the river. Selected measures accommodated the summer salmon spawning season, seasonal ice break-up, and local marine travelers. For instance, the team elected to install and remove all 3,300 ft. of temporary trestle and causeway in each of the two seasons to avoid ice jams that had the potential to cause flooding in the surrounding community. They also installed trestle to limit impacts on salmon spawning. To accommodate this approach, Kiewit analyzed various options during the preconstruction phase to develop a schedule that completed all temporary access work, pier substructure work, and girder installation in the second season before the river ice break-up period began.

Demolition in Aquatic Environments Using Conventional Methods—3.5.1(B)

During the preconstruction and planning effort, the team developed a plan that allowed for easier and more complete demolition of the temporary structures—trestle, access causeways, and cofferdams—each year. This included adding thickened steel pieces to prevent steel tearing, and alternative connection details to ease the deconstruction process and prevent material from being left in the riverbed.

During construction, Kiewit refined the details and used approaches that allowed for easier demolition with less environmental impact. For instance, crews employed techniques such as oxy-acetylene torch cutting and extraction using a vibratory hammer.

Demolition in Aquatic Environments Using Innovative Approaches Including Controlled Blasting—3.5.1(B)

The project did not use any controlled blasting for demolition.

Successful Aquatic and Environmental Stewardship—3.5.1(C)

During the CMGC process, Kiewit worked with the client to obtain all necessary project permits. These included the USACE 404 permit, ADFG permit, and Alaska Department of Natural Resource permit. Kiewit provided construction footprint details, work zones, temporary trestle and causeway information, and schedule details to assist the work to secure these permits. The team also conducted regular environmental audits and inspections with regulatory agencies such as ADFG.

ADFG was concerned about the temporary causeway interfering with the river channels during the construction's first and second years; the final design of the trestle and causeway, as well as the plan to remove these structures each year to prevent flooding, addressed these concerns. During the construction of the in-water piers, Kiewit used bubble curtains to successfully prevent aquatic habitat disturbance.

Use of Innovative Designs, Methods, and Materials—3.5.1(G)

During preconstruction, Kiewit conducted an in-depth cost-benefit analysis that evaluated the efficiency and economy of the substructure and superstructure designs. This analysis revealed that the number of piers could be reduced from 22 to 19 by lengthening the steel girders by 15 ft., from 150 to 165 ft. This innovation saved the client $1 million, shortened the schedule by nine weeks, and reduced the in-water footprint.

The project also incorporated an original cofferdam design combining a single exterior wale frame with a revised sheet piling design. The change reduced the cofferdam's footprint limiting its impact on the river, allowed easier installation and removal, and provided a savings in the pile cap forms and concrete labor cost.

Finally, the team recycled the material used in the cofferdams to construct the temporary causeway built to construct the permanent levee. This prevented extra material purchases for temporary work, saving the project unnecessary cost.

On-Time Completion with a Fixed Price—3.5.1(D)

The Tanana CMGC project is on track to complete on time and within its fixed budget.

Achieving Small Business Goals—3.5.1(E)

A number of small businesses worked with Kiewit on the project. Kiewit employed a start-up WBE as a third-party surveyor and executed a local hydro-seeding company's first contract. The team also used many local businesses for the majority of fabrication, construction supply, third-party inspections, and on-site trucking.

Minimizing Delays and Claims—3.5.1(F)

As part of the CMGC process, Kiewit, ARRC, and the designers co-located during preconstruction to streamline communications and the design refinement process. Together, they identified project risks, maximized work scope using the constrained budget, validated the design, and explored alternative materials and concepts. Price estimates and critical path schedules were completed at 30%, 60%, 90% design and for the guaranteed maximum price (GMP) estimate. The final design led to a successfully negotiated GMP construction contract between Kiewit and ARRC.

Kiewit's early involvement with regulatory agencies allowed us to develop a solid working relationship and become familiar with their requirements and their intentions, so that the design and construction solutions could be tailored accordingly. This also allowed new material sources and laydown yards, saving the project significant expense.

This collaboration continued through construction where the client and their representative, HDR, co-located on the job site. Kiewit, ARRC, and HDR held weekly meetings to discuss the project's status, safety, quality, schedule, and requests for information. Kiewit and HDR worked together during the planning stages to agree on all quality checklists before beginning work. For maximum efficiency, Kiewit and the client regularly performed both quality and environmental site audits together.

The project team's proactive approach to project issues and full-time, on-site involvement avoided project delays or claims. Through multiple meetings during preconstruction they developed a comprehensive risk matrix and analysis that addressed every project risk and assigned responsibility for each. The team used the matrix throughout preconstruction to reduce contingency; it became the guideline for resolving any issues that came up during the work. Kiewit and the client agreed on all shared savings or client credits resulting from scope reductions.

List Any Awards, Citations, and/or Commendations Received for the Project: None

Name of Client (Owner/Agency, Contractor, etc.): Alaska Railroad Corporation
Address: 327 W. Ship Creek Ave., Anchorage, AK 99510
Contact Name: Clark Hopp **Telephone:** (907) 265-2300 **Fax:** (907) 265-2365
Owner's Project or Contract No.: 73435 **Email:** hoppc@akrr.com
Contract Value (US$): $156 million **Final Value (US$):** $153 million (est)
Quantity and Value of Contract Modifications and Causes of the Changes: Kiewit-sponsored design optimizations led to a reduction in scope while still meeting the client's project requirements.
Percent of Total Work Performed by Company: 95% **Commencement Date:** 09/2010
Dates of Construction and/or warranty periods: 09/2011–12/2014 (est)
Planned Completion Date: 06/2014 **Actual Completion Date:** Anticipated 12/2014
Description of Schedule Changes: Client requested additional work.
Amount of Claims: $0 **Any Litigation?** No
Claims History, Numbers, and Dollars Submitted and Final Results: $0
Design Review Board History: None

3-ft separation between old and new bridges

Debris containment system envelopes pier

Barge-mounted hydraulic ram demolition

FORM B–PROJECT DESCRIPTION

Name of Proposer: Kiewit/Manson, AJV

Name of Firm: Manson Construction Co.

Project Role: Prime Contractor, Managing Partner of Joint Venture

Principal Participant: Manson/Mowat JV **Designer:** Washington State Department of Transportation

Other (Describe): None

Years of Experience (provide length of activity as it relates to the following three elements):

Roads/Streets: 3 **Bridges/Structures:** 3 **Utility Relocations:** 3

Project Name, Location, and Nature of Work for Which Company Was Responsible:

Manette Bridge 303/4A Replacement, Bremerton, WA

This project replaced the structurally deficient 80-year-old Manette Bridge over the Port Washington Narrows with a new bridge designed to current engineering standards. The Port Washington Narrows is a three-mile channel with marine traffic consisting largely of recreational vessels. The channel has more extreme tides and currents than the Foundation Removal project's proposed site and can attain tidal current velocities in excess of four knots.

Manson was the joint venture's managing partner to construct the new bridge and demolish the existing bridge. The team self-performed most of the work including pile driving, setting the bridge girders, tending all pier concrete pours, drilling, demolishing the bridge span, and removing the bridge's piers.

The Manson team demolished the old bridge—just 3 ft. away from the new 1,550-ft.-long prestressed, post-tensioned concrete girder bridge—with active traffic on the new bridge. The old Manette Bridge was a 1,573 ft.-long-steel truss bridge rising 82 ft. above water, comprised of five truss spans, eight girder spans, 10 in-water piers, and four upland piers.

Provide Project Description and Describe Site Conditions:

Managing Similar Demolition Projects—3.5.1(A)

For this project, Manson managed bridge foundation demolition work comparable in size and complexity to the Foundation Removal. Similarities include:

- demolishing a bridge immediately adjacent to a new, replacement bridge
- demolishing in-water foundation piers in a sensitive aquatic environment
- safely coordinating marine traffic in a busy commercial shipping and recreational boating area
- coordinating vehicle traffic closures during demolition activities
- ensuring safety of workers and the public throughout all phases of construction and demolition
- partnering with a department of transportation client (DOT) to collaboratively develop demolition means and methods to meet project challenges, including environmental concerns
- supporting a DOT client through the submittal process to amend permits for changed demolition methods
- meeting small business goals
- delivering a complex project on schedule and within budget

As the joint venture's marine contractor and managing partner, Manson led the demolition effort, providing the majority of construction engineering, floating plant, and project management.

Demolition in Aquatic Environments Using Conventional Methods—3.5.1(B)

The close proximity of the two structures made demolition challenging. Crews used Manson's floating derrick barges to dismantle the superstructure before demolishing the remaining concrete pier structures. The pier bases were removed to 2 feet below the mud line. The team collected the concrete rubble from the piers on a temporary timber deck surrounding each concrete pier; a clamshell bucket was used to collect the remaining concrete rubble from the pier bases. Manson transported the remaining superstructure, concrete pier rubble, and upland structures to a recycling facility.

The close proximity of the bridges and the in-water work challenges demonstrate Manson's ability to execute conventional demolition techniques in unconventional environments. Manson will apply this specialized knowledge to the planning, value engineering, and execution of the Foundation Removal.

Demolition in Aquatic Environments Using Innovative Approaches Including Controlled Blasting—3.5.1(B)

This project did not involve controlled blasting.

Successful Aquatic and Environmental Stewardship—3.5.1(C)

This project, executed in a sensitive aquatic environment, required compliance with several complex environmental permits and active environmental stewardship, necessitating a detailed, project-specific environmental protection plan. Compliance and stewardship activities involved marine mammal, sound, and vibration monitoring. The project was also subject to an in-water work window restriction.

The Manson team conducted a marine mammal monitoring program to protect Stellar Sea Lions, Harbor Seals, whales, and Marbled Murrelet; a fish biologist also monitored for Sand Lance. When these species were detected on site, work stopped immediately. Sound and vibration were monitored during demolition activities. The initial permit negotiations with the National Marine Fisheries Service (NMFS) and USFWS did not address potential effects from noise generated by a hoe ram during the demolition of the concrete piers. Therefore, a specialist performed sound monitoring during the start-up of demolition activities.

Use of Innovative Designs, Methods, and Materials—3.5.1(G)

Similar to the Foundation Removal work, demolishing the Manette Bridge addressed considerable environmental concerns in a sensitive aquatic environment. The original permit and project specifications required removal by wire sawing and containment in cofferdams. However, after award, core samples revealed the concrete was further deteriorated than anticipated. This meant the wire sawing method would not be safe and would have discharged a significant amount of concrete slurry into the water with no means of containment. It was also determined that sheet pile cofferdams would cause too severe a disturbance to the channel bottom during both installation and removal.

Therefore, through extensive collaboration and brainstorming, the team and the client chose to perform the removal without containment—an option that would ultimately result in less impact to the environment. With Manson's support, the client prepared a debris field analysis to predict where concrete would fall in the channel if conventional hydraulic demolition was allowed. The team presented the plan, along with the proposed methodology changes, to the permitting agencies for approval who agreed that this method had many benefits and approved the plan.

This demonstrates Manson's experience working with a DOT client to collaboratively develop innovative demolition means and methods to meet project challenges, including environmental concerns.

On-Time Completion with a Fixed Price—3.5.1(D)

The Manson-led joint venture delivered this project on time and within budget. The team worked closely with the client and built trust amongst one another. Whenever the project presented an unexpected challenge, the entire team quickly assembled to brainstorm solutions and decide on a path forward with a "project first" attitude. This partnering relationship helped the team overcome several challenges, including the safe and timely demolition of the old Manette bridge, which is only 3 ft. from the new bridge. It also led to the development of the demolition alternate that shortened the required demolition time by four months and saved WSDOT more than $4 million.

Achieving Small Business Goals—3.5.1(E)

The project had a DBE participation goal at bid equal to 7% of the total contract value. The joint venture met this goal through active outreach to DBEs to make certain they were included in every phase of work.

Minimizing Delays and Claims—3.5.1(F)

The team collaborated with the client through every step of the project to minimize delays and avoid disputes. For example, when the project team discovered an unmarked and undocumented sewer line running through the design location of one of the new bridge support piers, the Manson team worked with the client to minimize delays and solve the problem: Manson's in-house engineers worked quickly to develop a cofferdam design solution. By re-sequencing the work at that location, selectively working double-shifts, and revising the project schedule, crews completed the project within the approved working days.

List Any Awards, Citations, and/or Commendations Received for the Project:

2013 Partnership for Excellence in Contract Administration Award, Western Washington Projects greater than $10 million, Washington AGC/DOT

2013 Excellence in Concrete Construction, 2013 Public Works Bridges, Public Works Bridges, Washington Aggregates & Concrete Association

2012 Top 10 Projects in the Nation, Storm Water Solutions Magazine

Name of Client (Owner/Agency, Contractor, etc.): Washington State Department of Transportation
Address: 300 Maple Park Ave SE, Olympia, WA 98504
Contact Name: Jeff Cook **Telephone:** (360) 705-7360 **Fax:** (360) 705-6829
Owner's Project or Contract No.: 7926 **Email:** cookjd@wsdot.wa.gov
Contract Value (US$): $50 million **Final Value (US$):** $54 million
Quantity and Value of Contract Modifications and Causes of the Changes: Unforeseen site conditions.
Percent of Total Work Performed by Company: 80% **Commencement Date:** 08/2010
Dates of Construction and/or warranty periods: 08/2010–02/2012
Planned Completion Date: 02/2012 **Actual Completion Date:** 11/2012
Description of Schedule Changes: Unforeseen site conditions.
Amount of Claims: $0 **Any Litigation?** No
Claims History, Numbers, and Dollars Submitted and Final Results: $0
Design Review Board History: Not applicable

Concrete pile demolition

Replacement pier under construction

Marine demolition equipment spread

FORM B–PROJECT DESCRIPTION

Name of Proposer: Kiewit/Manson, AJV

Name of Firm: Manson Construction Co.

Project Role: Prime Contractor/Design-Builder

Principal Participant: Manson Construction Co. **Designer:** Ben C. Gerwick, Inc.

Other (Describe): None

Years of Experience (provide length of activity as it relates to the following three elements):

Roads/Streets: 0 **Bridges/Structures:** 3 **Utility Relocations:** 3

Project Name, Location, and Nature of Work for Which Company Was Responsible:

P-327: Demolition and Replacement of Pier 12 and Upgrade to Pier 13, Naval Station San Diego, CA

The P-327: Demolition and Replacement of Pier 12 and Upgrade to Pier 13 (Pier 12) project is a design-build project for the Naval Facilities Engineering Command (NAVFAC), Southwest Division at the Naval Base San Diego, California. The project consists of demolishing the existing Pier 12, dredging approximately 458,000 cu. yds. of material, driving 512 individual 24-in.-octagonal piling, and constructing a new concrete pier 1,500 ft. long and 117 ft. wide for the berthing of naval ships. This project is adjacent to Piers 10 and 11, a similar project Manson delivered in 2003.

Naval Station San Diego is the Navy's largest base on the west coast and the principal homeport of the Pacific Fleet, consisting of 54 ships and over 120 tenant commands. The base has 13 piers stretched over 977 acres of land and 326 acres of water. Located in San Diego Bay, a natural harbor and deepwater port, the base falls under the jurisdiction of several environmental regulatory agencies and construction work is subject to stringent permit restrictions.

Provide Project Description and Describe Site Conditions:

Managing Similar Demolition Projects—3.5.1(A)

Manson led this design-build project to success by developing cost-effective and time-efficient design solutions and by optimizing the demolition methodology to reduce the amount of over-water work. The scope on this design-build project included demolishing a 1,500 ft. long by 30 ft. wide pier, including 3,500 cu. yds. of concrete and 565 piling. Manson reused most of the demolition debris to create two artificial reefs.

The work demonstrates Manson's experience managing demolition projects similar in size and complexity to the Foundation Removal, including:

- in-water demolition in close proximity to other structures
- complying with complex environmental permits, including water and air quality standards
- coordinating marine traffic to keep piers and waterways operational and accessible
- making innovative use of conventional demolition techniques to access work from the water
- partnering with the client to develop value engineering solutions and contain costs and schedule effects to address unforeseen site conditions
- mitigating delays and avoiding claims in connection with a major differing site condition

Demolition in Aquatic Environments Using Conventional Methods—3.5.1(B)

The demolition work, all of which was in an aquatic environment, involved demolishing the old 30-ft.-wide, 1,500-ft.-long, concrete pile-supported concrete pier. Manson accomplished this using a variety of conventional demolition methods, primarily cutting the pier's deck into segments with wire saws, rather than simply breaking the concrete with a hydraulic ram. Manson took advantage of its heavy floating equipment, including flat barges and high capacity

derrick barges, to dismantle the deck in large pieces weighing up to 80 tons. The derrick barges lifted the segments onshore for processing. This limited the amount and duration of the over-water work, thereby reducing safety hazards and minimizing marine traffic impacts.

Hazardous material remediation was the first step in the demolition. Manson staged the remediation contractor's personnel on small floats so they could access the areas underneath the pier where the piping contained hazardous materials. This accelerated the demolition start-up. Next, Manson staged demolition equipment on its barges to access the work from the water and crews cut the concrete pier deck into sections using wire saws and flat saws. By performing the work from the water, rather than staging the demolition equipment on the pier itself, Manson dismantled the pier without provisions for pier stability. Finally, crews used a floating derrick barge equipped with a vibratory hammer to extract the concrete piling.

Demolition in Aquatic Environments Using Innovative Approaches Including Controlled Blasting —3.5.1(B)

This project did not involve any demolition that used controlled blasting.

Successful Aquatic and Environmental Stewardship—3.5.1(C)

The two most critical elements of the project's environmental compliance and stewardship program involved water and air quality compliance in accordance with strict Southern California area regulations.

For water quality compliance, Manson used silt curtains to control turbidity. A silt curtain was deployed around the entire work area to localize the re-suspension of the bottom sediments; crews allowed the sediments ample time to settle before removing the curtain. In addition, to containing debris from demolition and construction activities, Manson used temporary gutters, tarps, and a vacuum system to collect and process concrete saw water. Crews removed the deck sections in the largest possible pieces to minimize debris and deployed temporary floats beneath the active demolition. As an additional safeguard, a containment boom captured any floating fallen debris and any creosote residue released from the piling during removal.

For air quality compliance, Manson used 2004 or newer, low-emission engines in all vehicles and equipment entering the job site. The team used its repowered derrick barges, tugs, and electric dredges, and coordinated with subcontractors and suppliers to comply with the emissions regulations and the South Coast Air Quality Management District permits.

To further promote sustainability, crews relocated all of the demolished concrete deck sections and piling in an artificial reef inside San Diego Bay.

These experiences will help inform the team's approaches to the Foundation Removal work.

Use of Innovative Designs, Methods, and Materials—3.5.1(G)

Through the design-build process, Manson made innovative use of designs, methods, and materials to provide the lowest cost and highest quality to the client. During the preconstruction phase, Manson led design reviews and design charrettes that included the client's project personnel. These group reviews facilitated the development of design requirements that met all of the stakeholders' goals, as well as resulted in innovations such as optimizing the new structure's design to use more efficient installation methods and a test-pile program conducted during preconstruction.

The client's preliminary design concept used batter piling (piling installed at an angle) to provide lateral resistance in the event of seismic activity. Installing batter piling is costlier and more time-consuming than installing vertical piling. The Manson design-build team developed a pile pattern that used plumb piling to provide the lateral resistance required for the design with more efficient pile driving, saving the client time and money.

In addition to an innovative approach to the pier's foundation, Manson's design-build team developed a more efficient pier deck design. Rather than a standard design with pile caps to support the pier deck, Manson's team used a flat slab deck. While pile caps would create an obstruction, the flat slab makes the pier uniform across the sections and allowed crews to more efficiently advance the concrete forms from one location to the next. This increased productivity and reduced the construction time.

The test pile program verified soil conditions and established piling lengths, allowing Manson to order piling in accurate lengths at a cost savings to the client.

On-Time Completion with a Fixed Price—3.5.1(D)

This project was completed on time and within budget despite a challenging unforeseen site condition involving unexploded ordnance (UXO) in the dredge footprint.

Achieving Small Business Goals—3.5.1(E)

Manson is on track to meet or exceed the 66% small business participation goal for the project.

Minimizing Delays and Claims—3.5.1(F)

This project shows Manson's commitment to partnering with its clients to minimize delays and disputes. It also demonstrates Manson's ability to provide support through complex regulatory submittal and reviews processes.

During the final stage of the project, which involved dredging the waterway to allow deep draft vessels to access the pier, Manson encountered a significant amount of UXO in the dredge footprint. Following a Navy-imposed safety shutdown, the government's safety regulatory agency, NOSSA, required an Explosives Safety Submission (ESS) before continuing work. To assist the client, Manson generated creative solutions, performed detailed cost and schedule analyses on multiple proposals, and worked with an explosives specialist to create and edit this document for final approval by NOSSA.

During the 16-month safety shutdown, Manson proactively demobilized equipment and crews, including subcontractors and non-essential project staff to mitigate stand-by costs. Manson's efforts kept the project moving forward and limited the cost impact to the client.

List Any Awards, Citations, and/or Commendations Received for the Project:

2014 Excellent Overall Rating for the Pier 12 project, Past Performance Evaluation, NAVFAC Southwest

Name of Client (Owner/Agency, Contractor, etc.): NAVFAC Southwest, FEAD San Diego

Address: 2730 McKean Street, Bldg. 2891, Naval Base San Diego, San Diego, CA 92136

Contact Name: Ceasar Reyes **Telephone:** (619) 524-8555 **Fax:** (619) 524-8518

Owner's Project or Contract No.: N62471-11-C-2850 **Email:** ceasar.reyes1@navy.mil

Contract Value (US$): $79.5 million **Final Value (US$):** $86.1 million (est)

Quantity and Value of Contract Modifications and Causes of the Changes: Client-requested contract modifications for additional work and materials and an additional change order due to hazardous material discovery.

Percent of Total Work Performed by Company: 80% **Commencement Date:** 09/2011

Dates of Construction and/or warranty periods: 09/2011–01/2014

Planned Completion Date: 10/2013 **Actual Completion Date:** 01/2014

Description of Schedule Changes: Completion date revised due to client-requested changes to pier scope of work and discovery of UXO and other hazardous material in the dredge footprint.

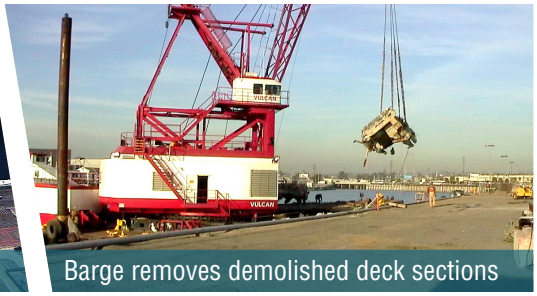
Amount of Claims: $0 **Any Litigation?** No

Claims History, Numbers, and Dollars Submitted and Final Results: $0

Design Review Board History: Not applicable

Aquatic demolition

Replacement pier under construction


Barge removes demolished deck sections

FORM B–PROJECT DESCRIPTION

Name of Proposer: Kiewit/Manson, AJV

Name of Firm: Manson Construction Co.

Project Role: Prime Contractor/Design-Builder

Principal Participant: Manson Construction Co. **Designer:** Ben C. Gerwick, Inc.

Other (Describe): None

Years of Experience (provide length of activity as it relates to the following three elements):

Roads/Streets: 0 **Bridges/Structures:** 3 **Utility Relocations:** 3

Project Name, Location, and Nature of Work for Which Company Was Responsible:

Replace Piers 10 & 11, Naval Station San Diego, San Diego, CA

This design-build project demolished the existing Piers 10 and 11 and constructed a single replacement berthing, logistics, and maintenance pier. Manson self-performed the demolition, dredging, and all work related to constructing the pier. This project demonstrates Manson's experience performing alternative delivery of complex marine projects that require significant preconstruction services. Manson and its design firm worked together with the client, NAVFAC, during the design period to develop a project approach that resulted in an eight-month early project delivery with zero cost growth. Piers 10 and 11 was so successful that many of the project's design and construction innovations developed by Manson's team were incorporated into the plans and specifications for the previously described Pier 12 project that Manson recently completed.

