

Department of Transportation  
Federal Highway Administration  
Central Federal Lands Highway Division

NV PRA LAME 1(8)  
Northshore Road  
Lake Mead National Recreational Area  
Clark County, Nevada

**INVITATION FOR BID**

This invitation for bid cites Federal Highway Administration  
Specifications FP-03, 2003, Metric Version

Cut & Paste on Bid Submittal Envelope

**OF-17 (cflhd7/03)** FAR (48) CFR 53.214(g)  
**OFFER LABEL** FAR (48) CFR 53.215-1(h)

**NOTICE TO OFFEROR**

1. THIS LABEL MAY ONLY BE USED ON ENVELOPES LARGER THAN 156 mm (6 ½ INCHES) IN HEIGHT AND 292 mm (11 ½ INCHES) IN LENGTH.
2. Print or type your name and address in the UPPER left corner of the envelope containing your offer.
3. Complete the bottom portion of this form and paste it on the lower left corner of the envelope, unless the envelope is 156 mm by 292 mm (6 ½ inches by 11 ½ inches) or smaller.

**OFFER**

SOLICITATION NO.

DATE FOR RECEIPT OF OFFERS

TIME FOR RECEIPT OF OFFERS

OFFICE DESIGNATED TO RECEIVE OFFERS

**Contractor** \_\_\_\_\_

**Street Address** \_\_\_\_\_

**City/State/Zip** \_\_\_\_\_

State: Nevada

County: Clark County

Location: Lake Mead National Recreational Area

Length: Schedule A = 3.870 km  
Option X = 1.100 km  
Option Y = 0.593 km

Type of Improvement: Rehabilitation, drainage, and bituminous surfacing

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## NOTICE TO BIDDERS AND OFFERORS

Before mailing your offer, please check the following:

- Your offer sets forth full, accurate, and complete information as required by this solicitation, including representations and certifications/bidder qualifications and acknowledgement of any amendments that may have been issued.
- You have completed the bid schedule and checked your bid figures, including calculations on your work sheets.
- You have provided the required minimum Bid Guarantee in proper form and amount including Power of Attorney Affidavit. See FAR Provision 52.228-1.
- You have completed and signed all required documents.

### INVITATION FOR BID BOOKLET

It is the responsibility of the bidder to verify that this solicitation booklet is complete as listed in the table of contents. Also, the bidder is responsible for submitting all required forms and documents with the bid.

Applicable FAR provisions and clauses in this IFB are incorporated by reference or full text. FAR provisions and clauses incorporated by reference can be accessed on the Internet at [www.arnet.gov/far/](http://www.arnet.gov/far/). Bidders are strongly encouraged to review the provisions and clauses referenced in this document before submitting a bid.

Bidders **must** fill out and submit with their offers: (1) this page completed, which indicates interest in partnering; (2) pages A-1 and A-2; (3) pages number B-1 through B-25 (4) Sections C and D in their entirety; and (5) page F-3 of the Contract Clauses indicating Bidder's option to waive the price evaluation preference for HUBZone Certified Firms. The remaining pages may be retained by the bidder for their information.

PARTNERING (See Subsection 103.05 of the FP)

Please indicate your interest in participating in Partnering by checking the appropriate blank below.

The offeror is interested in participating in partnering.

The offeror is not interested in participating in partnering.

## NOTICE TO BIDDERS AND OFFERORS

### BONDING

FAR Provision 52.228-1, Bid Guarantee, requires a bid guarantee of not less than 20 percent of the amount of the bid (see page A-3). A bid bond from a corporate surety must be from a surety acceptable to the Government as appearing on the Department of the Treasury's list of approved sureties. The bid bond must have an original signature and an embossed seal for the surety. If a Power of Attorney is required with the bid bond, an original, photocopy or facsimile of an original Power of Attorney is sufficient evidence of authority to bind the surety. If the Power of Attorney form contains any language stating that the Power of Attorney can be revoked at any time, the document must contain an original signature or an embossed seal in the certification section.

Small business concerns, including minority business enterprises, may obtain assistance in securing necessary bonding for this project by contacting the office of the Small Business Administration located in their State.

**ATTENTION:** Minority, Women-owned, and Disadvantaged Business Enterprises (DBEs). The Department of Transportation (DOT), offers working capital financing and bonding assistance for transportation related contracts. DOT's Bonding Assistance Program (BAP) offers bid, performance and payment bonds on contracts up to \$1,000,000. DOT's Short-Term Lending Program (STLP) offers lines of credit to finance accounts receivable. Maximum line of credit is \$500,000 with interest at the prime rate. For further information, call (800) 532-1169. Internet address: <http://osdbuweb.dot.gov>.

### INDIVIDUAL SURETIES

See FAR contract clause 52.228-11, Pledges of Assets.

### UTILIZATION OF SMALL BUSINESS, HUBZone SMALL BUSINESS, SMALL DISADVANTAGED BUSINESS, WOMEN-OWNED SMALL BUSINESS, VETERAN OWNED, AND SERVICE-DISABLED VETERAN OWNED SMALL BUSINESS CONCERNS SUBCONTRACTING PROGRAM

FAR Clause 52.219-8, Utilization of Small Business Concerns states that Prime Contractors afford small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns the maximum practicable opportunity to participate in performing contracts let by any Federal agency.

FAR Clause 52.219-9, Small Business Subcontracting Plan, Alternate I, requires that the large business concern who is the successful low bidder on a Federal project with an anticipated award amount exceeding \$1 million, is required to submit a subcontracting plan prior to contract award. The subcontracting plan expresses goals in terms of percentages of total planned subcontracting dollars for the use of small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns as subcontractors. To view and download a sample plan for subcontracting

## NOTICE TO BIDDERS AND OFFERORS

requirements, visit <http://www.cflhd.gov/procurement/construction/reference-links.cfm>. If the apparent successful low bidder fails to submit a subcontracting plan acceptable to the CO within the allowable time, that bidder may be ineligible for award of the contract.

A list of currently known business concerns owned and controlled by socially and economically disadvantaged individuals and/or women-owned small business concerns that have indicated an interest in participating in highway construction is available at <http://www.ccr.gov>

### PRICE EVALUATION PREFERENCE FOR HUBZONE SMALL BUSINESS CONCERNS

The award of this contract is subject to a 10% Price Evaluation Preference for HUBZone Small Business Concerns (SBC). Refer to FAR Clause 52.219-4. This price evaluation preference can apply to any qualified HUBZone SBC certified by the Small Business Administration. For any HUBZone SBC electing to waive the preference, see Page F-3 of this solicitation.

### NOTICE TO POTENTIAL HUBZONE SBC BIDDERS

In the event this full and open competition results in a contract award to a qualified HUBZone SBC after a price evaluation preference, FAR Clause 52.236-1, Performance of Work by the Contractor, on page F-4, does not apply.

§126.700 of the Code of Federal Regulations (Title 13, Part 126, Subpart G), stated below, will replace the performance of work requirements stated in the above mentioned FAR clause.

A qualified HUBZone SBC receiving a contract under this solicitation for general construction must spend at least 50% of the cost of the contract incurred for personnel on its own employees or employees of other qualified HUBZone SBCs. This requirement may be met by expending at least 50% of the cost of the contract incurred for personnel on its employees or it may subcontract at least 35% of the cost of the contract performance incurred for personnel to one or more qualified HUBZone SBCs. A qualified HUBZone SBC prime contractor may not, however, subcontract more than 50% of the cost of the contract incurred for personnel to non-qualified HUBZone SBCs.

### PROGRESS PAYMENTS

DFARS 204.7302, NASA, DOT and Treasury FAR Supplements, requires prospective bidders be registered in Central Contractor Registration (CCR) system prior to the award of a contract, basic agreement, basic ordering agreement, or blanket purchase agreement (Refer to FAR Clause 52.204-7, Central Contractor Registration). The DOT has partnered with the Department of Defense (DOD) to use the CCR system to obtain contractor financial electronic funds transfer (EFT) information.

## NOTICE TO BIDDERS AND OFFERORS

FAR Clause 52.232-33, Payment by Electronic Funds Transfer -- Central Contractor Registration requires that the EFT information in the CCR must be accurate in order for contractors' invoices to be considered proper invoices for the purpose of prompt payment. Contractors must input and maintain their current EFT information.

To register in CCR, access the following DOD web site: [www.ccr.gov](http://www.ccr.gov) .

FAR Clause 52.232-5, Payments Under Fixed-Price Construction Contracts, states reimbursement will be made for premiums paid by the Contractor to obtain performance and payment bonds as required under this contract. As specified in the Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP), Section 151, Mobilization, payment for performance and payment bond premiums will be included in the mobilization item and shall not be in addition to the contract price.

FAR Clause 52.232-27, Prompt Payment for Construction Contracts, states the due date for progress payments shall be the 14th day after receipt of a proper payment request by the Government's designated billing office. Bidders are advised to review Subsection 109.08, Progress Payments and Subsection 109.05, Scope of Payment of the FP concerning direct and indirect payments.

### FACSIMILE OR TELEGRAPHIC BIDS ARE NOT AUTHORIZED FOR THIS SOLICITATION

Bids may be modified or withdrawn by facsimile or telegraphic notice, if such notice is received by the time specified for receipt of bids. The Government will not be responsible for ANY failure attributable to the transmission or receipt of telegraphic or facsimile data. See FAR Provision 52.214-5, Submission of Bids.

**FAX Number to submit modifications to bids for this project is (775) 687-3803.**

|   |  |  |  |                             |  |
|---|--|--|--|-----------------------------|--|
| <b>SOLICITATION, OFFER AND AWARD</b><br><i>(Construction, Alteration or Repair)</i>   | 1. SOLICITATION NO.<br><br>DTFH68-08-B-00019 | 2. TYPE OF SOLICITATION<br><input checked="" type="checkbox"/> SEALED BID ( <i>IFB</i> )<br><input type="checkbox"/> NEGOTIATED ( <i>RFP</i> ) | 3. DATE ISSUED<br><br>June 26, 2008  | PAGE OF PAGES<br><br>1 OF 2 |  |
| <b>IMPORTANT - THE "OFFER SECTION ON THE REVERSE MUST BE FULLY COMPLETED BY OFFEROR.</b>  |  |  |  |                             |  |
| 4. CONTRACT NO.   | 5. REQUISITION/PURCHASE REQUEST NO.          | 6. PROJECT NO.<br>NV PRA LAME 1(8), Northshore Road  |  |                             |  |
| 7. ISSUED BY:<br><br>FEDERAL HIGHWAY ADMINISTRATION<br>CENTRAL FEDERAL LANDS DIVISION<br>12300 WEST DAKOTA AVENUE, SUITE 167<br>LAKEWOOD, COLORADO 80228  |  | CODE: 69050001   | 8. ADDRESS OFFER TO:<br>Federal Highway Administration<br>Attn: Terry Philbin<br>705 N. Plaza Street, Suite 220<br>Carson City, Nevada 89701 |                             |  |
| 9. FOR INFORMATION CALL<br>SEE PAGE A-3   | A. NAME:<br>SEE PAGE A-3                     |  | B. TELEPHONE NO. ( <i>Include area code</i> )<br>SEE PAGE A-3  |                             |  |
| <b>SOLICITATION</b>   |  |  |  |                             |  |
| <i>NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder."</i>   |  |  |  |                             |  |
| 10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS:<br><br>CONSTRUCTION OF NV PRA LAME 1(8), NORTHSHORE ROAD, IN STRICT ACCORDANCE WITH: <ol style="list-style-type: none"> <li>1. FEDERAL ACQUISITION AND TRANSPORTATION ACQUISITION REGULATIONS (<i>FAR &amp; TAR</i>)</li> <li>2. DEPARTMENT OF LABOR, DAVIS BACON MINIMUM WAGE RATES (<i>See Section G</i>)</li> <li>3. SPECIAL CONTRACT REQUIREMENTS (<i>See Section I</i>)</li> <li>4. PLANS</li> <li>5. BID SCHEDULE (<i>See Section B</i>)</li> <li>6. STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS, FP-03, (2003)</li> <li>7. SUBCONTRACTING PLAN (IF APPLICABLE)</li> </ol> <p>See Subsection 104.04 of the FP for governing order of precedence</p> <p style="text-align: right;">* TO BE SPECIFIED IN BLOCK 21 PRIOR TO AWARD OF CONTRACT</p>  |  |  |  |                             |  |
| 11. The Contractor shall begin performance within <u>10</u> calendar days and complete it within <u>  </u> * calendar days after receiving <input type="checkbox"/> award <input checked="" type="checkbox"/> notice to proceed. The performance period is <input checked="" type="checkbox"/> mandatory <input type="checkbox"/> negotiable.   |  |  |  |                             |  |
| 12A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS?<br>( <i>If "YES," indicate within how many calendar days after award in Item 12B.</i> ) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO  |  |  | 12B. CALENDAR DAYS<br>10   |                             |  |
| 13. ADDITIONAL SOLICITATION REQUIREMENTS: <ol style="list-style-type: none"> <li>A. Sealed offers in original and <u>0</u> copies to perform the work required are due at the place specified in Item 8. by <u>1:00 p.m.</u> local time on <u>07/29/08</u>. If this is a sealed bid solicitation, offers will be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.</li> <li>B. An offer guarantee <input checked="" type="checkbox"/> is <input type="checkbox"/> is not required.</li> <li>C. All offers are subject to the (1) work requirements and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.</li> <li>D. Offers providing less than <u>60</u> calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.</li> </ol> |  |  |  |                             |  |

**OFFEROR (Must be fully completed by offeror)**

|  |   |
|--|---|
| 14. NAME AND ADDRESS OF OFFEROR (Include ZIP Code) | 15. TELEPHONE NO. (Include area code)                           |
|  | 16. REMITTANCE ADDRESS (Include only if different than Item 14) |
| CODE   | FACILITY CODE   |

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing with      calendar days after the date offers are due. (Insert any number equal to or greater than the minimum requirement stated in Item 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.)

|         |                                |
|---------|--------------------------------|
| AMOUNTS | SEE INDIVIDUAL BID SCHEDULE(S) |
|---------|--------------------------------|

18. The offeror agrees to furnish any required performance and payment bonds.

**19. ACKNOWLEDGMENT OF AMENDMENTS**  
(The offeror acknowledges receipt of amendments to the solicitation - give number and date of each)

|               |  |  |  |  |  |  |  |  |  |  |  |
|---------------|--|--|--|--|--|--|--|--|--|--|--|
| AMENDMENT NO. |  |  |  |  |  |  |  |  |  |  |  |
| DATE          |  |  |  |  |  |  |  |  |  |  |  |

|  |                |                 |
|--|----------------|-----------------|
| 20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print) | 20B. SIGNATURE | 20C. OFFER DATE |
|--|----------------|-----------------|

**AWARD (To be completed by Government)**

21. ITEMS ACCEPTED:

ALL WORK MUST BE COMPLETED          CALENDAR DAYS AFTER ISSUANCE OF THE NOTICE TO PROCEED.

|            |                                       |
|------------|---------------------------------------|
| 22. AMOUNT | 23. ACCOUNTING AND APPROPRIATION DATA |
|------------|---------------------------------------|

|   |  |
|---|--|
| 24. SUBMIT INVOICES TO ADDRESS SHOWN IN BLOCK 27<br>(4 copies unless otherwise specified) | 25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO<br><input type="checkbox"/> 15 U.S.C. 637( ) <input type="checkbox"/> 41 U.S.C. 253(c)( ) |
|---|--|

|  |  |
|--|--|
| 26. ADMINISTERED BY <span style="float: right;">CODE: _____</span> | 27. PAYMENT WILL BE MADE BY<br>FEDERAL HIGHWAY ADMINISTRATION<br>CENTRAL FEDERAL LANDS HIGHWAY DIVISION<br>12300 W. DAKOTA AVENUE, SUITE 167<br>LAKEWOOD, COLORADO 80228 |
|--|--|

**CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE**

|   |   |
|---|---|
| <input type="checkbox"/> 28. NEGOTIATED AGREEMENT (Contractor is required to sign this document and return <u>        </u> copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all work requirements identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications incorporated by reference in or attached to this contract. | <input type="checkbox"/> 29. AWARD (Contractor is not required to sign this document.) Your offer on this solicitation is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary. |
|---|---|

|  |  |
|--|--|
| 30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN (Type or print) | 31A. NAME OF CONTRACTING OFFICER (Type or print) |
| 30B. SIGNATURE   | 31B. UNITED STATES OF AMERICA                    |
| 30C. DATE  | BY   |
|  | 31C. AWARD DATE                                  |

ADDITIONAL SOLICITATION INFORMATION

Block 9: DATA AVAILABLE FOR REVIEW

The following materials are available electronically at [www.cflhd.gov/procurement/construction/advertised-projects.cfm](http://www.cflhd.gov/procurement/construction/advertised-projects.cfm):

Final Hydraulic Report, February 2008  
Geotechnical Seismic Refraction Survey, May 29, 2008  
Geotechnical and Pavement Report, February 25, 2008  
Geotechnical Exploration and Pavement Report, April 21, 2006  
Geotechnical Exploration and Pavement Report, May 20, 2005  
Geotechnical Engineering Exploration Report, March 1, 2006  
Earthwork Report  
GEOPAK & GPK Reports

The following materials are available electronically:

Manual of Uniform Traffic Control Devices for Streets and Highways, (Current Edition published by U.S. Government Printing Office found at <http://mutcd.fhwa.dot.gov> .

AASHTO Manuals found at <http://fhwapap04.fhwa.dot.gov/index.jsp> under the Standard Specifications and Supplements link.

FP-03, Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, 2003, found at <http://www.cflhd.gov/design/index.cfm#> under the Construction Specs tab.

Contractor Guidelines for Quality Control Plans and example QC Plans found at <http://www.cflhd.gov/design/index.cfm#> under the Construction Specs tab.

**For amendments, bid results and tabulations or other procurement information please visit our website at [www.cflhd.gov/procurement/construction](http://www.cflhd.gov/procurement/construction)**

Block 13: A bid guarantee of not less than 20 percent of the amount of the bid or \$3 million, whichever is less, is required. If the bidder fails to provide the required bid guarantee in the proper form and amount, such failure may result in rejection of the bid. See FAR Provision 52.228-1, Bid Guarantee. If the bid guarantee is a bid bond, it must be submitted on Standard Form 24. Also refer to Subsections 102.03 and 102.04 of the FP for additional information.

Block 26: The Contractor shall submit invoices to:

FHWA, CFLHD, Project Engineer's Office (Address to be designated at preconstruction conference), for submission to the designated billing office shown in Block 7.

Final billing shall be submitted directly to the address shown in Block 7.

Other: The estimated price range of the project work is between \$7,000,000 and \$15,000,000.

For questions regarding access to the Federal Business Opportunities (FBO) website or how to obtain plans and other solicitation documents, please contact either Tiffany Atchison at (720) 963-33554 or Brenda McGehee at (720) 963-3353.

**As explained in FAR Provision 52.214-6, any explanation or interpretation of the solicitation, drawings, specifications, etc must be requested in writing to one of the following:**

E-mail address: [CFLContracts@fhwa.dot.gov](mailto:CFLContracts@fhwa.dot.gov)  
FAX Number: 720-963-3360  
Mailing Address: Federal Highway Administration  
Central Federal Lands Highway Division  
Attention: Acquisition and Contracting  
12300 W. Dakota Avenue, Suite 360  
Lakewood, Colorado 80228

Responses will be provided to the individual questioner and also be posted on our website at <http://www.cflhd.gov/procurement/construction/advertised-projects.cfm> under the project link. Potential Offerors are advised to check this site on a regular basis to assure the most current and up-to-date information.

All amendments resulting from this solicitation will be uploaded to the FBO website at [http://www.fbo.gov/spg/DOT/FHWA/68/postdatePrevDays\\_1.html](http://www.fbo.gov/spg/DOT/FHWA/68/postdatePrevDays_1.html) and posted on our website at <http://www.cflhd.gov/procurement/construction/advertised-projects.cfm> under Current Solicitations.

**BIDDERS PLEASE BE ADVISED THAT QUESTIONS RELATIVE TO THIS  
IFB WILL NOT BE ACCEPTED AFTER 2:00 P.M. MDT ON JULY 24, 2008.**

Bid Schedule Instructions

BIDDERS, PLEASE NOTE: Before preparing the bid, carefully read the Solicitation Provisions.

This Bid Proposal is comprised of one schedule and two options as follows:

Schedule A – Rehabilitation, drainage, and bituminous surfacing on 3.870 km of roadway.

Option X – Rehabilitation, drainage, and bituminous surfacing on 1.100 km of roadway.

Option Y – Rehabilitation, drainage, and bituminous surfacing on 0.593 km of roadway.

- Insert a numeric unit bid price for each pay item for which a quantity appears in the bid schedule and both options. When the words “Lump Sum” appear as a unit price, insert an amount for each lump sum pay item.
- Multiply the unit price by the quantity for each pay item and show the amount bid.
- Total all amounts bid for each pay item in Schedule A and show the Total on the line provided on Page B-8 for **PART A CONSTRUCTION COST SUBTOTAL**.
- Total all amounts bid for each pay item in Option X and show the Total on the line provided on Page B-16.
- Total all amounts bid for each pay item in Option Y and show the Total on the line provided on Page B-22.
- When completing the bid for Schedule A, provide the number of calendar days necessary to complete all Schedule A contract work from the issuance of Notice to Proceed (NTP) until the day of final construction completion. The NTP date and the construction completion date should be included in the number of calendar days necessary to complete all work. The FHWA anticipates a NTP date on or about August 21, 2008. The total number of calendar days bid for Schedule A shall not exceed 450 calendar days and the minimum number of calendar days bid for Schedule A shall not be less than 251 calendar days. If the options are exercised, additional completion time will not be provided.
- Multiply the number of days bid by the Road User/Administrative Cost of **\$3,300.00** per day and show the total on the line provided on Page B-9 for **PART B ADMINISTRATIVE COST SUBTOTAL**.
- Add **PART A CONSTRUCTION COST SUBTOTAL** and **PART B ADMINISTRATIVE COST SUBTOTAL** to determine the **SCHEDULE A TOTAL COST (A+B)**.
- Complete the Bid Summary sheet on Page B-23.

Field Laboratory Trailer – a base bid will be solicited using “Item 15401-0000, Contractor Testing. A bid item alternative, “Item 15401-0000, Contractor Testing, Using Government Furnished Field Laboratory” has been included and requires pricing on the Bid Summary Page (B-23).

### **Evaluation Factors for Award**

To be eligible for award of contract, the offeror shall submit prices for each bid item in Schedule A, Option X, and Option Y necessary to complete all contract work. The offer shall also provide the number of calendar days necessary to complete all contract work on Schedule A.

Evaluation for award of a contract will consist of the combination of Construction Cost and Road User/Administrative Cost for Schedule A. Accordingly, contract award will be made to the lowest responsible bidder conforming to the solicitation, provided funds are available.

Evaluation of each option does not obligate the Government to exercise either or both options (FAR Provision 52.217-3, Evaluation Exclusive of Options, April 1984). The Government has the right to exercise either or both options, depending on available funds, no later than 60 days after contract award (FAR Clause 52.217-7, Option for Increased Quantity – Separately Priced Line Item, March 1989).

Once the lowest responsible bidder has been selected for the schedule to be awarded, the Government will determine whether the alternative bid item for the schedule to be awarded will be included. If included, Bid Item 15401, Contracting Testing, will be replaced with Bid Item 15401-0000, Contractor Testing, Using Government Furnished Field Laboratory in the awarded contract and the final contract award amount will be determined.

### **Small Business Subcontracting Plan**

If the apparent low bidder is a Large Business, that Large Business must submit a Subcontracting Plan in accordance with FAR 52.219-9, Small Business Subcontracting Plan (Apr 2008), within 5 days after the Bid Opening. The clause and a sample plan are available at <http://www.cflhd.gov/procurement/construction/reference-links.cfm>.

The following is a list of recourses available for small business subcontracting opportunities:

- Central Contracting Registration—contractors can search for certified small businesses
- SUB-NET—contractors are able to post their need for small business contractors  
(<http://web.sba.gov/subnet/search/index.cfm>)
- State Small Business Administration—to locate contractors
- Local newspaper—place ads

# Schedule A

NV PRA LAME 1(8)  
Northshore Road

## Bid Schedule

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity   | Unit Bid Price | Amount Bid |
|--------------|--|----------------|------------|
| 15101-0000   | Mobilization<br>ALL  | Lump Sum       | \$ _____   |
| 15206-0000   | Slope, reference, and clearing and grubbing stake<br>3.416<br>km | \$ _____       | \$ _____   |
| 15215-2000   | Survey and staking, bridge<br>2<br>Each                          | \$ _____       | \$ _____   |
| 15215-3000   | Survey and staking, drainage structure<br>12<br>Each             | \$ _____       | \$ _____   |
| 15216-2000   | Survey and staking, grade finishing stakes<br>6.831<br>km        | \$ _____       | \$ _____   |
| 15401-0000   | Contractor testing<br>ALL  | Lump Sum       | \$ _____   |
| 15501-0000   | Construction schedule<br>ALL                                     | Lump Sum       | \$ _____   |
| 15703-1500   | Soil erosion control, temporary soil tackifier<br>6.9<br>ha      | \$ _____       | \$ _____   |
| 15705-0100   | Soil erosion control, silt fence<br>5,300<br>m                   | \$ _____       | \$ _____   |
| 15705-1400   | Soil erosion control, sediment log<br>140<br>m                   | \$ _____       | \$ _____   |
| 15705-1500   | Soil erosion control, sediment wattle<br>2,200<br>m              | \$ _____       | \$ _____   |

## Bid Schedule A

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity                           | Unit Bid Price | Amount Bid |
|--------------|--|----------------|------------|
| 15801-0000   | Watering for dust control<br>6,500<br>m3     | \$ _____       | \$ _____   |
| 20301-1200   | Removal of headwall<br>2<br>Each             | \$ _____       | \$ _____   |
| 20301-1900   | Removal of pipe culvert<br>14<br>Each        | \$ _____       | \$ _____   |
| 20301-2000   | Removal of pipe end section<br>19<br>Each    | \$ _____       | \$ _____   |
| 20301-2400   | Removal of sign<br>16<br>Each                | \$ _____       | \$ _____   |
| 20301-2700   | Removal of structure<br>1<br>Each            | \$ _____       | \$ _____   |
| 20302-1200   | Removal of guardrail<br>298<br>m             | \$ _____       | \$ _____   |
| 20303-1600   | Removal of pavement, asphalt<br>21,200<br>m2 | \$ _____       | \$ _____   |
| 20401-0000   | Roadway excavation<br>82,000<br>m3           | \$ _____       | \$ _____   |
| 20402-0000   | Subexcavation<br>4,200<br>m3                 | \$ _____       | \$ _____   |
| 20425-1000   | Ditch, excavation<br>35<br>m                 | \$ _____       | \$ _____   |
| 20441-0000   | Waste (Suitable)<br>10,100<br>m3             | \$ _____       | \$ _____   |

Bid Schedule A

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity  | Unit Bid Price | Amount Bid |
|--------------|---|----------------|------------|
| 20801-0000   | Structure excavation<br>453<br>m3   | \$ _____       | \$ _____   |
| 21101-1000   | Roadway obliteration, method 1<br>13,000<br>m2                              | \$ _____       | \$ _____   |
| 25101-2000   | Placed riprap, class 2<br>1,500<br>m3                                       | \$ _____       | \$ _____   |
| 25101-3000   | Placed riprap, class 3<br>1,700<br>m3                                       | \$ _____       | \$ _____   |
| 25101-4000   | Placed riprap, class 4<br>1,000<br>m3                                       | \$ _____       | \$ _____   |
| 25101-6000   | Placed riprap, class 6<br>3,000<br>m3                                       | \$ _____       | \$ _____   |
| 25125-0000   | Boulder<br>50<br>Each   | \$ _____       | \$ _____   |
| 25305-2000   | Revet mattress, polyvinyl chloride coated<br>17<br>m2                       | \$ _____       | \$ _____   |
| 30101-0000   | Aggregate base<br>14,000<br>t   | \$ _____       | \$ _____   |
| 40201-3800   | Hot asphalt concrete pavement, Hveem test, class B, grading E<br>8,400<br>t | \$ _____       | \$ _____   |
| 40205-3000   | Antistrip additive, type 3<br>84<br>t                                       | \$ _____       | \$ _____   |
| 40501-0000   | Open-graded asphalt friction course<br>1,400<br>t                           | \$ _____       | \$ _____   |

Bid Schedule A

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity                                       | Unit Bid Price | Amount Bid |
|--------------|--|----------------|------------|
| 40505-3000   | Antistrip additive, type 3<br>14<br>t                    | \$ _____       | \$ _____   |
| 41101-5000   | Prime coat grade MC-70<br>60<br>t                        | \$ _____       | \$ _____   |
| 41105-0000   | Blotter<br>310<br>t                                      | \$ _____       | \$ _____   |
| 41201-1000   | Tack coat grade CSS-1, CSS-1h, SS-1, or SS-1h<br>35<br>t | \$ _____       | \$ _____   |
| 55201-0200   | Structural concrete, class A (AE)<br>987<br>m3           | \$ _____       | \$ _____   |
| 55216-0000   | Concrete color agent<br>3,100<br>kg                      | \$ _____       | \$ _____   |
| 55302-3300   | Precast, prestressed concrete AASHTO girders<br>787<br>m | \$ _____       | \$ _____   |
| 55401-1000   | Reinforcing steel<br>33,816<br>kg                        | \$ _____       | \$ _____   |
| 55401-2000   | Reinforcing steel, epoxy coated<br>139,037<br>kg         | \$ _____       | \$ _____   |
| 55503-0000   | Bridge expansion joints<br>45<br>m                       | \$ _____       | \$ _____   |
| 56311-1000   | Weathering agent, desert application<br>9,300<br>m2      | \$ _____       | \$ _____   |
| 56312-1000   | Weathering agent, boulder application<br>50<br>Each      | \$ _____       | \$ _____   |

Bid Schedule A

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity  | Unit Bid Price | Amount Bid |
|--------------|---|----------------|------------|
| 56401-1000   | Bearing device, elastomeric<br>18<br>Each                                   | \$ _____       | \$ _____   |
| 56501-0400   | Drilled shafts, 900mm diameter<br>161<br>m                                  | \$ _____       | \$ _____   |
| 56501-0700   | Drilled shafts, 1350mm diameter<br>127<br>m                                 | \$ _____       | \$ _____   |
| 60101-0000   | Concrete<br>55<br>m3  | \$ _____       | \$ _____   |
| 60201-0800   | 600mm pipe culvert (Asphalt Coated)<br>102<br>m                             | \$ _____       | \$ _____   |
| 60201-1200   | 1200mm pipe culvert (Asphalt Coated)<br>46<br>m                             | \$ _____       | \$ _____   |
| 60201-1300   | 1350mm pipe culvert (Asphalt Coated)<br>25<br>m                             | \$ _____       | \$ _____   |
| 60210-0800   | End section for 600mm pipe culvert (Asphalt Coated)<br>11<br>Each           | \$ _____       | \$ _____   |
| 60210-1200   | End section for 1200mm pipe culvert (Asphalt Coated)<br>4<br>Each           | \$ _____       | \$ _____   |
| 60220-1250   | 1800mm span, 1500mm rise precast reinforced concrete box culvert<br>49<br>m | \$ _____       | \$ _____   |
| 60220-3000   | 3000mm span, 1500mm rise precast reinforced concrete box culvert<br>42<br>m | \$ _____       | \$ _____   |
| 60504-0000   | Geocomposite sheet drain system<br>159<br>m2                                | \$ _____       | \$ _____   |

Bid Schedule A

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity   | Unit Bid Price | Amount Bid |
|--------------|--|----------------|------------|
| 60704-0000   | Cleaning culvert in place<br>2<br>Each   | \$ _____       | \$ _____   |
| 60902-0900   | Curb and gutter, concrete, 275mm depth<br>800<br>m                                 | \$ _____       | \$ _____   |
| 61802-0000   | Concrete guardwall (Formlined)<br>230<br>m   | \$ _____       | \$ _____   |
| 61807-0000   | Concrete parapet (Formlined)<br>413<br>m   | \$ _____       | \$ _____   |
| 61901-3300   | Fence, tortoise barrier<br>3,400<br>m  | \$ _____       | \$ _____   |
| 61902-0000   | Gate<br>2<br>Each  | \$ _____       | \$ _____   |
| 62201-0200   | Dump truck, 8 cubic meter minimum capacity<br>60<br>Hour                           | \$ _____       | \$ _____   |
| 62201-0550   | Backhoe loader, 180 liter minimum rated capacity bucket, 600mm width<br>60<br>Hour | \$ _____       | \$ _____   |
| 62201-0900   | Wheel loader, 2 cubic meter minimum rated capacity<br>60<br>Hour                   | \$ _____       | \$ _____   |
| 62201-1150   | Bulldozer, 50kW minimum flywheel power<br>60<br>Hour                               | \$ _____       | \$ _____   |
| 62201-1300   | Bulldozer, 120kW minimum flywheel power<br>40<br>Hour                              | \$ _____       | \$ _____   |
| 62201-2750   | Motor grader<br>60<br>Hour   | \$ _____       | \$ _____   |

Bid Schedule A

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity  | Unit Bid Price | Amount Bid |
|--------------|---|----------------|------------|
| 62201-3350   | Hydraulic excavator, 1.1 cubic meter minimum capacity<br>60<br>Hour | \$ _____       | \$ _____   |
| 62202-1000   | Materials transfer vehicle<br>ALL                                   | Lump Sum       | \$ _____   |
| 62301-0000   | General labor<br>100<br>Hour  | \$ _____       | \$ _____   |
| 62302-1000   | Special labor, hired technical services<br>40<br>Hour               | \$ _____       | \$ _____   |
| 62407-0000   | Placing conserved topsoil<br>9,900<br>m3                            | \$ _____       | \$ _____   |
| 62525-0000   | Water<br>1,500<br>m3  | \$ _____       | \$ _____   |
| 63301-0000   | Sign system<br>12<br>Each   | \$ _____       | \$ _____   |
| 63316-1000   | Remove and reset sign<br>13<br>Each                                 | \$ _____       | \$ _____   |
| 63401-1500   | Pavement markings, type H, solid<br>8,000<br>m                      | \$ _____       | \$ _____   |
| 63406-0100   | Raised pavement marker type A<br>3,800<br>Each                      | \$ _____       | \$ _____   |
| 63406-0200   | Raised pavement marker type B<br>1,300<br>Each                      | \$ _____       | \$ _____   |
| 63501-2000   | Temporary traffic control, traffic signal system<br>ALL             | Lump Sum       | \$ _____   |
| 63502-1000   | Temporary traffic control, cone, type 900mm<br>50<br>Each           | \$ _____       | \$ _____   |

## Bid Schedule A

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity   | Unit Bid Price | Amount Bid |
|--------------|--|----------------|------------|
| 63502-1300   | Temporary traffic control, drum<br>200<br>Each                 | \$ _____       | \$ _____   |
| 63502-1700   | Temporary traffic control, warning light type C<br>20<br>Each  | \$ _____       | \$ _____   |
| 63503-0300   | Temporary traffic control, barricade type 3<br>50<br>m         | \$ _____       | \$ _____   |
| 63503-0400   | Temporary traffic control, concrete barrier<br>300<br>m        | \$ _____       | \$ _____   |
| 63503-0500   | Temporary traffic control, moving concrete barrier<br>600<br>m | \$ _____       | \$ _____   |
| 63503-1000   | Temporary traffic control, plastic fence<br>400<br>m           | \$ _____       | \$ _____   |
| 63504-1000   | Temporary traffic control, construction sign<br>65<br>m2       | \$ _____       | \$ _____   |
| 63505-1000   | Temporary traffic control, pavement markings<br>5.000<br>km    | \$ _____       | \$ _____   |
| 63506-0500   | Temporary traffic control, flagger<br>4,000<br>Hour            | \$ _____       | \$ _____   |
| 63506-0600   | Temporary traffic control, pilot car<br>800<br>Hour            | \$ _____       | \$ _____   |

**PART A CONSTRUCTION COST SUBTOTAL \$ \_\_\_\_\_**

Bid Schedule A

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Number of Days        | Road User/<br>Administrative Cost | Amount Bid |
|-----------------------|-----------------------------------|------------|
| Calendar Days * _____ | \$3,300.00 Per Day                | \$ _____   |

\* The number of calendar days used shall include all weekends, holidays, periods of inclement weather, winter shutdown periods, and all other days during which work may or may not be performed.

**PART B** ROAD USER/ADMINISTRATIVE COST SUBTOTAL \$ \_\_\_\_\_

**SCHEDULE A (TOTAL COST BASIS) (A + B)** \$ \_\_\_\_\_

Submitted by: \_\_\_\_\_  
Name of Bidder

# Option X

NV PRA LAME 1(8)  
Northshore Road

## Bid Schedule

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity   | Unit Bid Price | Amount Bid |
|--------------|--|----------------|------------|
| 15101-0000   | Mobilization<br>ALL  | Lump Sum       | \$ _____   |
| 15206-0000   | Slope, reference, and clearing and grubbing stake<br>1.180<br>km | \$ _____       | \$ _____   |
| 15215-3000   | Survey and staking, drainage structure<br>6<br>Each              | \$ _____       | \$ _____   |
| 15216-2000   | Survey and staking, grade finishing stakes<br>2.360<br>km        | \$ _____       | \$ _____   |
| 15401-0000   | Contractor testing<br>ALL  | Lump Sum       | \$ _____   |
| 15501-0000   | Construction schedule<br>ALL                                     | Lump Sum       | \$ _____   |
| 15703-1500   | Soil erosion control, temporary soil tackifier<br>1.7<br>ha      | \$ _____       | \$ _____   |
| 15705-0100   | Soil erosion control, silt fence<br>3,200<br>m                   | \$ _____       | \$ _____   |
| 15705-1400   | Soil erosion control, sediment log<br>10<br>m                    | \$ _____       | \$ _____   |
| 15705-1500   | Soil erosion control, sediment wattle<br>210<br>m                | \$ _____       | \$ _____   |
| 15801-0000   | Watering for dust control<br>5,000<br>m3                         | \$ _____       | \$ _____   |

Bid Schedule X

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity                            | Unit Bid Price | Amount Bid |
|--------------|---|----------------|------------|
| 20301-1200   | Removal of headwall<br>7<br>Each              | \$ _____       | \$ _____   |
| 20301-1900   | Removal of pipe culvert<br>14<br>Each         | \$ _____       | \$ _____   |
| 20301-2000   | Removal of pipe end section<br>12<br>Each     | \$ _____       | \$ _____   |
| 20301-2400   | Removal of sign<br>2<br>Each                  | \$ _____       | \$ _____   |
| 20303-1600   | Removal of pavement, asphalt<br>7,000<br>m2   | \$ _____       | \$ _____   |
| 20402-0000   | Subexcavation<br>5,400<br>m3                  | \$ _____       | \$ _____   |
| 20420-0000   | Embankment construction<br>19,500<br>m3       | \$ _____       | \$ _____   |
| 20425-1000   | Ditch, excavation<br>230<br>m                 | \$ _____       | \$ _____   |
| 21101-1000   | Roadway obliteration, method 1<br>5,000<br>m2 | \$ _____       | \$ _____   |
| 25101-2000   | Placed riprap, class 2<br>270<br>m3           | \$ _____       | \$ _____   |
| 25101-3000   | Placed riprap, class 3<br>1,020<br>m3         | \$ _____       | \$ _____   |
| 25101-4000   | Placed riprap, class 4<br>70<br>m3            | \$ _____       | \$ _____   |

Bid Schedule X

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity  | Unit Bid Price | Amount Bid |
|--------------|---|----------------|------------|
| 25101-6000   | Placed riprap, class 6<br>580<br>m3   | \$ _____       | \$ _____   |
| 30101-0000   | Aggregate base<br>5,400<br>t  | \$ _____       | \$ _____   |
| 40201-3800   | Hot asphalt concrete pavement, Hveem test, class B, grading E<br>2,800<br>t | \$ _____       | \$ _____   |
| 40205-3000   | Antistrip additive, type 3<br>29<br>t                                       | \$ _____       | \$ _____   |
| 40501-0000   | Open-graded asphalt friction course<br>470<br>t                             | \$ _____       | \$ _____   |
| 40505-3000   | Antistrip additive, type 3<br>6<br>t  | \$ _____       | \$ _____   |
| 41101-5000   | Prime coat grade MC-70<br>20<br>t   | \$ _____       | \$ _____   |
| 41105-0000   | Blotter<br>107<br>t   | \$ _____       | \$ _____   |
| 41201-1000   | Tack coat grade CSS-1, CSS-1h, SS-1, or SS-1h<br>12<br>t                    | \$ _____       | \$ _____   |
| 56311-1000   | Weathering agent, desert application<br>2,900<br>m2                         | \$ _____       | \$ _____   |
| 60101-0000   | Concrete<br>90<br>m3  | \$ _____       | \$ _____   |
| 60201-0800   | 600mm pipe culvert (Asphalt Coated)<br>41<br>m                              | \$ _____       | \$ _____   |

Bid Schedule X

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity   | Unit Bid Price | Amount Bid |
|--------------|--|----------------|------------|
| 60201-1200   | 1200mm pipe culvert (Asphalt Coated)<br>44<br>m                                    | \$ _____       | \$ _____   |
| 60210-0800   | End section for 600mm pipe culvert (Asphalt Coated)<br>4<br>Each                   | \$ _____       | \$ _____   |
| 60220-3000   | 3000mm span, 1500mm rise precast reinforced concrete box culvert<br>152<br>m       | \$ _____       | \$ _____   |
| 60704-0000   | Cleaning culvert in place<br>1<br>Each   | \$ _____       | \$ _____   |
| 60901-1500   | Curb, concrete, 400mm depth<br>870<br>m  | \$ _____       | \$ _____   |
| 61901-3300   | Fence, tortoise barrier<br>740<br>m  | \$ _____       | \$ _____   |
| 62201-0200   | Dump truck, 8 cubic meter minimum capacity<br>20<br>Hour                           | \$ _____       | \$ _____   |
| 62201-0550   | Backhoe loader, 180 liter minimum rated capacity bucket, 600mm width<br>20<br>Hour | \$ _____       | \$ _____   |
| 62201-0900   | Wheel loader, 2 cubic meter minimum rated capacity<br>20<br>Hour                   | \$ _____       | \$ _____   |
| 62201-1150   | Bulldozer, 50kW minimum flywheel power<br>20<br>Hour                               | \$ _____       | \$ _____   |
| 62201-1300   | Bulldozer, 120kW minimum flywheel power<br>10<br>Hour                              | \$ _____       | \$ _____   |
| 62201-2750   | Motor grader<br>20<br>Hour   | \$ _____       | \$ _____   |

Bid Schedule X

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity  | Unit Bid Price | Amount Bid |
|--------------|---|----------------|------------|
| 62201-3350   | Hydraulic excavator, 1.1 cubic meter minimum capacity<br>20<br>Hour | \$ _____       | \$ _____   |
| 62202-1000   | Materials transfer vehicle<br>ALL                                   | Lump Sum       | \$ _____   |
| 62301-0000   | General labor<br>50<br>Hour   | \$ _____       | \$ _____   |
| 62302-1000   | Special labor, hired technical services<br>15<br>Hour               | \$ _____       | \$ _____   |
| 62407-0000   | Placing conserved topsoil<br>2,700<br>m3                            | \$ _____       | \$ _____   |
| 62525-0000   | Water<br>3,000<br>m3  | \$ _____       | \$ _____   |
| 63301-0000   | Sign system<br>5<br>Each  | \$ _____       | \$ _____   |
| 63316-1000   | Remove and reset sign<br>14<br>Each                                 | \$ _____       | \$ _____   |
| 63401-1500   | Pavement markings, type H, solid<br>2,700<br>m                      | \$ _____       | \$ _____   |
| 63403-1000   | Pavement markings, type J<br>22<br>m2                               | \$ _____       | \$ _____   |
| 63406-0100   | Raised pavement marker type A<br>770<br>Each                        | \$ _____       | \$ _____   |
| 63406-0200   | Raised pavement marker type B<br>600<br>Each                        | \$ _____       | \$ _____   |

Bid Schedule X

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity  | Unit Bid Price | Amount Bid |
|--------------|---|----------------|------------|
| 63502-1000   | Temporary traffic control, cone, type 900mm<br>20<br>Each     | \$ _____       | \$ _____   |
| 63502-1300   | Temporary traffic control, drum<br>50<br>Each                 | \$ _____       | \$ _____   |
| 63502-1700   | Temporary traffic control, warning light type C<br>10<br>Each | \$ _____       | \$ _____   |
| 63503-0300   | Temporary traffic control, barricade type 3<br>20<br>m        | \$ _____       | \$ _____   |
| 63503-0400   | Temporary traffic control, concrete barrier<br>50<br>m        | \$ _____       | \$ _____   |
| 63503-0500   | Temporary traffic control, moving concrete barrier<br>50<br>m | \$ _____       | \$ _____   |
| 63503-1000   | Temporary traffic control, plastic fence<br>100<br>m          | \$ _____       | \$ _____   |
| 63504-1000   | Temporary traffic control, construction sign<br>65<br>m2      | \$ _____       | \$ _____   |
| 63505-1000   | Temporary traffic control, pavement markings<br>1.180<br>km   | \$ _____       | \$ _____   |
| 63506-0500   | Temporary traffic control, flagger<br>1,000<br>Hour           | \$ _____       | \$ _____   |