The project commenced with demolishing two existing concrete pile-supported berthing piers, Piers 10 and 11. Each pier measured 1,450 ft. in length and 30 ft. in width. The piers were demolished one at a time to keep the facility operational as long as possible. Conventional demolition techniques were used to dismantle the piers, along with specialized marine equipment and innovative disposal methods. Additional work included dredging and removing approximately 536,000 cu. yds. of sediment containing unexploded ordnance. The new pier is 120 ft. wide by 1,500 ft. long and is pile-supported on 24 in. octagonal concrete piling.

Provide Project Description and Describe Site Conditions:

Managing Similar Demolition Projects—3.5.1(A)

Piers 10 & 11 is an example of Manson's ability to manage demolition projects that are similar in size and complexity to the Foundation Removal. Manson demolished the two in-water pier structures using a combination of its floating equipment and crews and subcontractor equipment and crews. The work entailed:

- demolishing in-water structures in close proximity to new construction
- complying with complex environmental permits, including water and air quality standards
- coordinating marine traffic to keep the piers and waterways operational and accessible
- making innovative use of conventional demolition techniques to access work from the water
- partnering with the client to develop value engineering solutions and contain costs and schedule impacts in the event of unforeseen site conditions

This project required intricate construction phasing and coordination to maintain operating capability throughout construction. When work began, the old piers were in use by Navy ships. During construction, which occurred during the military build-up in the Middle East, the Navy not only needed to continue use of the piers as long as possible, but needed the new pier as soon as possible. Manson phased the construction activities so that the old piers remained substantially in service during most of the project, while construction proceeded on the new pier between them. Then the old piers were demolished one pier at a time in close proximity to the replacement pier.

During the design phase, the Manson design-build team collaborated closely with the client to make certain the designs were constructable and economical. Constructability reviews helped to optimize the project schedule by working with the designers to consider equipment requirements, worker safety, production capability, material deliveries, and innovative or unfamiliar marine construction techniques.

Demolition in Aquatic Environments Using Conventional Methods—3.5.1(B)

Hazardous material remediation was the first step in the demolition. Manson staged the remediation contractor's personnel on small floats so that they could access the areas underneath the pier where the piping contained hazardous materials. This made accessing this area of the pier easier and accelerated the start-up of demolition activities. Manson and the remediation contractor worked together to clear the decks of miscellaneous piping, electrical utilities, bollards, and a creosote-containing timber fender system.

Manson used mechanical demolition methods for the in-water demolition, placing conventional demolition equipment, such as hoe rams, on its floating barges to access the work more efficiently. Manson's large capacity derrick barges allowed crews to dismantle the concrete deck in large pieces as the derrick barge was able to rig and lift heavy segments. This made the demolition proceed more quickly.

The team cut the piers into segments by using an excavator with a hydraulic breaker. Crews collected the debris on small barges placed strategically beneath the work. A high capacity derrick barge lifted the deck segments onshore where the concrete rubble material was crushed, stockpiled, and later transported offsite for beneficial reuse.

Lastly, Manson extracted the concrete piles using a derrick barge equipped with a vibratory hammer. The team placed the piles in a split-hulled hopper barge to tow them offshore and create an artificial reef in San Diego Bay.

Demolition in Aquatic Environments Using Innovative Approaches Including Controlled Blasting—3.5.1(B)

This project did not include controlled blasting.

Successful Aquatic and Environmental Stewardship—3.5.1(C)

In the Southern California region, water and air quality are among the top environmental concerns. Manson employed proven best management practices for environmental stewardship. The work on Piers 10 & 11 was conducted in an environmentally sensitive waterway requiring compliance with various permits, such as the USACE Section 404 and Section 10 permits, as well as special requirements for dredging in a waterway known to contain unexploded ordnance.

To minimize water disturbances and control turbidity, Manson deployed a silt curtain around the entire work area. The team also used temporary gutters and tarps to prevent material from falling into the water, removed the deck sections in the largest possible pieces to minimize debris, and deployed temporary floats and a containment boom to capture debris and any creosote residue.

Additional compliance activities included controlling turbidity and avoiding spills during unloading of dredge spoils, limiting excess water in the disposal facility used to contain the dredge spoils, and safely screening for unexploded ordnance during dredging activities.

To minimize air quality impacts, Manson used equipment that met the California Air Resources Board (CARB) emission requirements. Manson maintains an ongoing company-wide equipment upgrade program to repower its vessels and other heavy equipment with more environmentally conscious technology. Many of the company's vessels meet Tier II and Tier III emission standards and some have the capability to switch from diesel to electric power.

Use of Innovative Designs, Methods, and Materials—3.5.1(G)

Manson's design-build team developed several design, method, and material selection innovations that met NAVFAC's performance requirements and provided an economical and constructable solution.

The Navy's performance specifications required the use of precast, prestressed concrete piling. Otherwise, Manson's design-build team was able to develop the pile size, pile configuration, and deck type within prescribed geometric restraints. The team selected plumb, 24-in. octagonal, prestressed concrete piling and a reinforced, cast-in-place concrete deck with a flat deck soffit. The deck was advantageous for the lifespan of the pier because beams under the deck typically deteriorate before the deck due to the proximity to the water. The team optimized the pile configuration to

meet both seismic and operational load requirements and to take advantage of Manson's available formwork and marine equipment.

Manson developed and conducted a test pile program during the preconstruction phase. The data allowed the early completion of the piling design and early procurement of the piling, thereby advancing the project schedule.

On-Time Completion with a Fixed Price—3.5.1(D)

By developing innovative design and construction solutions in close partnership with the client and design team, Manson delivered the project on budget and eight months ahead of schedule.

Achieving Small Business Goals—3.5.1(E)

Manson exceeded the 42% small business goal for the project by achieving nearly 50% small business subcontractor participation.

Minimizing Delays and Claims—3.5.1(F)

Manson avoided delays and claims and delivering the project on budget—without a single change order—eight months early. The client commended Manson's project management team calling them "exceptional" in how they handled project schedules, contract requirements, and everyday coordination. Manson received an "Outstanding" performance evaluation for this project.

List Any Awards, Citations, and/or Commendations Received for the Project:

Outstanding Rating, Past Performance Evaluation, NAVFAC Southwest

Name of Client (Owner/Agency, Contractor, etc.): Naval Facilities Engineering Command (NAVFAC), Southwest

Address: ROICC San Diego, Bldg. 291, Naval Station, San Diego, CA 92135

Contact Name: Soliman Labrador **Telephone:** (619) 726-0276 **Fax:** (619) 556-8929

Owner's Project or Contract No.: N68711-00-C-7507 **Email:** soliman.labrador@navy.mil

Contract Value (US$): $42 million **Final Value (US$):** $42 million

Quantity and Value of Contract Modifications and Causes of the Changes: There were no changes to quantity and value of the contract.

Percent of Total Work Performed by Company: 80% **Commencement Date:** 07/2000

Dates of Construction and/or warranty periods: 07/2000–06/2003

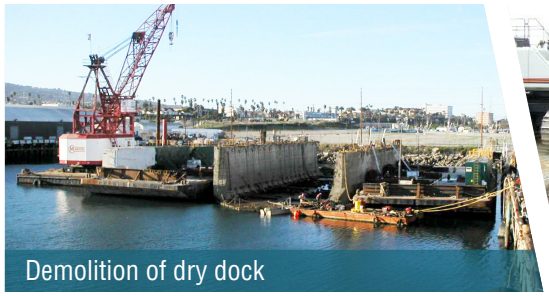
Planned Completion Date: 02/2004 **Actual Completion Date:** 06/2003

Description of Schedule Changes: There were no changes to the schedule.

Amount of Claims: $0 **Any Litigation?** No

Claims History, Numbers, and Dollars Submitted and Final Results: $0

Design Review Board History: Not applicable


Demolition of dry dock

Conventional demolition from derrick barge

Removal of a 200-ton deck segment

FORM B–PROJECT DESCRIPTION

Name of Proposer: Kiewit/Manson, AJV

Name of Firm: Manson Construction Co.

Project Role: Prime Contractor

Principal Participant: Manson Construction Co. **Designer:** KPFF Consulting Engineers (for the Client)

Other (Describe): Connolly Pacific Co., minority joint venture partner for Phases 1 and 3 demolition work and rock placement.

Years of Experience (provide length of activity as it relates to the following three elements):

Roads/Streets: 0 **Bridges/Structures:** 6 **Utility Relocations:** 6

Project Name, Location, and Nature of Work for Which Company Was Responsible:

Port of Long Beach Pier T Marine Terminal Construction, Phases I, II and III; Long Beach, CA

The Pier T Marine Terminal Construction involved an extensive demolition effort to convert the former Long Beach Naval Shipyard into the Port of Long Beach's largest container cargo facility and its first mega-terminal. The Long Beach Naval Shipyard closed in 1997 and was located at Terminal Island between the City of Long Beach and the San Pedro district of Los Angeles. The shipyard spanned over 100 acres and had 165 buildings, three graving docks, and five industrial piers.

The Port of Long Beach let the Pier T work in multiple contracts and Manson completed the first three phases. Manson demolished multiple in-water and waterfront structures including a wharf, seawall, piers, and a dry dock. With the site cleared, Manson dredged the area to remove any demolition debris and deepen the channel before beginning wharf construction. Crews also removed and relocated four large vessels that were demolished under a separate contract.

Other simultaneous contracts at Terminal Island, along with regular shipping traffic, made for challenging coordination for both land and water access at the project site.

Provide Project Description and Describe Site Conditions:

Managing Similar Demolition Projects—3.5.1(A)

The work on this project involved extensive demolition of an abandoned shipyard to clear the way for new construction. Manson's team demolished three concrete piers requiring removal of 1,500 timber and steel fender piles, 70,000 tons of reinforced concrete deck, and 5,000 prestressed, large diameter concrete piling. The team also demolished several other in-water structures including a wharf, a seawall, a dry dock, several dry dock caissons, and all associated improvements. Like the Foundation Removal, the work entailed:

- demolishing in-water structures
- complying with complex environmental permits, including water and air quality standards
- coordinating with multiple project stakeholders, including environmental agencies
- coordinating marine vessel traffic to keep the port's waterway safely operational
- making innovative use of conventional demolition techniques to access work from the water
- partnering with the client to develop value engineering solutions and contain costs and schedule impacts due to unforeseen site conditions

The team initiated extensive planning and communication with the Port and the other contractors working in the area. Manson organized regular project meetings with the Port and project stakeholders to discuss upcoming tasks and to phase activities so all parties could work without disrupting one another and to plan and coordinate marine vessel traffic to keep the waterways clear for shipping lines and ongoing operations.

Demolition in Aquatic Environments Using Conventional Methods—3.5.1(B)

This project, one of the largest marine demolition projects on the west coast, used a variety of conventional demolition techniques, including saw cutting and mechanical breaking. The Manson-led team developed a work scheme that made use of Manson's heavy marine equipment to complete the work efficiently. Crews dismantled the concrete structures in large segments using high capacity derrick barges to lift the segments to an onshore processing facility.

Phase 1 began with demolition of the existing in-water and waterfront structures. Crews demolished pavements, buildings, a dry dock service tunnel, concrete slabs, concrete retaining walls, concrete footings, concrete bulkheads, precast concrete panels, cyclopean walls, piers, piling, pile caps, crane rails, sheet piling, concrete and steel dry dock caissons, above-ground piping, and underground utilities. Phase 2 was the demolition of two additional Navy dry docks and construction of two permanent walls at the dry dock openings to create confined dredge disposal sites. Phase 3 involved the demolition of three piers and one dry dock.

Crews saw cut the concrete structures into segments measuring approximately 20 ft. by 20 ft. and weighing 200 tons. Next, the team used specialized rigging systems to secure the segments and Manson's high capacity derrick barges lifted them onshore for processing; this approach minimized the over-water work, which increased safety and reduced costs. Crews then removed the pier's 24-in.-square foundation piling, many as long as 120 ft., using derrick barges equipped with vibratory hammers.

The demolition and site preparation work also required removing, transporting, and disposing of contaminated and hazardous materials containing polychlorinated biphenyls (PCBs), Mercury, chlorofluorocarbons (CFCs), Halon, hydrocarbons, asbestos, and lead-based paint. Other work involved abandoning hydrostatic relief wells, sand drains, monitoring wells, and piezometers.

Demolition in Aquatic Environments Using Innovative Approaches Including Controlled Blasting—3.5.1(B)

This project did not involve controlled blasting.

Successful Aquatic and Environmental Stewardship—3.5.1(C)

The work at Pier T was subject to stringent California water and air quality regulations. Manson developed and implemented an environmental compliance plan to address environmental risks and protection measures. The two most critical elements involved air and water quality compliance in accordance with strict southern California regulations, including South Coast Air Quality Management District permits, California Regional Water Quality Control Board Waste Discharge Permit, Port of Long Beach Harbor Development Permit, and Best Available Control Technology (BACT) Devices certified by CARB.

For water quality compliance, the team developed and implemented a storm-water pollution prevention plan and abided by dredging turbidity limitations. Manson protected eelgrass and kelp by limiting shading of shallow areas by floating equipment and avoiding the use of anchor spuds to secure equipment to the sea floor. For air quality compliance, the team used low-emission engines in all vehicles and equipment entering the jobsite.

This project also involved the removal of contaminated soils and lead and asbestos abatement. This work was subject to strict regulations governing the handling, transportation, and disposal of contaminated materials. Through careful project planning and strict adherence to the project's environmental protection plan, Manson completed all work in accordance with these permits and regulations.

Use of Innovative Designs, Methods, and Materials—3.5.1(G)

Manson initiated an innovative disposal option for the demolished concrete piling. The team contacted the California Department of Fish and Wildlife and arranged to bring the piling to an artificial reef for reuse. The department has been building and maintaining artificial reefs since the 1960s and these reefs benefit the marine ecosystem by increasing fish populations. Manson loaded the piling into split-hull hopper barges, which are specialized dump scows, and transported them to the artificial reef site. The barges and their attending tugboats are equipped with differential GPS devices that guide the crews to the precise targets to lower the piling into the reef.

On-Time Completion with a Fixed Price—3.5.1(D)

Despite encountering unforeseen site conditions, Manson delivered this complex project on time and within budget.

Achieving Small Business Goals—3.5.1(E)

While no specific goal was established for the client, Manson still worked to provide small business inclusion for the Pier T project.

Minimizing Delays and Claims—3.5.1(F)

This project had no disputed delays or any claims filed. One of this project's major challenges involved undocumented underground obstructions and differing site conditions, resulting from years of subsidence from oil production activities. Manson identified opportunities for workarounds and selective acceleration to keep the program on schedule. The team limited adverse effects on the project's cost through value engineering and rigorous cost control.

List Any Awards, Citations, and/or Commendations Received for the Project:

2005 Construction Management Project Achievement Award, Projects over $100 million, CMAA Southern California Chapter

2004 Facilities Engineering Excellence Award, American Association of Port Authorities

Name of Client (Owner/Agency, Contractor, etc.): Port of Long Beach

Address: 4801 Airport Plaza Drive, Long Beach, CA 90815

Contact Name: Doug Thiessen **Telephone:** (562) 283-7065 **Fax:** (562) 283-7067

Owner's Project or Contract No.: HD-1980, HD-S2107, and HD-6691 **Email:** thiessen@polb.com

Contract Value (US$): $177.5 million **Final Value (US$):** $187.3 million

Quantity and Value of Contract Modifications and Causes of the Changes: Unforeseen site conditions, including underground obstructions and hazardous materials.

Percent of Total Work Performed by Company: 80% **Commencement Date:** 03/1999

Dates of Construction and/or warranty periods: 03/1999–03/2005

Planned Completion Date: 03/2005 **Actual Completion Date:** 03/2005

Description of Schedule Changes: None

Amount of Claims: $0 **Any Litigation?** No

Claims History, Numbers, and Dollars Submitted and Final Results: $0

Design Review Board History: Not applicable

Section 5 - Proposer Organization and Key Personnel

"Manson Construction partnered effectively in resolutions with minimum impact to the project schedule and containment of high impact cost to the customer."

— Orlando Valenzuela, Administrative Contracting Officer,
Pier 12 Demolition and Replacement,
NAVFAC Southwest

SECTION 5–PROPOSER KEY PERSONNEL *RFQ 3.6*

Kiewit/Manson's proposed key personnel are especially qualified and capable of delivering the scope of work in alignment with the Caltrans goal to safely and efficiently remove the foundations and avoid and minimize any impacts to the San Francisco Bay environment and species in it.

We have assembled a team with experience and know-how to assist you in several key areas:

First, the project management team is familiar with what it takes to effectively facilitate the CMGC preconstruction—to participate with Caltrans, the designer, regulatory agencies, and third parties in developing and optimizing a plan that can be permitted and built in the allowable timeframe and budget.

Second, the team is knowledgeable about the specific and critical nuances of working within the bay itself. They understand the permit requirements; this will allow them to develop a workable plan with acceptable measures to protect the bay's natural resources, and keep users from being encumbered by the demolition work.

Third, our team possesses comprehensive marine construction abilities like marine equipment access; familiarity with best management practices such as sound attenuation, turbidity, and vibration control; and large cofferdam construction experience—all critical to project delivery.

Last but not least, the proposed team has experience in demolition. Several selected for the Foundation Removal have multiple projects under their belt where they demolished existing structures using controlled blasting. Many more were handled using conventional techniques. All were done in environmentally sensitive aquatic environments.

MANAGEMENT TEAM

Figure 1 introduces Kiewit/Manson's proposed organization. It showcases two distinct phases: the preconstruction phase and the construction contract phase.

The Kiewit/Manson team possesses all of the requisite qualities and experiences critical to this project. The proposed team members have worked on marine projects in the Bay Area. They have worked together on SFOBB's Skyway and E2/T1 segments, the Benicia Bridge, and British Columbia's Port Mann Bridge project.

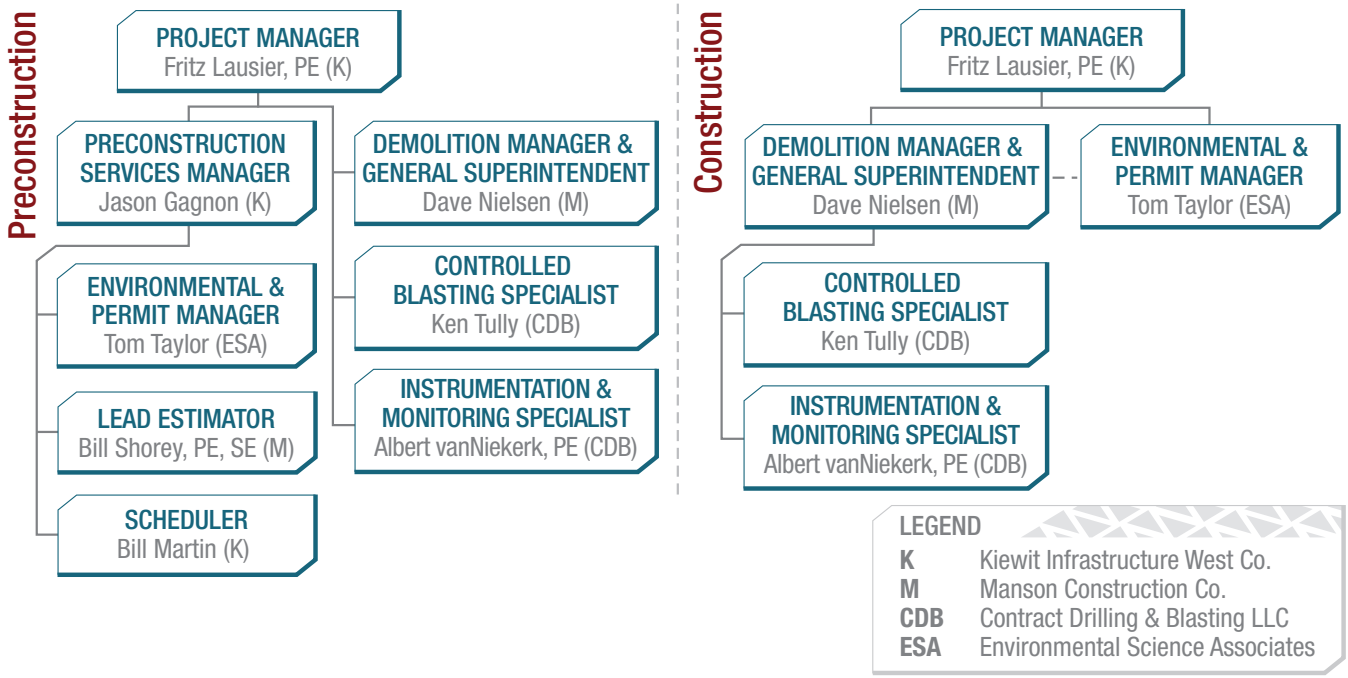


Figure 1: The Kiewit/Manson proposed key personnel possess the qualifications and experience critical to this project—preconstruction, marine, Bay Area, and controlled blasting experience.

On these projects and others, they've constructed marine trestle, installed cofferdams, conventionally demolished and control-blasted structures in aquatic environments, and teamed with the clients to advance the design and acquire permits, often saving the projects millions of dollars and shaving critical time off the schedule.

Project Manager Fritz Lausier will be responsible for all aspects of the project from award through final completion. Fritz will serve as Caltrans' main point of contact, and will be responsible for all project decisions.

He will also identify and mobilize all necessary project resources. Fritz's experience extends from preconstruction services to marine construction in the Bay Area, and to the management of the controlled blasting demolition currently ongoing at the Port Mann Bridge. Fritz will be available on a full-time basis to assist Caltrans and its designers to advance this project through completion.

Like Fritz, the other proposed personnel will participate in both phases to plan, then execute the work (**Figure 2**).

POSITION	TOP RESPONSIBILITIES	SUGGESTED TIME COMMITMENT	
		PRECONSTRUCTION	CONSTRUCTION
Project Manager **Fritz Lausier, PE**	• Single point-of-contact • Ensures continuity between phases • Responsible for all aspects of project delivery	50%	100%
Demolition Manager and General Superintendent **Dave Nielsen**	• Assures demolition in accordance with design and project requirements • On-site supervisor during all demolition • Authorized to stop work	50%	100%
Controlled Blasting Specialist **Ken Tulley**	• Responsible to design and execute controlled blasting safely and in accordance with requirements • Present during all blasting • Authorized to stop work	20%	50%
Lead Estimator **Bill Shorey, PE, SE**	• Accurately and reliably estimate at each project milestone • Prepare and present all reports related to estimating • Perform risk analysis and make recommendations	25%	5%
Scheduler **Bill Martin**	• Create and update preconstruction and construction schedules • Monitor progress and report findings • Make recommendations related to schedule	25%	25%
Environmental and Permit Manager **Tom Taylor**	• Provide environmental input during preconstruction period • Assist in the acquisition of project permits • Ensure the project is built in accordance with all environmental commitments and permits • Authorized to stop work	25%	100%
Preconstruction Services Manager **Jason Gagnon**	• Coordinate all preconstruction efforts • Responsible for all cost and schedule deliverables • Liaise between Caltrans, designer, and Construction Manager	50%	5%
Instrumentation and Monitoring Specialist **Albert vanNiekerk, PE**	• Establish instrumentation and monitoring program • Present during all blasting • Recommend appropriate mitigation measures • Authorized to stop work	15%	50%

Figure 2: The positions filled by our proposed personnel establish the backbone of our team; they will be responsible for all functional areas of the project scope.

We envision adding other staff. These positions will likely include bubble curtain design consultant, public relations, additional field demolition staff, and project engineering staff.