Bid Schedule X

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity                                  | Unit Bid Price | Amount Bid |
|--------------|---|----------------|------------|
| 63506-0600   | Temporary traffic control, pilot car<br>200<br>Hour | \$ _____       | \$ _____   |

**TOTAL**      \$ \_\_\_\_\_

Submitted by: \_\_\_\_\_  
Name of Bidder

Bid Schedule X

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

# Option Y

NV PRA LAME 1(8)  
Northshore Road

## Bid Schedule

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity   | Unit Bid Price | Amount Bid |
|--------------|--|----------------|------------|
| 15101-0000   | Mobilization<br>ALL  | Lump Sum       | \$ _____   |
| 15206-0000   | Slope, reference, and clearing and grubbing stake<br>0.593<br>km | \$ _____       | \$ _____   |
| 15215-3000   | Survey and staking, drainage structure<br>3<br>Each              | \$ _____       | \$ _____   |
| 15216-2000   | Survey and staking, grade finishing stakes<br>1.186<br>km        | \$ _____       | \$ _____   |
| 15703-1500   | Soil erosion control, temporary soil tackifier<br>0.4<br>ha      | \$ _____       | \$ _____   |
| 15705-0100   | Soil erosion control, silt fence<br>430<br>m                     | \$ _____       | \$ _____   |
| 15705-1400   | Soil erosion control, sediment log<br>80<br>m                    | \$ _____       | \$ _____   |
| 15801-0000   | Watering for dust control<br>2,000<br>m3                         | \$ _____       | \$ _____   |
| 20303-1600   | Removal of pavement, asphalt<br>11,100<br>m2                     | \$ _____       | \$ _____   |
| 20401-0000   | Roadway excavation<br>3,600<br>m3                                | \$ _____       | \$ _____   |

Bid Schedule Y

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity  | Unit Bid Price | Amount Bid |
|--------------|---|----------------|------------|
| 25101-2000   | Placed riprap, class 2<br>77<br>m3  | \$ _____       | \$ _____   |
| 25101-3000   | Placed riprap, class 3<br>8<br>m3   | \$ _____       | \$ _____   |
| 25305-2000   | Revet mattress, polyvinyl chloride coated<br>40<br>m2                       | \$ _____       | \$ _____   |
| 30101-0000   | Aggregate base<br>1,800<br>t  | \$ _____       | \$ _____   |
| 40201-3800   | Hot asphalt concrete pavement, Hveem test, class B, grading E<br>1,600<br>t | \$ _____       | \$ _____   |
| 40205-3000   | Antistrip additive, type 3<br>16<br>t                                       | \$ _____       | \$ _____   |
| 40501-0000   | Open-graded asphalt friction course<br>320<br>t                             | \$ _____       | \$ _____   |
| 40505-3000   | Antistrip additive, type 3<br>4<br>t  | \$ _____       | \$ _____   |
| 41101-5000   | Prime coat grade MC-70<br>13<br>t   | \$ _____       | \$ _____   |
| 41105-0000   | Blotter<br>68<br>t  | \$ _____       | \$ _____   |
| 41201-1000   | Tack coat grade CSS-1, CSS-1h, SS-1, or SS-1h<br>8<br>t                     | \$ _____       | \$ _____   |
| 56311-1000   | Weathering agent, desert application<br>248<br>m2                           | \$ _____       | \$ _____   |

Bid Schedule Y

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity   | Unit Bid Price | Amount Bid |
|--------------|--|----------------|------------|
| 60201-0600   | 450mm pipe culvert (CONCRETE)<br>220<br>m                  | \$ _____       | \$ _____   |
| 60210-0600   | End section for 450mm pipe culvert (CONCRETE)<br>1<br>Each | \$ _____       | \$ _____   |
| 60403-0000   | Inlet (Type 3)<br>1<br>Each                                | \$ _____       | \$ _____   |
| 60403-0000   | Inlet (Type "A")<br>2<br>Each                              | \$ _____       | \$ _____   |
| 60901-1500   | Curb, concrete, 400mm depth<br>850<br>m                    | \$ _____       | \$ _____   |
| 60902-0900   | Curb and gutter, concrete, 275mm depth<br>280<br>m         | \$ _____       | \$ _____   |
| 60905-1000   | Gutter, concrete<br>100<br>m                               | \$ _____       | \$ _____   |
| 61101-0000   | Water system<br>ALL  | Lump Sum       | \$ _____   |
| 61501-0200   | Sidewalk, colored concrete<br>1,200<br>m2                  | \$ _____       | \$ _____   |
| 61504-1000   | Accessibility ramp, concrete<br>110<br>m2                  | \$ _____       | \$ _____   |
| 61901-3300   | Fence, tortoise barrier<br>190<br>m                        | \$ _____       | \$ _____   |
| 62201-0200   | Dump truck, 8 cubic meter minimum capacity<br>20<br>Hour   | \$ _____       | \$ _____   |

Bid Schedule Y

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity   | Unit Bid Price | Amount Bid |
|--------------|--|----------------|------------|
| 62201-0550   | Backhoe loader, 180 liter minimum rated capacity bucket, 600mm width<br>20<br>Hour | \$ _____       | \$ _____   |
| 62201-0900   | Wheel loader, 2 cubic meter minimum rated capacity<br>20<br>Hour                   | \$ _____       | \$ _____   |
| 62201-1150   | Bulldozer, 50kW minimum flywheel power<br>20<br>Hour                               | \$ _____       | \$ _____   |
| 62201-1300   | Bulldozer, 120kW minimum flywheel power<br>10<br>Hour                              | \$ _____       | \$ _____   |
| 62201-2750   | Motor grader<br>20<br>Hour   | \$ _____       | \$ _____   |
| 62201-3350   | Hydraulic excavator, 1.1 cubic meter minimum capacity<br>20<br>Hour                | \$ _____       | \$ _____   |
| 62202-1000   | Materials transfer vehicle<br>ALL  | Lump Sum       | \$ _____   |
| 62301-0000   | General labor<br>40<br>Hour  | \$ _____       | \$ _____   |
| 62302-1000   | Special labor, hired technical services<br>8<br>Hour                               | \$ _____       | \$ _____   |
| 62407-0000   | Placing conserved topsoil<br>520<br>m3   | \$ _____       | \$ _____   |
| 62525-0000   | Water<br>1,000<br>m3   | \$ _____       | \$ _____   |
| 63316-1000   | Remove and reset sign<br>16<br>Each  | \$ _____       | \$ _____   |

Bid Schedule Y

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity  | Unit Bid Price | Amount Bid |
|--------------|---|----------------|------------|
| 63401-1500   | Pavement markings, type H, solid<br>1,200<br>m                | \$ _____       | \$ _____   |
| 63403-1000   | Pavement markings, type J<br>40<br>m2                         | \$ _____       | \$ _____   |
| 63406-0100   | Raised pavement marker type A<br>300<br>Each                  | \$ _____       | \$ _____   |
| 63406-0200   | Raised pavement marker type B<br>100<br>Each                  | \$ _____       | \$ _____   |
| 63502-1000   | Temporary traffic control, cone, type 900mm<br>10<br>Each     | \$ _____       | \$ _____   |
| 63502-1300   | Temporary traffic control, drum<br>10<br>Each                 | \$ _____       | \$ _____   |
| 63502-1700   | Temporary traffic control, warning light type C<br>5<br>Each  | \$ _____       | \$ _____   |
| 63503-0300   | Temporary traffic control, barricade type 3<br>10<br>m        | \$ _____       | \$ _____   |
| 63503-0400   | Temporary traffic control, concrete barrier<br>25<br>m        | \$ _____       | \$ _____   |
| 63503-0500   | Temporary traffic control, moving concrete barrier<br>75<br>m | \$ _____       | \$ _____   |
| 63503-1000   | Temporary traffic control, plastic fence<br>50<br>m           | \$ _____       | \$ _____   |
| 63504-1000   | Temporary traffic control, construction sign<br>47<br>m2      | \$ _____       | \$ _____   |

Bid Schedule Y

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

| Pay Item No. | Estimated Quantity  | Unit Bid Price | Amount Bid |
|--------------|---|----------------|------------|
| 63505-1000   | Temporary traffic control, pavement markings<br>0.272<br>km | \$ _____       | \$ _____   |
| 63506-0500   | Temporary traffic control, flagger<br>600<br>Hour           | \$ _____       | \$ _____   |
| 63506-0600   | Temporary traffic control, pilot car<br>50<br>Hour          | \$ _____       | \$ _____   |

**TOTAL** \$ \_\_\_\_\_

Submitted by: \_\_\_\_\_  
Name of Bidder

Bid Schedule Y

Project: NV PRA LAME 1(8)  
NORTHSHORE ROAD

BID SUMMARY  
for  
NV PRA LAME 1(8)  
NORTSHORE ROAD

Schedule A \$ \_\_\_\_\_

Option X \$ \_\_\_\_\_

Option Y \$ \_\_\_\_\_

Schedule A with Alternative Bid Item  
15401-0000, Contractor Testing, Using  
Government Furnished Field Laboratory \$ \_\_\_\_\_

Option X with Alternative Bid Item  
15401-0000, Contractor Testing, Using  
Government Furnished Field Laboratory \$ \_\_\_\_\_

Continuation of Bid Schedule

**BUY AMERICAN ACT- CONSTRUCTION MATERIALS  
UNDER TRADE AGREEMENTS**

It is understood and agreed that the materials and components listed in Subpart 25.1 of the FAR are a part of this contract and are deemed to be Domestic Construction Material for the purposes of this contract.

**NOTE TO CONTRACTOR:**

The following information and any applicable supporting data is required for evaluation of requests under FAR Clause 52.225-11 Paragraph (c) & (d) and FAR Provision 52.225-12 Paragraph (b).

Material and/or Component

| Construction Material Description | Unit of Measure | Quantity | *Cost Delivered to Job Site |
|-----------------------------------|-----------------|----------|-----------------------------|
| Foreign Construction Material     |                 |          |                             |
|                                   |                 |          |                             |
| Comparable Domestic Material      |                 |          |                             |
|                                   |                 |          |                             |

Material and/or Component

| Construction Material Description | Unit of Measure | Quantity | *Cost Delivered to Job Site |
|-----------------------------------|-----------------|----------|-----------------------------|
| Foreign Construction Material     |                 |          |                             |
|                                   |                 |          |                             |
| Comparable Domestic Material      |                 |          |                             |
|                                   |                 |          |                             |

*[\* Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).]  
[Please include name, address, telephone number and contact for suppliers surveyed. Attach copy of response; if oral, attach summary. Include all applicable supporting information.]*

## HAZARDOUS MATERIALS

As required by FAR Clause 52.223-3, Hazardous Materials Identification and Safety Data - Alternate I, the apparent low bidder must submit prior to award a Material Safety Data Sheet (MSDS) for all hazardous materials that the bidder identifies in paragraph (b) of the FAR clause and defined under the latest version of Federal Standard No. 313.

| Hazardous Material | Identification Number |
|--------------------|-----------------------|
|                    |                       |
|                    |                       |
|                    |                       |
|                    |                       |

## USE OF RECOVERED MATERIALS ON FEDERAL LANDS HIGHWAY PROJECTS

Use of fly ash and ground granulated blast furnace slag and construction materials containing fly ash and ground granulated blast furnace slag on Federal Lands Highway projects:

- It is the policy of the United States Government that fly ash and ground granulated blast furnace slag and materials containing fly ash and ground granulated blast furnace slag shall have maximum practicable opportunity for incorporation into its construction projects.
- The Contractor agrees to investigate the use of fly ash and ground granulated blast furnace slag and materials containing fly ash and ground granulated blast furnace slag to the fullest extent consistent with the efficient performance of this contract. Both the contractor and the subcontractors are urged to seek out suppliers of fly ash and ground granulated blast furnace slag, cement and concrete containing fly ash and ground granulated blast furnace slag and to solicit bids for these materials.
- Names of firms that supply fly ash and ground granulated blast furnace slag and materials containing fly ash and ground granulated blast furnace slag are available from the American Coal Ash Association and the National Slag Association.



| CORPORATE SURETY(IES) (Continued) |                                |    |               |                       |                |
|-----------------------------------|--------------------------------|----|---------------|-----------------------|----------------|
| SURETY B                          | NAME & ADDRESS                 |    | STATE OF INC. | LIABILITY LIMIT<br>\$ | Corporate Seal |
|                                   | SIGNATURE(S)                   | 1. | 2.            |                       |                |
|                                   | NAMES(S) & TITLE(S)<br>(Typed) | 1. | 2.            |                       |                |
| SURETY C                          | NAME & ADDRESS                 |    | STATE OF INC. | LIABILITY LIMIT<br>\$ | Corporate Seal |
|                                   | SIGNATURE(S)                   | 1. | 2.            |                       |                |
|                                   | NAMES(S) & TITLE(S)<br>(Typed) | 1. | 2.            |                       |                |
| SURETY D                          | NAME & ADDRESS                 |    | STATE OF INC. | LIABILITY LIMIT<br>\$ | Corporate Seal |
|                                   | SIGNATURE(S)                   | 1. | 2.            |                       |                |
|                                   | NAMES(S) & TITLE(S)<br>(Typed) | 1. | 2.            |                       |                |
| SURETY E                          | NAME & ADDRESS                 |    | STATE OF INC. | LIABILITY LIMIT<br>\$ | Corporate Seal |
|                                   | SIGNATURE(S)                   | 1. | 2.            |                       |                |
|                                   | NAMES(S) & TITLE(S)<br>(Typed) | 1. | 2.            |                       |                |
| SURETY F                          | NAME & ADDRESS                 |    | STATE OF INC. | LIABILITY LIMIT<br>\$ | Corporate Seal |
|                                   | SIGNATURE(S)                   | 1. | 2.            |                       |                |
|                                   | NAMES(S) & TITLE(S)<br>(Typed) | 1. | 2.            |                       |                |
| SURETY G                          | NAME & ADDRESS                 |    | STATE OF INC. | LIABILITY LIMIT<br>\$ | Corporate Seal |
|                                   | SIGNATURE(S)                   | 1. | 2.            |                       |                |
|                                   | NAMES(S) & TITLE(S)<br>(Typed) | 1. | 2.            |                       |                |

**INSTRUCTIONS**

1. This form is authorized for use when a bid guaranty is required. Any deviation from this form will require the written approval of the Administrator of General Services.
2. Insert the full legal name and business address of the Principal in the space designated "Principal" on the face of the form. An authorized person shall sign the bond. Any person signing in a representative capacity (e.g., an attorney-in-fact) must furnish evidence of authority if that representative is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved.
3. The bond may express penal sum as a percentage of the bid price. In these cases, the bond may state a maximum dollar limitation (e.g., 20% of the bid price but the amount not to exceed 3,000,000.00 dollars).
4. (a) Corporations executing the bond as sureties must appear on the Department of the Treasury's list of approved sureties and must act within the limitation listed therein. Where more than one corporate surety is involved, their names and addresses shall appear in the spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)." In the space designated "SURETY(IES)" on the face of the form, insert only the letter identification of the sureties.  
 (b) Where individual sureties are involved, a completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. The Government may require the surety to furnish additional substantiating information concerning its financial capacity.
5. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Corporate Seal"; and shall affix an adhesive seal if executed in Maine, New Hampshire, or any other jurisdiction requiring adhesive seals.
6. Type the name and title of each person signing this bond in the space provided.
7. In its application to negotiated contracts, the terms "bid" and "bidder" shall include "proposal" and "offeror."

D-1  
FEDERAL ACQUISITION REGULATION

SOLICITATION PROVISIONS

REPRESENTATIONS AND CERTIFICATIONS

Effective January 2005, offerors/bidders must submit Representations and Certifications online at [www.bpn.gov](http://www.bpn.gov). All offerors/bidders should submit/update this information at least annually. Refer to the Federal Acquisition Provision 52.204-8 *Annual Representations and Certifications* below. If you have previously accomplished your on-line registration and the NAICS code for this solicitation is different than the code listed in your online profile, please note the amended changes on the lines provided in the Provision below.

REFER TO CFLHD'S WEBSITE AT <http://www.cflhd.gov/procurement/construction/reference-links.cfm> FOR ON-LINE REGISTRATION INSTRUCTIONS

**52.204-8 ANNUAL REPRESENTATIONS AND CERTIFICATIONS (JAN 2006)**

- (a) (1) The North American Industry Classification System (NAICS) code for this acquisition is 237310.  
(2) The small business size standard is 31.0 million or fewer.  
(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

- (b) (1) If the clause at 52.204-7, Central Contractor Registration, is included in this solicitation, paragraph (c) of this provision applies.

(2) If the clause at 52.204-7 is not included in this solicitation, and the offeror is currently registered in CCR, and has completed the ORCA electronically, the offeror may choose to use paragraph (c) instead of completing the corresponding individual representations and certifications in the solicitation. The offeror shall indicate which option applies by checking one of the following boxes:

(i) Paragraph (c) applies.

(ii) Paragraph (c) does not apply and the offeror has completed the individual representations and certifications in the solicitation.

(c) The offeror has completed the annual representations and certifications electronically via the Online Representations and Certifications Application (ORCA) website at <http://orca.bpn.gov>. After reviewing the ORCA database information, the offeror verifies by submission of the offer that the representations and certifications currently posted electronically have been entered or updated within the last 12 months, are current, accurate, complete, and applicable to this solicitation (including the business size standard applicable to the NAICS code referenced for this solicitation), as of the date of this offer and are incorporated in this offer by reference (see FAR 4.1201); except for the changes identified below [*offeror to insert changes, identifying change by clause number, title, date*]. These amended representation(s) and/or certification(s) are also incorporated in this offer and are current, accurate, and complete as of the date of this offer.

| FAR CLAUSE | TITLE | DATE  | CHANGE |
|------------|-------|-------|--------|
| _____      | _____ | _____ | _____  |
| _____      | _____ | _____ | _____  |
| _____      | _____ | _____ | _____  |
| _____      | _____ | _____ | _____  |

Any changes provided by the offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications posted on ORCA.

(End of Provision)



FEDERAL HIGHWAY ADMINISTRATION  
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

**BIDDER'S QUALIFICATIONS**

INSTRUCTIONS: Answer all questions on this form inserting "none" or "not applicable" where appropriate. If more space is required attach additional sheets. Return the signed, dated and completed form with the bid to the address shown in the invitation for bids on or before the time set for bid opening. The prospective bidder shall provide any additional information requested by the Government during evaluation of the bids.

If the prospective bidder is a joint venture or general partnership, a separate Bidder's Qualifications form shall be provided individually for each joint venture participant or partner.

1. Name and address of business:

|  |             |                |  |
|--|-------------|----------------|--|
| Name _____                                 |             |                | DUNS Number (See FAR Provision 52.204-6)* _____  |
| Street _____                               |             |                | Home Office Congressional District (Insert District #) * _____   |
| City _____                                 | State _____ | Zip Code _____ | * Necessary for Government reporting purposes only<br>To obtain a Dun & Street number, call<br>800-333-0505. |
| County _____                               |             |                |  |
| Telephone Number (Include Area Code) _____ |             |                |  |
| Fax Number (Include Area Code) _____       |             |                |  |

2. a. Type of organization (check appropriate box):

|                                      |  |   |
|--------------------------------------|--|---|
| <input type="checkbox"/> Individual  | <input type="checkbox"/> Non-profit organization | <input type="checkbox"/> Corporation            |
| <input type="checkbox"/> Partnership | <input type="checkbox"/> Joint Venture           | <input type="checkbox"/> Incorporated in: _____ |

If a Foreign entity:

|                                      |  |   |
|--------------------------------------|--|---|
| <input type="checkbox"/> Individual  | <input type="checkbox"/> Non-profit organization | <input type="checkbox"/> Corporation          |
| <input type="checkbox"/> Partnership | <input type="checkbox"/> Joint Venture           | <input type="checkbox"/> Registered in: _____ |

b. Size and type of Business Concern (check appropriate boxes):

|  |   |  |
|--|---|--|
| <input type="checkbox"/> Large Business Concern    | <input type="checkbox"/> Small Disadvantaged Business Concern | <input type="checkbox"/> Emerging Small Business                         |
| <input type="checkbox"/> Small Business Concern    | <input type="checkbox"/> Women-Owned Small Business           | <input type="checkbox"/> SBA 8(a) Certified                              |
| <input type="checkbox"/> HUB Zone Business Concern | <input type="checkbox"/> Veteran Owned Business Concern       | <input type="checkbox"/> Service-Disabled Veteran-Owned Business Concern |

3. If a joint venture or general partnership:

- a. Provide the name under which the project will be bid, the home office address, and name of the principal who will represent the company with regard to this project if different from "1." above.

Principal \_\_\_\_\_

Business Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

- b. Provide the name and home office addresses of each of the joint venture partners; indicate which partner is the sponsoring partner. Attach a separate sheet for additional partners.

|                          |             |                |                     |             |                |
|--------------------------|-------------|----------------|---------------------|-------------|----------------|
| Sponsoring Partner _____ |             |                | Other Partner _____ |             |                |
| Street _____             |             |                | Street _____        |             |                |
| City _____               | State _____ | Zip Code _____ | City _____          | State _____ | Zip Code _____ |

4. Date organization established: \_\_\_\_\_

5. Name of succeeded business, if any: \_\_\_\_\_

6. How many years have you been in business as:

- a. General contractor \_\_\_ years.
- b. Subcontractor \_\_\_ years.

7. a. Furnish the following information concerning the owner, partners, officers and directors:

| Name | Title | Percent of Business Owned | Years of Business Experience |       |
|------|-------|---------------------------|------------------------------|-------|
|      |       |                           | Contracting                  | Other |
|      |       |                           |                              |       |
|      |       |                           |                              |       |
|      |       |                           |                              |       |
|      |       |                           |                              |       |
|      |       |                           |                              |       |
|      |       |                           |                              |       |

- b. Attach resumes of these key personnel as well as the on-site project manager(s) and superintendent(s), and specifically identify the following:
- Present position, responsibility, and length of employment.
  - Amount and type of construction experience.
  - Amount and type of highway construction experience, including position, responsibility, and a brief project description of each period of employment.
  - Formal education and training, professional or technical registrations or licenses.





FEDERAL ACQUISITION REGULATIONSOLICITATION PROVISIONSInstructions to Bidders**52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)**

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also the full text of a solicitation provision may be accessed electronically at this address:

<http://www.arnet.gov/far/>.

(End of Provision)

- 52.204-5 WOMEN-OWNED BUSINESS OTHER THAN SMALL BUSINESS (MAY 1999)
- 52.211-6 BRAND NAME OR EQUAL (AUG 1999)
- 52.214-3 AMENDMENTS TO INVITATIONS FOR BIDS (DEC 1989)
- 52.214-4 FALSE STATEMENTS IN BIDS (APR 1984)
- 52.214-5 SUBMISSION OF BIDS (MAR 1997)
- 52.214-6 EXPLANATION TO PROSPECTIVE BIDDERS (APR 1984)
- 52.214-7 LATE SUBMISSIONS, MODIFICATIONS, AND WITHDRAWALS OF BIDS  
(NOV 1999)
- 52.214-18 PREPARATION OF BIDS - CONSTRUCTION (APR 1984)
- 52.214-19 CONTRACT AWARD - SEALED BIDDING - CONSTRUCTION (AUG 1996)
- 52.214-34 SUBMISSION OF OFFERS IN THE ENGLISH LANGUAGE (APR 1991)
- 52.214-35 SUBMISSION OF OFFERS IN U.S. CURRENCY (APR 1991)
- 52.217-3 EVALUATION EXCLUSIVE OF OPTIONS (APR 1984)
- 52.236-27 SITE VISIT (CONSTRUCTION) (FEB 1995)

**52.211-4 AVAILABILITY FOR EXAMINATION OF SPECIFICATIONS NOT LISTED  
IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND  
COMMERCIAL ITEM DESCRIPTIONS (JUN 1988)**

Specifications cited in this solicitation which are not available for distribution may be examined at the following location:

Federal Highway Administration  
Central Federal Lands Highway Division  
12300 West Dakota Avenue, Suite 360  
Lakewood, Colorado 80228  
Contact: Tiffany Atchison @ (720) 963-3354 or Brenda McGehee @ (720) 963-3353

(End of Provision)

**52.216-1 TYPE OF CONTRACT (APR 1984)**

The Government contemplates award of a firm-fixed price contract resulting from this solicitation.

(End of Provision)

**52.222-23 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE  
EQUAL EMPLOYMENT OPPORTUNITY (FEB 1999)**

(a) The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

| Goals for minority participation for each trade | Goals for female participation for each trade |
|---|---|
| 13.9%   | 6.9%  |

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs.

(c) The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on

(1) its implementation of the Equal Opportunity clause,

(2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and

(3) its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

(d) The Contractor shall provide written notification to the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the -

(1) Name, address, and telephone number of the subcontractor;

(2) Employer's identification number of the subcontractor;

(3) Estimated dollar amount of the subcontract;

(4) Estimated starting and completion dates of the subcontract; and

(5) Geographical area in which the subcontract is to be performed.

(e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is Clark County, Nevada.

(End of Provision)

**52.225-12 NOTICE OF BUY AMERICAN ACT REQUIREMENTS-  
CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS (JAN 2005)**

(a) *Definitions.*

“Construction material,” “designated country construction material,” “domestic construction material,” and “foreign construction material,” as used in this provision, are defined in the clause of this solicitation entitled “Buy American Act—Construction Materials Under Trade Agreements” (Federal Acquisition Regulation (FAR) clause 52.225-11).

(b) *Requests for determination of inapplicability.* An offeror requesting a determination regarding the inapplicability of the Buy American Act should submit the request to the Contracting Officer in time to allow a determination before submission of offers. The offeror shall include the information and applicable supporting data required by paragraphs (c) and (d) of FAR clause 52.225-11 in the request. If an offeror has not requested a determination

regarding the inapplicability of the Buy American Act before submitting its offer, or has not received a response to a previous request, the offeror shall include the information and supporting data in the offer.

*(c) Evaluation of offers.*

(1) The Government will evaluate an offer requesting exception to the requirements of the Buy American Act, based on claimed unreasonable cost of domestic construction materials, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(4)(i) of FAR clause 52.225-11.

(2) If evaluation results in a tie between an offeror that requested the substitution of foreign construction material based on unreasonable cost and an offeror that did not request an exception, the Contracting Officer will award to the offeror that did not request an exception based on unreasonable cost.

*(d) Alternate offers.*

(1) When an offer includes foreign construction material, other than designated country construction material, that is not listed by the Government in this solicitation in paragraph (b)(3) of FAR clause 52.225-11, the offeror also may submit an alternate offer based on use of equivalent domestic or designated country construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of FAR clause 52.225-11 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of FAR clause 52.225-11 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic or designated country construction material, and the offeror shall be required to furnish such domestic or designated country construction material. An offer based on use of the foreign construction material for which an exception was requested—

- (i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or
- (ii) May be accepted if revised during negotiations.

(End of Provision)

**52.228-1 BID GUARANTEE (SEP 1996)**

(a) Failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

(b) The bidder shall furnish a bid guarantee in the form of a firm commitment, e.g., bid bond supported by good and sufficient surety or sureties acceptable to the Government, postal money order, certified check, cashier's check, irrevocable letter of credit, or, under Treasury Department

regulations, certain bonds or notes of the United States. The Contracting Officer will return bid guarantees, other than bid bonds, (1) to unsuccessful bidders as soon as practicable after the opening of bids, and (2) to the successful bidder upon execution of contractual documents and bonds (including any necessary coinsurance or reinsurance agreements), as required by the bid as accepted.

(c) The amount of the bid guarantee shall be 20 percent of the bid price or \$3,000,000, whichever is less.

(d) If the successful bidder, upon acceptance of its bid by the Government within the period specified for acceptance, fails to execute all contractual documents or furnish executed bond(s) within 10 days after receipt of the forms by the bidder, the Contracting Officer may terminate the contract for default.

(e) In the event the contract is terminated for default, the bidder is liable for any cost of acquiring the work that exceeds the amount of its bid, and the bid guarantee is available to offset the difference.

(End of Provision)

**52.233-2 SERVICE OF PROTEST (SEPT 2006)**

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the Government Accountability Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from:

Kevin R. Black  
Contract Development Engineer  
Central Federal Lands Highway Division  
12300 West Dakota Avenue, Suite 360  
Lakewood, Colorado 80228

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of Provision)

**52.252-3 ALTERATIONS IN SOLICITATION (APR 1984)**

Portions of this solicitation are altered as follows:

None.

(End of Provision)

FEDERAL ACQUISITION REGULATION  
CONTRACT CLAUSES  
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|           |  |      |
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| 52.225-11 | BUY AMERICAN ACT-CONSTRUCTION MATERIALS UNDER TRADE<br>AGREEMENTS (NOV 2006) .....           | F-9  |
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| 52.252-4  | ALTERATIONS IN CONTRACT (APR 1984) .....   | F-13 |

**52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)**

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also the full text of a clause may be accessed electronically at this address:

<http://www.arnet.gov/far/>.

(End of Clause)

- 52.202-1      DEFINITIONS (JULY 2004)
- 52.203-3      GRATUITIES (APR 1984)
- 52.203-5      COVENANT AGAINST CONTINGENT FEES (APR 1984)
- 52.203-7      ANTI-KICKBACK PROCEDURES (JUL 1995)
- 52.203-8      CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL  
OR IMPROPER ACTIVITY (JAN 1997)
- 52.203-10     PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY  
(JAN 1997)
- 52.203-12     LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL  
TRANSACTIONS (SEPT 2005)
- 52.204-4      PRINTING/COPYING DOUBLE-SIDED ON RECYCLED PAPER  
(AUG 2000)
- 52.204-7      CENTRAL CONTRACTOR REGISTRATION (JUL 2006)
- 52.209-6      PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING  
WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR  
DEBARMENT (SEPT 2006)
- 52.211-13     TIME EXTENSIONS (SEPT 2000)
- 52.211-18     VARIATION IN ESTIMATED QUANTITY (APR 1984)
- 52.214-26     AUDIT AND RECORDS--SEALED BIDDING (OCT 1997)
- 52.214-27     PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA -  
MODIFICATIONS - SEALED BIDDING (OCT 1997)
- 52.214-28     SUBCONTRACTOR COST OR PRICING DATA - MODIFICATIONS -  
SEALED BIDDING (OCT 1997)
- 52.215-21     REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER  
THAN COST OR PRICING DATA--MODIFICATIONS (OCT 1997)
- 52.217-7      OPTIONS FOR INCREASED QUANTITY (MAR 1989)

- 52.219-4 NOTICE OF PRICE EVALUATION PREFERENCE FOR HUBZONE SMALL BUSINESS CONCERNS (JULY 2005) 10% **HUBZone SBC Offeror elects to waive the evaluation - YES \_\_\_\_\_ NO \_\_\_\_\_**
- 52.219-8 UTILIZATION OF SMALL BUSINESS CONCERNS (MAY 2004)
- 52.219-9 SMALL BUSINESS SUBCONTRACTING PLAN (SEPT 2006) – ALTERNATE I (NOV 2007)
- 52.219-16 LIQUIDATED DAMAGES-SUBCONTRACTING PLAN (JAN 1999)
- 52.219-28 POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION (JUN 2007)
- 52.222-1 NOTICE TO THE GOVERNMENT OF LABOR DISPUTES (FEB 1997)
- 52.222-3 CONVICT LABOR (JUN 2003)
- 52.222-4 CONTRACT WORK HOURS AND SAFETY STANDARDS ACT - OVERTIME COMPENSATION (JULY 2005)
- 52.222-6 DAVIS-BACON ACT (JULY 2005)
- 52.222-7 WITHHOLDING OF FUNDS (FEB 1988)
- 52.222-8 PAYROLLS AND BASIC RECORDS (FEB 1988)
- 52.222-9 APPRENTICES AND TRAINEES (JULY 2005)
- 52.222-10 COMPLIANCE WITH COPELAND ACT REQUIREMENTS (FEB 1988)
- 52.222-11 SUBCONTRACTS (LABOR STANDARDS) (JULY 2005)
- 52.222-12 CONTRACT TERMINATION-DEBARMENT (FEB 1988)
- 52.222-13 COMPLIANCE WITH DAVIS-BACON AND RELATED ACT REGULATIONS (FEB 1988)
- 52.222-14 DISPUTES CONCERNING LABOR STANDARDS (FEB 1988)
- 52.222-15 CERTIFICATION OF ELIGIBILITY (FEB 1988)
- 52.222-21 PROHIBITION OF SEGREGATED FACILITIES (FEB 1999)
- 52.222-26 EQUAL OPPORTUNITY (MAR 2007)
- 52.222-27 AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS FOR CONSTRUCTION (FEB 1999)
- 52.222-35 EQUAL OPPORTUNITY FOR SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS (SEPT 2006)
- 52.222-36 AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES (JUN 1998)

- 52.222-37 EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS (SEPT 2006)
- 52.223-3 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA (JAN 1997) -- ALTERNATE I (JUL 1995) (**See Buy American Page, Section B**)
- 52.223-6 DRUG-FREE WORKPLACE (MAY 2001)
- 52.223-14 TOXIC CHEMICAL RELEASE REPORTING (AUG 2003)
- 52.224-1 PRIVACY ACT NOTIFICATION (APR 1984)
- 52.224-2 PRIVACY ACT (APR 1984)
- 52.227-1 AUTHORIZATION AND CONSENT (DEC 2007)
- 52.227-2 NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT (DEC 2007)
- 52.227-4 PATENT INDEMNITY - CONSTRUCTION CONTRACTS (DEC 2007)
- 52.228-2 ADDITIONAL BOND SECURITY (OCT 1997)
- 52.228-5 INSURANCE-WORK ON A GOVERNMENT INSTALLATION (JAN 1997)
- 52.228-11 PLEDGES OF ASSETS (FEB 1992)
- 52.228-12 PROSPECTIVE SUBCONTRACTOR REQUESTS FOR BONDS (OCT 1995)
- 52.228-15 PERFORMANCE AND PAYMENT BONDS—CONSTRUCTION (NOV 2006)
- 52.229-3 FEDERAL, STATE, AND LOCAL TAXES (APR 2003)
- 52.232-5 PAYMENTS UNDER FIXED - PRICE CONSTRUCTION CONTRACTS (SEPT 2002)
- 52.232-17 INTEREST (JUN 1996)
- 52.232-23 ASSIGNMENT OF CLAIMS (JAN 1986)
- 52.232-27 PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS (SEPT 2005)
- 52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER--CENTRAL CONTRACTOR REGISTRATION (OCT 2003)
- 52.233-1 DISPUTES. (JUL 2002) -- ALTERNATE I (DEC 1991)
- 52.233-3 PROTEST AFTER AWARD (AUG 1996)
- 52.233-4 APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM (OCT 2004)
- 52.236-1 PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984) 50%
- 52.236-2 DIFFERING SITE CONDITIONS (APR 1984)
- 52.236-3 SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984)

- 52.236-5 MATERIAL AND WORKMANSHIP (APR 1984)
- 52.236-6 SUPERINTENDENCE BY THE CONTRACTOR (APR 1984)
- 52.236-7 PERMITS AND RESPONSIBILITIES (NOV 1991)
- 52.236-8 OTHER CONTRACTS (APR 1984)
- 52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT,  
UTILITIES, AND IMPROVEMENTS (APR 1984)
- 52.236-10 OPERATIONS AND STORAGE AREAS (APR 1984)
- 52.236-11 USE AND POSSESSION PRIOR TO COMPLETION (APR 1984)
- 52.236-12 CLEANING UP (APR 1984)
- 52.236-13 ACCIDENT PREVENTION (NOV 1991) -- ALTERNATE I (NOV 1991)
- 52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984)
- 52.236-17 LAYOUT OF WORK (APR 1984)
- 52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997)
- 52.236-26 PRECONSTRUCTION CONFERENCE (FEB 1995)
- 52.242-13 BANKRUPTCY (JUL 1995)
- 52.242-14 SUSPENSION OF WORK (APR 1984)
- 52.243-4 CHANGES (JUNE 2007)
- 52.243-6 CHANGE ORDER ACCOUNTING (APRIL 1984)
- 52.244-6 SUBCONTRACTS FOR COMMERCIAL ITEMS (SEPT 2006)
- 52.245-1 PROPERTY RECORDS (JUNE 2007)
- 52.245-2 GOVERNMENT PROPERTY (FIXED-PRICE CONTRACTS) (MAY 2004)
- 52.245-19 GOVERNMENT PROPERTY FURNISHED "AS IS" (APR 1984)
- 52.246-12 INSPECTION OF CONSTRUCTION (AUG 1996)
- 52.248-3 VALUE ENGINEERING - CONSTRUCTION (SEPT 2006) -- ALTERNATE I  
(APR 1984)
- 52.249-2 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT  
(FIXED-PRICE) (MAY 2004) -- ALTERNATE I (SEP 1996)
- 52.249-10 DEFAULT (FIXED-PRICE CONSTRUCTION) (APR 1984)
- 52.253-1 COMPUTER GENERATED FORMS (JAN 1991)
- 1252.211-70 INDEX FOR SPECIFICATIONS (APR 2005)
- 1252.242-73 CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (OCT 1994)

**52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK  
(APR 1984)**

The Contractor shall be required to (a) commence work under this contract within 10 calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than (See Standard Form 1442). The time stated for completion shall include final cleanup of the premises.

(End of Clause)

**52.211-12 LIQUIDATED DAMAGES - CONSTRUCTION (SEPT 2000)**

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of (See Page 41 of the FP-03, Table 108-1 under Subsection 108.04) for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

(End of Clause)

**52.222-39 NOTIFICATION OF EMPLOYEE RIGHTS CONCERNING  
PAYMENT OF UNION DUES OR FEES (DEC 2004)**

(a) *Definition.* As used in this clause—

“United States” means the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island.

(b) Except as provided in paragraph (e) of this clause, during the term of this contract, the Contractor shall post a notice, in the form of a poster, informing employees of their rights concerning union membership and payment of union dues and fees, in conspicuous places in and about all its plants and offices, including all places where notices to employees are customarily posted. The notice shall include the following information (except that the information pertaining to National Labor Relations Board shall not be included in notices posted in the plants or offices of carriers subject to the Railway Labor Act, as amended (45 U.S.C. 151-188)).

## Notice to Employees

Under Federal law, employees cannot be required to join a union or maintain membership in a union in order to retain their jobs. Under certain conditions, the law permits a union and an employer to enter into a union-security agreement requiring employees to pay uniform periodic dues and initiation fees. However, employees who are not union members can object to the use of their payments for certain purposes and can only be required to pay their share of union costs relating to collective bargaining, contract administration, and grievance adjustment.

If you do not want to pay that portion of dues or fees used to support activities not related to collective bargaining, contract administration, or grievance adjustment, you are entitled to an appropriate reduction in your payment. If you believe that you have been required to pay dues or fees used in part to support activities not related to collective bargaining, contract administration, or grievance adjustment, you may be entitled to a refund and to an appropriate reduction in future payments.

For further information concerning your rights, you may wish to contact the National Labor Relations Board (NLRB) either at one of its Regional offices or at the following address or toll free number:

National Labor Relations Board  
Division of Information  
1099 14th Street, N.W.  
Washington, DC 20570  
1-866-667-6572  
1-866-316-6572 (TTY)

To locate the nearest NLRB office, see NLRB's website at <http://www.nlr.gov>.

(c) The Contractor shall comply with all provisions of Executive Order 13201 of February 17, 2001, and related implementing regulations at 29 CFR part 470, and orders of the Secretary of Labor.

(d) In the event that the Contractor does not comply with any of the requirements set forth in paragraphs (b), (c), or (g), the Secretary may direct that this contract be cancelled, terminated, or suspended in whole or in part, and declare the Contractor ineligible for further Government contracts in accordance with procedures at 29 CFR part 470, Subpart B—Compliance Evaluations, Complaint Investigations and Enforcement Procedures. Such other sanctions or remedies may be imposed as are provided by 29 CFR part 470, which implements Executive Order 13201, or as are otherwise provided by law.

(e) The requirement to post the employee notice in paragraph (b) does not apply to—

(1) Contractors and subcontractors that employ fewer than 15 persons;

(2) Contractor establishments or construction work sites where no union has been formally recognized by the Contractor or certified as the exclusive bargaining representative of the Contractor's employees;

(3) Contractor establishments or construction work sites located in a jurisdiction named in the definition of the United States in which the law of that jurisdiction forbids enforcement of union-security agreements;

(4) Contractor facilities where upon the written request of the Contractor, the Department of Labor Deputy Assistant Secretary for Labor-Management Programs has waived the posting requirements with respect to any of the Contractor's facilities if the Deputy Assistant Secretary finds that the Contractor has demonstrated that—

(i) The facility is in all respects separate and distinct from activities of the Contractor related to the performance of a contract; and

(ii) Such a waiver will not interfere with or impede the effectuation of the Executive order;  
or

(5) Work outside the United States that does not involve the recruitment or employment of workers within the United States.

(f) The Department of Labor publishes the official employee notice in two variations; one for contractors covered by the Railway Labor Act and a second for all other contractors.

The Contractor shall—

(1) Obtain the required employee notice poster from the Division of Interpretations and Standards, Office of Labor-Management Standards, U.S. Department of Labor, 200 Constitution Avenue, NW, Room N-5605, Washington, DC 20210, or from any field office of the Department's Office of Labor-Management Standards or Office of Federal Contract Compliance Programs;

(2) Download a copy of the poster from the Office of Labor-Management Standards website at <http://www.olms.dol.gov>; or

(3) Reproduce and use exact duplicate copies of the Department of Labor's official poster.

(g) The Contractor shall include the substance of this clause in every subcontract or purchase order that exceeds the simplified acquisition threshold, entered into in connection with this contract, unless exempted by the Department of Labor Deputy Assistant Secretary for Labor-Management Programs on account of special circumstances in the national interest under authority of 29 CFR 470.3(c). For indefinite quantity subcontracts, the Contractor shall include the substance of this clause if the value of orders in any calendar year of the subcontract is expected to exceed the simplified acquisition threshold. Pursuant to 29 CFR part 470, Subpart B—Compliance Evaluations, Complaint Investigations and Enforcement Procedures, the Secretary of Labor may direct the Contractor to take such action in the enforcement of these regulations, including the imposition of sanctions for noncompliance with respect to any such subcontract or purchase order. If the Contractor becomes involved in litigation with a subcontractor or vendor, or is threatened with such involvement, as a result of such direction, the Contractor may request the United States, through the Secretary of Labor, to enter into such litigation to protect the interests of the United States.

(End of Clause)

**52.225-11 Buy American Act—Construction Materials under Trade Agreements (Nov 2006)**

(a) *Definitions.* As used in this clause—

“Caribbean Basin country construction material” means a construction material that—

- (1) Is wholly the growth, product, or manufacture of a Caribbean Basin country; or
- (2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a Caribbean Basin country into a new and different construction material distinct from the materials from which it was transformed.

“Component” means an article, material, or supply incorporated directly into a construction material.

“Construction material” means an article, material, or supply brought to the construction site by the Contractor or subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

“Cost of components” means—

- (1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the construction material (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or
- (2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the construction material.

“Designated country” means any of the following countries:

- (1) A World Trade Organization Government Procurement Agreement country (Aruba, Austria, Belgium, Canada, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea (Republic of), Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, or United Kingdom);
- (2) A Free Trade Agreement country (Australia, Bahrain, Canada, Chile, El Salvador, Guatemala, Honduras, Mexico, Morocco, Nicaragua, or Singapore);
- (3) A least developed country (Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Djibouti, East Timor, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Laos, Lesotho, Madagascar, Malawi, Maldives, Mali, Mauritania, Mozambique, Nepal, Niger, Rwanda, Samoa, Sao Tome and Principe, Senegal, Sierra Leone, Solomon Islands, Somalia, Tanzania, Togo, Tuvalu, Uganda, Vanuatu, Yemen, or

Zambia); or

(4) A Caribbean Basin country (Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, British Virgin Islands, Costa Rica, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, Montserrat, Netherlands Antilles, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, or Trinidad and Tobago).

“Designated country construction material” means a construction material that is a WTO GPA country construction material, an FTA country construction material, a least developed country construction material, or a Caribbean Basin country construction material.

“Domestic construction material” means—

- (1) An unmanufactured construction material mined or produced in the United States; or
- (2) A construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic.

“Foreign construction material” means a construction material other than a domestic construction material.

“Free Trade Agreement country construction material” means a construction material that—

- (1) Is wholly the growth, product, or manufacture of a Free Trade Agreement (FTA) country; or
- or
- (2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a FTA country into a new and different construction material distinct from the materials from which it was transformed.

“Least developed country construction material” means a construction material that—

- (1) Is wholly the growth, product, or manufacture of a least developed country; or
- (2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a least developed country into a new and different construction material distinct from the materials from which it was transformed.

“United States” means the 50 States, the District of Columbia, and outlying areas.

“WTO GPA country construction material” means a construction material that—

- (1) Is wholly the growth, product, or manufacture of a WTO GPA country; or
- (2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a WTO GPA country into a new and different construction material distinct from the materials from which it was transformed.

(b) Construction materials.

(1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) by providing a preference for domestic construction material. In addition, the Contracting Officer has determined that the WTO GPA and Free Trade Agreements (FTAs) apply to this acquisition. Therefore, the Buy American Act restrictions are waived for designated country construction materials.

(2) The Contractor shall use only domestic or designated country construction material in performing this contract, except as provided in paragraphs (b)(3) and (b)(4) of this clause.