The management team will:

- continuously challenge the team to deliver a project that exceeds Caltrans' expectations
- coordinate with Caltrans and the team to partner, problem solve, and build working relationships
- carry out demolition based on plans that avoid or minimize impacts to the San Francisco Bay and wildlife in it
- meet the goals of: safety, mobility, quality, environmental compliance, and project delivery
- make certain the project team is taking the correct measures and has the right resources

FORM D–PROPOSED KEY PERSONNEL INFORMATION *RFQ 3.6(A-B)*

Form D is attached here. It includes the requested information. Resumes for each team member are also included in Appendix A. Each resume covers all functional areas for each individual's title and reporting. They also detail the individual's expected role, responsibility, and authority for the Foundation Removal project. The time commitments suggested represent the time and level of effort we believe will be necessary to meet the requirements established in the draft preconstruction services contract and that will result in a construction contract. These commitments will be adjusted to meet Caltrans' needs.

ABILITY TO MEET LICENSE REQUIREMENTS *RFQ 3.6(C)*

Kiewit/Manson, AJV, has a current California Contractor's License (**Figure 3**). It is included in this SOQ. Separately, the two companies that make up the joint venture have, for many years, been individually licensed to do business in California. These licenses are available upon request.

CDB has blasting licenses throughout the U.S.; they are in the process of acquiring the California blasting license and expect to receive it before project award.

STATE OF CALIFORNIA

Contractors State License Board

Pursuant to Chapter 9 of Division 3 of the Business and Professions Code and the Rules and Regulations of the Contractors State License Board, the Registrar of Contractors does hereby issue this license to:

KIEWIT/MANSON AJV

License Number 973007

to engage in the business or act in the capacity of a contractor in the following classification(s):
A - GENERAL ENGINEERING CONTRACTOR
B - GENERAL BUILDING CONTRACTOR
C10 - ELECTRICAL

Witness my hand and seal this day,
May 18, 2012

Issued May 17, 2012

James Miller
Board Chair

This license is the property of the Registrar of Contractors, is not transferrable, and shall be returned to the Registrar upon demand when suspended, revoked, or invalidated for any reason. It becomes void if not renewed.

Stephen P. Sands
Registrar of Contractors

State Of California
CONTRACTORS STATE LICENSE BOARD
ACTIVE LICENSE

Consumer Affairs

License Number 973007
Entity JV
Business Name KIEWIT/MANSON AJV
Classification(s) A B C10
Expiration Date 05/31/2016
www.cslb.ca.gov

Figure 3: Kiewit/Manson, AJV's current State of California Contractor's License demonstrating our readiness to go to work.

Form D - Proposed Key Personnel Information

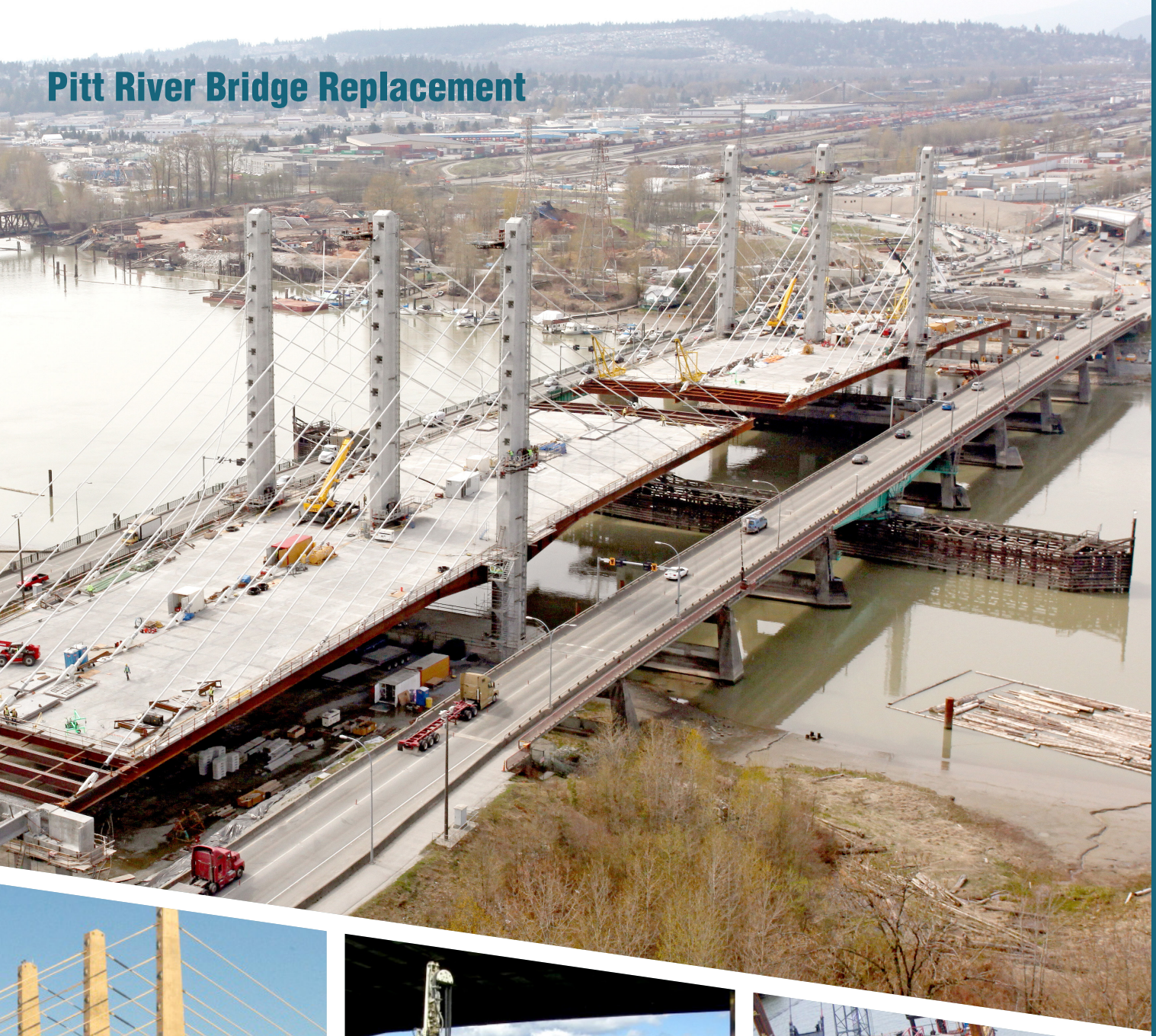
Form D
PROPOSED KEY PERSONNEL INFORMATION

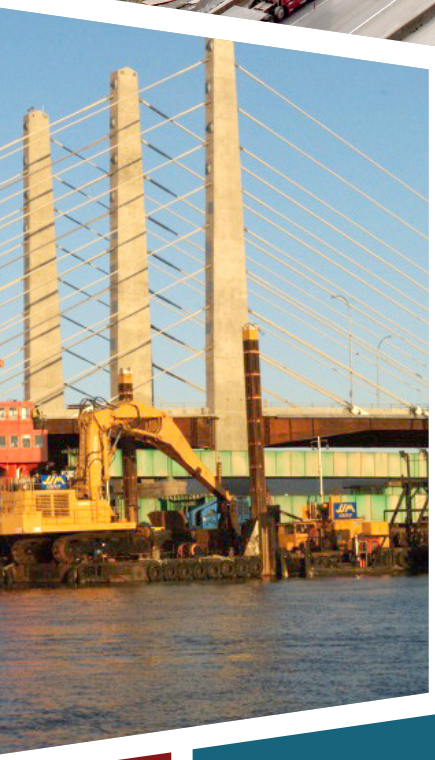
Name of Proposer: Kiewit/Manson, AJV

Instructions for Form completion: Responses shall be addressed within the table below. Should additional space be needed to adequately respond, Proposer is advised to increase the number of lines within the table as appropriate. Form D has no SOQ page limitation. [Note to Drafter: Edit positions for Project, refer to Section 3.6.1.]

Position	Name	Years of Experience	Education and Registrations	Parent Firm Name
Project Manager	Fritz Lausier, PE	20	Northeastern University BS, Civil Engineering Professional Engineer: ME, WA	Kiewit Infrastructure West Co.
Demolition Manager and General Superintendent	Dave Nielsen	37	High School Diploma Apprenticeship, Journeyman Pile Drivers Union Local 34 OSHA Safety Management Training	Manson Construction Co.
Controlled Blasting Specialist	Kenneth Tully	30	Saint Mary's University, Nova Scotia, BS, Geology Federal Explosives License, BATF Explosives User's License: FL Licensed Unrestricted Blaster: AL, AR, BC, FL, SC, VA, NJ, PA, MO, NC, NY, LA, MD,	Contract Drilling & Blasting LLC
Lead Estimator	Bill Shorey, PE, SE	35	University of Washington BS, Civil Engineering Professional Engineer: WA Structural Engineer: WA	Manson Construction Co.
Scheduler	Bill Martin	38	Southwestern Oregon Community College, AS, Civil/Structural Engineering Registered Land Surveyor: OR, #02178LS	Kiewit Infrastructure West Co.

Environmental and Permit Manager	Tom Taylor	36	University of California, Davis, MS, Aquatic Ecology California State University, Fresno, BS, Biology Certified Fisheries Scientist: American Fisheries Society, #1911	Environmental Science Associates
Preconstruction Services Manager	Jason Gagnon	16	Virginia Polytechnic Institute and State University BS, Civil Engineering Virginia Polytechnic Institute and State University MS, Civil Engineering	Kiewit Infrastructure West Co.
Instrumentation and Monitoring Specialist	Albert VanNiekerk PhD, PE	26	New Mexico Institute of Mining & Technology PhD, Explosives Chemistry University of Pretoria BS, Mechanical Engineering University of Pretoria BS, Chemical Engineering Professional Engineer: South Africa Federal Explosives User Permit Unlimited & Underwater Blasting: NY Puerto Rico International Society of Explosives Engineers, Vibration Monitoring Subcommittee	Contract Drilling & Blasting LLC





Section 6 - Project Understanding and Approach

Section 6 - Project Understanding and Approach

"Environmental approvals, permits and reviews were achieved through a collaborative effort by the Ministry and Kiewit. Environmental representatives from Kiewit provided a high level of expertise and supported the Ministry with its obligations for obtaining environmental approvals. Kiewit also had obligations for leading some environmental applications; a process that was also effectively executed. Kiewit's senior project management staff recognized the importance of the Ministry's relationship with the environmental agencies and ensured that all interactions with these agencies was completed in a professional and effective manner."

—Gord Ruffo, Ministry Manager,
Pitt River Bridge Replacement,
British Columbia Ministry of Transportation

SECTION 6–PROJECT UNDERSTANDING AND APPROACH

RFQ 3.7

Kiewit/Manson offers Caltrans a partner with the experience and local area knowledge to manage the technical aspects and risks associated with the Foundation Removal. Our experience using controlled blasting to remove in-water bridge foundation piers will be particularly beneficial. From the work at Skyway, E2/T1, and the Benicia Bridge, we have local experience installing and removing temporary works such as cofferdams, bubble curtains, and access trestles.

We have the expertise to not only maximize the benefits of collaborating with Caltrans during preconstruction, but to carry out construction, as well. Kiewit/Manson also has an exemplary safety record that comes from great crew involvement and project-specific safety plan for marine construction.

Kiewit/Manson has a clear understanding of the Foundation Removal. We have conducted a thorough analysis of the project's constraints; in this analysis, we evaluated the top demolition, design, environmental, and stakeholder risks and their constraints on the project. The complexities among the project elements create relationships and conditions that will require close coordination with other contractors, regulatory agencies, vessel operators, and the traveling public. Kiewit/Manson will support Caltrans through every step of this process.

We will partner with Caltrans during the preconstruction phase by providing input regarding estimating, constructability, permitting, risk avoidance, and scheduling. Together, we will use the CMGC approach to develop innovations to reduce the project's cost and mitigate its risks. This early involvement and active collaboration will lead to a project that meets Caltrans' safety, mobility, quality, environmental compliance, and on-time project delivery goals.

PROJECT SCOPE UNDERSTANDING *RFQ 3.7(A)*

Following the preconstruction services, Caltrans will require a contractor to perform the removal work. To take best advantage of the CMGC process, a single team will work with Caltrans through both these phases.

The project's Construction Manager must complete numerous technical and administrative tasks during preconstruction, such as providing assistance procuring permits, conducting design reviews, value engineering, phasing, scheduling, estimating, and risk assessment. Undertaking these tasks and achieving the project's goals for safety, mobility, quality, environment, and delivery schedule will require a strong partnership between Caltrans and the selected construction manager.

Project Elements

Kiewit/Manson's analysis categorized the piers by location and potential method of demolition (**Figure 1**). Each category has optimal methods for demolition and associated constraints.

Pier E2

This pier may remain in place with improvements as a landmark on Yerba Buena Island. Kiewit/Manson will provide assistance to Caltrans to develop a concept and implement a design that achieves the desired goals. If Pier E2 cannot remain, the top considerations will be reducing over-water work to minimize costs and limit impacts to marine traffic and the aquatic environment.

Pier E3

Pier E3 is a 60- by 134-ft. cellular caisson with 3-ft. thick interior walls adjacent to the primary shipping channel. Caltrans has selected this pier for an on-site pier removal demonstration. This is the best on-site opportunity to gain the confidence of the various stakeholders. Kiewit/Manson will support Caltrans in developing and executing a successful demonstration plan. Removal work for Pier E3 is likely to be on the project's critical path.

From the environmental, cost, and schedule perspective, the ideal removal method for Pier E3 is controlled blasting in which the resulting concrete rubble implodes into the caisson cells, minimizing debris landing on the sea floor. Achieving this will require developing a blasting plan that incorporates information from off-site studies and makes the appropriate assumptions for the unique marine conditions. Execution will require staged blasting to ensure proper imploding and special considerations to attenuate blasting pressures.

Kiewit/Manson will assist Caltrans in conducting a comprehensive study addressing the caisson's condition prior to any such work.

Figure 1: Kiewit/Manson has evaluated the environmental, cost, and schedule risk and constraints keeping the pier locations and characteristics in mind.

1. Leave in place (E2 and E20–22 only)
2. Controlled blasting with bubble curtain without cofferdam
3. Controlled blasting with cofferdam
4. Traditional demolition methods inside cofferdam

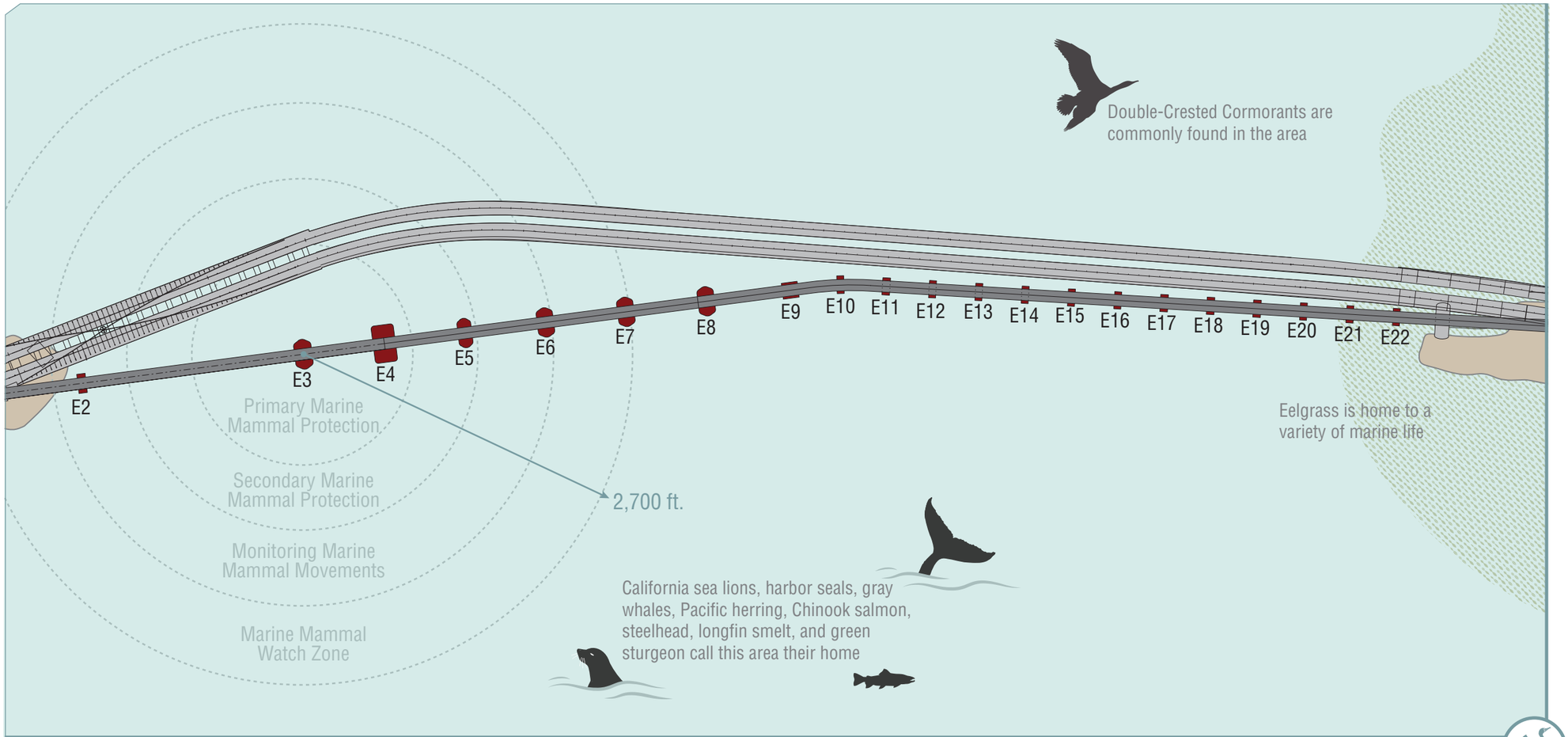
Pier E2–E22 Demolition Options

Pier E2
- Work with various agencies to approve "leave in place" and develop design
- If necessary, develop removal plan based on off-site and E3 demonstration
- Keep channel navigable

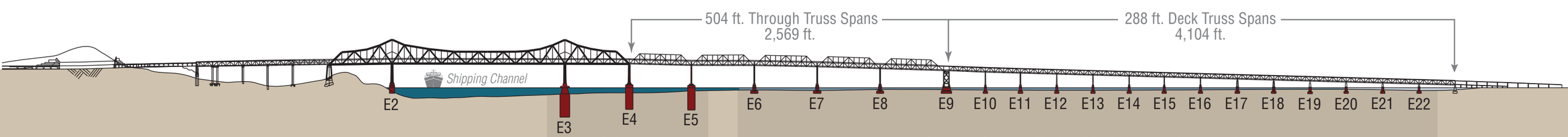
Pier E3–E5
- Need early controlled blasting and environmental input and early off-site demonstration controlled blasting studies
- Need on-site demonstration study for E3
- Keep channel navigable

Pier E6–E19
- Environmental permits and approvals to perform cofferdam work or controlled blasting without cofferdam
- If removal by controlled blasting without cofferdam, develop removal plan using studies from Port Mann project
- Coordinate work with superstructure demolition contractor
- May require access via trestle or dredging

Constraints



Environmental and Wildlife Considerations



Pier E2 Schedule
Begin seeking approvals to "leave in place" immediately and keep a viable and cost-effective plan 'B.'

Pier E3–E5 Schedule
E3 demonstrations must be complete before work on piers E4 and E5 can begin.

Pier E6–E19 Schedule
This work may rely on completion of the pier E3 demonstration. Additional removal resources can be allocated if access is not limited by the superstructure removal. If cofferdams are used, work can begin immediately after permits have been obtained in coordination with the superstructure removal.

Pier E20–E22 Schedule
Begin seeking approvals to "leave in place" immediately and keep a viable and cost-effective plan 'B.'

As described in the E3 Advanced Planning Study and other Caltrans publications, bubble curtains can significantly attenuate in-water blasting pressures and vibrations. Kiewit/Manson has been at the forefront of bubble curtain use and development both in the San Francisco Bay and in the Pacific Northwest. Kiewit/Manson will assist Caltrans in empirically proving the bubble curtain design for the Foundation Removal before incorporating it into an overall blasting plan.

At Kiewit and CDB's Port Mann project, the team has refined all the active and preventative aspects of the blasting plan in such detail that the blasts are achieving unprecedentedly low overpressures and vibration levels. **Figures 2** and **3** illustrate the multiple tools put in place in combination to achieve these results.

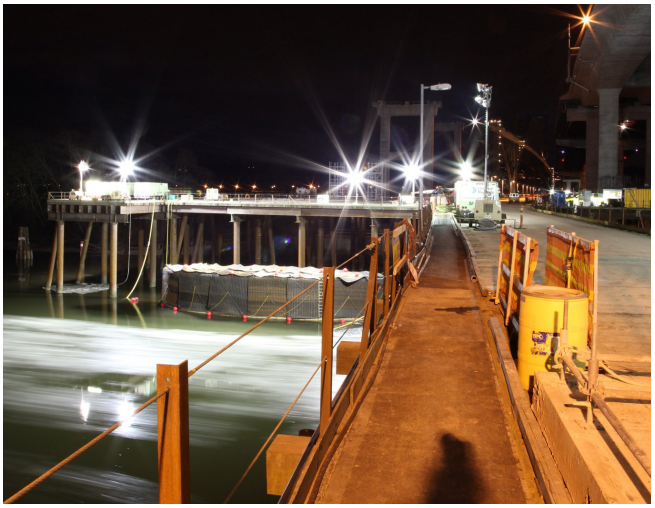


Figure 3: The Port Mann pier is prepared for blasting with charges placed, blast mats installed, and the bubble curtain ready for activation.

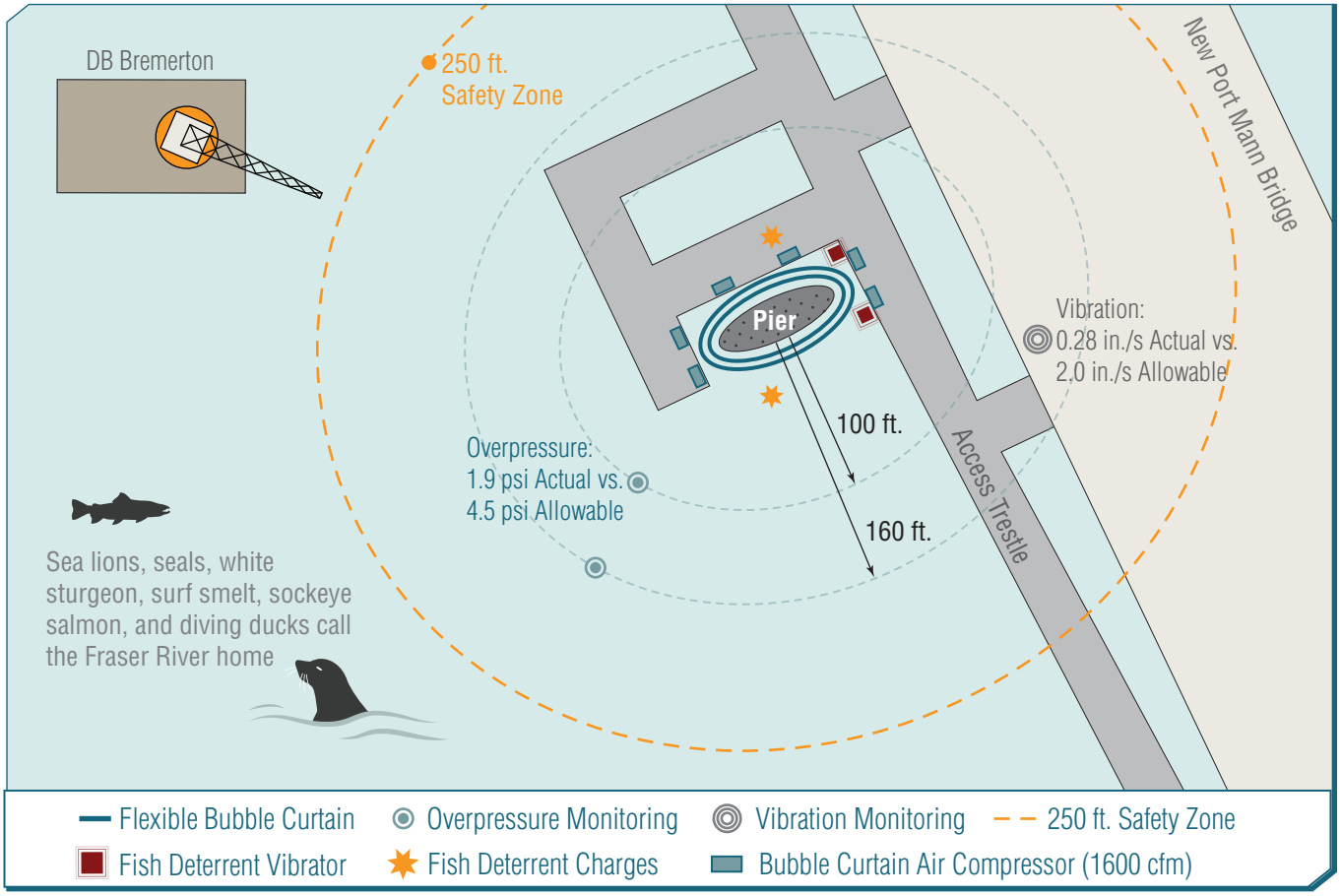


Figure 2: Numerous and well-planned components are placed around Port Mann's in-water piers. Combined, their use has resulted in unprecedented achievements in overpressure and vibration control.