(3) The requirement in paragraph (b)(2) of this clause does not apply to the construction materials or components listed by the Government as follows:

1. None

[Contracting Officer to list applicable excepted materials or indicate "none"]

(4) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(3) of this clause if the Government determines that—

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the restrictions of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;

(ii) The application of the restriction of the Buy American Act to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American Act.

(1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(4) of this clause shall include adequate information for Government evaluation of the request, including—

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American Act

applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(4)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American Act applies, use of foreign construction material is noncompliant with the Buy American Act.

(d) *Data.* To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

Foreign and Domestic Construction Materials Price Comparison

| Construction Material Description | Unit of Measure | Quantity | Price (Dollars)* |
|-----------------------------------|-----------------|----------|------------------|
|-----------------------------------|-----------------|----------|------------------|

*Item 1:*

|                                |       |       |       |
|--------------------------------|-------|-------|-------|
| Foreign construction material  | _____ | _____ | _____ |
| Domestic construction material | _____ | _____ | _____ |

*Item 2:*

|                                |       |       |       |
|--------------------------------|-------|-------|-------|
| Foreign construction material  | _____ | _____ | _____ |
| Domestic construction material | _____ | _____ | _____ |

[List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.]

[Include other applicable supporting information.]

[\* Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).]

(End of clause)

**52.236-4 PHYSICAL DATA (APR 1984)**

Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

(a) The indications of physical conditions on the drawings and in the specifications are the result of site investigations by \_\_\_\_\_\*.

(b) Weather conditions: Contact National Weather Service.

(c) Transportation facilities NA.

(d) \_\_\_\_\_\*.

\* See continuation of Standard Form 1442.

(End of Clause)

**52.252-4 ALTERATIONS IN CONTRACT (APR 1984)**

Portions of this contract are altered as follows:                     None                    .

(End of Clause)

GENERAL DECISION: **NV20080034** 02/15/2008 NV34

Date: February 15, 2008

General Decision Number: **NV20080034** 02/15/2008

Superseded General Decision Number: NV20070041

State: Nevada

Construction Type: Highway

County: Clark County in Nevada.

EXCLUDES NEVADA TEST SITE (NTS), NATIONAL TEST AND TRAINING RANGE (NTTR) AND TONOPAH TEST RANGE (TTR)

| Modification Number | Publication Date |
|---------------------|------------------|
| 0                   | 02/08/2008       |
| 1                   | 02/15/2008       |

CARP1780-009 07/01/2007

|                                      | Rates    | Fringes |
|--------------------------------------|----------|---------|
| CARPENTER (Including Form Work)..... | \$ 35.58 | 9.53    |

ZONE PAY:

0 to 40 miles radius from intersection of Maryland Parkway and Charleston Blvd in Las Vegas: Free Zone

40 to 60 miles radius: \$2.50 additional per hour

Over 60 miles radius: \$4.25 additional per hour

Laughlin Area: \$2.00 additional per hour

-----  
ELEC0357-008 06/01/2007

|                  | Rates    | Fringes  |
|------------------|----------|----------|
| ELECTRICIAN..... | \$ 35.09 | 13.82+3% |

-----  
ENGI0012-015 07/01/2007

|  | Rates    | Fringes |
|--|----------|---------|
| POWER EQUIPMENT OPERATOR   |          |         |
| (01) Oiler, Forklift (Under 5 tons).....   | \$ 31.44 | 15.25   |
| (02) Forklift (Over 5 tons).\$   | 32.39    | 15.25   |
| (03) Skid Steer Loader/Bobcat.....   | \$ 32.68 | 15.25   |
| (04) Roller Base (Ride Along), Backhoe/ Loader Combo, Backhoe, Broom/ Sweeper, Screed, Auger |          |         |

|  |       |
|--|-------|
| Drill (Drilling depth of<br>30 Ft. maximum).....\$ 34.17   | 15.25 |
| (06) Asphalt Plant,<br>Bulldozer, Curb/Gutter<br>Machine, Roller,<br>Finishing/Asphalt (Ride<br>Along), Auger Drill<br>(Drilling depth of 45 Ft.<br>maximum).....\$ 34.50                            | 15.25 |
| (08) Crusher, Milling<br>Machine, Including Milling<br>Machine Groundsman, loader<br>(Athey, Euclid, Sierra and<br>similar types), Auger<br>Drill (Drilling depth of<br>60 ft. maximum).....\$ 34.50 | 15.25 |
| (09) Mechanic.....\$ 35.60   | 15.25 |
| (10) Grader/Blade/Motor<br>Patrol, Auger Drill<br>(Drilling to 105 ft.<br>maximum), Loader (Crawler<br>and Wheel-type over 6 and<br>1/2 yds.).....\$ 34.62   | 15.25 |
| (12) Auger Drill (Drilling<br>depth of 175 ft. maximum),<br>Excavator.....\$ 34.79   | 15.25 |
| (13) Scraper (Up to 25 cu.<br>yds.).....\$ 34.89   | 15.25 |
| (15) Scraper (Over 25 cu.<br>yds. and up to and<br>including 50 cu. yds.).....\$ 35.00   | 15.25 |
| (16) Scraper (Over 50 cu.<br>yds.).....\$ 35.12  | 15.25 |

ZONE PAY:

Add \$1.50 per hour to wage rates:  
20 miles to 40 miles from the City Hall of Las Vegas

Add \$2.50 per hour to wage rates:  
40 Miles to 60 Miles from the City Hall of Las Vegas

Add \$3.00 per hour:  
Over 60 Miles from the City Hall of Las Vegas

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ENGI0012-017 07/01/2007

|  | Rates | Fringes |
|--|-------|---------|
| POWER EQUIPMENT OPERATOR<br>(CRANES)                           |       |         |
| (08) Up to and including<br>25 tons.....\$ 34.79               |       | 15.25   |
| (09) Over 25 tons up to<br>and including 50 tons.....\$ 34.96  |       | 15.25   |
| (10) Over 50 tons up to<br>and including 100 tons.....\$ 35.96 |       | 15.25   |

|   |       |
|---|-------|
| (11) Over 100 tons up to<br>and including 200 tons.....\$ 36.96 | 15.25 |
| (12) Over 200 tons up to<br>and including 300 tons.....\$ 37.96 | 15.25 |
| (13) Over 300 tons.....\$ 38.96                                 | 15.25 |

ZONE PAY:

Add \$1.50 per hour to wage rates:  
20 miles to 40 miles from the City Hall of Las Vegas

Add \$2.50 per hour to wage rates:  
40 Miles to 60 Miles from the City Hall of Las Vegas

Add \$3.00 per hour:  
Over 60 Miles from the City Hall of Las Vegas

-----  
IRON0118-008 07/01/2007

|                                     | Rates | Fringes |
|-------------------------------------|-------|---------|
| IRONWORKER, STRUCTURAL.....\$ 30.51 |       | 20.92   |

-----  
LABO0872-010 07/01/2007

|  | Rates | Fringes |
|--|-------|---------|
| LABORER  |       |         |
| (1) Form Stripping, Common<br>or General, Guard Rail<br>Installer.....\$ 23.06                             |       | 16.33   |
| (2) Asphalt Dumpman,<br>Asphalt Raker, Asphalt<br>Shoveler, Trencher Hand<br>Guided.....\$ 23.27           |       | 16.33   |
| (3) Jackhammer, Pipelayer,<br>Mason Tender-<br>Cement/Concrete, Concrete<br>Saw (Walk Behind).....\$ 23.37 |       | 16.33   |
| (3A)Concrete Vibrator.....\$ 23.87   |       | 16.33   |
| (4) Sandblaster.....\$ 23.46   |       | 16.33   |
| (8) Flagger.....\$ 21.56   |       | 16.33   |

-----  
PLAS0797-009 07/01/2007

|   | Rates | Fringes |
|---|-------|---------|
| CEMENT MASON/CONCRETE FINISHER...\$ 31.28 |       | 11.25   |

-----  
SUNV2007-045 12/05/2007

|  | Rates | Fringes |
|--|-------|---------|
| LABORER: Cone Setter.....\$ 18.12                  |       | 7.02    |
| OPERATOR: Paver, Including<br>Asphalt.....\$ 36.76 |       | 0.00    |

-----  
TEAM0631-008 07/01/2007

|              | Rates    | Fringes |
|--------------|----------|---------|
| TRUCK DRIVER |          |         |
| GROUP 1..... | \$ 25.69 | 15.79   |
| GROUP 2..... | \$ 25.79 | 15.79   |
| GROUP 3..... | \$ 26.00 | 15.79   |
| GROUP 4..... | \$ 26.18 | 15.79   |

ZONE PAY:

ZONE 1: All work within 30 road miles of City Hall in Las Vegas shall be considered a Free Zone.

ZONE 2: All work 30 to 50 road miles from City Hall in Las Vegas shall receive \$1.50 additional per hour.

ZONE 3: All work 50 to 70 road miles from City Hall in Las Vegas shall receive \$2.50 additional per hour.

ZONE 4: ALL work over 70 road miles from City Hall in Las Vegas shall receive \$3.50 additional per hour.

CLASSIFICATIONS

GROUP 1: Flatbed; Dump Truck less than 12 yds.; Water Truck under 2,500 gal.

GROUP 2: Dump trucks 12 yds but less than 16 yds.; Water Truck 2,500 to 4,000 gal.

GROUP 3: Dump trucks 16 yds up to and including 22 yds.; Water Truck 4,001 gal. but less than 6,000 gal.

GROUP 4: Dump trucks over 22 yds.; Water Truck over 6,000 gal.; Semi Truck

-----  
WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.  
=====

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(ii)).

-----  
In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.  
-----

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

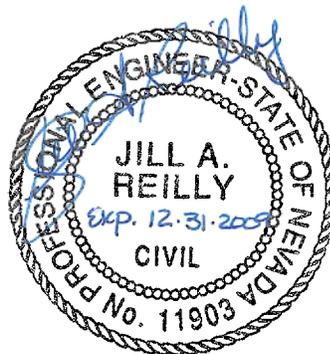
4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

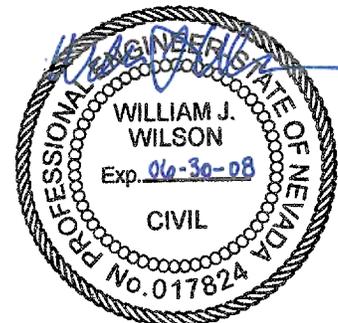
**SPECIAL CONTRACT REQUIREMENTS**



5-28-2008  
Structures Only



5-28-2008  
DRAINAGE ONLY



05-28-08  
ROADWAY ONLY

**SPECIAL CONTRACT REQUIREMENTS**

The following Special Contract Requirements amend and supplement the *Standard Specifications for Construction of Roads and Bridges, on Federal Highway Projects (FP-03) Metric Version*, U.S. Department of Transportation, Federal Highway Administration.

**SI (METRIC)<sup>(1)</sup> TO U.S. CUSTOMARY CONVERSION FACTORS (approximate)**

**To the table on page iv, amend the second line of the MASS and the second line of the ILLUMINATION portion of the table as follows:**

| Symbol              | When You Know          | Multiply By | To Find       | Symbol |
|---------------------|------------------------|-------------|---------------|--------|
| <b>MASS</b>         |                        |             |               |        |
| kg                  | kilograms              | 2.2046      | pounds        | lb     |
| <b>ILLUMINATION</b> |                        |             |               |        |
| cd/m <sup>2</sup>   | candela/m <sup>2</sup> | 0.2919      | foot-Lamberts | fl     |

**Section 101. - TERMS, FORMAT, AND DEFINITIONS****101.03 Abbreviations.** Add the following:

LMNRA – Lake Mead National Recreation Area  
 NPS - National Park Service  
 FLHP - Federal Lands Highway Program  
 FWS - U.S. Fish and Wildlife Service  
 LA - Landscape Architect  
 PE - Professional Engineer  
 SWPPP - Storm Water Pollution Prevention Plan

**101.04 Definitions.** Add the following:

**Certificate of Compliance** – A signed statement by a person having legal authority to bind a company or supplier to its product. Such a certificate shall state that the materials or assemblies furnished fully comply with the requirements of the contract.

**Topsoil** – This term is used to describe the top 100 mm of soil within areas to be disturbed by the project. This layer contains seeds of the native plants. It is useful to stockpile this soil/seed mix and spread out after new slope have been graded. This facilitates the growth of native plants and quickens the revegetation of the new slopes.

**Slope Stake Limits** – The catch points for the slope stakes at the top of cuts and the bottom (toe) of fills. These theoretical catches are generally included in the plans and are typically drawn on the plan and profile sheets. The designed slope may be adjusted during the construction phase to accommodate such things as slope ratio changes, grade raises, line shifts and/or drainage modifications.

## **Section 104. – CONTROL OF WORK**

### **104.03 Specifications and Drawings. Add the following:**

**(c) As-built working drawings.** Prepare and furnish as-built working drawings prior to final acceptance. The Government will provide one set of 280 x 430 millimeter contract drawings to be used exclusively for recording the as-built details of the project. Mark plans on title sheet “As-Built Plans”. Use red ink to record the information described below.

Note all additions or revisions to the location, character and dimensions of the prescribed work shown on the contract drawings. Location changes are to be shown in the same coordinate system used for the staking notes. Strikeout all details shown that are not applicable to the completed work. Check and initial all plan sheets that were incorporated into the completed work without change.

Retain the drawings at the project site and, as work progresses, continuously update them to reflect the as-built details. Submit a copy of the updated as-built drawings at least every 30 days to the CO for review for compliance with these specifications.

As a minimum, show the following information on the as-built drawings:

#### **(1) Title Sheet**

- (a) Name of contractor.
- (b) Name of Project Engineer.
- (c) Project completion date.
- (d) Revisions to project length.
- (e) Revisions to begin and end stations of project.
- (f) Revisions to index to sheets.
- (g) Strikeout any schedules or options not awarded.
- (h) A note stating “All work was constructed as designed unless otherwise noted.”

#### **(2) Typical section(s)**

- (a) Revisions in dimensions.
- (b) Revisions in materials.
- (c) Revisions in station ranges.
- (d) Revisions to begin and end stations of project, and length of project.

- (e) Revisions to station equations.
- (f) Revisions to slope ratio and curve widening tables.
- (g) Revisions to any notes.

**(3) Summary of Quantities and Tabulation Sheets**

- (a) Revisions to all quantities, locations, notes/remarks, including totals.
- (b) Strikeout unused pay items.
- (c) Revisions to application rates.
- (d) Revisions to location, type, end treatments, riprap, skew, on drainage summary.

**(4) Control Sheets**

- (a) Show any control that was removed, destroyed, established, according to subsections 107.02, paragraph 2; 152.02, paragraph 2; and 152.03.
- (b) Use a unique naming convention for newly established control points. Do not reuse CFL control point numbers.

**(5) Plan and profile and layout sheets**

- (a) Revisions to the alignment; grades, elevations and stationing of intersection PIs; station equations and superelevation.
- (b) Major changes in the construction limits; particularly changes requiring additional design, additional right of way, or contract modifications. (Show information on plan and profile, layout sheets, and right of way plans if applicable.).
- (c) Changes in permanent rights of way caused by acquisition during construction. (Show information on plan and profile, layout sheets, and right of way plans if applicable). In addition, annotate any construction completed according to agreements made with landowners during construction.
- (d) Revisions in location, type and grade of road approaches.
- (e) Revisions in locations of sub-excavation and roadway obliteration.
- (f) Location, type and elevation of all constructed or relocated utilities, aerial and underground. Location, type and elevation of utilities not previously or inaccurately mapped, but encountered during construction, indicated as “approximate” or “as mapped”. (Show information on plan and profile and layout sheets and utilities plans if applicable).
- (g) Location, size and type of underdrains.
- (h) Location, number and type of horizontal, lateral, trench and blanket drains.
- (i) Revisions to culvert diameter, length, type, stationing, skew, riprap and end treatments.
- (j) Length of culvert extension, skew, and offset from centerline to the ends of extended culverts.
- (k) Channel changes.
- (l) Location of monuments and permanent references replaced according to subsection 107.02.
- (m) Location, length and type of fencing.
- (n) Location, length, stationing and type of walls.

- (o) Location, length, stationing and end treatment of roadside design features, including, but not limited to, guardrail, guardwall, signs, fences, gates, etc.
- (p) Revisions in location of pavement markings.
- (q) Revisions to parking areas or turnouts location.
- (r) Revisions in location, type and length of curbs, sidewalks, and accessible ramps.
- (s) Revisions to any notes.
- (t) Revisions to permanent erosion control measures.

**(6) Structural Sheets**

- (a) Stationing of bridge ends.
- (b) Revisions to footing and seal elevations.
- (c) Pile length, size, type and tip elevation.
- (d) Modifications and repairs to drilled shafts.
- (e) Any changes in plan or dimensions including any major changes in reinforcing.

**(7) Standards, Details, and Specials**

Revisions to notes, dimensions, locations, and materials.

No direct payment will be made for preparing and furnishing as-built working drawings. A retention of 1/10<sup>th</sup> of 1% of payment due will be withheld from project pay estimates if the Contractor has not kept current the designated set of as-built plans. In addition, a retention of 1/10<sup>th</sup> of 1% of the contract amount paid to date will be withheld at the end of the project until the set of as-built plans has been submitted to and accepted by the Project Engineer. The final completed as-built working drawings must be submitted to and accepted by the Contracting Officer before final acceptance will be granted on the project.

**104.05 Load Restrictions.** Add the following:

Triple trailers are not allowed inside the park boundary.

**Section 105. - CONTROL OF MATERIAL**

**105.01 Source of Supply and Quality Requirements.** Add the following:

Submit samples of materials for quality verification testing for materials required to conform to Sections 703, 704, and 705.

Materials containing petroleum-based solvents such as cutback asphalts and traffic paints may be restricted from use by local laws or ordinances in certain geographic areas. Upon presenting proof of such restrictions, alternate materials considered acceptable to the CO may be substituted for the materials specified in the contract.

**105.02 Material Sources.**

**(a) Government-provided sources.** Delete the second sentence and add the following to the end of the first paragraph:

An estimated quantity of 9,000 cubic meters of excess embankment material is stockpiled at station 71+000 near the Overton Beach/Northshore Road intersection and is available for use only as embankment. No test reports are available regarding the classification of the material.

**(b) Contractor-located sources.** Add the following to the end of the first paragraph:

For Contractor-located, non-commercial sources, secure environmental clearances according to Subsection 107.10.

**105.04 Storing and Handling Material.** Add the following after the third sentence of the second paragraph:

For Contractor-located, non-commercial staging, storing, and material handling areas, secure environmental clearances according to Subsection 107.10.

Add the following:

The following areas are available for staging:

- (1) Station 53+100 left
- (2) Station 67+600 right
- (3) Station 70+920 right
- (4) Overton Beach Marina paved parking area
- (5) Areas as approved by the CO and LMNRA

The following areas are available for stockpiling conserved topsoil:

- (1) Existing pullouts
- (2) Station 53+100 left
- (3) Station 67+620 right
- (4) Station 70+920 right
- (5) Areas as approved by the CO and LMNRA

The Following areas are available for stockpiling excess material for obliteration areas:

- (1) Station 53+100 left
- (2) Station 67+600 right
- (3) Areas as approved by the CO and LMNRA

**Section 106. - ACCEPTANCE OF WORK****106.01 Conformity with Contract Requirements.** Delete the text and substitute the following:

Follow the requirements of FAR Clause 52.246-12 Inspection of Construction.

References to standard test methods of AASHTO, ASTM, GSA, and other recognized standard authorities refer to the methods in effect on the date of solicitation for bids.

Perform all work to the lines, grades, cross-sections, dimensions, and processes or material requirements shown on the plans or specified in the contract.

Incorporate manufactured materials into the work according to the manufacturer's recommendations or to these specifications, whichever is more strict.

Plan dimensions and contract specification values are the values to be strived for and complied with as the design values from which any deviations are allowed. Perform work and provide material that is uniform in character and reasonably close to the prescribed value or within the specified tolerance range. The purpose of a tolerance range is to accommodate occasional minor variations from the median zone that are unavoidable for practical reasons.

When standard manufactured items are specified (such as fence, wire, plates, rolled shapes, pipe conduits, etc., that are identified by gauge, unit mass, section dimensions, etc.), the identification will be considered to be nominal masses or dimensions. Unless specific contract tolerances are noted, established manufacturing tolerances will be accepted.

The Government may inspect, sample, or test all work at any time before final acceptance of the project. When the Government tests work, copies of test reports are furnished to the Contractor upon request. Government tests may or may not be performed at the work site. If Contractor testing and inspection is verified by the Government, the Contractor's results may be used by the Government to evaluate work for acceptance. Do not rely on the availability of Government test results for process control.

Acceptable work conforming to the contract will be paid for at the contract unit bid price. Four methods of determining conformity and accepting work are described in Subsections 106.02 to 106.05 inclusive. The primary method of acceptance is specified in each Section of work. However, work may be rejected at any time it is found by any of the methods not to comply with the contract.

Remove and replace work that does not conform to the contract, or to prevailing industry standards where no specific contract requirements are noted, at no cost to the Government.

**(a) Disputing Government test results.** If the accuracy of Government test results is disputed, promptly inform the CO. If the dispute is unresolved after reasonable steps are taken to resolve

the dispute, further evaluation may be obtained by written request. Include a narrative describing the dispute and a proposed resolution protocol that addresses the following:

- (1) Sampling method
- (2) Number of samples
- (3) Sample transport
- (4) Test procedures
- (5) Testing laboratories
- (6) Reporting
- (7) Estimated time and costs
- (8) Validation process

If the evaluation requires additional sampling or testing be performed, mutually agree with the Government on witnessing procedures and on sampling and testing by a third party laboratory. Use a third party laboratory accredited by the AASHTO accreditation program. Provide proof of the laboratory's accreditation for the test procedures to be used. Do not use the same laboratory that produced the disputed Government test results or that produced the test results used as a basis for the dispute.

The CO will review the proposed resolution protocol and may modify it before final approval and execution.

The Government will use the approved resolution protocol test results to determine the validity of the disputed testing. If the Government test results are validated, the Contractor will be responsible for all costs associated with developing and performing the resolution protocol. If the Government test results are not validated, the Government will be responsible for all costs associated with developing and performing the resolution protocol. If the validity of the Government test results cannot be determined, the Contractor and Government will equally share all costs associated with developing and carrying out the resolution protocol.

**(b) Alternatives to removing and replacing non-conforming work.** As an alternative to removal and replacement, the Contractor may submit a written request to:

- (1) Have the work accepted at a reduced price; or
- (2) Be given permission to perform corrective measures to bring the work into conformity.

The request must contain supporting rationale and documentation. Include references or data justifying the proposal based on an evaluation of test results, effect on service life, value of material or work, quality, aesthetics, and other tangible engineering basis. The CO will determine disposition of the nonconforming work.