The remaining five foundations at Port Mann are scheduled for demolition later this fall. To assist Caltrans, Kiewit/Manson will provide access to this ongoing work to perform additional monitoring and testing specific to the Foundation Removal. This may give the team the ability to reduce the off-site demonstration being contemplated.

Based on our experience, controlled blasting is the most cost effective and efficient demolition method; however, to minimize risk it is important to have an alternate plan. We have identified two other feasible removal methods for the deep-water foundations. The first of these options is using controlled blasting inside a cofferdam. The second entails the use of traditional demolition methods. Cofferdams may also be necessary for the conventional demolition approach. The heavy marine equipment necessary to construct a cofferdam around a caisson would introduce other environmental and permitting challenges; these are manageable, but potentially costly.

Piers E4 through E5

Piers E4 and E5 are similar to E3. They are 60- x 90-ft. cellular caissons located in 38- to 40-ft.-deep water, adjacent to the secondary shipping channels. Removal of these piers will take place after the removal of Pier E3. Demolition techniques will closely resemble those used for Pier E3.

Piers E6 through E19

Piers E6–E19 are solid piers founded on timber piles. There are no internal cells in which to implode concrete rubble. One possible removal method for these piers involves controlled blasting inside a temporary cofferdam. A more cost- and schedule-effective alternative is controlled blasting without a cofferdam, using a bubble curtain. Demolition design must consider the risk of impacts to the sea floor. Addressing this concern would require a thorough understanding of concrete rubble impact zones and may require making provisions for sea floor protection. The ongoing work at the Port Mann Bridge could facilitate this information gathering.

Work on Piers E6–E19 would also implement all other blasting-pressure–attenuating methods used at Piers E3–E5. Off-site studies of similar in-water controlled blasting work would provide the environmental and other regulatory agencies confidence in this method.

Lastly, the team may evaluate using cofferdams and mechanical removal of these piers; however, this is likely more costly and time-consuming than the other methods. Work on these piers will also require close coordination with the superstructure removal contractor and possibly construction of a trestle.

Piers E20 through E22

These piers are similar to Piers E6–E19; however, these piers are located in a tidal zone. The tidal zone presents additional challenges regarding barge access and environmentally sensitive areas. The preferred approach here may be to leave these piers in place. Pursuing this alternative would require a similar approach to that briefly described in the Pier E2 section. If these foundations require removal, then we would propose similar demolition methods as those proposed for Piers E6–E19.

The difference for these piers will be access. Crews will need to work from a construction trestle or a temporary platform rather than from barges. Kiewit/Manson previously installed a trestle and performed access dredging in this area for work on the eastern-most foundations of the Skyway (**Figure 4**).

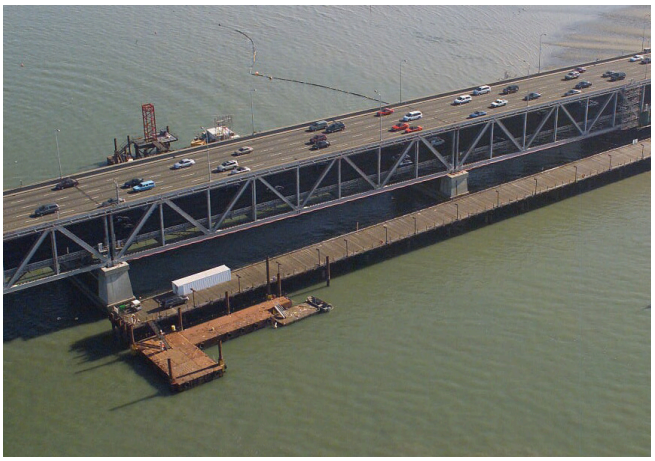


Figure 4: Kiewit and Manson previously installed an access trestle adjacent to the old bridge, an option for the Foundation Removal.

If a trestle is required, Kiewit/Manson could construct it early in the project to benefit the 504/288 project, as well. Trestle construction will require a number of regulatory and environmental permits and approvals given its location in or proximity to environmentally sensitive areas. This work will require coordination with the environmental agencies to protect eelgrass, nesting birds, fish, and other habitat and wildlife.

Relationships of the Elements and Constraints

All elements of work will require close coordination with other contractors, multiple approvals and permits from various regulatory agencies, and the maintenance of navigable waterways.

Kiewit/Manson understands the construction manager will be responsible for preconstruction services as they relate to the project elements listed in Appendix A and Sections 3, 4, 5, and 6 of the RFQ. These include, but are not limited to:

- design validation
- estimating services
- schedule analysis
- administrative services involving coordination with third parties and the public
- risk identification and mitigation
- providing permitting input and assistance

This work is integral to the CMGC role.

The most significant constraints revolve around cost, risk, schedule, permit acquisition, environmental and regulatory reviews, design development, and constructability issues. These are all manageable challenges for a project team with our experience.

For example, it is evident the controlled blasting demonstration for Pier E3 removal methods will be critical to the overall project schedule. Although the time and effort preparing for this demonstration will result in upfront costs, we agree that such a pursuit will validate the removal methods and successfully demonstrate controlled blasting methods. Likely, it will lead to faster permit acquisitions, and ultimately be warranted by providing cost and schedule savings.

Kiewit/Manson will use its extensive network and expertise to the benefit of Caltrans in ways other contractors simply cannot. Our team has the unique advantage of providing Caltrans access to the Port Mann Bridge. Kiewit/Manson will work with Caltrans' design team to leverage this to advance the Foundation Removal's demonstration projects, reduce risks, and ensure successful demonstration of Pier E3 controlled blasting.

Effect on the Schedule

Nearly every project element and constraint can have an effect on schedule. Input from the project team, subcontractors, and, to the extent possible, permitting agencies will help develop a solid project schedule. The schedule must be a practical tool for minimizing cost, planning the work, and evaluating different options and approaches. Kiewit/Manson's scheduler has strong skills and expertise to conduct "what if" schedule analysis needed to evaluate multiple options and combinations of options.

The environmental and regulatory elements are an example of the relationship between project elements and constraints that have the potential to effect the schedule. In general, the earlier we understand the concerns of the permitting agencies, the earlier we can leverage the Port Mann demolition access and tailor the demonstrations to address those concerns. Ultimately, a successful demonstration at Pier E3, which is critical to the removal of piers E4 and E5 and potentially all of the piers, can put these concerns into proper perspective.

Focusing on the environmental elements early contributes to schedule flexibility and on-time delivery. Obtaining environmental and regulatory approvals for this project is critical to the overall project schedule. Our exclusive subcontractor, ESA, has extensive experience working with the relevant agencies in the San Francisco Bay Area. ESA knows the roadmap, permitting sequence, and preferred approach of the local environmental and regulatory agencies. With ESA's experience, we are prepared to assist Caltrans in early engagement with local agencies and provide recommendations to streamline the permit and approval process.

MANAGEMENT APPROACH TO CMGC CONTRACTING *RFQ 3.7(B)*

Kiewit/Manson's CMGC approach brings the experience and ingenuity of the construction team into the preconstruction phase by providing input regarding estimating, constructability, risk avoidance, and scheduling. This develops a successful, more economical project with a shorter schedule and lower risks.

Our team's most recent CMGC experience, specifically that of our proposed preconstruction services manager and lead estimator, includes Kiewit's participation on the Tanana Bridge in Alaska and Manson's work on the Elliott Bay Seawall Replacement in Seattle. During the one-year preconstruction phase, the Seawall team supported the client by conducting cost estimates, constructability reviews, industry open houses, community outreach, and providing subcontracting guidance. This set the tone for a project that is now proceeding with a high level of collaboration, mutual trust, and open communication.

In addition to CMGC experience, both Kiewit and Manson have collaborated with clients on design-build projects, which rely heavily on the upfront work completed during the preconstruction period. One notable example is Kiewit's Port Mann Bridge project. There Kiewit analyzed two different methods of aquatic demolition for foundations. Kiewit prepared cost, schedule, and risk analyses comparing traditional demolition techniques to controlled blasting methods. Based on this, the project team concluded the controlled blasting approach provided the most cost and schedule benefit, while also limiting significant project and environmental risks.

The Pitt River Bridge is another project where Kiewit was involved prior to construction. The in-water bridge demolition for two bridges built nearly 75 years apart, required different methods for each bridge. After evaluating each bridge during preconstruction, the team opted for specialized techniques using hydraulic concrete saws, cutting steel piling underwater, and blasting the mass concrete foundations.

Detailed Approach

Kiewit/Manson believes the CMGC project delivery method is an excellent opportunity to positively influence a project early on. An orderly sequence of events must occur to advance the project to the construction phase. **Figure 5** relates our understanding of the construction manager responsibilities (detailed in RFQ Appendix A) to that sequence.

The first step will be assisting Caltrans with validating the preliminary design and provide environmental, blasting, and constructability input.

Next, our team will work with Caltrans to provide access to our ongoing controlled blasting work on the Port Mann Bridge. The information from this project, combined with ESA's ongoing effort to understand the environmental agencies' concerns, may eliminate, or at least minimize the need for, an off-site demonstration. The off-site demonstration will have an improved chance of success, if the plan is based on data from an actual blasting operation.

After collecting and analyzing the data from the off-site demonstration and the Port Mann project, we will assist Caltrans in another iteration of environmental, blasting, and constructability reviews to advance the design and formulate the Pier E3 demonstration for input from the regulatory agencies.

After completion of the Pier E3 demonstration project, Kiewit/Manson will assist Caltrans in incorporating the results into the design. We will work with Caltrans to perform the final design validation and gain the regulatory and stakeholder buy-in so the required permits can be obtained.

Once the permits are acquired and we know all the regulatory constraints, we and Caltrans will compile the construction packages, and then estimate and negotiate within the project budget.

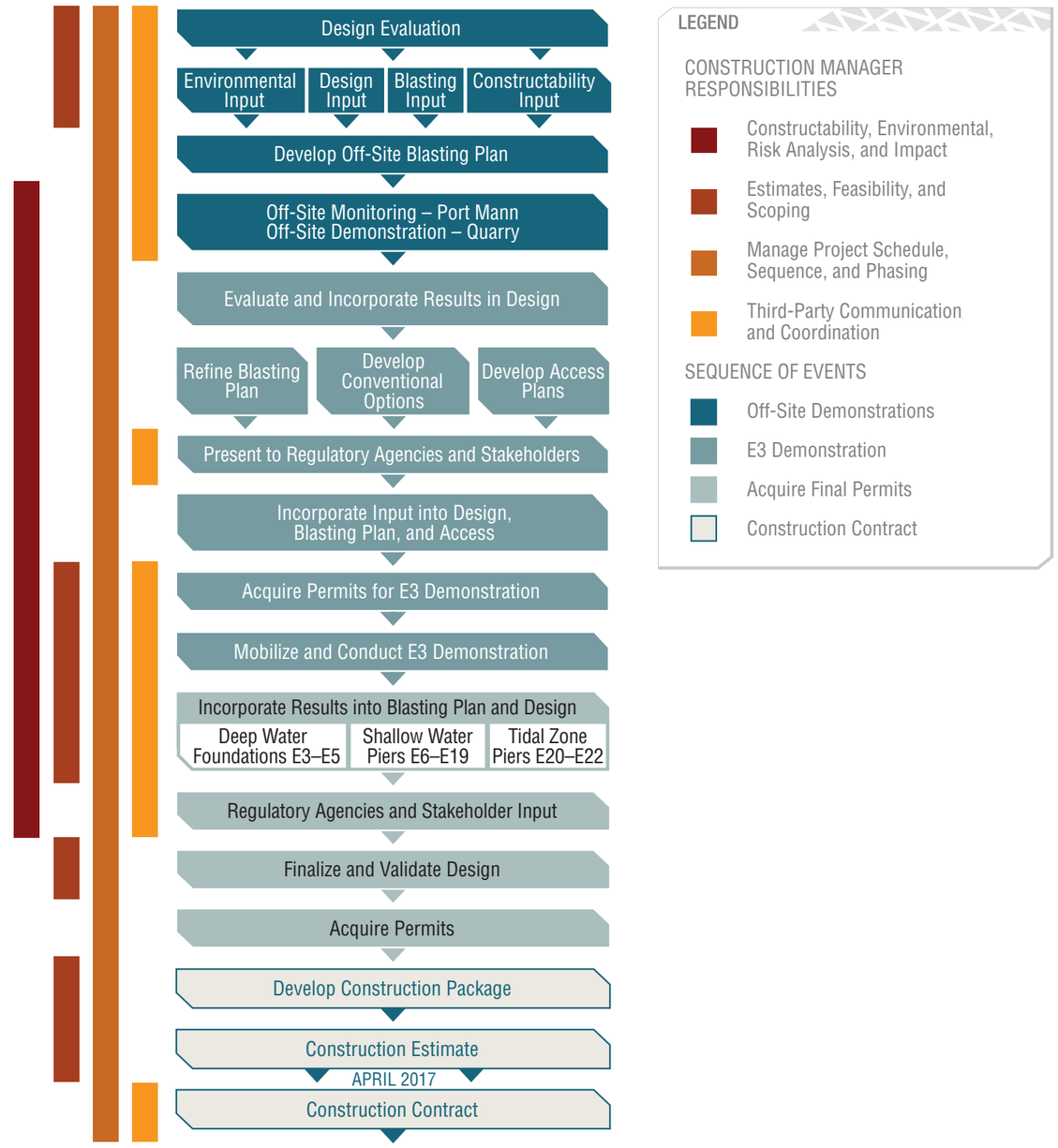


Figure 5: Kiewit/Manson has a clear understanding of the sequence of events that will occur during preconstruction and the tasks we must complete to support Caltrans to successfully complete the Foundation Removal.

Integrating the Team

Kiewit/Manson recognizes the importance of integrating our personnel with Caltrans' team early on to begin contributing and to take full advantage of preconstruction involvement. Kiewit/Manson brings strong and experienced personnel to the Foundation Removal, with specific knowledge and skills. The organizations for both the preconstruction and the construction phases establish a clear chain of command and open communication.

Jason Gagnon, the preconstruction services manager, has valuable preconstruction management experience and will lead the integration efforts for our team. His recent work on the CMGC delivery of the Tanana River Bridge led the client to select Kiewit as the contractor for construction. Jason will maintain an emphasis on early permitting collaboration and cost and schedule management.

The success of the CMGC model depends on the internal coordination of joint venture partners and major subcontractors, developing a strong partnership with the client, and good communication with other stakeholders, as quickly as possible. Close interaction and shared information allows this to happen continuously and informally, leading to daily one-on-one collaboration and facilitating prompt decision-making and immediate progress. The results are fewer revisions, the incorporation of innovative techniques, a lower job cost, and the opportunity to make modifications before they affect the schedule.

The joint venture partners have developed strongly integrated teams on many projects; Kiewit and Manson have worked extensively on projects for Caltrans in the Bay Area. Kiewit and CDB have worked together on in-water bridge demolition for the Willis Avenue Bridge and the Port Mann Bridge. Manson and CDB have worked together on multiple projects over the last ten years with CDB providing detailed vibration monitoring services for work in extremely close proximity to residential and commercial buildings. With this long history of teaming, collaboration and integration has become second nature.

A high level of integration is routine for us: Kiewit is a 12-time winner of the AGC Marvin M. Black Award for Partnering. Together with Caltrans, Kiewit won the 2008 Marvin M. Black award for the Benicia–Martinez Bridge. For their work on the Manette Bridge, Manson won the 2013 Partnership for Excellence in Contract Administration Award from the Washington Associated General Contractors and WSDOT.

SUPPORTING CALTRANS' PROJECT GOALS *RFQ 3.7(C)*

Kiewit/Manson has core values and methods that align with Caltrans's project goals. We have a strong safety culture. We focus on minimizing impacts to the traveling public on all our projects, and we understand the importance of environmental and regulatory compliance. And, we have a history of delivering quality work on time.

Safety

Kiewit/Manson will offer our proven safety practices developed from years of experience in marine construction to the project. Our focus is to ensure public safety without losing sight of employee safety. We believe that safety is every team member's responsibility.

While we will draw on the experience of hundreds of successful projects and a strong safety culture to bring safety to the forefront the project; the CMGC process offers the opportunity to refine design and methodology for an even safer work environment.

Our team believes that the best time to positively affect project safety is during the planning stage. Under the Foundation Removal's CMGC model, Kiewit/Manson will work with Caltrans on design development to explore various construction means and methods. Together we can pursue design improvements that will enhance public and worker safety during construction. This is the collaborative design and construction interface Kiewit used when planning demolition for both the Port Mann Bridge and Pitt River Bridge.

For example, on the Port Mann Bridge, Kiewit and CDB carefully planned blasting to limit fly material; to meet blasting regulations and, as an additional precaution, the team briefly stops traffic on the new, adjacent bridge for each blast. To date the team has completed two pedestal blasts without incident or issues.

The work on the old Pitt River bridges occurred close to the new cable-stayed bridge that is open to traffic and carrying 80,000 vehicles per day. The river channel is also a shipping route and there are small marinas with public access adjacent to the bridge. The team coordinated closely with local authorities to provide extensive public notification and manage traffic.

Mobility

Having worked on multiple projects in the Bay Area, the team is intimately familiar with how critical it is to maintain travel. Mobility interruptions affect the public traveling on the nearby bridge, pleasure craft in the bay, commercial shipping traffic, and Kiewit/Manson's marine construction fleet while it is performing work or moving equipment and material. Our team will support Caltrans to strike the right balance between keeping road and marine traffic moving and maintaining safety.

Kiewit/Manson has direct relevant experience performing in-water bridge demolition using controlled blasting in densely populated areas with active commercial shipping channels.

At Port Mann Bridge, the team worked with the client and designer to develop a comprehensive blasting plan that would minimize the short highway stoppages required as precautionary measures to ensure public safety. Working with local officials, the team determined the times and dates to best limit disruptions to the public. Meeting these dates is critical to maintaining the public's confidence and support. The project team collaborated on a public information campaign that clearly communicated necessary safety precautions to all stakeholders.

On the Willis Avenue Bridge, the old bridge piers were located in the Harlem River, adjacent to the new bridge carrying auto, bus, bike, and pedestrian traffic between Manhattan and the Bronx. Kiewit, CDB, the New York City and State Departments of Transportation, and numerous other agencies worked to limit impacts on marine and land traffic and ensure public safety.

We will bring these same practices to the Foundation Removal. Kiewit/Manson will work with Caltrans' public outreach team to communicate precautions and closures to the general public and commercial traffic.

Because a significant amount of work will likely occur from derrick barges in the bay, we will communicate our location and schedule to the Coast Guard's Vessel Traffic Services and follow their reporting procedures. These include notifications of any changes in travel plans and announcing when a vessel has arrived or has left the area. The team will also coordinate with the San Francisco Bar Pilots for smooth and safe movement of marine equipment and traffic around the work site.

Quality

Like safety, quality is every team member's responsibility and is on every agenda following safety. This not only sets the right tone, but keeps quality in mind during every phase of the work.

The CMGC process gives our team a chance to work with Caltrans to plan quality from the start. Design taskforces can create a collaborative environment where the designer can feel free to explore ideas, and the construction team can make suggestions about design considerations that will improve the quality of the work. Together we can choose means and methods of construction that best fit with the design and environmental requirements, minimize cost, and help the project team reach Caltrans' quality goals.

To us, quality translates to doing what we promise to do, doing it *Right the First Time*, and then working towards exceeding those expectations. Re-work, no matter whether it relates to design, environmental reviews and approvals, or eventual construction, leads to cost and schedule impacts.

Avoiding increased cost is only one part of the equation. We will also strive to reduce costs. Recent experience from similar demolition and marine work means our team has reliable and relevant cost information on the two main removal methods contemplated for the project. We have reliable cost data as well as a cost tracking system that will give Caltrans the confidence and assurance our forecasts are reliable.

On a demolition project, avoiding re-work also relates to environmental permitting and federal, state, and local regulations. Getting the right permits on time, keeps the project on schedule and on budget.

In addition, on a demolition job where there may not be an opportunity to re-do work, getting it right the first time is crucial to complying with environmental permits and meeting Caltrans' and other stakeholders expectations. Kiewit/Manson will work with Caltrans to establish reliable quality controls for the work from pre-activity meetings with Caltrans to on-the-job checklists.

Environmental Compliance

ESA will be a key player early on as the team supports Caltrans in planning environmental compliance from the early stages of design. We will continue this compliance verification effort through the life of the project.

Kiewit/Manson will work with Caltrans to develop comprehensive work plans for the demolition that address environmental concerns that range from abatement and containment of contaminated materials to protection of wildlife. Environmental controls ensure we are compliant with permits and regulations; our crews always start work by first reviewing the work plan.

"The first thing that was evident was that Kiewit understood the issues at hand both on the demolition front as well as the environmental impacts that may arise from it."

—Garry Dawson, Transportation Investment Corp., Port Mann Bridge

For the Port Mann Bridge, work plans describing environmental concerns including protection measures; the team addressed the mitigation measures with the regulatory agencies to be sure to meet their expectations and provide confidence that the work would not pose an unacceptable environmental risk. There have been no issues as the work has progressed.

Project Delivery Schedule

As Kiewit/Manson supports Caltrans in evaluating various combinations of construction elements and constraints it is necessary to develop and maintain an easy-to-manage schedule with sufficient detail to facilitate running meaningful "what if" scenarios. This makes it possible to assess the schedule implications. Scheduler Bill Martin's technical skills and design-build knowledge will be a valuable asset. Dave Nielsen, the demolition manager, will also be instrumental in the development of the schedule.

We have reliable production rates for both controlled blasting and traditional mechanical demolition to build dependable schedules. Each of the projects presented in this SOQ has reached substantial completion on time. Manson's NAVFAC SW Piers 10 & 11 project was eight months ahead of schedule and remained within budget.

The team also has local production rates from Skyway and Benicia Bridge where we installed and removed cofferdams, bubble curtains, and access trestles, providing actual data that can be used in the opinion of probable construction cost.