Where sample/testing procedures make reference to AASHTO, ASTM, or other standards (designated as FLH T), the procedure as modified in the Materials Manual shall govern. Where

the specifications make reference to AASHTO Test T11, "Procedure B - Washing Using a Wetting Agent" shall be the procedure followed.

Where the specifications make reference to AASHTO Test T310, "Direct Transmission Method of In-Place Nuclear Density and Moisture Content" shall be the procedure followed.

Reference to the Materials Manual means the Federal Lands Highway "Field Materials Manual, U.S. Department of Transportation, Federal Highway Administration," Publication No. FHWA-FL-91-002, dated March 1991, revised March 1994, and all amendments and supplements thereto. Copies are available from the Materials Engineer, Federal Highway Administration, Central Federal Lands Highway Division, Materials Branch, P.O. Box 25246, Denver, Colorado 80225-0246, Telephone: (720) 963-3537.

**106.03 Certification.** Add the following after the second paragraph:

See Table 106-3 for schedule for full or partial acceptance by material certification. Submit certification and sample of material for testing as required.

**106.05 Statistical Evaluation of Work and Determination of Pay Factor (Value of Work).**

**(b) Acceptance.** Delete the last sentence of the second paragraph and substitute the following:

If a lot is concluded or terminated with fewer than three samples, the samples will be combined with those of an adjacent lot. In the event there is no adjacent lot, the material will be accepted according to Subsection 106.04.

**Table 106-2 Pay Factor.**

The Pay Factor 1.03, category I row: Delete the value 84 in the n=9 column and substitute the value 94.

The Pay Factor 0.75, category II row: Delete the value 35 in the n=3 column and substitute the value 25.

**Table 106-3 Schedule For Full or Partial Acceptance by Materials Certification.** Add Table 106-3 following Table 106-2.**Table 106-3**  
**Schedule For Full or Partial Acceptance by Materials Certification**

| Section     | Description  | Material   | Material Property Or Specification              | Frequency      |                |
|-------------|--|--|---|----------------|----------------|
|             |  |  |   | Certification  | Sample         |
| 306         | Dust Palliative  | Magnesium Chloride, Emulsified Asphalt, Lignin Sulfonate, Calcium Chloride | As specified                                    | 1 per shipment | First shipment |
| 308         | Minor Crushed Aggregate                                | Crushed Aggregate  | Source, Quality and Gradation                   | 1 per source   | 1 per source   |
| 404 and 417 | Minor Hot Asphalt Concrete, Minor Cold Asphalt Mix     | Aggregate Asphalt Mix  | Source quality, Gradation, Stability, and Grade | 1 per mix      | 1 per source   |
| 634 and 635 | Permanent Pavement Markings, Temporary Traffic Control | 634.02 as applicable, 635 as applicable                                    | As specified                                    | 1 per source   | -----          |
| 701         | Hydraulic Cement                                       | Portland Cement, Blended Hydraulic Cement and Masonry Cement               | AASHTO M 85, M 240, and ASTM C 91               | 1 per shipment | 1 per 100 tons |
| 702.01      | Asphalt Material                                       | Asphalt Cement   | AASHTO M 20, M 226, MP 1 or as applicable       | 1 per shipment | 1 per shipment |
| 702.02      | Asphalt Material                                       | Cut-back Asphalt   | AASHTO M 81 or M 82 as applicable               | 1 per shipment | 1 per shipment |
| 702.03      | Asphalt Material                                       | Emulsified Asphalt   | AASHTO M 140 or M 208 as applicable             | 1 per shipment | 1 per shipment |
| 702.05      | Asphalt Material                                       | Asphalt Materials used for Damproofing and Waterproofing Concrete Surfaces | As specified for each type of asphalt material  | 1 per shipment | -----          |
| 702.06      | Recycling Agent  | As specified   | As applicable                                   | 1 per shipment | 1 per shipment |
| 702.08      | Antistrip  | As specified   | As applicable                                   | 1 per shipment | -----          |
| 706         | Concrete and Plastic Pipe                              | As specified   | As applicable                                   | 1 per shipment | -----          |
| 707         | Metal Pipe   | Metal Pipe as specified  | As applicable                                   | 1 per shipment | -----          |

| Section | Description                                    | Material            | Material Property Or Specification | Frequency                               |  |
|---------|--|---------------------|------------------------------------|---|--|
|         |  |                     |                                    | Certification                           | Sample   |
| 708     | Paint  | As specified        | As applicable                      | 1 per batch\lot                         | 1 sample for quantities >100L  |
| 709     | Reinforcing Steel and Wire Rope                | As specified        | As applicable                      | 1 per shipment                          | For 709.01 & 709.03 submit 3 1-meter bars of each size and grade of bar furnished.<br><br>709.02 submit 1 2-meter length for each size furnished |
| 710     | Fence and Guardrail                            | As specified        | As applicable                      | 1 per shipment                          | -----  |
| 711     | Concrete Curing Material and Admixtures        | As specified        | As applicable                      | 1 per material source per material type | -----  |
| 712     | Joint Material (all)                           | As specified        | As applicable                      | 1 per shipment                          | -----  |
| 713     | Roadside Improvement Materials (all)           | As specified        | As applicable                      | 1 per shipment                          | -----  |
| 714     | Geotextile and Geocomposite Drain              | As specified        | As applicable                      | 1 per shipment                          | 1 per project per type   |
| 715     | Piling   | As specified        | As applicable                      | 1 per shipment                          | -----  |
| 716     | Material for Timber Structures                 | Timber and Hardware | As applicable                      | 1 per shipment                          | -----  |
| 717     | Structural Metal                               | As specified        | As applicable                      | 1 per shipment                          | 717.01(e) minimum 6 per shipment for each size used.<br>717.10<br>1 per project  |
| 718     | Traffic Signing and Marking (all)              | As specified        | As applicable                      | 1 per shipment                          | -----  |
| 720     | Structural Wall and Stabilized Materials (all) | As specified        | As applicable                      | 1 per shipment per material type        | -----  |
| 721     | Electrical and Illumination Material (all)     | As specified        | As applicable                      | 1 per shipment per material type        | -----  |

| Section | Description             | Material     | Material Property<br>Or Specification | Frequency                           |        |
|---------|-------------------------|--------------|---------------------------------------|-------------------------------------|--------|
|         |                         |              |                                       | Certification                       | Sample |
| 722     | Anchor Material         | As specified | As applicable                         | 1 per shipment per<br>material type | -----  |
| 725     | Miscellaneous materials | As specified | As applicable                         | 1 per shipment per<br>material type | -----  |

**Section 107. - LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC****107.01 Laws to be Observed.** Add the following:

**Dust Permit.** Obtain permit for dust control from Clark County, Nevada. Place a sign within the project limits that show the Contractor's name and permit number. The permit application and current fees can be obtained at the following web address:

[http://www.accessclarkcounty.com/air\\_quality/permits\\_apps.htm](http://www.accessclarkcounty.com/air_quality/permits_apps.htm)

**Temporary Permit for Working in Water.** Comply with the requirements of the permit. The permit will expire January 15, 2009. The Government will extend the permit. Provide information as requested by the CO for the permit extension application.

**Section 401 and 404 of the Clean Water Act.**

Comply with the terms and conditions of the 404 permit. The Government has applied for a 404 Permit from the U.S. Corps of Engineer's. It is anticipated the permit will be Nationwide Permit 14. Do not commence with any work within the channels until this permit has been issued. The permit is anticipated to be issued prior to contract award. Comply with the terms and conditions, if any, specified in the 401 certification by the Nevada Division of Environmental Protection. Comply with the terms and conditions of any permits that are issued for the performance of work within the jurisdictional waters of the U.S.

**National Pollutant Discharge Elimination System (NPDES)**

Obtain a separate NPDES permit associated with industrial activity for any mobile asphalt and concrete plants that provide material for the project.

Implement the requirements for erosion control due to storm water runoff during construction as specified under the NPDES General Permit No. NVR100000 for Nevada.

**(a) General.** Designate the erosion control/water quality supervisor according to Subsection 157.03 who will be responsible for implementing the Storm Water Pollution Prevention Plan (SWPPP) and is qualified to conduct inspections and knowledgeable in the principles and practice of erosion and sediment controls. Ensure familiarity with SWPPP procedures and practices. Ensure that emergency procedures and the SWPPP are updated as needed and available for inspection. Ensure the SWPPP is consistent with requirements specified in applicable sediment and erosion site plans or site permits, or storm water management site plans or site permits approved by State or local officials. Comply with the Standard Conditions listed in Part V of the General Permit.

**(b) Preparation of SWPPP.** At least three weeks prior to beginning construction provide a draft SWPPP for the project, which includes the following information and forms:

- (1) Project description, including items a through j, Part III, A(1) of the General Permit
- (2) A general location project map and site map with all of the items listed in Part III (A)  
(1) (j) (i-xiv).
- (3) Expected sequencing of operations and construction schedule to include grubbing, excavation, grading, utilities and infrastructure installation and timing for implementation of control measures (BMPs) associated with these major construction activities
- (4) Identification of the party responsible for implementation of the control measures
- (5) Identification of the offsite material storage areas for overburden, dirt, topsoil, borrow areas, etc. and describe the temporary erosion/sediment controls that will be implemented to retain the material on-site during stormwater runoff
- (6) Weather monitoring procedure
- (7) Description of interim and permanent stabilization practices and a schedule for implementation
- (8) Descriptions and details of erosion and sediment controls, including dust control and structural practices to divert flows from exposed soils, store flows or otherwise limit runoff and discharge of pollutants from exposed areas
- (9) Description of measures that will be installed during construction to control pollutants in stormwater discharges that will occur after construction operations have been completed
- (10) Erosion control details and quantities provided in the plans
- (11) Controls for other potential onsite storm water pollutants
- (12) Spill prevention, control, and countermeasures plan (see (e) below)
- (13) Applicable specifications and Special Contract Requirements
- (14) Maintenance and inspection procedures and forms
- (15) Description of construction and waste materials expected to be stored on-site and controls to reduce pollutants from these materials, including storage practices to minimize exposure of these materials to stormwater, and spill prevention and response
- (16) Description of potential non-storm water discharges at the site
- (17) Description of pollutant sources from areas other than construction (including stormwater discharges from dedicated asphalt plants and dedicated concrete plants), and a description of controls and measures that will be implemented at those sites to minimize pollutant discharges
- (18) Notice of Intent (NOI) form to be submitted by Contractor and copy of NOI form submitted by CFLHD
- (19) Blank Notice of Termination (NOT) form
- (20) Contractor and Subcontractor Certification forms
- (21) Other record keeping forms and procedures, including dates of major grading activities, dates when construction activities temporarily or permanently cease, and dates when stabilization measures are initiated.
- (22) “Good housekeeping” practices and requirements

Modify the erosion and sediment control details, layout sheets, and quantities included in the plans, if necessary, to address project site conditions and proposed construction operations and include them in the SWPPP.

To comply with the General Permit, jointly review the draft SWPPP with the CO and agree to any needed revisions. Jointly approve and sign the revised SWPPP. The approved SWPPP will describe and ensure the implementation of practices, which will be used to reduce the pollutants in storm water discharges to assure compliance with the terms and conditions of the General Permit. When the SWPPP is approved and signed by the CO and Contractor, it will be the document in force on the project. Implement the SWPPP as required throughout the construction period.

Implement stabilization measures in arid areas (0-10 inches), semi-arid areas (10-20 inches) or in drought conditions as soon as practicable. If none of these conditions apply implement stabilization measures within 14 days of termination of construction unless construction will resume within 21 days.

Place the SWPPP and all updates in a three-ring binder so that completed inspection forms and other records may be inserted. Maintain a current copy of the SWPPP, including a copy of the General Permit, NOI, and all associated records and forms at the job site throughout the duration of the project. Make the SWPPP available for public inspection and for the inspection and use of the CO.

Maintain all related erosion control elements in proper working order throughout construction. Do not perform clearing and grubbing or earthwork until the SWPPP has been implemented.

Prior to construction, the Contractor and all subcontractors must sign certifications (included in the SWPPP) that they understand the requirements of the General Permit. Ensure that all subcontractors comply with the requirements of the General Permit.

At the completion of the project, provide the CO with the SWPPP, including inspection forms and all data used in developing and modifying the SWPPP. The Contractor is also required to retain a copy for a period of at least three years from the date the site is finally stabilized.

**(c) Notice of Intent (NOI).** After the draft SWPPP has been completed and approved, complete the Contractors NOI and submit it electronically to the Nevada Department of Environmental Protection at least two days prior to beginning of construction. The electronic NOI can be accessed at the following address:

[http://ndep.nv.gov/bwpc/storm\\_cont03.htm](http://ndep.nv.gov/bwpc/storm_cont03.htm)

The CO and the Contractor will each file a separate NOI. All necessary information must be provided on the form. Submit the NOI to the following address at least two days prior to the start of construction, including clearing and grubbing:

*Stormwater Coordinator 3173  
Bureau of Water Pollution control  
Nevada Division of Environmental Protection  
901 S. Stewart Street, Suite 4001  
Carson City, NV 89701*

Use the on-line NOI form to submit the NOI electronically. The on-line form is at the following address:

<http://nped.nv.gov/bwpc/ConstructionNOI/signin.aspx>

*The filing fee for the permit is \$200.00*

Call (775) 687-9417 with any questions concerning the NOI.

Post the NOI and NDEP NOI authorization at the construction site bulletin board throughout the duration of the project.

**(d) Erosion Controls.** Implement soil erosion controls according to the SWPPP and Section 157.

Maintain records in the SWPPP of the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

**(e) Controls for Other Pollutants.** Implement controls to eliminate the discharge of pollutants (other than erodible soil) into storm water, such as pollutants from materials stored onsite. Include the implementation of spill prevention and material management controls and practices to prevent the release of pollutants into storm water. Include these controls and practices and storage procedures for chemicals, construction materials and other pollution prevention measures in the SWPPP. List the quantities in the SWPPP for all petroleum products and hazardous material used on the project.

A spill prevention, control and countermeasures plan is required if the volume of oil (including fuel) in a single location exceeds 1,320 gallons. The total storage volume is the sum of all containers with a capacity of 55 gallons or more,

**(f) “Good Housekeeping” Practices and Requirements.** Specify the Contractor’s “good housekeeping” practices and requirements, including vehicle wash-down areas, onsite and offsite tracking control, protection of equipment storage and maintenance areas, and sweeping of highways and roadways related to hauling activities in the SWPPP.

Take precautions to prevent pollution of streams, lakes, and reservoirs with fuels, oil, bitumens, calcium chloride, magnesium chloride, Portland cement, fresh Portland cement concrete, raw

sewage, muddy water, chemicals or other harmful materials. Do not discharge these materials into channels leading to any stream, lake or reservoir.

Locate machinery servicing and refueling areas away from streambeds and washes to reduce the possibility and minimize the impacts of accidental spills or discharges.

Remove non-waste materials, such as used cans, oils, machine and equipment parts, paint, hazardous materials, plastic and rubber parts, discarded metals, and building materials from the construction site and dispose of at an approved landfill.

Where the Contractor's working area encroaches on a running or intermittent stream, construct and maintain adequate barriers to prevent the discharge of any contaminants into the stream.

Do not operate mechanical equipment in running streams unless approved in writing by the CO. Forging of running streams with construction equipment will not be permitted. Obtain approval from the CO to use temporary bridges or other structures whenever crossings are necessary.

Immediately clear streams, lakes and reservoirs of all work items, litter, debris or other obstructions inadvertently placed thereby or resulting from construction operations and prevent these from becoming a pollutant in stormwater.

Prevent exposure of construction chemicals to stormwater.

**(g) Inspections and Revisions to the SWPPP.** Conduct inspections at least once every seven calendar days and within 24 hours of the end of a storm event of 13 millimeters (0.5 inches) or greater. Weekly inspections can be waived until one month before thawing conditions if dates of the waiver are documented in the SWPPP, the project is in an area where frozen conditions are anticipated to continue for extended periods of time and land disturbance activities have been suspended. The area of inspection includes, but is not limited to, disturbed areas that have not been finally stabilized, areas used for storage of materials, locations where vehicles enter or exit the site, and all of the erosion and sediment controls that are included in the SWPPP. Monitor rainfall with a rain gauge accurate to the nearest 3 millimeters (0.125 inches) of rain.

Document the inspections on forms provided in the SWPPP. Retain inspection forms onsite in the SWPPP notebook throughout the construction period. Prepare and retain as part of the SWPPP a report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, and major observations relating to the implementation of the SWPPP for at least three years from the date that the site is finally stabilized. Sign the report according to Part V.B.I. of the General Permit.

Revisions to the SWPPP may be necessary during construction to make improvements or to respond to unforeseen conditions noted during construction or site inspections. For that purpose, specify in the SWPPP the mechanism whereby revisions may be proposed by the Contractor or the CO and incorporated into the plan, including review and approval of minor changes. Jointly

approve and sign each revision to the SWPPP. Implement approved modifications within seven calendar days following the date of the inspection when deficiencies or necessary corrections were first noted.

Update the SWPPP where there is a change in design, construction, operation, or maintenance at the construction site that has a significant effect on the discharge of pollutants to waters of the US that have not previously been addressed in the SWPPP or as may be required by the regulatory agencies responsible for water quality.

**(h) Notice of Termination (NOT).** File a NOT when final stabilization has been achieved on all portions of the site for which you are responsible or another operator has assumed control over all areas of the site that have not been finally stabilized.

### **107.02 Protection and Restoration of Property and Landscape.**

Delete the third sentence of the fourth paragraph and substitute the following:

There are no known natural, cultural, historic or archeological remains in the work area. Should any skeletons, artifacts, or other archeological remains be uncovered, suspend operations at the site of discovery, notify the CO immediately of the findings, and continue operations in other areas. Include with the notification a brief statement of the location and details of the findings. See FAR 52.236-2.

Add the following after the fourth paragraph:

Federal law prohibits the excavation, removal, damage, alteration, or defacement of any archeological resource on Federal or Indian lands. Do not remove any natural resource from LMNRA.

The Archeological Recourse Protection Act of 1979 (ARPA, Public Law 95-96) provides for civil penalties equal to the archeological value and cost of restoration and repair for damaged resources. In the event of a violation of these stipulations, the civil penalties provided for under ARPA may be brought to bear upon the Contractor.

Delete the sixth paragraph and substitute the following:

Before beginning work in an area, contact the local Utility Locator Service, at the phone number shown in the plans, to have all utilities located. Protect utilities from construction operations. Cooperate with utility owners to expedite the relocation or adjustment of their utilities to minimize interruption of service, duplication of work, and delays.

Contractor to field verify the location of existing utilities, including potholing where necessary, prior to beginning work in an area. Any discrepancy in the location of the utilities shown on the plans and the field located utilities is to be brought to the attention of the CO. Potholing will not be measures and paid for separately, but will be included in the work.

Add the following:

The locations of the utilities shown in the plans have been certified to a Quality Level D, with spot locations certified to a Quality Level A according to the CLFHD Utility Data Quality Certification requirements ([http://www.cflhd.gov/design/survey-map-row/documents/utility\\_process.pdf](http://www.cflhd.gov/design/survey-map-row/documents/utility_process.pdf)).

**Status of Utilities:**

|   | <i>Company</i> | <i>Utility Type</i> | <i>Contact Name</i> | <i>Phone Number</i> | <i>Status 1, 2, 3, or 4</i> |
|---|----------------|---------------------|---------------------|---------------------|-----------------------------|
| 1 | LMNRA          | Water               | Steve Spearman      | (702) 293-8984      | 4                           |
| 2 | LMNRA          | Sanitary Sewer      | Steve Spearman      | (702) 293-8984      | 4                           |
| 4 | Overton Power  | Power               | Randal Osaki        | (702) 397-2512      | 4                           |
| 5 | Moapa Valley   | Telephone           | John Lyon           | (702) 397-2225      | 1                           |
|   |                |                     |                     |                     |                             |
|   |                |                     |                     |                     |                             |

**Status 1:** The utilities are in conflict with the project and REQUIRE relocation by OTHERS DURING construction.

Moapa Valley will evaluate the relocation requirements and provide any necessary relocation to the fiber optic line that is located adjacent to the existing Northshore Road and Overton Beach Marina Road intersection. Provide Moapa Valley with 30 days notice prior to starting construction in this area.

**Status 2:** The utilities are in conflict with the project and REQUIRE relocation by the Contractor DURING construction.

**Status 3:** The utilities are in conflict with the project and REQUIRE relocation BEFORE construction.

**Status 4:** The utilities are located within the project rights of way but require NO relocation. The sanitary sewer crossing of the storm drain at the Echo Bay Marina station 7+417.524 will require encasement per subsection 602.03. Provide LMNRA with 2 weeks notice prior to starting construction of the storm drain at Echo Bay Marina.

The waterline crossings of the storm drain at the Echo Bay Marina station 7+292.123 and station 7+374.072 will require encasement per subsection 602.03. Provide LMNRA with 2 weeks notice prior to starting construction of the storm drain at Echo Bay Marina.

Protect the underground electric line at the Echo Bay Marina station 7+280.477 during construction of the storm drain. Provide Overton Power with 2 weeks notice prior to starting construction of the storm drain at Echo Bay Marina.

**107.03 Bulletin Board.** Add the following:

(g) “Beck” poster, according to FAR Clause 52.222-39 Notification of Employee Rights Concerning Payment of Union Dues or Fees.

**107.08 Sanitation, Health, and Safety.** Add the following:

Institute a litter control program during construction to eliminate accumulation of trash. Collect all trash so ravens are not attracted to the site, and subsequently prey on juvenile tortoises. Ravens are known predators of juvenile tortoises. Provide covered raven proof trash receptacles; remove trash from the construction site to trash receptacles at the close of each work day; and dispose of accumulated trash at the end of each work week.

**107.10 Environmental Protection.** Delete the text and substitute the following:

(a) **Spills of Petroleum Products or Hazardous Materials.** Properly clean up, mitigate, and remedy, if necessary, all spills of petroleum products, hazardous materials, or other chemical or biological products released from construction, fleet, or other support vehicles, or stationary sources. Respond in accordance with federal, state, and local regulations.

Immediately report to the CO any spill of petroleum products or a hazardous material. Report the spill to the appropriate federal, state, and local authorities, if the spill is a reportable quantity.

(b) **Water pollution.** Do not operate mechanized equipment or discharge or otherwise place any material within the wetted perimeter of any waters of the U.S. within the scope of the Clean Water Act (33 USC § 1251 et seq.). This includes wetlands unless authorized by a permit issued by the U.S. Army Corps of Engineers according to 33 USC § 1344, and, if required, by any State agency having jurisdiction over the discharge of material into the waters of the U.S. In the event of an unauthorized discharge:

- (1) Immediately prevent further contamination;
- (2) Immediately notify appropriate authorities; and
- (3) Mitigate damages as required.

Comply with the terms and conditions of any permits that are issued for the performance of work within the wetted perimeter of the waters of the U.S.