In addition to schedule aptitude and relevant schedule production information, the team brings extensive experience with the environmental permitting process in the San Francisco Bay Area. Staying on track with permits will be critical to timely project delivery. ESA is very experienced with the California Environmental Quality Act (CEQA) process, as well as federal and local Bay Area regulations. ESA staff will work closely with Bill to weave the intricacies of the environmental process into the project schedule.

MAJOR RISKS *RFQ 3.7(D)*

An advantage of the CMGC model, as in all preconstruction efforts, is the ability to identify and reduce or eliminate risks from the design and construction approach; this will be one of Kiewit/Manson's important roles as the construction manager.

At the conclusion of each of our projects, we conduct a "lessons learned" analysis and apply these analyses to subsequent projects. The result is a mature process, one where every project benefits from identification and mitigation efforts gleaned from projects that have come before. Based on that experience, Kiewit/Manson has identified a number of issues and risks for the Foundation Removal with demolition, design, environment, stakeholders, and the right-of-way, along with recommended approaches for reducing or eliminating these risks.

Demolition

Injury or Damage: The proximity of demolition to the new SFOBB could cause injury to the traveling public or damage to the new structure.

Constraints

Permits and local regulations restrict construction and demolition methods by outlining restricted work and impact zones, blasting pressures, noise restrictions, and turbidity. Other constraints include powder factors, blast attenuation techniques, and size and type of equipment.

Approach

Demonstrations at the team's ongoing in-water bridge demolition project will test and confirm the effectiveness of demolition techniques and attenuating methods.

Benefits

Performing tests off site is a low-cost way to provide data for demolition design to eliminate flying rubble outside designated zones and dial in blasting pressures to safe levels. Gathering data from a similar ongoing project adds information about real interactions and situations that is not available solely from models.

Proximity to Superstructure Contractor: The phasing of work depends on the status of the superstructure removal, presenting a risk of delay due to the work's close proximity and inherent interdependencies.

Constraints

Overlapping contracts like the superstructure and foundation removal may restrict access.

Approach

The team will work with Caltrans during preconstruction to proactively address access issues to both superstructure and substructure work through options such as an access trestles in the tidal zone.

Benefits

Close coordination and shared resources can shorten or protect the schedule and reduce project costs for both contracts.

Design

Constructable Designs: Controlled blasting demonstrations could reveal problems with design constructability, and constructable designs could be delayed by poor or untimely input from construction and environmental teams.

Constraints

A close relationship exists between design, environmental, and regulatory permits. Each of these items depends heavily on the others and ultimately can affect the project costs and schedule.

Approach

Kiewit/Manson will work with Caltrans to develop blasting models based on demonstrations and lessons learned from ongoing in-water blasting operations. We will build a critical-path method schedule that allocates sufficient design time to constructability reviews, and permitting along with early input from environmental and demolition teams.

Benefits

Demonstrations that closely resemble actual blasting conditions will lead to optimized controlled blasting based on sound and proven means and methods. Relevant data from live work will provide a better understanding of actual blasting impacts, expediting permitting and approvals.

Design Growth: Budget and schedule allocations for design could result in design growth as the project progresses.

Constraints

Budget and schedule allocations for design are limited.

Approach

We will resource-load the project schedule with design hours to efficiently manage the time and monitor milestones against the project schedule. Regular task force meetings and constructability reviews will allow systematic tracking of design progress and cost with commodity curves.

Benefits

Close monitoring of the schedule and coordination with environmental and construction teams will result in complete designs without conflicts and will protect against over-design that impacts the project cost and completion.

Environmental

Permitting Delays: Rejection of a permit application or lengthy permit reviews could delay work.

Constraints

Multiple layers of federal, state, and local regulations and permits.

Approach

ESA's local experience and professional networks in the San Francisco Bay Area will contribute to understanding the location-specific processes and constraints, engaging with regulatory agencies, and developing a customized permitting road map.

Benefits

Streamlining the process will smooth navigation of the various permits and agencies, helping to avoid common pitfalls, maximize the benefits of the CMGC method, and proactively address concerns and prevent schedule-sensitive issues.

Environmental Incidents: Environmental incidents could put the project at risk of regulatory violations and cause damage to the environment.

Constraints

Restrictions from regulations and permits for work and impact zones, blasting pressures, noise levels, and turbidity.

Approach

Environmental protection will begin with thorough compliance training and proven best management practices. The team will develop a plan that uses proven bubble curtains, monitors blasting zones, performs strategic pre-blasts, and maintains and updates permit and approval logs.

Benefits

Thorough training and planning protects the environment and controls the budget by reducing the risk of fines and shut-downs resulting from non-compliance.

Hazardous or Contaminated Materials: The project has the potential for discovery of unexpected hazardous or contaminated materials.

Constraints

Due to the age and limited environmental documentation of the original construction of the caissons, there is a potential to uncover hazardous or contaminated materials once demolition begins.

Approach

Early documentation reviews and environmental investigations to determine the presence of contaminants will aid the development of removal means and methods in coordination with our environmental and blasting subcontractors and the design team responsible for limiting contamination risks. Existing hazardous materials or contaminants need to be considered in permit applications.

Benefits

Properly investigating and identifying all existing hazardous or contaminated materials will prevent environmental and regulatory violations, personal safety risks, and damage to the aquatic ecosystem. Proper considerations will also speed up permit acquisition.

Stakeholders

Impacts to Marine Traffic: Working in a navigable waterway may impact commercial and recreational vessels.

Constraints

The work for piers E2–E5 takes place in or near the shipping channel. Impacts to marine traffic must be kept to a minimum.

Approach

Kiewit/Manson's and Caltrans' established relationships and experience with shipping channel users to insure plans follow proper channels and processes, such as the use of blast exclusion zones and notifications.

Benefits

These strategies that minimize impacts to marine traffic and will also increase construction efficiency.

Risks to Vehicle Traffic: Proximity of the new SFOBB to the demolition puts new bridge traffic at risk from flying debris and blasting pressures.

Constraints

Avoiding disruptions to travelers from slowed or stopped traffic caused during blasting.

Approach

Kiewit/Manson will work with Caltrans to develop controlled blasting methods that limit disruptions and will work to keep the public informed at all times.

Benefits

Controlled blasting methods and a steady flow of information will not only increase public safety, but will also minimize traffic impacts and help maintain public support for the project, two other identified risks.

Stakeholder Relationships: Failure to comply with stakeholder commitments could result in the loss of support by important partners.

Constraints

The project holds preexisting agreements with multiple stakeholders. Stakeholder agreements place restrictions on construction means and methods.

Approach

Our team will assist Caltrans to facilitate communication concerning commitments among stakeholders—including Caltrans. Those commitments should be incorporated into formal agreements and included in the construction contract.

Benefits

Including commitments in the construction contract will make other parties aware of our commitments to Caltrans and will keep the project compliant.

Utilities: There is a risk of financially or environmentally devastating damage caused by a utility strike.

Constraints

Numerous utilities span the project site.

Approach

Early surveys will be used to prepare a utility map using utility locations. This map will communicate utility locations to the various teams as they work to protect the lines, the public, and the workforce.

Benefits

Having a map early in preconstruction will allow all work to be designed, planned, and carried out with the protection of utilities in mind.

Right-of-Way

Shipping Traffic: Right-of-way risks relate to protecting commercial shipping interests and keeping the workforce and public out of harm's way.

Constraints

Official right-of-way boundaries apply to construction and construction-related traffic.

Approach

The team will take right-of-way into consideration during planning and execution. We will use our experience working with shipping channel users and managing local tug boat contractors to perform a study specific to this project and conform to right-of-way and access restrictions.

Benefits

The results of the study will make sure right-of-way restrictions are properly communicated and understood by all users.

APPROACH TO MANAGING RISKS

RFQ 3.7(E)

Through many years providing preconstruction services, Kiewit/Manson team members have developed a method of identifying risks, evaluating them, ranking them, and pursuing proactive solutions that have proven to be very successful. We continue to witness how we have been able to avoid risks, validating this method. Those that do materialize closely resemble the risks the team predicted and evaluated in the risk matrix. Project team collaboration contributes to understanding and managing risk.

During the preconstruction phase, Kiewit/Manson will collaborate with Caltrans and other stakeholders to identify, assess, and reduce risks, including known constraints on the work and schedule, before they become significant issues. Where we cannot eliminate exposure through design or construction engineering, we will generate ideas to mitigate or control risks.

Managing risk is much more complex than simply allocating it to the right parties. We know first-hand the most successful projects are the ones where parties have risk-reward incentives and work collaboratively to limit risks. Our preconstruction services experience, as well as our contractor experience has helped us develop practical ways of identifying and managing risk. We summarize the main elements into a risk matrix, which becomes a dynamic document to manage risk. The project team develops the risk matrix in a brainstorm following, at minimum, the process shown in **Figure 5**.

Figure 5: Our risk process allows us to methodically and continually evaluate and reduce or eliminate project risks.

Risk identification and tracking is a normal part of our business. We draw from the experience of the entire project team to develop the risk matrix and identify the risks most likely to materialize.

There are two primary components to evaluate risk. The first is by the probability of a given risk to manifest through the life of the project. The second is by the cost and schedule impact a given risk could present to the project, if realized. A thorough evaluation combines these two components into a point system. With this system, ranking risks is relatively easy and provides a road map for attention and focus.

Following risk ranking, the next step determines which party has the most direct control of the risk. The team pursues strategies that allocate the risks accordingly. Under traditional strategies that assign risk to the 'right' party, often one party carries significant risk, while the other parties have no incentive to reduce risks, even when they can and should do so. Risk-sharing strategies address this challenge.

Kiewit/Manson can assist Caltrans in much of this process. We are prepared to share our experience with Caltrans from recent contracts where clients effectively shared risk with all parties giving everyone incentive to limit risks that are typically borne by single parties alone.

Risks will change and evolve throughout a project. The team will handle some risks effectively, other risks will never manifest, and new risks will arise as project conditions change. Therefore, it is important to review and update the risk matrix as the project progresses.

SAFETY CONSIDERATIONS *RFQ 3.7(F)*

In any demolition operation that we perform, safety of the public and people involved is paramount. Perhaps the best proof that we are well equipped to safely demolish and remove the Bay Bridge foundations is our previous experience completing similar marine-based demolition operations.

Overall Approach to Safety

We believe in safety because we care about each worker as an individual. We have statistics to prove our outstanding record, but we care more about sending employees home safe every day than about statistics. Kiewit/Manson strongly believes with proper planning and execution, every employee can go home any given day without an injury. If it is possible to do this any given day, it is possible to do the same the next day and the next, completing the project injury free. Achieving this truly is a team effort requiring commitment from every party in the project.

Providing preconstruction services for this project will allow us to influence safety from the very beginning of design. Through our CMGC and design-build experience, we have successfully implemented a *prevention-through-design* process to address safety concerns from construction through the end user (**Figure 6**). We will use this process to support Caltrans through the design phase of the Foundation Removal.

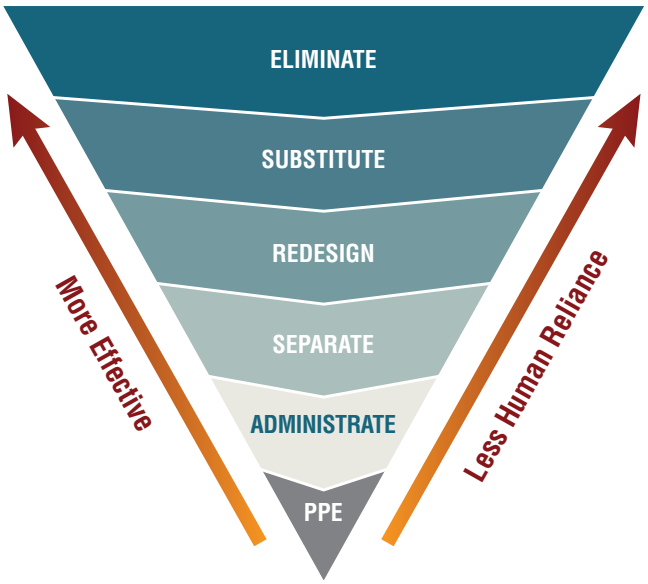


Figure 6: *Prevention-through-design* establishes a hierarchy of prevention techniques that the team reviews during each design step.

Kiewit/Manson intends to maintain an open communication channel for the team to easily understand and address public safety concerns. If a member of the public is harmed or exposed to unsafe conditions through the action or inaction of the team, trust is lost. Visibility allows Kiewit/Manson to distribute information and collect feedback, as well as have a positive impact on the community.

Project-Specific Considerations

The Foundation Removal presents distinct challenges to the workforce. Marine construction, controlled blasting, and demolition present their own challenges; together, they are compounded. Kiewit/Manson's highly skilled workers understand the complex mechanics of marine construction and have the mindset required to perform the work safely. With CDB on our team, Kiewit/Manson accesses their drilling, blasting, and demolition expertise to design, plan, and execute controlled blasting with safety as the highest priority.

Kiewit/Manson's involvement on the Skyway and E2/T1 brings detailed knowledge to the project team that can only be gained from years of on-site work. This experience includes safe and successful completion of work in the deeper shipping channel near Yerba Buena Island and around the radio towers on the east end of the site. When Skyway construction began, these towers were imparting a static charge to the crane booms; employees were receiving electric shocks when they rigged loads. The team added a static isolation link to the affected cranes that prevented injury to our workers.

Kiewit/Manson will assist Caltrans in ensuring work force safety during design development through constructability reviews. We will plan construction operations by making the necessary provisions for worker safety as we develop our operation-specific hazard analysis. Finally, we will execute the work in strict accordance with the carefully developed plan and hazard analysis.

Field conditions sometimes require a change to the original plan. When this happens, the team will use an operation-change hazard analysis to ensure even the smallest of changes has undergone a thorough hazard evaluation. During construction, Kiewit/Manson will use the Craft Voice in Safety committee to conduct weekly safety walks, regular safety meetings, and implement an effective safety incentive program.

Similar to considerations given to the work force, Kiewit/Manson will assist Caltrans in evaluating the safety of the traveling public during design and constructability reviews. A section in each of our work plans will address public safety. As with our regular job hazard analysis, we will identify the hazards and then take the necessary precautions to eliminate these hazards. If hazard elimination is not feasible, Kiewit/Manson will take steps to ensure that there is no risk to the public from the hazard. This prevents injuries and maintains the public's trust in the project.

Safe demolition and controlled blasting in proximity to the new East Span of the bridge will require close coordination between the project stakeholders and agencies. Precise monitoring and controls will keep mariners and vehicular traffic clear during blasting events, and prior notifications will reduce overall public impact. To keep the public from entering the work zone, Kiewit/Manson will post clear signage around the work area, and introduce physical barriers when needed. This multi-tiered approach gives the project team several opportunities to reduce or eliminate construction hazards. Reducing exposure through the CMGC design and constructability process for the Foundation Removal will benefit both the project team and the traveling public.

CONCLUSION

Demolition in a marine environment is complicated, but we understand it, and so does Caltrans. We worked together to construct the new Skyway and E2/T1 segments, so we know the working conditions and each other. That experience, the team's recent work on CMGC projects, and our recent foundation removals in other urban areas make us a solid proponent to assist Caltrans on this project. Our ability to innovate during critical preconstruction periods will lead the project to delivery on time, within budget, and to Caltrans' satisfaction.

Appendix A - Resumes

FRITZ LAUSIER, PE

PROJECT MANAGER

As a 20-year industry veteran, Fritz has advanced through his career on several large and complex bridge projects, including the $758 million Benicia Bridge project in California and the $2.5 billion Port Mann Bridge project in British Columbia, Canada. Currently, Fritz is the project manager responsible for the demolition of the existing Port Mann Bridge, where he works hand-in-hand with CDB and the bubble-curtain designer to accomplish the controlled-blasting of the bridge's in-water piers. The on-going operation has been successful and monitoring of the blasting reports actual pressures and sound levels well below the industry averages, and only a fraction of the levels described in the Foundation Removal's Pier E3 Demonstration Study.

As described throughout his resume, a large majority of Fritz's experience has been earned on alternative delivery projects; all of which benefit from a period of preconstruction services. On these projects, Fritz has led the efforts to plan, price, schedule, and innovate various options to get the work built. In so doing, Fritz worked with the clients, designers, third-party stakeholders, and various regulatory agencies to optimize the design and construction approaches to best respond to the project requirements and constraints. On all of these projects, Fritz then transitioned into the execution phase where he successfully managed his portion of the project to an on-time completion, within budget, and without claims.

As overall project manager for the Foundation Removal project phases, Fritz will bring his skill managing craft and staff on complex construction and demolition projects to his role. His knowledge as a professional engineer and specific local experience will be beneficial during the preconstruction phase, bringing value-added construction methods and design solutions to the project. His experience in California also gives him a working knowledge of municipal and state permitting agencies and a previous relationship with Caltrans.

As project manager, Fritz will be directly involved in the preconstruction services' estimates, design review, and permit process. As the main point of contact for the project team, Fritz will coordinate and interact with the client and agencies, plan for the demolition, provide continuity between phases, lead the construction execution, and manage the project team.

Fritz will dedicate 50% of his time during preconstruction services and 100% of his time during the construction of this project. He will be fully available at the time of project award; when he is not working on the Foundation Removal he will be pursuing other work. Fritz's first-hand experience with preconstruction, demolition techniques included controlled blasting, marine construction involving aquatic protection, as well as his relationship with CDB will allow Fritz and his team to meet Caltrans' project goals.

EXPERIENCE PERFORMING SIMILAR WORK	EDUCATION	LICENSING AND REGISTRATION
15 years with Kiewit 20 years in the industry	Northeastern University BS, Civil Engineering	Washington PE # 51314 Maine PE # 11181

PROJECT MANAGER

Port Mann Bridge/Highway 1 Improvements, No Contract Number

Client Contact: Linda Meindersma | Transportation Investment Corp. | (778) 783-1281 | lmeindersma@ticorp.ca
12/2008–present | Vancouver, BC | $2.5 billion

Improvements to Highway 1 enhanced access to approximately 23 miles of roadway. The project's signature feature is the new 10-lane Port Mann Bridge over the navigable Fraser River waterway. The new south approach structure is supported by nine piers, and the north approach by 14 piers, four of which were constructed in cofferdams. The foundations are composed of 255 individual 6-ft. diameter piling and 108 individual 6-ft. and 8-ft. diameter drilled shafts.

Fritz has been involved in several aspects of this project, spending 100% of his time on the project during his assignment. He spent 10 months as the main span project engineer, and then two years as the cable-stay construction

manager. A year before execution of this work, Fritz was assigned as the main point-of-contact for the associated preconstruction effort where he focused on meeting the challenges of a various aggressive superstructure schedule.

To meet the schedule challenge, Fritz focused the preconstruction efforts on value engineering, permanent material procurement, and site logistics. By collaborating with the engineers, the team was able to develop a schedule that ran multiple operations concurrently and shortened the overall length of the superstructure operations by 60 working days.

In February 2012, after nearly six months of superstructure construction engineering and geometry control, Fritz took over as the project manager for the demolition operations. His first task was to forecast the cost and plan the resources for the extensive demolition operation. Fritz coordinated with the client to identify all permit requirements and commitments, and then he, CDB, and the bubble-curtain designer developed a demolition plan that complied with these and permitted the economical option of controlled blasting without cofferdams.

With two of Port Mann's seven piers drilled and blasted, favorable vibration monitoring data continues to satisfy all environmental agencies. The industry standard for overpressure is approximately 14.5 psi, but Fritz's team continues to keep levels below 1.9 psi. His commitment to exceeding expectations compels him to respond quickly to issues long before they become costs or delays—a characteristic that will benefit the Foundation Removal project.

To enhance the mobility and safety of the public, specifically those using the Fraser River, Fritz and the client have jointly hosted monthly meetings for Fraser River commuters and communicated with both public and private audiences. Town hall meetings began just prior to the start of in-water work. Similarly, on the Foundation Removal project Fritz will lead stakeholder meetings and maintain regular communication with the client and the public to provide project updates and protect the public's safety.

As with the Port Mann Bridge demolition operation, Fritz will work with Caltrans to understand the Foundation Removal's constraints in order to refine the design. This design will use the right mix of innovative and conventional demolition techniques. It will take advantage of the mitigating benefits of the sound, turbidity, and pressure attenuating devices, and relies on marine equipment to minimize the impact on the in-bay work.

Successful execution of Port Mann's preconstruction effort and the follow-on demolition of the superstructure and in-water piers demonstrates Fritz's abilities as a preconstruction and construction manager. As well, his involvement in many different aspects of a project gives him the unique perspective necessary to maintain continuity between the various project stages.

CONSTRUCTION MANAGER

Folsom Dam Bridge, W91238-06-R-0020

Client Contact: Russell K. Thorne | U.S. Army Corps of Engineers | (916) 985-4308 | russell.k.thorne@spk01.usace.army.mil
04/2007–12/2008 | Folsom, CA | $89 million

Fritz was the construction manager in charge of planning and constructing the pier tables, segmental superstructure, and post tensioning on this project in Folsom, California. Requiring 100% of Fritz's time, the work involved constructing a 970-ft.-long cast-in-place segmental bridge across the American River just downstream of the Folsom Dam. Fritz's team used the cast-in-place balanced cantilever construction method to construct the majority of the superstructure.

With the experience he brought from the Benicia Bridge, Fritz was a natural choice for this project. As on the Benicia Bridge and the Port Mann Bridge, a balanced combination of preconstruction and construction proved successful on the Folsom Dam. Fritz took the lead in the value engineering effort to use the cast-in-place, balanced cantilever travelers from the Benicia Bridge; he integrated them into the permanent bridge design and saved the project cost and critical schedule time, and delivered an environmentally compliant project.

Fritz brought local craft talent with him, using the same crew for the travelers and concrete placement as he used on the Benicia Bridge, improving project safety, quality, and reducing construction time since their involvement essentially eliminated any learning curve, to ultimately delivery a quality project on time and within its fixed budget.

Since the project's aggressive schedule called for completion in less than two years, Fritz continuously communicated with the project team, the client, and key subcontractors and suppliers to make sure construction plans were in place and that materials were delivered exactly when needed, crucial to the project's timely completion and a skill he brings to the Foundation Removal.

In his role as project manager for the Foundation Removal project, Fritz will be similarly engaged and involved through planning and construction phases, maintaining continuity and communication.

SUPERINTENDENT

Benicia–Martinez Bridge SR-680, 04-006034

Client Contact: Cassaundra Lograsso | Caltrans | (916) 654-5266| cassaundra.lograsso@dot.ca.gov

09/2004–04/2007 | Benicia, CA | $758 million

Fritz was the superintendent responsible for the project's segmental portion to build an 8,790-ft.-cast-in-place concrete segmental bridge across the Carquinez Strait between the cities of Benicia and Martinez. Crews constructed the 16 piers on 130 individual 8-ft.- diameter piling, 12 of which were in water and therefore required a host of environmental protection measures throughout construction. Once the substructure was built, Fritz's team installed 335 individual cast-in-place segments using a balanced cantilevered method with a self-launching traveler.

In the preconstruction stages, Fritz's team focused on geometry control, coordinating with engineers to make sure every cast-in-place hinge and closure was functional at every mid-span. Much like Folsom Dam Bridge and Port Mann Bridge, Fritz's role during the planning and constructability efforts on the Benicia Bridge proved beneficial to the hinge construction's operational success.

Fritz served as the main point-of-contact for the planning and critical operations execution. Design for the last mid-span cast-in-place segments had to consider the precision placement of the large steel beam hinges. So, during the preconstruction stage the team opted to construct a mock-up to identify design conflicts, train craft, design access safety, and demonstrate the validity of the selected methods to the client. This kind of mock-up to prove viability is a likely option at Pier E3 for the Foundation Removal project.