Separate work areas, including material sources, by the use of a dike or other suitable barrier that prevents sediment, petroleum products, chemicals, or other liquid or solid material from entering the waters of the U.S. Use care in constructing and removing the barriers to avoid any discharge of material into, or the siltation of, the water. Remove and properly dispose of the sediment or other material collected by the barrier.

**(c) Vehicles and equipment.** Limit the idling of construction vehicles to reduce construction equipment emissions. Cover all haul trucks bringing asphalt or other fill material from outside LMNRA to prevent seed transport. All construction equipment that is intended to be used for earth moving, shall be pressure washed to ensure freedom from exotic plants and noxious weed seeds prior to entering the Lake Mead National Recreation Area. This pressure washing shall be performed in a manner that will reasonably remove all soil, plants, and other foreign material from the under-carriage of equipment and from any surface where soil containing exotic/noxious seeds may exist. All such equipment is subject to inspection by the NPS to ensure compliance. Equipment that leaves the Park shall be re-washed prior to re-entering the Park. The CO will maintain records of inspections. Equipment found operating on the project that has not been inspected, or has oil leaks will be shut down and subject to citation.

Three exotic vegetation infestation zones listed below have been identified by the LMNRA within the project limits. Wash construction equipment used for off the existing pavement and drainage work within the designated infestation zones prior to these vehicles leaving these areas. The CO, in cooperation with the LMNRA, will designate the limits of each zone. Equipment used exclusively within the limits of the existing pavement and aggregate base do not need to be washed when leaving the designated zones.

Once construction equipment has been approved for entry, all equipment must follow the cleaning requirements for the Construction Zones listed below:

#### Construction Zone 1

Sta 52+400.00 - Sta 54+200.00 (Echo Wash Realignment) All equipment working in Construction Zone 1 can go to Construction Zone 2 or 3 without the requirement that they be cleaned.

#### Construction Zone 2

Sta 7+000.000 - Sta 7+592.974 (Echo Bay Marina) All equipment working in Construction Zone 2 must be cleaned before entering either Construction Zone 1 or Construction Zone 3.

#### Construction Zone 3

Sta 67+160.000 - Sta 69+230.000 (Valley of Fire Road Realignment) Sta 71+100.000 - Sta 72+200.000 (Overton Intersection Realignment) All equipment working in Construction Zone 3 must be cleaned before entering either Construction Zone 1 or 2

In general, when gasoline, diesel fuel, antifreeze, hydraulic fluid or any other chemical contained within the vehicle is released to the pavement or ground, proper corrective, clean-up, and safety actions specified in the SWPPP must be immediately implemented. All vehicles with load rating of 2 tons or greater should carry, at minimum, enough absorbent materials to effectively immobilize the total volume of fluids contained within the vehicle.

Repair oil leaks immediately on discovery. Do not use equipment that is leaking. Have oil pans and absorbent material in place prior to beginning repair work. Have the “on scene” capability of catching and absorbing leaks or spillages of petroleum products including antifreeze from breakdowns or repair actions with approved absorbent materials. Keep a supply of acceptable absorbent materials at the job site in the event of spills, as defined in the SWPPP. Sand or soil are not approved absorbent materials.

Use oil pans and absorbent materials to prevent leaks, spills and draining petroleum fluids from falling onto bare ground and paved surfaces during servicing of equipment. Dig up soils contaminated with such fluids, place in appropriate safety containers, and dispose of according to state and/or federal regulations.

#### General Guidelines for Construction Equipment and Vehicles

- Vehicles that enter through the entrance station and are normally used for highway driving and remain on asphalt pavement do not need to be washed.
- Vehicles used on well maintained/traveled service roads, such as those found in the developed areas, do not need to be washed.
- Vehicles used and or parked in approved staging/parking or stockpile areas do not need to be washed.
- Delivery trucks such as those delivering construction supplies like concrete, culverts, aggregate base, steel, equipment and other construction related supplies do not need to be washed.
- The requirement for washing construction equipment being moved between Park areas without leaving the Park will be discussed on a case by case basis. This will only be required if there is a substantial danger of exotic plant and noxious weed seeds being moved from and infested area to a clean area within the Park. NPS to designate weed infested areas and clean areas. NPS to designate areas within the Park where equipment washing can take place so the Contractor does not have to go back outside the Park.

#### **(d) Environmental Clearances.**

**(1) Contractor-Selected, Non-Commercial Areas.** Contractor-selected, non-commercial areas include, but are not limited to, material sources, disposal sites, waste areas, haul roads, and staging areas. (A commercial source is a current operating concern, which has in the recent past provided same-type materials or services). These requirements do not apply for areas identified by the NPS as having previously received clearance.

Prior to construction activities in Contractor-selected, non-commercial areas, provide the following to the CO and the NPS LMNRA (Attn: Mike Boyles 601 Nevada Highway, Boulder City, NV 89005 702-293-8978):

(a) A report with documentation, according to the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, to determine if prehistoric or historic buildings, structures, sites, objects, or districts listed or eligible for listing in the National Register of Historic Places (NRHP) are present and if they will be affected by the proposed activity. Include information identifying the location, total land area, and type of activity proposed. The NPS will review this documentation. The NPS will coordinate with the State Historic Preservation Officer (SHPO) and other parties, which will require the following time frames:

- (1) Coordination on a "no effect" determination may require 30 days or longer.
- (2) Coordination on eligibility and affects may require 45 days or longer.
- (3) Coordination on mitigation of adverse effects may require 60 days or longer.

(b) Written documentation that such activities will not affect any "Waters of the U.S." as defined by the U.S. Army Corps of Engineers. Provide documentation by an individual capable of performing wetland delineations according to the 1987 Corps of Engineers' manual. Documentation of effects to wetlands or other Waters of the U.S. will be submitted to the CO and to the NPS Environmental section. If wetlands are affected, coordination with the Corps of Engineers may require 45 days or longer.

(c) Written documentation that such activities will not affect any species protected under the Endangered Species Act (ESA). Provide documentation prepared by a biological specialist. The written documentation will include a "no effect," a "may affect-is not likely to adversely affect," or a "may affect-is likely to adversely affect," determination according to Section 7 of the Endangered Species Act. Submit the documentation to the CO and the NPS Environmental Section. If the determination is "may affect-is not likely to adversely affect" or "may affect-is likely to adversely affect," the NPS will coordinate with the U.S. Fish and Wildlife Service (FWS), which will require the following time frames:

- (1) "May affect-is not likely to adversely affect" may require 45 days or longer.
- (2) "May affect-is likely to adversely affect" may require 150 days or longer.

Contract time will not be increased due to the submittal and approval process for the above three items.

**107.11 Protection of Forests, Parks, and Public Lands.** Add the following:

Limit construction activity to the construction limits/clearing limits. If disturbance does occur outside the construction limits, the CO may require the contractor to install temporary construction fence at the construction limits as a protective barrier throughout the entire length of the project for no pay. Also, the cost to mitigate the area of disturbance beyond the construction limits will be determined by the CO in conjunction with the NPS. If the problem persists, the operation causing the disturbances will be shut down.

The Endangered Species Act protects the desert tortoise. If any tortoise is found within the project area during construction, cease construction activities in the immediate area and notify the CO. The CO will arrange for corrective measures by a qualified tortoise biologist. If a tortoise burrow is found within the clearing limits and it is necessary to relocate the tortoise, assist the tortoise biologist in the removal. This may involve hand excavating the burrow to allow the biologist access to the tortoise.

Prior to beginning work within the project limits, all contractor personnel are required to attend an off-site tortoise education program and a construction limits training session provided by LMNRA staff. LMNRA staff will conduct these sessions on an as-needed basis to respond to changes in Contractor's staffing.

The purpose of temporary construction fences is to protect certain sensitive areas from intrusion by the Contractor's forces. Limit construction activities to within the limits of the roadway prism for rehabilitation sections. Limit construction activities to within the limits of construction for subexcavation and reconstruction sections and culvert installations. All historic stone headwalls will also be protected by temporary construction fence for protection during construction activities.

Lake Mead N.R.A. fire prevention plan involving emergency curtailment of operations is in effect on this project. Contact Robert Trodahl, Lake Mead National Recreation Area, Fire Program, at (702) 293-8628 for additional fire prevention plan information. The CO will order the suspension of burning and other operations when directed to do so by the National Park Service. No adjustment in the contract completion due date will be made for partial or total suspension of burning operations.

The burning of waste/surplus wood building material is forbidden without LMNRA authorization. Request for authorization must be requested 24 hours prior to burning activities and may be subject to inspection for sight and material. Wood products are the only permissible material to burn.

Should an unintentional fire occur, call Lake Mead Dispatch at (702)-293-8932 or 911. Call Lake Mead Dispatch even if the fire has been suppressed.

**Section 108. - PROSECUTION AND PROGRESS****108.01 Commencement, Prosecution, and Completion of the Work: Add the following:**

Limit operations as follows:

- Adhere to the construction limits as described in Subsection 107.11
- Adhere to the requirements under Subsection 201.03
- Adhere to the requirements under Subsection 624.04
- Perform no work between March 1<sup>st</sup> and November 1<sup>st</sup> except signing and striping, friction course application, and surveying without an on-site tortoise monitor. The NPS will provide the tortoise monitor. This corresponds to the desert tortoise active season. November 1<sup>st</sup> to March 1<sup>st</sup> is the desert tortoise hibernation season.
- Submit a written quality control plan in accordance with Subsection 153.02 before the start of work.
- Submit 3 copies of the preliminary construction schedule in accordance with Section 155 at least 7 calendar days before the preconstruction conference. Submit 3 copies of the construction schedule, in accordance with Section 155, within 30 calendar days after the notice to proceed is issued.
- Limit work to the hours of 6:00 a.m. to 10:00 p.m. Monday through Friday. One way traffic for culvert replacement and roadway tie in points from April 30th to October 1st is allowed from 6:00 a.m. Tuesday to 10:00 p.m. Thursday. One way traffic for culvert replacement and roadway tie in points from October 1st to April 30th is allowed from 6:00 a.m. Monday to 10:00 p.m. Thursday. During all other non working hours, open Northshore Road, Overton Beach Access Road and Echo Bay Access Road to two way traffic. No work will be allowed beyond these limitations without written approval from the CO and the NPS.
- Option Y: Echo Bay Marina: Complete all work between October 1st and April 30th.

Perform no work except to maintain traffic control devices, erosion control devices, the roadway driving surface, and to control dust during the listed Federal holidays and surrounding days:

- Memorial Day Weekend: 12:00 Noon Friday to 6:00 am Tuesday.
- Independence Day: 12:00 Noon July 3 to 6:00 am July 5.  
If July 4 falls on a weekend, Friday, or Monday, do not work the weekend.
- Labor Day Weekend: 12:00 Noon Friday to 6:00 am Tuesday.
- Thanksgiving: 12:00 Noon Wednesday to 6:00 am Monday.

- Christmas/New Years Holiday: 12:00 Noon December 23 to 6:00 am January 2.  
If December 23 or January 1 falls on a Monday, do not work the adjacent weekend and do not work on December 23. If January 1 falls on a Friday, do not work the weekend.

Exemptions to scheduled days off may be granted by written approval from the CO for specific project operations and/or for periods of limited duration.

Add the following:

A Notice to Proceed must be issued before commencement of any work. The count of contract time will begin upon issuance of the Notice to Proceed and shall run continuously until final construction completion.

## **Section 109. - MEASUREMENT AND PAYMENT**

### **109.08 Progress Payments.**

**(b) Closing date and invoice submittal date.** Delete the last sentence and substitute the following:

Submit invoices to the designated billing office by the 7th day after the closing date. Invoices received by the designated billing office after the 16th day following the closing date will not be accepted for payment processing that month. Include late, unprocessed invoice submittals in the following month's invoice.

**(e) Processing progress payment requests.**

**(1) Proper invoices.** Delete the title and text and substitute the following:

**(1) Invoices received by the 7th day following the closing date.**

*(a) Proper invoices.* If the invoice meets the requirements of Subsection 109.08(c), and the quantities and unit prices shown on the Contractor's invoice agree with the corresponding quantities and unit prices shown on the Government's receiving report, the invoice will be paid.

*(b) Defective invoices.* If the invoice does not meet the requirements of Subsection 109.08(c), or if any of the quantities or unit prices shown on the Contractor's invoice exceed the corresponding quantities and unit prices shown on the Government's receiving report, the invoice will be deemed defective and the Contractor so notified according to FAR Clause 52.232-27(a)(2). Defective invoices will not be corrected by the Government and will be returned to the Contractor within 7 days after the Government's designated billing office receives the invoice.

Revise and resubmit returned invoices by the 18th day following the closing date. The CO will evaluate the revised invoice. If the invoice still does not meet the requirements of Subsection 109.08(c), the Contractor will be so notified according to FAR Clause 52.232-27(a)(2), and no progress payment will be made that month. Correct the deficiencies and resubmit the invoice the following month.

If the revised invoice meets the requirements of Subsection 109.08(c), but still had quantities or unit prices exceeding the corresponding quantities and unit prices shown on the Government's receiving report, the Government's data for that item or work will be used. The Contractor's invoice, as revised by the Government's receiving report, will be forwarded for processing by the 23rd day following the closing date. The Contractor will be notified by the 23rd day following the closing date of the reasons for any changes to the invoice.

**(2) Defective invoices.** Delete the title and text and substitute the following:

**(2) Invoices received between the 8th and 16th day following the closing date.**

*(a) Proper invoices.* If the invoice meets the requirements of Subsection 109.08(d), and the quantities and unit prices shown on the Contractor's invoice agree with the corresponding quantities and unit prices shown on the CO's receiving report, the invoice will be deemed proper and forwarded for processing within 7 days of receipt.

*(b) Defective invoices.* If the invoice does not meet the requirements of Subsection 109.08(d), the invoice will be deemed defective, the Contractor so notified according to FAR Clause 52.232-27(a)(2), and no progress payment will be made that month. Correct the deficiencies and resubmit the invoice the following month.

If the invoice meets the requirements of Subsection 109.08(d), but has quantities or unit prices exceeding the corresponding quantities and unit prices shown on the Government's receiving report, the Government's data for that item of work will be used. The Contractor's invoice, as revised by the Government's receiving report, will be forwarded for processing within 7 days of the Government's receipt of the invoice. The Contractor will be notified of the reasons for any changes to the invoice.

**(f) Partial payments.** Add the following after the first paragraph:

Partial payments for stockpiled manufactured material (aggregates) will be based on Contractor process control test results. If test results show the material to be out-of-specification, or in "reject" where statistical evaluation procedures are used, no payment for stockpiled materials will be made.

**Section 151. - MOBILAZATION****Description****152.01** Add the following:

The Contractor can stage his offices and the CFL Laboratory at the Overton Beach Marina. No personal trailers will be allowed at the Overton Beach Marina area.

**Section 152. - CONSTRUCTION SURVEY AND STAKING****Construction Requirements****152.02 General.** Delete the first paragraph and substitute the following:

The Government will furnish to the Contractor one copy of each of the following information:

- 3D coordinates and offset distance from centerline for subgrade and surface course finishing stakes at 20-meter intervals and miscellaneous intermediate stations.
- Slope stake books containing centerline grade and slope staking information at 20-meter station intervals and miscellaneous intermediate stations.
- Computer listings containing: horizontal alignment, vertical alignment, earthwork quantities, and staking details showing superelevation template data and slope information.

The Government will provide files for downloading 3D data. Following is the information that will be provided electronically:

- 3D coordinates of control points.
- 3D coordinates of grade finishing stakes.
- 3D coordinates of slope stakes

The Government will perform the following:

- Establish basic survey control points for vertical and horizontal control of the project.

Delete the second sentence of the second paragraph and substitute the following:

Reestablish missing control points, and stakes before slope staking begins.

Add the following:

Furnish a practicable schedule of staking activities with the construction schedule submitted according to Section 155. Include the dates and sequence of staking requirements.

### **152.03 Survey and Staking Requirements.**

**(b) Roadway cross-sections.** Delete the text and substitute the following:

Take roadway cross-sections when required to re-catch slope stakes according to 152.03(c). Take roadway cross-sections normal to centerline. Along each cross-section, measure and record points at breaks in topography, but no farther apart than 5 meters. Space the points so that the maximum variation in vertical distance from a straight line between two consecutive points and the ground line does not exceed  $\pm 0.2$  meters. Measure and record points to at least the anticipated slope stake and reference locations. Reduce all cross-section distances to horizontal distances from centerline.

Submit one printed copy and one electronic file of the cross-sectional data in GEOPAK ASCII text format: station, offset, elevation, north coordinate, east coordinate, p-code text format. Include a file header that defines the data type of the column. (Contact Central Federal lands Survey Manager, at 720-963-3700 for more information on the format.) Include one observation per line in the submitted files showing the following data:

Station (nominal), offset from centerline, elevation, north coordinate, east coordinate, p-code (Feature code: RH for reference hub, CL for centerline).

**(f) Grade finishing stakes.** Delete the third paragraph and substitute the following:

The maximum longitudinal spacing between stakes is 10 meters when the centerline curve radius is less than or equal to 75 meters. When the centerline curve radius is greater than 75 meters, the maximum longitudinal spacing between stakes is 20 meters. The maximum transverse spacing between stakes is 10 meters. Reset grade finishing stakes as many times as necessary to construct the subgrade and each aggregate course. Use brushes or guard stakes at each stake.

**(g) Culverts.** Delete the first paragraph and substitute the following:

Verify, in the field, the approximate location of each individual culvert with the CO prior to surveying, designing, and staking culverts. Use the "Guide for Designing and Staking Culvert in the Field", dated January 9, 1996, issued by the U.S. Department of Transportation, Central Federal Lands Highway Division, Lakewood, CO, as a guide to the work in this section.

Perform the following:

**(4) Add the following:**

(a) For single skewed culverts, also submit a plotted field design cross-section, normal to roadway centerline, at each end section. Plot the offset and elevation of natural ground at the end section and at all proposed template break points between centerline and the end section. Ensure the template design embankment slope is not exceeded.

(b) For multiple skewed culverts, also submit a plotted field design cross-section, normal to roadway centerline, at the end sections (left and right) nearest to the shoulder. Plot the offset and elevation of natural ground at the end section and at all proposed template break points between centerline and the end section. Ensure the template design embankment slope is not exceeded.

**(5) Add the following:**

Plot at a scale of 1:100.

**Add the following:**

**(8)** When the field design has been approved, set culvert survey stakes, reference stakes, and stake inlet and outlet ditches to make the culvert, including end treatments (e.g., drop inlets) functional.

**(9)** Adjust slope stakes to provide for catch basins (and transitions into and out of catch basins) which correspond to the final culvert location and design. If the culvert was moved from location shown in the plans, review the slope stakes in the vicinity of the plan location and adjust the slope stakes to remove the planned catch basin.

**(l) Miscellaneous survey and staking. Delete the text and substitute the following:**

Perform all surveying, staking, recording of data, and calculations necessary for establishing the layout, control, and measurement required to construct the project. Perform the work in such a manner as to ensure the contract work is constructed in the proper location and to the required tolerances. Where staking increments are not identified, propose appropriate staking increments to the CO for acceptance.

**Add the following:**

**(m) Reference hub establishment.** Establish reference hubs and guard stakes on both sides of centerline at 20-meter station intervals and each intermediate cross-section as shown in the plans, according to the offset distance and elevation data furnished. Reference hubs shall be 19-millimeter square, 300 millimeter long oak or ash (hardwood) stakes driven flush with the natural ground. If rocky soil prohibits the use of stakes this long, 200-millimeter stakes can be

substituted. Reference hubs shall be set approximately 6 meters outside of the proposed cut limits and 5 meters outside of the proposed fill limits, except in rock cuts and wall areas. Should the Contractor be unable to set any of the reference hubs because of obstructions such as trees or boulders, alternate locations for the hubs shall be determined and computed in the field by the Contractor. The alternate point for the hub shall be along the station right-angle line to a more usable location. This move should be of minimal distance. Centerline points shall be 12d light boat nails (or equivalent) with flagging if the points fall within the existing highway surface, or 19 millimeter by 38 millimeter by 450 millimeter guard stakes if they fall outside the existing roadway. Reference hub and centerline guard/offset stakes shall be 19 millimeter by 38 millimeter by 450 millimeter finished size pine stakes painted white. Remove and dispose of any reference hubs and guard stakes previously placed by the Government.

### **Measurement**

**152.05** Delete the fourth paragraph and substitute the following:

Do not measure miscellaneous survey and staking.

**152.05** Add the following:

Reestablishing missing Government-set terrain cross-section reference hubs, control points, and stakes will be measured under Special labor, Hired survey services when it is paid by the hour. No payment will be made for re-establishing missing hubs, control points, or stakes after construction operations have begun.

## **Section 153. - CONTRACTOR QUALITY CONTROL**

### **Construction Requirements**

**153.02 Contractor Quality Control Plan.**

**(a) Process control testing.** Add the following:

See Table 153-1 for schedule of minimum sampling and testing for process control. Where no minimums are specified, submit proposed tests to be performed and the proposed sampling and testing frequencies.

For aggregates and/or aggregate/asphalt mixtures accepted under Subsection 106.03, sample and test for conformity with the Certification a minimum of one time per pay item.

**(b) Inspection/control procedures.**

**(3) Production phase.** Add the following:

(d) Inspect the work, materials or assemblies accepted under Subsection 106.03 to ensure that **all** the work and materials comply with contract requirements. Furnish the results of the work inspection, along with the product certification or commercial certification as applicable, to the CO prior to incorporating the materials into the work.

**(c) Description of records.** Add the following:

Identify the format for reporting test results, materials certifications and the procedures to be used to maintain inspection records.

**(d) Personnel qualifications.**

**(1) Add the following:**

Designate a Quality Control Supervisor (QCS) whose primary responsibility is managing the inspection system. The QCS will not be the Contractor's Superintendent. Designate a QCS who is experienced to perform and supervise all work inspection, sampling and testing. The QCS will monitor all phases of the work and identify deficiencies and take appropriate corrective action.

Add the following:

**(3) Personnel assigned to sampling or testing will have 1 year or more of recent job experience in the type of sampling and testing required by the contract, and the following:**

(a) NICET Level II certification in highway materials, or State (SHA) or industry certification-related sampling and testing equivalent to their intended responsibilities.

(b) WAQTC or other nationally accepted certification program for intended sampling and testing responsibilities.

or

(c) Current or previous employment by an AASHTO accredited laboratory performing sampling and testing equivalent to their intended responsibilities.

(d) Demonstrated proficiency or successful testing of one or more proficiency samples may be substituted for basic qualifications pending verification of test results.

**153.03 Testing.** Delete the title and text and substitute the following:

**153.03 Sampling and Testing.** Perform the work required by Table 153-1 and by the accepted Quality Control Plan.

**(a) Acceptance sampling.** Acceptance sampling schedules and times or locations will be provided by the CO. Use a procedure for random sampling. In addition, sample any material that appears defective or inconsistent with similar material being produced, unless such material is voluntarily removed and replaced or otherwise corrected.