Information gathered during the mock-up exercise led Fritz to lift the hinges directly from the navigable waterway using strand jacks located on top of the new bridge. This approach permitted prefabrication in the local marine yard in Vallejo and took hundreds of man-hours off this operation's critical path. During months of preplanning, Fritz worked with the schedule and estimating team, as well as his counterparts at Caltrans to plan the operation in detail. During preconstruction, Fritz's team performed heavy-lift engineering and later worked with Caltrans and the regulatory agency representatives to acquire navigation permits. All of which allowed the hinge to be installed in only two shifts, substantially protecting the mobility of the local mariners.

Fritz brings superior management and communication skills, extensive preconstruction experience, high quality standards, and local California knowledge, making him an ideal candidate for the Foundation Removal project.

PROJECT ENGINEER AND SUPERINTENDENT

I-25 Transportation Expansion (T-REX), 01HAA00268

Client Contact: Jim Starling | Colorado Regional Transportation District| (303) 299-2301 | jim.starling@rtdfastracks.com
11/2001–08/2004 | Denver, CO | $1.29 billion

On this design-build project, Fritz worked as the project engineer from 2001 to 2003 on the 700-ft.-long Colorado Tunnel, a portion of the 17 miles of reconstructed highway and 19 miles of newly constructed light rail transit (LRT) through downtown Denver. Later as superintendent (2003 to 2004), Fritz transitioned from the preconstruction phase to manage the tunnel's construction including excavation operations, maintenance of traffic, utility coordination, caisson drilling and installation, and precast box girder installation. Major project components included constructing 58 bridges, 11 tunnels, extensive drainage improvements, and an elaborate intelligent traffic system (ITS).

While spending 100% of his time on the T-REX project, Fritz developed into an effective collaborator, and a creative and proven leader. His attention to detail in planning, contract administration, and in communicating with the client opened doors for greater responsibility on future projects. This project was delivered ahead of schedule and within it fixed budget. The project received numerous industry awards related to quality, safety, environmental compliance, design and engineering, contract administration, and was ultimately viewed as a boon to Denver's economy and mobility.

DAVE NIELSEN

DEMOLITION MANAGER AND GENERAL SUPERINTENDENT

A Manson employee since 1976, Dave Nielsen has more than 37 years of relevant marine construction and demolition experience. His special expertise lies in large-scale, complex marine and waterfront structures, including preconstruction, demolition, and construction. Given the sensitive nature of in-water work, he also has direct experience with verifying that site activities are performed in compliance with project permit conditions, which is particularly critical on a demolition project because of the potential for damage to the environment and surrounding areas.

Dave's success as a manager reflects a record of working with all field personnel to promote jobsite safety, compliance, and effective communication. As the direct liaison between the work crews and the project manager, one of Dave's primary responsibilities is to create and maintain successful working relationships with subcontractors and suppliers. Through his experience working for various clients around the San Francisco Bay Area, including work with Caltrans on two major contracts for the construction of the new San Francisco–Oakland Bay Bridge, Dave is familiar with local suppliers and subcontractors, local permitting agencies, and working conditions in the bay. His leadership experience extends from crew coordination and construction planning to safety management, hazard identification, environmental compliance, vendor management, materials management, and marine logistics.

Dave's experience has given him leadership skills and quality standards that he will apply in seeing that the demolition of the San Francisco–Oakland Bay Bridge foundations happens according to design and project requirements. His previous roles prepare him well to be a demolition manager—a critical position that requires flexibility, effective communication, and use of Dave's hands-on management skills.

For the Foundation Removal project, Dave will see that the project is demolished in accordance with the design and project requirements. During the preconstruction phase, Dave will be 50% committed to the project. During this time, he will lend his field supervision insights to the preconstruction team as they develop the demolition approach and go through the validation process. When not involved in the project Dave will be managing miscellaneous marine work out of the Richmond office. During the construction phase, he will be committed 100% to the project. He will have full stop-work authority and will be on site during all demolition work to be sure the project is executed safely and in accordance with all project requirements.

EXPERIENCE PERFORMING SIMILAR WORK	EDUCATION	LICENSING AND REGISTRATION
37 years with Manson 37 years in the industry	High School Diploma Apprenticeship, Journeyman Pile Drivers Union Local 34 OSHA Safety Management Training	Local 34 Journeyman Pile Driver Incident and Injury-Free Training Certified

DEMOLITION MANAGER AND GENERAL SUPERINTENDENT

Wharves 1 and 2 Replacement, 40-12-027

Client Contact: Don Snaman | Port of Redwood City | (650) 306-4150 | dsnaman@redwoodcityport.com

06/2012–12/2013 | Redwood City, CA | $13.9 million

Work on this design-build wharf replacement project included demolishing an existing timber wharf and constructing a new 426 by 58.5 ft. concrete wharf, building a new 950 ft. long seawall that extends along the project's entire length, implementing slope protection, demolishing an existing warehouse, constructing a new longshoreman's building, and providing upgrades to site utilities including an allowance for future ship-to-shore power and site improvements. The wharf was seismically designed to include plastic hinges between the top of the pilings and concrete deck to dissipate earthquake energy.

This project demonstrates Dave's experience managing demolition work similar to the Foundation Removal project. This demolition work was carried out in an aquatic environment and was subject to many of the same permit conditions anticipated for the Foundation Removal project. Like the Foundation Removal work, this project was subject to the BCDC, Major Permit; the USACE Section 10 and 404 permits; San Francisco Bay RWQCB, 401 Water Quality Certification; and a Bay Area Air Quality Management District permit. Dave's understanding of these permits allowed him to successfully manage the work to keep it compliant throughout the contract. He will bring this local area knowledge to the Foundation Removal project.

Dave was committed 100% to this project and was responsible for daily operations, including directing all marine operations, work crews, and suppliers. He worked on site to oversee the timber wharf demolition and creosote piling removal in accordance with the environmental protection plan, and to coordinate the concrete deck installation. Dave will be similarly committed to the Foundation Demolition project, personally overseeing the work for which he is responsible.

DEMOLITION MANAGER AND GENERAL SUPERINTENDENT

Manette Bridge 303/4A Replacement, 7926

Client Contact: Jeff Cook | Washington State Department of Transportation | (360) 874-3000 | cookj@wsdot.wa.gov
08/2010–11/2012 | Bremerton, WA | $54 million

This Manson-sponsored joint-venture bridge replacement project involved replacing an 80-year-old bridge with a new bridge designed to improve travel by adding shoulders, widening the pedestrian walkway, and constructing a new roundabout. The new bridge was built immediately south of the existing bridge and is a 1,550 ft. long pre-stressed, post-tensioned concrete girder bridge. Once the new bridge was complete, the old bridge—a steel truss bridge with concrete piers—was demolished by removing the bridge sections and cutting them to a manageable size so they could be safely lowered onto barges for disposal.

Similar to the Foundation Removal project, the Manette Bridge project required Dave to successfully manage the demolition of a full-size bridge in an aquatic and environmentally sensitive area. The old bridge, which was only 3 ft. away from the new bridge, was demolished by using a variety of conventional marine demolition techniques, including barge-mounted equipment to access the work from water. Dave was committed 100% to this project with responsibilities that included managing all floating equipment, overseeing bridge pier drilling operations, setting all reinforcing steel cages, and bridge footing installation. He handled road and marine traffic and permitting issues, and partnered with the Washington State Department of Transportation (WSDOT) to comply with all requirements and minimize impacts to the public. Dave also planned the work for demolition operations, experience that will be an asset to Caltrans during the preconstruction phase of the Foundation Removal project.

GENERAL SUPERINTENDENT

City of Austin Water Treatment Plant, S7012683-101

Client Contact: Jim Brennan | City of Austin | (512) 682-9900 | james.brennan@mwhglobal.com
01/2011–03/2012 | Austin, TX | $62 million

On this joint-venture water intake system project, Dave was responsible for the marine work including dredging and shaft excavation and drilling, concrete placement, casing installation, risers, pile caps and pile cap supports, installing sections of the intake structure, and installing the intake screen.

This project demonstrates Dave's experience managing work in a sensitive, aquatic environment including excavation and handling large pieces of material, similar to those that will be extracted during demolition of the Bay Bridge foundations. As general superintendent, Dave was responsible for directing the work crews and coordinating the subcontractor work, including diving operations, and managing the drilling operations and pile driving. Dave was also responsible for marine vessel logistics and safe marine traffic coordination on a busy recreational waterway. Dave was 100% committed to this project.

GENERAL MARINE SUPERINTENDENT

Bayou Bienvenue Pile Foundation, IHNC-045-PML, USACE #W912P8-08-C-0038

Client Contact: William Brock | U.S. Army Corps of Engineers | (443) 880-7421 | william.brock@cbifederalservices.com
01/2010–04/2011 | New Orleans, LA | $24 million

This project consisted of constructing a 138 ft. long by 74 ft. wide floodwall structure at the Bayou Bienvenue channel as part of a larger system that will close the Mississippi River Gulf Outlet. A large cofferdam was used to construct the foundation. The project demonstrates Dave's experience managing complex marine construction activities, including cofferdam installation in an aquatic, environmentally sensitive area and the use of best management practices to protect the habitat and wildlife. Dave was heavily involved in the early preconstruction stages and was responsible for managing all pile-driving operations, supervising the installation of the cofferdam sheet pile wall and subsequent cofferdam dewatering and tremie concrete operations. He managed work crews and suppliers and coordinated all work activities, experiences that will serve him well on the Foundation Removal project.

GENERAL MARINE SUPERINETENDENT

I-35W St. Anthony Falls Bridge, S.P.2783-120; E.R. MN 07 (300)

Client Contact: Jon Chiglo | Minnesota Department of Transportation | (651) 366-4826 | jon.chiglo@state.mn.us
10/2007–09/2008 | Minneapolis, MN | $233 million

Dave was a general marine superintendent for this joint-venture, design-build emergency bridge-replacement project. The new St. Anthony Falls Bridge is a 1,216-ft.-long, 10-lane concrete bridge with a 504-ft. precast segmental main span. The bridge is supported by three land-based piers (four columns at each pier) standing 70 ft. tall. Segments were cast on the river's south bank on an existing closed section of I-35. There are 120 precast segments ranging in weight from 170 to 210 tons each. An extremely effective preconstruction effort that involved aggressive constructability review by Dave and his team allowed this project to be completed on an intense 11-month accelerated schedule; it opened to traffic three months early, a welcome relief after its catastrophic failure in 2007.

Dave was committed 100% to this project and was responsible for coordinating work crews, subcontractors, and suppliers. He was responsible for all the floating equipment on this project including Big Ben, the 4600 S2 Manitowoc Ringer crane situated on two 54 by 180 ft. barges.

GENERAL MARINE SUPERINETENDENT

San Francisco–Oakland Bay Bridge E2/T1 SAS Foundations, 04-0120E4

Client Contact: Doug Coe | Caltrans | (510) 622-5101| doug.coe@dot.ca.gov
04/2004–05/2008 | Oakland, CA | $275 million

Dave was general marine superintendent for this project that was the third major contract issued for the replacement of the San Francisco–Oakland Bay Bridge. The project consisted of constructing the two in-water piers that would support the self-anchored suspension (SAS) span—the new bridge's signature span. Dave coordinated the marine equipment and managed the drilling operations, pile driving, and casing installation. This project provided Dave with valuable experience working on large, complex projects in the Bay Area, and built his familiarity with local permitting processes and deepened his relationships with local contractors and suppliers. Like the Foundation Removal work, this project was subject to the BCDC, Major Permit; the USACE Section 10 and 404 permits; San Francisco Bay RWQCB, 401 Water Quality Certification; and a Bay Area Air Quality Management District permit.

During the project's construction, environmental protection techniques such as bubble curtains, turbidity monitoring, and cofferdams were put in place to ensure the in-water foundations were built in compliance with all permit conditions. Dave also coordinated daily with the local mariners.

GENERAL MARINE SUPERINETENDENT

San Francisco–Oakland Bay Bridge Skyway Segment, 04-012024

Client Contact: Doug Coe | Caltrans | (510) 622-5101| doug.coe@dot.ca.gov

02/2002–03/2008 | Oakland, CA | $1.23 billion

On this first major contract for the replacement of the east spans of the San Francisco–Oakland Bay Bridge, Manson teamed with Kiewit and Caltrans to build two 6,900-ft. independent structures—a westbound bridge and an eastbound bridge—each 82 ft. wide. As Manson's general marine superintendent, Dave was the main point of contact between marine work crews, subcontractors, supplier, project management, and Caltrans. Serving as the central hub of all marine operations, he was responsible for all floating equipment and coordinating daily work activities. He managed piling falsework and all pile-driving operations for the bridge piers, and he oversaw the dredging and excavation. From this large, complex project in the Bay Area, Dave gained valuable experience and familiarity with local permitting processes common to this project and the Foundation Removal project. He will also bring relationships with local subcontractors and suppliers that he will bring to the Foundation Removal project. On this project, he also worked directly with proposed lead estimator, Bill Shorey.

SUPERINTENDENT

San Francisco–Oakland Bay Bridge Test Pile Program

Client Contact: Doug Coe | Caltrans | (510) 622-5101 | doug.coe@dot.ca.gov

08/2000–01/2001 | Oakland, CA | $8.1 million

Dave served as the superintendent for this pile installation demonstration project that consisted of driving three 8-ft.-diameter steel pipe piling, each 300 ft. long, and welding large-diameter, thick-walled, 365-ton piling. The project's primary purpose was to test sound attenuation strategies, including two types of bubble curtains. Dave was committed 100% to this project and was responsible for all marine logistics, environmental compliance, and coordinating and communication with the client, work crews, subcontractors, and suppliers. He managed the pile-driving operations, supervising coordination of the marine equipment and the sound attenuation devices. This project provided Dave with direct experience with the Bay Area's marine conditions and an understanding of local permitting and environmental issues and regulations, including the BCDC, Major Permit; the USACE Section 10 and 404 permits; San Francisco Bay RWQCB, 401 Water Quality Certification; and a Bay Area Air Quality Management District permit.

KEN TULLY

CONTROLLED BLASTING SPECIALIST

Over the past 30 years, Ken has held positions with several drilling and blasting firms where he was the blaster in charge of many close-proximity and high-exposure blasting projects. On the Cooper River Bridge demolition project in Charleston, SC, Ken was responsible for designing, loading, and blasting the two existing bridges' concrete substructures, which were within 20 ft. of the new $600 million Arthur Ravenel Bridge. Since then, Ken has been directly responsible for designing and implementing blasts for the successful demolition of more than 230 marine bridge substructures where Ken assisted the client and contractor in developing a comprehensive demolition plan that incorporated multiple techniques to protect new structures, the environment, and marine life. From a scientific standpoint, Ken has predicted and analyzed vibration and water overpressure, determined marine mammal exclusion zones (including temporary threshold shift (TTS) and permanent threshold shift (PTS) for underwater blasts. He has also worked with various consultants to design, implement, and test a variety of bubble curtain types.

Ken brings extensive experience with on-site blasting management including blast safety procedures, fish deterrent techniques, pre-blast and post-blast inspections, numerous types of rock drills, explosives, detonators, and blasting machines. Ken will apply his experience in all aspects of blasting operations from acquiring permits to compiling and analyzing blast reports and his experience with the other proposed project personnel such as project manager Fritz Lausier to the Foundation Removal project.

Ken is 50% committed as controlled blasting specialist during the construction phase of the Foundation Removal project. He will be responsible for the blast plan submittal, blast designs, layout of the blast hole patterns, supervising the drilling and blasting operations, loading the explosives and conducting the blasting, submitting blast reports, coordinating blast events with Caltrans and Kiewit/Manson, and overseeing the daily activities related to drilling and blasting operations to maintain compliance with governing regulations and general project compliance.

During the preconstruction phase, when Ken will be committed 20%, he will work with instrumentation and monitoring specialist, Albert vanNiekerk to create exclusion zones to protect people, the environment, the new bridge, and other San Francisco Bay users. He will work closely with Fritz Lausier to communicate any exclusion zones to local marine users and be fully in charge on blast day with complete stop-work authority, resulting in a safe blast that complies with all permits. When not involved on this project he will be performing similar types of work for multiple projects around the country.

EXPERIENCE PERFORMING SIMILAR WORK	EDUCATION	LICENSING AND REGISTRATION
6 years with Controlled Drilling & Blasting LLC 30 years in the industry	Saint Mary's University, Nova Scotia BS, Geology	BATF Explosives User License, Florida Explosives User License. Licensed Unrestricted Blaster in: AL, AR, BC, FL, GA, LA, MD, MO, NC, NJ, NYC, PA, SC, VA

BLASTING SPECIALIST

Port Mann Bridge/Highway 1 Improvements, No Contract Number

Client Contact: Linda Meindersma | Transportation Investment Corp. | (778) 783-1281 | lmeindersma@ticorp.ca

01/2014–present | Vancouver, BC | $1.3 million (CDB Subcontract)

The project is located in the Fraser River between Coquitlam and Surrey, BC, Canada, a very prominent commercial waterway. Environmental and marine life protection during blasting has been the top priority. Ken is currently responsible for creating the blast plan including exclusion zones to protect the public's safety, the new bridge, and the marine life during this ongoing operation. As part of his blast plan, Ken designed the blast including layout and depth of the blast holes, powder factors, amount of explosives, and explosives per delay.

To date, Kiewit and CDB have completed blasting two of seven large piers that have incorporated many critical elements—a double-ringed bubble curtain, blast mats, fish deterrents, and supporting marine equipment.

The piers range in size from 26 by 78 ft. to 48 by 144 ft. with structure heights ranging from 22 to 50 ft. The piers also have varying numbers and sizes of voids designed into the concrete. He directly oversaw the drilling and blasting operations including the loading of explosives and installing safety and environmental protection measures including blast mats and the bubble curtain.

The maximum allowable in-water overpressure is 4.35 psi, and the piers are located within 20 ft. of the temporary work trestle and as little as 50 ft. from the new bridge piers. The completed blasting of the two piers generated water overpressures, vibration levels (measured both on land and on the new bridge), and were recorded as 1.9 psi and 0.28 in./s respectively—considerably lower than the permit values. After the blasts were complete Ken compiled data and recorded results to create the blast reports to confirm compliance and safety of each blast. CDB and Kiewit will blast the remaining five piers later in 2014, presenting an opportunity for Caltrans to advance its design for the Foundation Removal project.

BLASTING SPECIALIST

Willis Avenue Swing Bridge, BRCR076

Client Contact: Rahul Shah | New York Department of Transportation | (212) 839-4145 | rshah@dot.nyc.gov

08/2011–12/2011 | New York City, NY | $348,000 (CDB Subcontract)

This demolition project was located in the aquatic environment of the Harlem River between Manhattan and the Bronx in New York, popular with both recreational and commercial mariners. Ken was the blasting specialist overseeing drilling and blasting of a 77 ft. diameter swing pier and a smaller 20 by 92 ft. rest pier in 50 ft. of water within 20 to 35 ft. of the new bridge piers. Kiewit had conventionally demolished both piers inside cofferdams to take them to their pre-controlled blast elevations. CDB used templates and casing pipes designed and implemented by Ken to drill the blast locations. He then oversaw the loading of blast holes from above water using pre-placed liner pipes. The controlled blasts resulted in a maximum vibration of 1.06 in./s on the new bridge and a maximum water overpressure of 10.8 psi at a distance of 35 ft. Ken was 100% committed for the four months he spent on this project from creating the blast design, compiling the blast report, supervising demolition, and compiling post-blast reports. Throughout the operation, Ken worked with NYDOT and the general contractor, Kiewit, to supervise the work and protect the public, workers, and the environment.

BLASTING SPECIALIST

PPL Holtwood Power Plant Expansion, 209097

Client Contact: Dale Zeisloft | PPL Generation | (610) 774-7850 | dmzeisloft@pplweb.com

04/2011–05/2013 | Holtwood, PA | $962,000 (CDB Subcontract)

The project was located on the Susquehanna River in Holtwood, PA at the PPL Holtwood hydroelectric plant. Ken led the drilling and blasting of an existing skimmer wall, piers, and closure wall. Throughout blasting, the existing 100-year-old plant remained active and continued to produce power, so vibration control and monitoring were paramount to everyone's safety.

Ken created the blast plan including the design of the layout and depth of the blast holes, powder factors, amount of explosives, and explosives per delay. He worked with the general contractor to develop work plans to demolish the complex structures that required difficult marine access.

The work entailed drilling and controlled blasting of a collapsed skimmer wall that was on the river bottom in 55 ft. of water, the support legs of the skimmer wall, two large piers, and an abutment. The underwater sections of the skimmer wall were drilled from a barge using a template and casing pipes and were loaded through the pipes. Once loaded, the pipes were pulled and the section blasted. The legs and one pier also required this technique as their tops were 20 ft. underwater. The remaining pier and the abutment were drilled from the barge, loaded, then blasted.

Throughout construction, Ken monitored the work to maintain compliance with environmental regulations and keep all project personnel and facility users safe. Allowable vibration and water overpressure limits recorded at the power house had to remain below 5.0 in./s and 20 psi respectively. Ken's team used 51 blasts to complete the project with a maximum recorded vibration and water overpressure of 1.86 in./s and 15.5 psi respectively which complied with environmental regulations. Ken was 100% committed as CDB's blasting specialist on the Holtwood Power Plant Expansion project.

BLASTING SPECIALIST

Demolition of Cooper River Bridges, 10.158B

Client Contact: Randy Watterson | TESTA Corp. | (781) 953-1465 | rwatterson56@gmail.com

08/2005–04/2007 | Charleston, SC | $2.1 million (CDB Subcontract)

The project was located on the Cooper River between Charleston and Mount Pleasant, SC. The work entailed drilling and blasting the support columns, stems, and foundations of the two old existing bridges as close as 60 ft. to the new Arthur Ravenel Bridge. Ken planned and supervised more than 125 blasts to demolish the 75 structures, including columns as tall as 185 ft. as well as piers and foundations ranging up to 4,500 cu. yd. in size and in 65 ft. of water requiring up to 90-ft.-deep blast holes. Drilling the piers and foundations required extensive use of templates, casing pipes, overburden pipes, and liner pipes. All overpressure and vibration measurements recorded for the blasts were in compliance with regulatory limits established for the project.

Other Relevant Experience

Fuller Warren Bridge Pier Demolition—Jacksonville, FL

Combahee River Bridge Pier Demolition—Colleton County, SC

Sanibel River Bridge Piers Demolition—Sanibel, FL

Broad River Bridge & Piers Demolition—Gaffney, NC

Genesee River Bridge Piers Demolition—Rochester, NY

Chickahominy Bridge—Charles City & James City, VA

Route 36 Bridge Demolition—Highlands, NJ

Max Brewer Bridge Demolition—Titusville, FL

Court Street Bridge Piers Demolition—Hackensack, NJ

Rt.3 Bridge Pier Demolition—Clifton, NJ

Baway Pinellas Bridge Pier Demolition—Pinellas, FL

SC 5 Catawba Bridge Piers Demolition—Lancaster, SC

SC 601 Congaree River Bridge Piers Demolition—Calhoun, SC

Skidaway Narrows Bridge Piers Demolition—Chatham Co. GA

Blasting Consultant—World Trade Center, NY

Isle of Palms Marina Bulkhead Replacement—Isle of Palms, SC

BILL SHOREY, PE, SE

LEAD ESTIMATOR

In more than 35 years of experience as a licensed civil and structural engineer, Bill Shorey has contributed to multiple projects in the San Francisco Bay Area, including the SFOBB Skyway Segment and the $8 million Caltrans test pile installation project. As a Manson engineer for the past 20 years and a member of the American Association of Cost Engineers, Bill has developed a reputation as a construction estimating expert, producing accurate and dependable estimating, risk analyses, and project controls, particularly as these tasks relate to the marine construction industry. Recently, Bill was the lead estimator for a complex $250M two-phased CMGC contract to replace Seattle's aging seawall; he continues to lead the estimates for the available construction phase subcontracts on this project, working with both the client's engineers and consultants.

Bill's extensive experience with Bay Area work will make him an invaluable asset to the Foundation Removal project, as he has established relationships with local suppliers, subcontractors, and engineers. Bill will work with Caltrans' designers to develop work means and methods, cost estimating alternative methods, and value engineering options. His experience makes him well-versed in Opinion of Probably Construction (OPCC) cost estimates, which is the anticipated strategy for this upcoming project. Bill is skilled at preparing open cost models, reporting, and the identification of potential risks and developing construction methods to minimize them, reducing cost in the process.

Bill will be 25% committed to the Foundation Removal project during the preconstruction phase and 5% during the construction phase. During this time, Bill will continue in his role as a senior estimator with Manson and will lead estimates for other pursuits as his time allows.

EXPERIENCE PERFORMING SIMILAR WORK	EDUCATION	LICENSING AND REGISTRATION
20 years with Manson 35 years in the industry	University of Washington BS, Civil Engineering	Registered Professional Engineer-WA Registered Structural Engineer-WA Member of American Association of Cost Engineers

LEAD ESTIMATOR AND PROJECT ENGINEER

Elliot Bay Seawall Replacement Project, PW#2012-050A

Client Contact: Jessica Murphy | City of Seattle | (206) 684-0178 | jessica.murphy@seattle.gov

01/2013–present | Seattle, WA | $250 million

This CMGC contract replaces the aging and deteriorated seawall along Seattle's downtown waterfront. This project is being performed in two phases—the preconstruction and construction phases. During the preconstruction phase, Bill and the CMGC team integrated with the client and their designer to develop the project plan. The team provided preconstruction services by bringing expertise and experience that assisted the city in their decision making, cost estimating, constructability reviews, budget and schedule control, material procurement planning, subcontracting efforts, outreach, and sequencing the project components.

Bill's responsibilities for this project included performing constructability reviews and budget and cost estimating for the seawall. This involved developing work methods, material take-offs, and cost analyses. He has also prepared and reviewed various work packages for bidding the project portions not self-performed by the joint venture. Other duties have included managing the project's specialty subcontractors, who have also provide input on the seawall design and contract documents.

Over the course of the preconstruction services, Bill has worked with the client's engineer and environmental personnel to develop design and work methods for construction. Notably, Bill engineered the falsework and the containment wall that will permit dewatering. His work with the designers has resulted in a design created specifically with construction

methods in mind. Bill worked directly with the environmental permitting agencies to develop, submit, and revise permit applications that incorporate alternate design ideas for engineering the seawall to facilitate construction.

This project demonstrates Bill's experience working closely with a client during the preconstruction phase to verify initial estimates, conduct value engineering, and perform constructability reviews to validate the design and to increase efficiency and reduce costs. Bill was 60% committed to the project during the preconstruction phase and remains 40% committed during the construction phase, which is expected to be completed by mid-2014.

LEAD ESTIMATOR

Evergreen Point Floating Bridge, 8066

Client Contact: John White | Washington State Department of Transportation | (425) 576-7118 | whitejh@wsdot.wa.gov
08/2011–present | Seattle, WA | $586 million

Bill was Manson's lead estimator for this Kiewit and Manson joint-venture bridge replacement project during the preconstruction period. The project involves the design and construction of a six-lane 1.4-mile floating bridge. This design-build project involves complex floating structures, including pontoons to support the bridge's foundation. Bill worked with the Kiewit-led estimating and design team to develop means, methods, and a cost basis to complete the project. He participated in design meetings with the client to develop work elements for which he performed multiple cost and risk analyses.

Specifically, Bill prepared the cost estimate for the anchor system, which included 45 individual 100-ton fluke anchors located on the lakebed and flat areas, 8 individual 587-ton gravity anchors typically placed near shore, and 5 individual 10-ft.-diameter drilled shaft anchors—options that were incorporated to enhance project delivery and quality.

This project is an example of Bill's experience working with Kiewit team members to develop solutions to complex bridge design and construction issues. Bill was committed 100% to his role on this project.

LEAD ESTIMATOR AND DESIGN MANAGER

Design-Build P-327 Demolition and Replacement of Pier 12 and Upgrade to Pier 13, N62473-11-C-2850

Client Contact: Orlando Valenzuela | NAVFAC Southwest | (619) 556-9113| orlando.valenzuela@navy.mil
10/2011–01/2014 | San Diego, CA | $79.5 million

Bill was heavily involved in preconstruction efforts for this project to demolish the existing Pier 12 and replace it with a new general-purpose berthing pier. This project involved conventional demolition such as saw cutting and mechanical means as well as extensive utility work and dredging in the area around Pier 12 to 30 ft. below mean low low water (MLLW).

In addition to preparing cost estimates and developing project means and methods, Bill served as the design manager on this project. In this capacity, he worked directly with the project's subcontractors and designers, as well as NAVFAC to develop the scope of work and design the features in accordance with NAVFAC's requirements. Bill worked with the client to customize the design to take advantage of Manson's specialty equipment and preferred means and methods in order to make the demolition and construction more efficient, and ultimately provide cost savings.

In this role, Bill developed conceptual designs, led constructability reviews, performed cost analysis, rist analysis, prepared reports, facilitated client design reviews, and worked collaboratively with the client and design engineer. He participated in design reviews and coordinated planning among the various design disciplines. Throughout this effort, Bill developed a project schedule that minimized construction time and reduced cost. Value engineering ideas incorporated environmentally friendly options such as the reuse and recycling of demolition materials which also minimized demolition debris disposal costs.

Bill was committed 100% to his role as the lead estimator for this project and 20% in his role as design manager.

LEAD ESTIMATOR

City of Austin Water Treatment Plant #4, S7012683-101

Client Contact: Jim Brennan | City of Austin | (512) 682-9900 | james.brennan@mwhglobal.com
01/2011–03/2012 | Austin, TX | $62 million

Manson was responsible for the marine work on this joint-venture water intake system project, which included dredging, shaft installation and excavation, concrete placement, casing installation, risers, pile caps and pile cap supports, and installing sections of the intake structure and an intake screen. As the lead estimator, Bill prepared cost estimates and developed the means and methods for constructing the intake structure. Bill also helped prepare an alternate design concept, which was accepted by the client and helped keep the project on time and on budget. The alternate design reduced the project's safety risks by limiting in-water construction and greatly minimized the use of divers. Bill was committed 100% to his role as the lead estimator for this project.

LEAD ESTIMATOR

GIWW Bypass Gate Abutment, HNC-045-PML, USACE #W912P8-08-C-0038

Client Contact: Scott Brock | U.S. Army Corps of Engineers | (443) 880-7421 | william.brock@cbifederalservices.com
01/2009–08/2010 | New Orleans, LA | $36.6 million

This project constructed a 150-ft. bypass gate abutment on the Gulf Intracoastal Waterway (GIWW) as part of a larger system that closed the Mississippi River Gulf Outlet. The work involved the design and construction of a highly complex cofferdam. As the lead estimator for this project, Bill prepared cost estimates and developed overall means and methods. He also designed the concept for the cofferdam. Over the course of the project, Bill managed the consultants responsible for finalizing and stamping the cofferdam design. Bill was committed 100% to his role.

LEAD ESTIMATOR AND DESIGN-BUILD COORDINATOR

I-35W St. Anthony Falls Bridge, S.P.2783-120; E.R. MN 07 (300)

Client Contact: Jon Chiglo | Minnesota Department of Transportation | (651) 366-4826 | jon.chiglo@state.mn.us
10/2007–09/2008 | Minneapolis, MN | $233 million

Bill served as a lead estimator and design-build coordinator for this joint-venture, design-build, bridge replacement project. The new bridge is a 1,216-ft., 10-lane concrete bridge with a 504-ft. precast segmental main span. This project was completed on an intensely accelerated schedule of 11 months; it opened to traffic three months early. Bill developed the cost estimates and methods to set the precast bridge segments. The segments ranged from 11- to 25-ft. tall and up to 16.5-ft. long; they were post-tensioned with high-strength steel encased in plastic ducts. He engineered the specialized floating-crane barge that was used to work in high water-flow conditions present at the project site. Bill participated in developing the preconstruction design charette, which was used to gather community input. Bill was committed 100% to his role as the project's lead estimator and 60% in role as the design-build coordinator.

LEAD ESTIMATOR AND DESIGN MANAGER

San Francisco–Oakland Bay Bridge Skyway Segment, 04-012024

Client Contact: Doug Coe | Caltrans| (510) 622-5101 | doug.coe@dot.ca.gov
02/2002–03/2008 | Oakland, CA | $1.2 billion

Bill was Manson's lead estimator for this Kiewit-led joint-venture project, the first major contract in replacing the San Francisco Bay Bridge's East Span. Bill prepared cost estimates, formulated project means and methods, and developed and engineered the cofferdam concept for the bridge pier cofferdams. His work included quantity take-offs, construction engineering, and cost and risk analysis. This project gave Bill direct experience with the design and use of cofferdams at a project site, as well as experience working as part of an integrated Kiewit and Manson joint-venture team, working with some of the same people as he will on the Foundation Removal project. Bill was committed 100% to his role as the lead estimator.

BILL MARTIN

SCHEDULER

Bill has been in the construction industry for more than 40 years and has been scheduling projects with Kiewit for 28 years. As an expert project scheduler, he uses Primavera scheduling software to develop baseline schedules and update them throughout the life of the project. He is also frequently brought onto projects to provide schedule training and guidance. His current role as district scheduling manager for the company has given him insights into scheduling many different types and sizes of work in a variety of environments. His rich work history has prepared him well for the Foundation Removal project and makes him a valuable asset to the Kiewit/Manson team.

On the Foundation Removal project, Bill will work with the client and the preconstruction team to develop the preconstruction and construction schedules. The schedules will integrate design, permitting, and construction phases, key milestones, deliverables, and logic. To do this, Bill will co-locate with Caltrans. Together, the project team will create a baseline construction schedule. This schedule will be regularly updated and will be submitted along with narrative report describing the progress and opportunities, risk, and potential mitigation measures for the upcoming periods.

In addition to producing project schedules, updates and reports, Bill will provide guidance and analysis of project phasing and sequencing. He will attend regular progress meetings and interface with Caltrans to agree on monthly progress estimates. Bill will be committed 25% during both preconstruction and construction. Bill will assist other Kiewit projects in a schedule management role while not participating on the Foundations Removal project.

EXPERIENCE PERFORMING SIMILAR WORK	EDUCATION	LICENSING AND REGISTRATION
28 years with Kiewit 40 years in the industry	Associate of Science, Structural Engineering Southwestern Oregon Community College	Registered Land Surveyor, Oregon License #02178LS

DISTRICT SCHEDULING MANAGER

Kiewit District Office

12/2011–present | Vancouver, WA

Bill is the district scheduling manager in Kiewit's district office in Vancouver, Washington, where he sponsors schedule development and schedule management for current work and for proposals for new work. In this capacity, he is instrumental in overseeing project schedulers during startup, overcoming scheduling challenges, and in mentoring new schedulers. He developed the baseline schedule for the Port Mann Bridge project and served as senior advising scheduler thereafter. This 4,600-activity schedule was updated monthly and submitted to the client along with a progress narrative. The schedule captured all project constraints, milestones, activities, logic, and durations including activities related to design, planning, permitting, and eventual demolition of the old Port Mann Bridge, an operation that is currently ongoing.

During baseline schedule development, Bill spent 100% of his time committed to this effort. He now consults on the project from time to time.

SCHEDULING MANAGER

Limited Area Production and Storage Complex, N44255-08-C-6003

Client Contact: Greg Garnett | NAVFAC Northwest | (360) 535-9346 | gregory.garnett@navy.mil

06/2008–11/2011 | Silverdale, WA | $241 million

The $241 million Limited Area Production and Storage Complex (LAPSC) for Naval Facilities Engineering Command (NAVFAC) NW at Naval Base Kitsap-Bangor in Silverdale, Washington is an 180,000-sq.-ft., multi-level, below-grade, earth-covered, internal and external blast hardened, heavily reinforced concrete structure. The project is designated as Department of Defense Unclassified Controlled Nuclear Information (UCNI), which prohibits the release of specific

project details that are not otherwise available in the public domain. Bill committed 50% of his time to his role as scheduling manager where he developed the baseline schedule using Primavera and worked with the project team to make monthly updates. This schedule was driven by step-by-step approval process common on government projects. During this project, Bill trained three new schedulers on Primavera software.

PROJECT SCHEDULE MANAGER

Brightwater Treatment Plant and Influent Pump Station, C00168C07 and C00002C206

Client Contact: Gunars Sreibers | King County Water Treatment Division | (206) 684-2113 | gunars.sreibers@kingcounty.gov

07/2007–07/2011 | Woodinville and Bothell, WA | $174 million, $110 million

Bill worked 50% of his time as the project schedule manager for both the Brightwater Wastewater Treatment Plant and Influent Pump Station projects. Due to projects' extremely technical nature, Bill was involved in an 18-month preconstruction and start-up phase in preparation of the construction. During this period, the client added multiple items to the scope, potentially delaying the schedule, but Bill worked with the client to develop feasible schedule alternatives that allowed both projects to reach several milestones ahead of schedule and substantial completion on time. The Brightwater Treatment Plant is a new, 36-MGD wet-weather flow wastewater treatment plant that can accommodate 130-MGD peak hourly flows—the largest in King County. Kiewit constructed the solids/odor control facilities portion of this new facility. The Brightwater Influent Pump Station is a 130-MGD influent station that can expand to 170 MGD. It included an 83-ft. deep, 77-ft.-diameter, binocular-shaped shaft three stories below ground, a two-story 10,000 sq. ft. above-grade building, two pumping units, and HVAC systems. The primary driver of its schedule was the procurement of long-lead mechanical equipment. Detailed scheduling of these procurement activities allowed the project team to track fabrication and delivery ahead of required milestones. This project gave Bill the opportunity to satisfactorily balance the dynamic schedule and incorporate multiple changes to the original project scope while maintaining the original completion deadline—valuable experience for the Foundation Removal project.

SENIOR PROJECT ENGINEER

Kiewit District Office

10/2006–05/2008 | Vancouver, WA

Bill was the senior project engineer and contract administrator in Kiewit's district office where he sponsored schedule development and schedule management for current work and for numerous proposals for new work. Beyond developing comprehensive and fully integrated schedules for each of the pursuits, Bill took the time to mentor several new engineers in the process of creating and updating schedules using Primavera software. Bill was 100% committed to schedule development during this period.

PROJECT CONTROLS MANAGER

I-25 Transportation Expansions (T-REX), 01HAA00268

Client Contact: Jim Starling | Colorado Regional Transportation District | (303) 299-2301 | jim.starling@rtdfastracks.com

06/2001–09/2006 | Denver, CO | $1.29 billion

This extremely complex and fast-paced $1.28 billion design-design project involved reconstructing and widening approximately 16 miles of the I-25 freeway through the heart of Denver and the constructing 19 miles of double-track light rail train, which included 13 stations and 26 miles of walls. Requiring 100% of his time, this 5-yr.-long project was broken into several phases, each with an intricate and interdependent project schedule, which Bill developed and managed using Primavera. The 10,000+-activity schedule was used to sequence work, establish MOT, identify schedule risks and opportunities, and invoice the monthly progress payments. The project was completed 22 months ahead of schedule, even with the addition of extra scope by the client, due in part to Bill's ability to successfully identify opportunities to recover critical schedule time. Bill's ability to balance scope with schedule milestones makes him an obvious choice for the Foundation Removal project.

SCHEDULE MANAGER

I-15 Corridor Reconstruction, SP-15-7-(135)296

Client Contact: John Njord | Utah Department of Transportation | (801) 302-8300 | jnjord@tomwarne.com
04/1997–05/2001 | Salt Lake City, UT | $1.39 billion

This award-winning, design-build mega-project for the Utah Department of Transportation involved demolishing, designing, and reconstructing more than 16 miles of freeway and more than 140 bridges. The team widened the existing freeway to six lanes in each direction, including installing HOV lanes and constructing 135 bridges, 190 retaining walls, and 41 sound walls. Bill developed and managed the cost-loaded schedule in Primavera, dedicating 100% of his time to the role. The project schedule accounted for more than 12,000 activities within the $1+ billion budget. This was one of the first resource-loaded and integrated schedules of this size. Using Bill's carefully-planned schedule that included early identification of needs for critical full traffic closures, the team opened the freeway five months ahead of the scheduled completion date, well in advance of the 2002 Winter Olympics. Bill co-located with the project team including the client and the designer to develop a schedule that incorporated all design, permitting, planning, procurement, and construction activities within the confines of the project's physical constraints and the client's milestones, a balance he will also strike in his scheduling role for Caltrans.

SCHEDULING MANAGER

San Joaquin Hills Transportation Corridor (Toll Road), S90-19

Client Contact: Chris Pesavento | Transportation Corridor Authority | (714) 330-8941 | cpesavento@dyna-la.com
03/1993–12/1996 | Orange County, CA | $800 million

Kiewit constructed the nation's first ever design-build project—a limited-access, 17-mile, six-lane controlled-access toll road that runs parallel to the Pacific Coast Highway and the San Diego Freeway (I-405/I-5). The project included ten interchanges encompassing 68 bridges, 725,000 sq. ft. of retaining walls, and 32 million cu. yd. of excavation. Kiewit divided the project into four major phases that resulted in high-quality, on-time, satisfactory work. Bill dedicated 100% of his time to managing the project's document control center with a staff of ten people. Integral to this effort was the development and management of the design and construction cost-loaded schedules using Primavera. These schedules specifically maximized co-dependent work efforts by bridge and retaining-wall crews. Despite an 18-month environmental delay, plus two severe rainstorms that resulted in floods, the roadway was opened to traffic more than three months early thanks to schedule recovery mitigations identified by Bill and his team.

SCHEDULING ENGINEER

Bonneville Navigation Lock, DACW57-90-C-0031

Client Contact: Reed McDowell | U.S. Army Corps of Engineers | (503) 492-3570 | jeffrey.r.mcdowell@usace.army.mil
03/1990–05/1993 | Cascade Locks, OR | $166 million

Bill was the scheduling engineer on this project for the USACE to construct a new navigational lock at Bonneville Dam. The original navigation lock, completed in 1938, was 76 by 500 ft. and the smallest lock on the Columbia-Snake River Inland Waterway. Barge tows had to be broken up into two or three sections to traverse the lock and required 17 million gallons and up to 45 minutes to fill and empty. After designing a solution, USACE awarded a construction contract to a Kiewit-led joint venture to build a new lock comparable in size to the others along the Inland Waterway. At 86 by 675 ft., the new lock can handle full-sized barge tows and requires less than 26 minutes to fill and empty.

Bill developed and maintained the cost-loaded schedule in Primavera and met with the client regularly to review the schedule. He was committed to this project 100% of the time. The project finished ahead of schedule and under budget and received the Marvin M. Black Award Excellence in Partnering Award.

TOM TAYLOR

ENVIRONMENTAL AND PERMIT MANAGER

Tom Taylor is a fisheries biologist with 36 years of experience in permitting compliance, environmental documentation and endangered species consultation and coordination. In this time, he has gained extensive experience working near sensitive bodies of water and he understands the state and federal regulations that protect such waterways.

Tom's work history includes marine, estuarine, and freshwater experience in California, Nevada, and Utah. His work includes permitting, environmental documentation for the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), endangered species consultations, biological studies, reports and project management. Tom recognizes the importance of advising agencies about the variability of background water quality conditions because those variations need to be incorporated into permit conditions. He has successfully modified permits as conditions change on site. For example, Tom successfully advanced a project schedule by several weeks based on reduced biological sensitivities due to drought conditions.

On the Foundations Removal project, Tom will offer input during the preconstruction period in the evaluation of options for the demolition of the foundations as they relate to environmental compliance. To do this, Tom will be 25% committed during preconstruction services, during which time he will co-locate with the client, regulatory agencies, and construction staff to obtain permits and help develop demolition procedures. Tom will be involved in addressing any changes that may be necessary to respond to permit requirements and environmental commitments. He will be involved in the construction planning and offer environmental best management practices to support the demolition efforts.

During construction, Tom will verify the project is carried out in accordance with the environmental commitments and permits in the final EIR/EIS. To do this, Tom will be committed to the project 100% and he will have stop-work authority. Tom will participate in other permitting, monitoring, and compliance projects throughout the area when not focused on the Foundations Removal project.

EXPERIENCE PERFORMING SIMILAR WORK	EDUCATION	LICENSING AND REGISTRATION
1 year with ESA 36 years in the industry	University of California, Davis MS, Aquatic Ecology California State University, Fresno BS, Biology	Certified Fisheries Scientist, No. 1911, American Fisheries Society

FISH REMOVAL PLAN TECHNICAL LEAD

Folsom Dam Spillway Approach Channel, 34555001-00

Client Contact: Cory Koger, Ph.D. | U.S. Army Corps of Engineers | (919) 557-5112 | cory.s.koger@usace.army.mil
06/2013–06/2013 | Folsom, CA | $20,000 (Subcontract Value)

Tom was 20% committed as the technical lead for Kiewit in developing the fish removal plan for underwater blasting to excavate the approach channel. The purpose of the fish removal was to eliminate an attraction for fish-feeding birds, to protect water quality, and to foster positive public opinion. USACE's design called for extensive underwater blasting to excavate the approach channel on the reservoir side of the new spillway control structure. Tom helped Kiewit, the prime contractor, develop a blasting plan that detailed blasting patterns and identified measures to reduce the blast effects on the water column. These measures included packing the blast holes to direct the force of the blast down into the bedrock, placing blast mats over the blast sites, and using smaller charges. Tom worked with Kiewit, USACE, and the regulatory agencies to plan the containment of the approach channel, which included a turbidity curtain, a fish removal plan, and comprehensive monitoring. In the end, underwater blasting was not employed because drought-driven historically low lake levels allowed the approach channel to be excavated in the dry.

ENVIRONMENTAL AND PERMIT MANAGER FOR AQUATIC RESOURCES

Carmel River Reroute and Dam Removal Project, 311510120-00

Client Contact: Jeffery Szytel | Water Systems Consulting | (805) 547-8833 | jszytel@wsc-inc.com
07/2013–present | Carmel Valley, CA | $950,000 (Subcontract Value)

The project is the largest dam removal project to date in California and involves bypassing the river through a temporary pipe around the reservoir and through the dam. The diversion occurs during each of two construction seasons allowing the team to dewater both river and reservoir to facilitate construction activities. Tom managed and planned routing the water into bypass channels to allow construction of a sheet pile dam and bypass pipeline.

As the environmental compliance manager for aquatic resources, Tom oversaw the diversion of the river into the bypass channels and the team's fish rescue efforts. Tom was 80% committed to this project. Although permits were negotiated independently during project development, Tom monitored project compliance. Working with additional constraints on altering the river flow, Tom worked closely with the permit agencies and the construction team to work out the details on how to phase the dewatering to support the construction schedule while remaining compliant. Dewatering had to be consistent with conditions in the Biological Opinions from the National Marine Fisheries Service (NMFS) and from the U.S. Fish and Wildlife Service (USFWS) for California. Tom and the construction team also confronted the challenge of accumulated sediment from the river diversion; he led the team in rerouting the Carmel River around the sediment.

Tom's experience helped the team protect the aquatic life and maintain other project permit requirements such as 1600 Lake and Streamed Alteration Agreement and the Clean Water Act 401 Certification. Tom worked closely with the contractor and other subcontractors to coordinate construction elements with federal and state agencies.

PROJECT MANAGER

Petaluma River Narrows Highway 101 High-Occupancy Vehicle (HOV) Lane Expansion, 30088160-01

Client Contact: David Lundgren | CH2M Hill| (510) 587-7663 | david.lundgren@ch2m.com
06/2013–07/2013 | Petaluma, CA | $71,000 (Subcontract Value)

Tom was the project manager responsible for meeting National Marine Fisheries Service Biological Opinion requirements for the HOV lane expansion over the Petaluma River, committed at 20% for the project as technical lead. Tom developed protocols for monitoring and rescuing marine life for the project. The new HOV lanes required the construction of two new supporting abutments with footings located in the tidally dynamic Petaluma River. The new footings required the installation of sheet pile cofferdams and permits required fish rescues in these cofferdams before they were entirely enclosed and dewatered. Extensive protection for aquatic life was required because of potential encounters with Green Sturgeon, White Sturgeon, Chinook Salmon, and Steelhead Trout.

Tom worked with the agencies and the construction team to maintain permit requirements and monitor conditions during installation. Tom directed the team to have the sheet piles encircled by a turbidity curtain during installation to minimize project-related suspended sediment. He also led the monitoring effort to make sure there was limited aquatic life interference. His experience with turbidity curtains and marine life protection solutions during cofferdam installation will be used when planning and performing work for the Foundation Removal project.

PROJECT MANAGER

Annual San Clemente Reservoir Drawdown, 318602

Client Contact: Aman Gonsalez | California-American Water Company | (831) 658-5600 | julio.gonsalez@amwater.com
05/2003–08/2013 | Carmel Valley, CA | $250,000–$400,000 (Subcontract Value)

Tom oversaw the annual drawdown of the San Clemente Dam and associated fish rescues from 2003 through 2013. He worked closely with the Division of Safety of Dams (DSOD), NMFS, USFWS, CDFW, and California-American Water Company to develop permit conditions and then implement the annual drawdown of San Clemente Reservoir. His understanding of the permits helped the annual drawdown adhere to several NMFS Biological Opinions, a

USFWS Biological Opinion, and a CDFW 1600 Streambed Alteration Agreement. Tom worked closely with regulatory representatives during the drawdowns to bring new items to agency attention and ensure that permit conditions were being met or were modified to be consistent with the latest information. For two months each year he committed 20% of his time working on the drawdown.

TECHNICAL ADVISORY COMMITTEE MEMBER

Alviso Slough Restoration Project Technical Advisory Committee, 3052302

Client Contact: Mike Coleman | Santa Clara Valley Water District | (408) 265-2607 ext. 3096 | mcoleman@valleywater.org

02/2006–03/2008 | San Jose, CA | $23,000 (Subcontract Value)

Tom was one of three technical advisory panel members on the Alviso Slough Restoration Project. Alviso Slough is the channel that conveys flows from the Guadalupe River into South San Francisco Bay and is an intensively urbanized watershed. The tidally influenced Alviso Slough has long been isolated from adjacent tidal wetlands by levees for the operation of salt ponds in South San Francisco Bay. Tom committed 10% of his time to participating on a panel of technical advisors comprised of consultants and academics to evaluate the proposed restoration project. Tom reviewed the background documents, participated in meetings, and reviewed project technical reports on fisheries, geomorphology, and aquatic biology. He worked closely with local bait fisherman working out of the Alviso Marina to understand their concerns. After review of the feasible alternatives, Tom, along with the other panel members, met to develop consensus-based review comments on the restoration alternatives. The technical panel recommended that the restoration project not be funded as the root cause of the sedimentation problem in Alviso Slough was not addressed by the restoration plan, and the slough would quickly have filled back in again. Instead, they recommended a more comprehensive approach to restoration that would result in a self-sustaining restoration project.

AQUATIC BIOLOGIST

California Department of Parks and Recreation, Resource Protection Division

No Contact Available

1982–1992 | Various Locations in California

Tom worked for the California Department of Parks and Recreation Resource Protection Division for 10 years as the department's aquatic biologist. He worked statewide for California State Parks, assisting district managers with aquatic and wetland resources including permitting for facilities development and conducting surveys for general plans. Some of the parks include China Camp State Park in San Pablo Bay and Angel Island State Park in the Central Bay. He also participated in the Underwater Parks Program, assessing both marine and freshwater resources. Tom's natural resource damage assessment for the 1988 oil spill at the Benicia State Recreation Area will prove helpful in mitigation measures for the Foundation Removal project.

MARINE AND FISHERIES BIOLOGIST

California Department of Fish and Wildlife, Bay-Delta Office

No Contact Available

1978–1982 | Various Locations in California

Tom worked for the California Department of Fish and Wildlife (CDFW) for five years, including three years in the Sacramento–San Joaquin Delta and San Francisco Bay, where he conducted a wide variety of compliance consultations ranging from an assessment of submerged aquatic vegetation beds near Antioch Bridge for a bridge retrofit project, to modifications of a fish rescue permit's requirement at a bridge construction site where physical conditions did not support fish rescues. Additionally, he monitored fish mortality during explosive demolition of the old Antioch Bridge piers. His work also included assignments on Delta fish monitoring programs and the San Francisco Bay Study. The San Francisco Bay Study was a major effort by CDFW to develop seasonal abundance and distribution information on fish species inhabiting the San Francisco Bay. This involved the study of water and land projects to determine the potential effects on aquatic life, multiple aquatic surveys, and resource management.

JASON GAGNON

PRECONSTRUCTION SERVICES MANAGER

Jason brings more than 17 years of relevant experience in CMGC, alternative delivery, and marine construction projects. Jason's varied background, from project engineer to project manager, from cost estimator to scheduler to district quality manager, has allowed him to excel in the role of preconstruction services manager. While serving in this role most recently on the $156M Tanana River Bridge CMGC project, Jason led a team that assisted the client, the Alaska Railroad Corporation (ARRC), and their designer throughout both the preconstruction and construction phases. This collaborative effort ultimately resulted in a validated design and allowed the project to be delivered within the client's fixed budget, and with minimal environmental impacts to the Tanana River.

Jason brings a blend of field knowledge, engineering expertise, environmental best management practices, quality and safety management, and strategic direction to provide an efficient approach to each project where he is involved. He has developed integrated CPM schedules that sequence the design and construction phasing to respond to the critical aspects of a project, track work progress, and provide risk and time impact data. As well, Jason has experience selecting, negotiating, executing, and managing subcontracts, monitoring their work progress and quality throughout. Jason effectively reviews and validates subcontractor and designer schedules to verify achievability and effectiveness.

As proposed preconstruction services manager for the Foundation Removal project, Jason will support Caltrans and its designer throughout the preconstruction phase, providing constructability and design reviews, material take-offs, interim and final cost estimates and schedules, risk analysis and mitigation, and design validation. He will ultimately assist Caltrans and the Project Manager Fritz Lausier in the transition to the construction contract phase. Jason has performed these tasks on the Tanana River Bridge and the Gulf Intracoastal Waterway West Closure Complex (West Closure). Both of these CMGC projects, situated in marine environments, had integrated preconstruction teams that successfully developed effective approaches to large, tightly scheduled projects.

Jason will be 5% committed to the Foundation Removal project during the preconstruction phase and 50% during the construction phase. During this time, Jason will continue to lead estimates for other pursuits as his time allows.

EXPERIENCE PERFORMING SIMILAR WORK	EDUCATION	LICENSING AND REGISTRATION
17 years with Kiewit 17 years in the industry	Virginia Polytechnic Institute and State University, Blacksburg, VA BS and MS, Civil Engineering	Not applicable

CONSTRUCTION MANAGER

Northern Rail Extension Phase 1, 73435

Client Contact: Clark Hopp | Alaska Railroad Corporation | (907) 265-2300 | hoppc@akrr.com
06/2012–06/2013 | Salcha, AK | $155 million

For one year, Kiewit provided preconstruction services to ARRC, collaborating with their representative, their designers, and third parties to increase constructability and reduce construction costs. Jason assisted in obtaining the permits needed during preconstruction. He also led a team that estimated the project at 30%, 60%, 90% design, and a final design. Under Jason's guidance, the project team addressed critical preconstruction items such as foundation design, superstructure design, long-lead steel procurement, subcontractor identification, and marine access. During this period, Kiewit sought material quotes, developed and improved the construction schedule, addressed and reduced risk items, and built a strong working relationship with the client and designer. By implementing innovative design solutions and addressing constructability, the project team reduced the project's original estimate from $186M to $156M, saving the client $30M and allowing the project to be delivered within the ARRC's original budget.

After working with the ARRC through preconstruction, Jason returned to the project as construction manager on this bridge, that once complete, will be the longest in Alaska. The 3,300-ft.-structural steel bridge across the Tanana River

features the largest and longest piling and longest steel girders in the state and a 10,000-ft.-long riprap armored levee.

In his role as the construction manager, Jason supervised all construction activities and personnel, overcoming many logistical challenges caused by the project's remote location. His leadership in both preconstruction and construction phases was instrumental to the CMGC delivery method. It helped develop a team approach between the client, the designers, and Kiewit that resulted in a innovative approach to the challenging work and a high quality facility. Jason will bring this same mentality to the Foundation Removal project.

Jason was 100% committed to both the preconstruction and construction phases of this project.

JOB SUPERINTENDENT

Gulf Intracoastal Waterway West Closure Complex, W912P8-09-C-0035

Client Contact: Kenneth Crumholt | U.S. Army Corps of Engineers | (504) 862-2489 | kenneth.w.crumholt@usace.army.mil

01/2010–06/2010 | Belle Chasse, LA | $990 million

In response to the unprecedented damage caused by Hurricane Katrina in 2009, the USACE expedited the construction of the largest capacity pump station in the world and the largest navigation floodgate in North America as a part New Orleans' flood protection program. This unique facility featured a new two million-cu.yd. levee and nearly two miles of cast-in-place concrete flood walls.

USACE selected to procure this contract utilizing the ECI contracting method—a federal procurement model akin to CMGC. Its goal was to expedite design and construction by integrating the client, designer, and contractor to determine optimized constructability considering all project constraints including budget and schedule.

Due to the West Closure's location in an aquatic environment, the project was controlled by extensive permit requirements and commitments. As well, its status as a life-line facility meant to protect the citizens of New Orleans against future hurricanes caused the construction to be done in accordance with exacting quality standards. Both of these challenging constraints were considered extensively during design validation and cost estimating efforts.

Throughout the preconstruction period, Jason and his team developed a design deliverable schedule that prioritized design packages to allow construction to meet the tight project timeline. He also developed interim estimates and participated in value engineering and task forces to control scope growth. Many of the resulting innovations were put in place so that the project milestones could be met. Shortly after final design validation of cost estimate, the project team negotiated a firm, fixed price contract with USACE to complete the construction.

Under this procurement model, the project team was able to develop a final construction schedule that allowed the substantial majority of this project to complete within 24 months, making it one of the USACE's most highly expedited emergency projects.

Jason's 100% commitment to the preconstruction and construction effort on the West Closure gives him experience that will be directly applicable to the Foundation Removal project.

JOB SUPERINTENDENT

Huey P. Long Bridge, 006-01-0021

Client Contact: Timothy Todd, PE | Louisiana Department of Transportation | (832) 654-6608

05/2008–01/2010 | Jefferson, LA | $434 million

This project situated across the Mississippi River reconstructed the east and west bridge approach structures, provided additional travel lanes, and inside and outside shoulders to each side of the steel truss bridge. Jason planned and then managed the construction of the main span work including steel erection and deck placement over an active waterway. He was also responsible for the project's budget, project logistics, and scheduling. At project start-up, he helped develop the CPM schedule and negotiated approximately 50 subcontracts with a value of $200 million. This project was safely delivered within the client's fixed budget without any negative impacts to the river's mariners or natural habitat.

DISTRICT QUALITY MANAGER

Kiewit Vancouver District Office

10/2004–08/2007 | Vancouver, WA

As Kiewit's district quality manager, Jason developed and implemented the district's first quality plan and led a staff of more than 10 quality control managers and inspectors. He and his team helped projects develop project-specific quality plans, and then provided oversight and quality audits on projects such as SFOBB Skyway, the Benicia-Martinez Bridge, the Tacoma Narrows Bridge, the Hood Canal Bridge, the I-405 Kirkland Nickel Project, and the I-25 T-REX projects—the majority of which were procured under alternate delivery methods and involved an aquatic environment. On these and dozens of others, he was responsible for quality program implementation, training, and compliance as required by the contract and in accordance with all permits and conditions as applicable. From November 2005 to February 2007, Jason was one of seven members of Kiewit's Corporate Quality Council. During this time, he co-chaired the committee that developed two of Kiewit's original in-house quality tracking software systems—MICK and QIL.

JOB SUPERINTENDENT

Skagit River Bridge, STPF-7323 (002)

Client Contact: Mike Love | City of Mount Vernon | (360) 336-6277 | mikaell@mountvernonwa.gov

06/2001–03/2004 | Mount Vernon, WA | $23 million

Jason served as the job superintendent on the Skagit River Bridge replacement project in Mount Vernon, Washington. During the project's start-up phase, he was responsible for project safety, environmental compliance, subcontract management, schedule development and adherence, cost control, document control, and client relations. The work included constructing a reinforced concrete girder bridge over the Skagit River and a second reinforced concrete girder overpass bridge as well as soil improvement, paving, utilities, and other related approach work. At the time, the project's precast girders were the heaviest and longest in the state of Washington and second in the United States. It was one of the first projects in the western United States to use the oscillator method of shaft installation. Jason supervised five crews and six subcontractors building foundation, substructure, and superstructure work on the main bridge.

PROJECT ENGINEER

I-15 Corridor Reconstruction, SP-15-7-(135)296

Client Contact: John Njord | Utah Department of Transportation | (801) 302-8300 | jnjord@tomwarne.com

04/1997–06/2001 | Salt Lake City, UT | $1.4 billion

To ready itself for the 2002 Winter Olympics, UDOT opted to utilize the design-build procurement model to expedite the design, demolition, and reconstruction of more than 16 miles of freeway, 142 bridges, three major freeway-to-freeway interchanges, 16 miles of retaining walls and 10 miles of sound walls, and widening the previous six-lane freeway to 12 lanes through the heart of Salt Lake City. Project construction provided Utah's first HOV lanes and an automated traffic management system.

Early in the project, Jason developed the initial project schedule, the integrated design schedule, and the corresponding monthly progress estimates. Jason also managed weekly and monthly cost control reporting and quarterly cost projections. Jason gained field experience managing several crews that performed substructure and superstructure work. As project engineer for the five-mile $450 million Jordan Segment (one of four project segments), Jason managed and closed out subcontracts, field changes, and the punch list. He coordinated right-of-way with municipalities, utilities, and irrigation companies; managed third-party inquiries; and administered the client-provided insurance program.

During this project where he was 100% committed, Jason developed strong project control fundamentals while he monitored and reported costs, performed risk analysis, scheduled, and worked with multiple stakeholders including numerous regulatory agencies and third parties on this complex and extremely fast-tracked project.

ALBERT VANNIEKERK PHD, PE

INSTRUMENTATION AND MONITORING SPECIALIST

Albert vanNiekerk began his 26 years in the industry with responsibility for field technical services for the surface mining and quarrying division of a major South African commercial explosives manufacturer, as well as for a U.S. regional explosives supplier. In these positions, Albert managed the field engineers and technical service representatives in their support of blasting operations for mines and quarries across South Africa and the U.S. Since control and mitigation of ground vibration and air blast overpressure are key elements to a successful surface blasting program, Albert's effective implementation of monitoring programs were essential to the long-term success of these businesses.

Since 2007, Albert has implemented and executed several successful vibration and air blast monitoring and control programs for CDB's heavy civil construction projects. These projects ranged from extremely sensitive site development projects next to historical buildings in New York City, NY to marine drilling and blasting projects near structures and utilities across the U.S.

The New York City Fire Department and the Department of Buildings selected Albert to oversee several critical monitoring and mitigation programs in the metro area such that for the World Trade Center 224.545 Greenwich St. Corridor Construction project. There, the contractors drilled and blasted directly adjacent to and underneath historical and landmark buildings and sensitive structures in New York City. Albert worked the Vibration Monitoring Subcommittee of the International Society of Explosives Engineers (an industry group where is a member) to develop appropriate means and methods for successfully monitor the close-in blasting vibration in this urban environment.

On the Foundation Removal, Albert will apply experience and specialized instrumentation to protect the sensitive San Francisco aquatic species. As the instrumentation and monitoring specialist, he will conduct pre-blast surveys of the natural and structural environments; develop the monitoring criteria for a blast plan that will satisfy agencies and stakeholders; advise planning and blasting crews using meaningful data collected during surveys to advance the demolition design; gather data before, during, and after blasting to monitor any impacts and the effectiveness of mitigation measures; use specialized instruments like high-speed transient data recorders and hydrophones and train and monitor their use by others; advise and assist the design team regarding blast patterns, powder factors, and delay of explosives; provide real-time data during operations; and communicate with all permitting agencies as required to make sure blasting is conducted within established restraints.

Albert will be 15% committed during the preconstruction phase, and 50% committed during all drilling and blasting operations. As time allows, Albert will also be involved in other pursuits and demolition activities that CDB has underway.

EXPERIENCE PERFORMING SIMILAR WORK	EDUCATION	LICENSING AND REGISTRATION
7 years as principal with CDB 26 years in the industry	New Mexico Institute of Mining & Technology PhD, Explosives Chemistry University of Pretoria MEng, Chemical Engineering BS, Chemical Engineering	PE (South Africa) Federal Explosives User Permit New York City (Unlimited & Underwater Blasting) Puerto Rico International Society of Explosives Engineers—Vibration Monitoring Subcommittee

BLAST MONITORING SPECIALIST, BLASTING SPECIALIST, UNDERWATER OVERPRESSURE MONITORING SPECIALIST

Columbia River Channel Improvement—Rock Excavation, W9127N-07-C-0010

Client Contact: John Cannon, COR | U.S. Army Corps of Engineers | (971) 227-1724 | john.d.cannon@usace.army.mil

11/2009–02/2010 | St. Helens, OR | $6.5 million (CDB subcontract value)

As the principal for CDB on this project, Albert was responsible for the successful design, implementation, and execution of this underwater rock blasting project and associated mitigation measures in an actively navigable waterway with stringent environmental restrictions similar to that found on the Foundation Removal's site.

Due to the presence of several protected fish species and marine mammals in the Columbia River, the Oregon Department of Fish and Wildlife and other environmental resource agencies closely regulated the underwater drilling and blasting by instituting numerous restrictions on demolition activities. Albert successfully designed and executed a controlled drilling and blasting program to limit underwater overpressure and protect marine wildlife.

Because of Albert's previous experience in monitoring underwater overpressure, he acted as advisor to the underwater overpressure monitoring team. As part of this contract, the USACE and the monitoring team contracted out the use of CDB's workboat and specialized high-speed transient data recorders and hydrophones, for which Albert provided training. Albert saw that blasting was completed well ahead of schedule and within the in-water work period, with no measurable impact on the environment or marine wildlife, and with no safety incidents. He was 50% committed to this project during its three-month duration.

Albert's comprehensive understanding of factors related to both human and animal occupants of the waterway suit him to his role as instrumentation and monitoring specialist on the Foundation Removal.

VIBRATION MONITORING SPECIALIST, BLASTING SPECIALIST, PRE-BLAST SURVEY SPECIALIST

New York and New Jersey Harbor, Channel Navigation Improvement Project, Multiple Contract Numbers

Client Contact: Salvatore Didato | U.S. Army Corps of Engineers | (201) 433-9232 | salvatore.j.didato@usace.army.mil

1989–2014 | various locations in New York and New Jersey | $8 million total (CDB subcontract value)

Albert was the principal for CDB on a series of nine dredging contracts to deepen the New York and New Jersey harbor beginning in 2007. During this time, he was 25% committed to the project. In this role, Albert was responsible for the successful design, implementation, and execution of the blast monitoring program. Several historical structures within the blasting impact zone had to be protected. As well, the blasting zone abutted an active container terminal with a very busy ship traffic schedule. Numerous residential and commercial properties had to be protected from possible blast induced vibration as well.

These project constraints required Albert to perform detailed pre-blast condition surveys both before and after blasting occurred, and continuous monitoring and reporting of blasting vibrations similar to those expected on the Foundation Removal project. Additionally, because of the long-term nature of these blasting projects in the Port of New York and New Jersey, there was extreme public sensitivity. Very close cooperation and coordination was required among USACE consultants and other stakeholders. To streamline this effort, a web-based data management was implemented to communicate blast results in near real time.

Over the years, different explosives products and loading techniques have been employed; Albert has worked closely with each prime contractor involved to select and implement the most appropriate technology for their specific excavation methodology. This experience gave Albert an opportunity to work closely with all parties involved in the actual blast activities to maintain safety for the crew and the public, while protecting the surrounding environment, whether fish habitat or homes and businesses.

VIBRATION MONITORING SPECIALIST, BLASTING SPECIALIST

World Trade Center 224.545 Greenwich Street Corridor Construction, WTC 224.545

Client Contact: John Lizzo | Port Authority of New York & New Jersey | (212) 435-5118 | jlizzo@panynj.gov

12/2009–06/2010 | New York, NY | $630,000 (CDB subcontract value)

As the principal for CDB on this project in this very sensitive and secure location, Albert successfully designed, implemented, and managed a controlled blasting program with extremely restrictive ground vibration levels for the prime contractor. Blasting the very hard Manhattan rock in close proximity to active subway lines, other construction activities, pedestrians, and vehicular traffic was a challenge, but Albert met the project objectives with effective mitigation measures. He developed site-specific relationships between the attenuation of in-ground vibrations and blasting parameters to control the blast vibrations. During more than 120 blasts, the vibration levels never exceeded the project limitations. Albert oversaw design and implementation of a special monitoring program to protect a multitude of mini-pilings supporting an active subway line from hoe-ramming. During the six month period, Albert was 90% committed to the project.

BLASTING CONSULTANT, UNDERWATER OVERPRESSURE CONSULTANT

Port Everglades Inlet Sand Management, Phase III, RLI #022100-RB

Client Contact: Chris Creed | Broward County Board of Commissioners | (904) 387-6114 | ccreed@olsen-associates.com

2008–2013 | Port Everglades, FL | $250,000 (CDB subcontract value)

Albert represented CDB as a blasting and underwater overpressure consultant for a blasting feasibility study of the proposed Port Everglades Inlet Sand Management rock excavation project. An important element of this study was reviewing international best management practices for marine blasting programs. In this marine life protection study, Albert's team found that, in addition to a watch program and exclusion zones for marine mammals, monitoring of underwater overpressure using high-speed data acquisition equipment and hydrophones gave the blasting contractor the information and management tools necessary to minimize and mitigate the effect of blasting in real time. He is equally committed to finding new ways to gather data and present it to blasting crews in meaningful ways that result in higher quality, safety, and efficiency. Albert was 100% committed to this project while CDB's work was underway.

Appendix B - Legal Documents

Appendix B - Legal Documents

Power(s) of Attorney

POWER OF ATTORNEY

Kiewit Infrastructure West Co, a Delaware corporation (the "Corporation"), and Manson Construction Co., a Washington corporation, are co-venturers in a joint venture known as Kiewit/Manson, AJV (the "Joint Venture").

Each co-venturer hereby appoints **A. T. (TOM) SKORO** as the Joint Venture's Attorney-in-Fact with the authority to act on behalf of the Joint Venture in order to submit a joint bid to the California Department of Transportation for the San Francisco-Oakland Bay Bridge (SFOBB) East Span Marine Foundation Removal Project (the "Project") and shall have the power to execute Project contract and related documents.

The Joint Venture reserves the right to revoke or amend this Power of Attorney. This Power of Attorney shall remain in effect for a period of three (3) years from its effective date, unless earlier revoked in writing, thereby expiring on January 13, 2017.

Signed on behalf of the Joint Venture by its duly authorized partners on May 8, 2014 (the "Effective Date").

ATTEST:

Michael F. Norton, Secretary

KIEWIT INFRASTRUCTURE WEST CO.

By_____

Michael J. Piechoski, Vice President

ATTEST:

Name: John A. Holmes

Title: Executive Vice President

MANSON CONSTRUCTION CO.

By_____

Name: Eric V. Haug

Title: President

Organization Documents