**(b) Testing.** If the Government-furnished field laboratory option is not exercised by the CO, furnish a laboratory equipped with all test equipment necessary to satisfy the requirements of the contract. Ensure test equipment has been checked, calibrated, standardized and/or otherwise verified in accordance with AASHTO and ASTM standards by an individual qualified to do this work. Ensure mobile laboratories receive an equipment inspection after the laboratory has been moved to its permanent location on the project site and anytime it is moved thereafter. Inspect equipment within 45 days of actual use in project testing and at least once a year thereafter. Do not use equipment that has not been inspected or is found to be deficient. Mark deficient equipment and take it out-of-service until it is repaired or replaced and shown by subsequent inspection to perform as required. Maintain records documenting these inspections in the laboratory. Provide certification(s) stating the equipment conforms to testing requirements and provide evidence of current inspection.

The CO may require the Contractor to perform testing to demonstrate acceptable equipment and an acceptable level of technician competence. The CO may also check equipment and inspection records to verify condition. Repair or replace equipment not meeting applicable requirements. Keep laboratory facilities clean and maintain equipment in proper working condition. Provide the CO unrestricted access to the laboratory for inspection and review.

**(c) Certifications.** For materials accepted by certification in accordance with 106.03, review all certifications to insure compliance with the requirements of the contract prior to incorporating materials into the work and provide a signed copy of the reviewed certification(s) to the CO.

**153.04 Records.** Add the following to the first paragraph:

When tests are on material being incorporated into the work, report test results within the reporting times indicated in the sampling and testing requirements at the end of each section or as specified in the contract.

Add the following to the second paragraph:

Detailed inspection results including deficiencies observed and corrective actions taken.

**153.05 Acceptance.** Add the following:

If chronic deficiencies are noted in the Contractor's inspection or testing systems, the CO may order supplemental inspection and/or testing to be performed. The Government will charge to the Contractor all costs associated with such supplemental inspection or testing.

**Table 153-1**  
**Schedule of Minimum Sampling and Testing For Process Control**  
(to be performed by the Contractor)

**Section(s): 204, 208, 209.**

| <b>Material</b>   | <b>Property or Characteristic</b>     | <b>Test Method or Specification</b>  | <b>Frequency</b>  | <b>Sampling Point</b>                         |
|---|---------------------------------------|--|---|---|
| Embankment Construction<br><br>Composition of Roadbed in Cuts | Classification and Moisture/Density   | AASTHO M 145<br>AASHTO T 99 or<br>AASHTO T 180<br>(minimum of 5 proctor points). | 1 per material/type.                                    | Source of material.                           |
|   | In-place density and moisture content | AASHTO T 310   | 2 per lift, but not less than 2 every 800 cubic meters. | Compacted embankment, subgrade as applicable. |
|   | R-value                               | AASHTO T 190<br>(Tested by FHWA Central Lab).                                    | 1 per 700 meters, or change in material type.           | Sample depth:<br>0-300 mm.                    |
| Bedding/Backfill for Structures and Culvert Pipe              | Classification and Moisture/Density   | AASTHO M 145<br>AASHTO T 99 or<br>AASHTO T 180<br>(minimum of 5 proctor points). | 1 per material/type.                                    | Source of material.                           |
|   | In-place density and moisture content | AASHTO T 310   | 1 per 15 meters/lift.<br>Minimum 2 per lift.            | Compacted bedding or backfill as applicable.  |

**Table 153-1**  
**Schedule of Minimum Sampling and Testing For Process Control**  
(to be performed by the Contractor)

**Section(s): 255.**

| <b>Material</b>  | <b>Property or Characteristic</b>     | <b>Test Method or Specification</b>                | <b>Frequency</b>  | <b>Sampling Point</b> |
|--|---------------------------------------|--|---|-----------------------|
| Select wall backfill 704.13(a) and Wall backfill 704.13(b) | Gradation and liquid limit            | AASHTO T 11 AASHTO T 27<br>AASHTO T 89 AASHTO T 90 | 1 per material/type   | Source of material    |
|  | Moisture Density                      | AASHTO T99,<br>Method C <sup>(1)</sup>             | 1 per material/type   | Source of material    |
|  | In-place density and moisture content | AASHTO T 310                                       | For MSE walls: 1 per 300-mm lift per 75-meters of wall length (minimum of 2 per lift) | Compacted backfill    |

<sup>(1)</sup> A minimum of 5 points are required for moisture density test.

**Table 153-1**  
**Schedule of Minimum Sampling and Testing For Process Control**  
(to be performed by the Contractor)

**Section(s): 301, 303, 304, 305, 306, 308.**

| <b>Material</b>                                   | <b>Property or Characteristic</b>                  | <b>Test Method or Specification</b>                             | <b>Frequency</b>   | <b>Sampling Point</b> |
|---|--|---|--|-----------------------|
| Subbase, Base<br>Course Aggregate                 | Gradation (301)                                    | AASTHO T 11<br>AASTHO T 27                                      | 2 per day  | Crusher belt          |
| Stabilization and<br>Aggregate Topsoil<br>Courses | Moisture/Density                                   | AASHTO T 99 or<br>AASTHO T 180<br>(minimum of 5 proctor points) | 1 per source of material                                   | Source of material    |
|   | In-place density and<br>moisture content           | AASHTO T 310 or<br>ASTM 2950                                    | 2 per lift at 300-meter<br>intervals, alternating<br>lanes | Compacted aggregate   |
|   | Plasticity index<br>(aggregate surfacing<br>only)  | AASHTO T 90   | 2 per day  | Crusher belt          |
|   | Gradation (304<br>materials processed<br>in place) | AASHTO T 11<br>AASHTO T 27                                      | 1 per 300 meters   | Processed material    |
| Magnesium<br>Chloride and<br>Calcium Chloride     | Specific Gravity                                   | Hydrometer  | 1 per shipment   | Transport vehicle     |

Note: Density and Moisture calculations AASHTO T 310...Density corrections based on moisture for recycled materials containing asphalts, or aggregates containing MgCl or CaCl will be made based on samples taken from each test site and oven-dried in the laboratory.

**Table 153-1**  
**Schedule of Minimum Sampling and Testing For Process Control**  
(to be performed by the Contractor)

**Section: 401.**

| <b>Material</b>                         | <b>Property or Characteristic</b> | <b>Test Method or Specification</b> | <b>Frequency</b>  | <b>Sampling Point</b>   |
|---|-----------------------------------|-------------------------------------|---|---|
| Superpave Hot Asphalt Concrete Pavement | Gradation                         | AASTHO T 11<br>AASHTO T 27          | 2 per day per stockpile   | Crusher belt (during production) and Cold Feed or Hot Bins (as applicable during production of hot mix) |
|   | Moisture content of aggregates    | AASHTO T 255                        | 1 per day   | Cold Feed (during production of hot mix)  |
|   | Compaction                        | ASTM D2950                          | Test strip, first day of production to establish roller pattern: 12 per 500 meters, then 3 per 500 meters | In place, after compaction  |
|   | Placement temperature             | Thermometer                         | As directed   | Behind laydown machine  |
|   | Surface tolerance                 | Straight edge and FLH T 504         | During and after compaction   | See Subsection 401.16   |
| Aggregate                               | Fine aggregate angularity         | AASHTO T 304, Method A              | 1 per day   | Cold Feed   |

**Table 153-1**  
**Schedule of Minimum Sampling and Testing For Process Control**  
(to be performed by the Contractor)

**Section(s): 402, 403, 404, 405, 408.**

| <b>Material</b>                     | <b>Property or Characteristic</b> | <b>Test Method or Specification</b> | <b>Frequency</b>  | <b>Sampling Point</b>   |
|-------------------------------------|-----------------------------------|-------------------------------------|---|---|
| Asphalt Concrete Pavement           | Gradation                         | AASTHO T 11<br>AASHTO T 27          | 2 per day per stockpile   | Crusher belt (during production) and Cold Feed or Hot Bins (as applicable during production of hot mix) |
| Open-Graded Asphalt Friction Course | Moisture content of aggregates    | AASHTO T 255                        | 1 per day   | Cold Feed (during production of hot mix)  |
| Asphalt Base Course                 | Compaction                        | ASTM D2950                          | Test strip, first day of production to establish roller pattern: 12 per 500 meters, then 3 per 500 meters | In place, after compaction  |
|                                     | Placement temperature             | Thermometer                         | As directed   | Behind laydown machine  |
|                                     | Surface tolerance                 | Straight edge and FLH T 504         | During and after compaction   | See Subsection 401.16   |

**Table 153-1**  
**Schedule of Minimum Sampling and Testing For Process Control**  
(to be performed by the Contractor)

**Section(s): 409, 410.**

| <b>Material</b>                      | <b>Property or Characteristic</b> | <b>Test Method or Specification</b> | <b>Frequency</b>                                      | <b>Sampling Point</b>                 |
|--------------------------------------|-----------------------------------|-------------------------------------|---|---------------------------------------|
| Chip seal aggregate                  | Gradation                         | AASTHO T 11<br>AASHTO T 27          | 2 per day   | Production belt or spreader discharge |
| Slurry seal aggregate                | Moisture content of aggregates    | AASHTO T 255                        | 1 per day   | Stockpile or spreader discharge       |
| Asphalt binder<br>Emulsified asphalt | Placement temperature             | Thermometer                         | Prior to each days production, followed by 2 each day | Distributor truck                     |

**Table 153-1**  
**Schedule of Minimum Sampling and Testing For Process Control**  
(to be performed by the Contractor)

**Section(s): 416, 418.**

| <b>Material</b>   | <b>Property or Characteristic</b> | <b>Test Method or Specification</b> | <b>Frequency</b>   | <b>Sampling Point</b>   |
|---|-----------------------------------|-------------------------------------|--|---|
| Continuous Cold Recycled Asphalt Base Course<br><br>Foamed Asphalt Stabilized Base Course | Gradation                         | AASTHO T 27<br>(maximum size only)  | 1 per 500 meters   | Recycled material prior to compaction   |
|   | Moisture content                  | FLH T 515                           | Minimum 1 per 500 meters alternating lanes (as necessary to comply with contract requirements)   | In place after compaction <b>and</b> prior to compaction to determine total moisture. |
|   | In-place density                  | ASTM D2950                          | 1 per 500 meters, alternating lanes (1 value will be equal to the mean of 3 in-place tests, and as necessary to comply with contract requirements) | In place after compaction   |

Note: Density and Moisture calculations ASTM D 2950...Density corrections based on moisture for recycled materials containing asphalts, or aggregates containing MgCl or CaCl will be made based on samples taken from each test site and oven-dried in the laboratory.

**Table 153-1**  
**Schedule of Minimum Sampling and Testing For Process Control**  
(to be performed by the Contractor)

**Section(s): 501, 552, 601.**

| <b>Material</b> | <b>Property or Characteristic</b>              | <b>Test Method or Specification</b> | <b>Frequency</b>                                    | <b>Sampling Point</b>      |
|-----------------|--|-------------------------------------|---|----------------------------|
| Concrete        | Gradation and fineness modulus                 | AASHTO T 11<br>AASHTO T 27          | 1 per day   | Aggregate, before batching |
|                 | Moisture                                       | AASHTO T 255                        | 1 per day/stockpile                                 | Aggregate, before batching |
|                 | Slump  | AASHTO T 119                        | 1 per 25 cubic meters,<br>minimum 1 per day         | See note                   |
|                 | Air content                                    | AASHTO T 152                        | 1 per 25 cubic meters,<br>minimum 1 per day         | See note                   |
|                 | Unit weight                                    | AASHTO T 121                        | 1 per 25 cubic meters,<br>minimum 1 per day         | See note                   |
|                 | Temperature                                    | Thermometer                         | 1 per 25 cubic meters,<br>minimum 1 per day         | See note                   |
|                 | Making test specimens for compressive strength | AASHTO T 23                         | 1 set per 25 cubic meters,<br>minimum 1 set per day | At point of discharge      |

Note: If an extended set admixture is used for the sole purpose of extending discharge times, sampling and testing will be performed by the Contractor at point of batching and discharge location to ensure compliance with Subsection 552.08.

**Section 154. - CONTRACTOR SAMPLING AND TESTING****Construction Requirements****154.02 Sampling.** Add the following:

Perform the initial curing of all concrete test cylinders. Provide for transporting the cylinders to the FHWA-Central Federal Lands Highway's Laboratory unless other testing facilities are authorized by the CO.

Label each concrete mold with the name and number of the Project, the cylinder number, date molded, location of the sample, and the test age (i.e. – 7, 14, or 28 days). Label the mold after casting and the cylinder after stripping to ensure the sample can be identified throughout the entire curing process.

Provide the required cylinder molds.

**154.03 Testing** Add the following:

Where Process Control Sampling and Testing frequencies in Table 153-1 are identical to the Sampling and Testing Tables for all applicable work the Process Control Samples may be used for acceptance.

Add the following subsections:

**154.03A Field Laboratory (Government-Furnished).** Refer to the “Notice To Bidders” in the bid proposal for information regarding the option to use a Government-Furnished field laboratory.

If the bid option “Item 15401-0000, Contractor Testing, Using Government Furnished Field Laboratory” is **exercised**, the government will provide for the Contractor's use a mobile field laboratory, including testing equipment as follows:

- Ignition Oven
- Convection Oven
- Liquid Limit Machine and Grooving Tool
- 30,000 Gram Balance
- 12,000 Gram Balance
- 4,600 Gram Balance (readable to 0.01)
- Platform Scale
- Mechanical Compactor (Moisture Density) and Accessories
- 8-inch Sieve Shaker and Sieve Stack
- 12-inch Sieve Shaker and Sieve Stack
- Drill Press with Muller

- Large Sample Splitter
- Small Sample Splitter

Provide any additional equipment or facilities necessary to fulfill the requirements of the Contract.

Transport the laboratory from 12300 West Dakota Avenue, Lakewood, CO to the point of use and return the laboratory to the same Lakewood address upon completion of the work. The trailer will be available upon issuance of Notice to Proceed and must be returned no later than 14 days following final acceptance of the contract. Contact the CFLHD Equipment Depot at **(720) 963-3386** for specific directions to the laboratory storage location.

Assume responsibility for the replacement of any and all missing or damaged equipment and for the repair of any damage to the laboratory. **Replacement cost for missing or damaged equipment or facilities will be deducted from any remaining monies owed the Contractor. If sufficient funds are not available under the Contract for such retention, the Contractor agrees to make payment directly to the Government for any damaged or missing equipment or facilities.**

Specifics:

Furnished equipment will be inspected by the Government by checking, standardizing, calibrating and/or verifying, as appropriate, in accordance with applicable AASHTO and ASTM standards. The Government equipment inspection will be completed after the laboratory has been moved to its permanent location on the project site prior to actual use in project testing and at least once a year thereafter. Notify the CO at least 30 days in advance of intent to use the testing equipment on the project so that Government equipment inspection can be scheduled and performed. Assume responsibility for additional equipment inspections prior to the Government's yearly inspection if the mobile laboratory is moved. Maintain records documenting these inspections in the laboratory.

Maintain equipment in proper operating condition. Do not use equipment that is found to be deficient or defective. Mark deficient or defective equipment and take it out-of-service and immediately notify the CO. If Government-furnished testing components fail through no fault or negligence of the Contractor, the Government will replace or repair the equipment in the most expeditious manner practicable. Requests for time extension and/or delay damages will not be granted for delays of less than 48 hours for any one occurrence, or for cumulative delays amounting to less than 5 (five) days in any one 365-day period. Requests for time extensions or damages due to equipment-related delays caused by equipment misuse or other Contractor fault will not be granted.

- Furnish water to the Government-provided field laboratory which is clear and free of oil, acid, rust, alkali, sugar, and vegetable substances. Furnish 120/240-volt, 60-cycle, single-phase current adequate to operate all of the Government field laboratory facilities at all times as required by the CO. Supply enough power to support a 200 amp service panel.

Equip the power supply with a regulator that limits the voltage of the power furnished to the laboratory to not less than 220 volts and not more than 240 volts.

- All equipment provided by the Government and replaced by the Contractor will remain with the laboratory and will become the property of the Government.
- Use of the laboratory is limited to testing materials in connection with this contract.

**154.03B Field Laboratory (Contractor-Furnished).** If the Government-furnished field laboratory bid option is not exercised, furnish a laboratory equipped with all test equipment necessary to satisfy the requirements of the contract.

The sampling and testing services of a commercial laboratory meeting or exceeding the requirements described herein may be used if all contract sampling and testing requirements are satisfied by the use of the commercial facility.

Ensure test equipment has been checked, calibrated, standardized and/or otherwise verified in accordance with AASHTO and ASTM standards by an individual qualified to do this work. Ensure mobile laboratories receive an equipment inspection after the laboratory has been moved to its permanent location on the project site and anytime it is moved thereafter. Inspect equipment within 45 days of actual use in project testing and at least once a year thereafter. Do not use equipment that has not been inspected or is found to be deficient. Mark deficient equipment and it take out-of-service until it is repaired or replaced and shown by subsequent inspection to perform as required. Maintain records documenting these inspections in the laboratory. Provide certification(s) stating the equipment conforms to testing requirements and provide evidence of current inspection.

The CO may require the Contractor to perform testing to demonstrate acceptable equipment and an acceptable level of technician competence. The CO may also check equipment and inspection records to verify condition. Repair or replace equipment not meeting applicable requirements. Keep laboratory facilities clean and maintain equipment in proper working condition. Provide the CO unrestricted access to the laboratory for inspection and review.

## **Section 155. - SCHEDULES FOR CONSTRUCTION CONTRACTS**

### **Construction Requirements**

**155.03 Bar Chart Method (BCM).** Delete this subsection.

**155.05 Written Narrative.** Add the following:

(j) List anticipated monthly and cumulative contract earnings (including, for schedule updates, any contract modifications) for each month from the beginning of construction operations through the completion of the work. Calculate and list each month's anticipated earnings through

the close of business on the date provided by the CO as the cut-off date for monthly project pay estimates.

## **Section 156. - PUBLIC TRAFFIC**

### **Construction Requirements**

**156.03 Accommodating Traffic During Work.** Delete the last two sentences of the first paragraph and substitute the following:

Submit situation-specific traffic control implementation drawings and alternate traffic control proposals according to Subsection 104.03 for acceptance at least 14 days before intended use.

**156.04 Maintaining Roadways During Work.**

(a) Add the following:

Do not construct diversions outside of the clearing limits or use alternate route detours without the approval of the CO.

Institute a 25 km/hr (15 mph) speed limit in unpaved areas within the construction limits.

**156.06 Limitations on Construction Operations.**

(c) Delete the first sentence and substitute the following:

For alternate one-way traffic control, provide a minimum lane width of 3 meters. For two-way traffic, provide a minimum roadway width of 6.6 meters.

(i) Delete the text and substitute the following:

Limit construction-caused delays to public traffic to a maximum of 15 minutes per passage through the project.

(j) Add the following:

Limit the length of area affected as approved by the CO. See Subsection 108.01 for limitations on work.

**Section 157. - SOIL EROSION CONTROL****157.02** Add the following:

Tackifier

713.12

**Construction Requirements****157.03 General.** Delete the second paragraph and substitute the following:

Standard erosion control devices are provided in the contract. Detail site-specific measures for controlling erosion and submit to the CO for acceptance prior to implementation. Provide working drawings and associated data that do not exceed 610 by 920 millimeters in size. Allow 7 days for acceptance of the drawings or a return for corrections. Include the following in the detailed design:

- (1) Address contractual requirements for storm water runoff permits, environmental commitments, and other permit requirements here or in Subsection 107.01 or 107.10.
- (2) Location of each proposed erosion control measure.
- (3) Type of each erosion control measure.
- (4) Quantities and estimated unit costs of proposed temporary erosion control devices to be implemented during construction.
- (5) A schedule detailing coordination of erosion control measures with the various construction operations or stages. Include the furnishing, installation, maintaining, and removing of temporary devices and the installation of permanent erosion control features.
- (6) A schedule outlining the proposed schedule of clearing and grubbing, excavation, embankment, and culvert operations such that the area of disturbed or erodible material is minimized. Schedule the work such that temporary and permanent erosion measures can be incorporated at the earliest practical time.
- (7) Construction methods used in various items of work to minimize erosion.

Add the following:

At least 5 days prior to the preconstruction conference, designate in writing an Erosion Control Supervisor who is responsible for implementing the requirements of this Section. Do not designate the project superintendent as the Erosion Control Supervisor.

Apply tackifier per Section 625.

When temporary erosion control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as part of the work in a timely manner, provide temporary measures at no cost to the Government.

**157.14 Acceptance.** Add the following:

Soil erosion control will be evaluated under Subsection 106.02 based on the demonstrated ability of the erosion control measures to result in minimal soil erosion, and sedimentation and/or siltation, within or adjacent to the project limits.

**Section 158. – WATERING FOR DUST CONTROL**

**Construction Requirements**

**158.03 General.** Add the following:

Water for dust control will only be available from Lake Mead at Echo Bay Marina, Overton Beach Marina, or at Callville Bay Marina at no charge. The Contractor will be allowed to build a temporary above ground pipeline and pump water into trucks. The use of a stand tank is permitted inside the project construction limits and at the marina. The area used to load the trucks must also be within the construction limits or at the marina. The location of the stand tank, pump, and access to the pump must be approved by the CO in consultation with the NPS.

**Section 201. – CLEARING AND GRUBBING**

**Description**

**201.01** Delete the text and substitute the following:

This work also consists of clearing and grubbing within the clearing limits designated on the plans.

**Construction Requirements**

**201.03 General.** Delete the test and substitute the following:

Select vegetation will be salvaged by the Park Staff. After staking the clearing limits notify the CO and allow four weeks after the notification for the Park staff to salvage vegetation before starting clearing and topsoil operations. Limits of the select vegetation are from station 53+420 to 53+440, station 67+300 to 67+540 and station 71+640 to 72+000.

Salvage rock, gravel and topsoil collectively to a depth of 100mm as described in Section 204 before grubbing stumps. Clearing and grubbing to be done concurrently with the removal of the topsoil. Remove vegetation in a manner that does not compact or gouge the topsoil. Do not mix topsoil with subsoils. Breakdown grasses and other vegetation less than 1 meter in height and incorporate into the topsoil.

Construct erosion control measures according to Section 157.

Install temporary plastic fence to protect vegetation and critical root zones designated to remain according to Section 635

Do not damage vegetation outside the clearing limits or within fenced areas. Do not fasten ropes, cables, or guy wires to vegetation. Prune limbs, branches, and treat cuts, scarred surfaces and shrubs according to ANSI A300 (Part 1). Protect shrub and vegetation roots from damage. Keep exposed roots moist until covered with soil.

If protected vegetation is damaged or destroyed, repair or replace, pay the damages, or any combination as determined by the CO.

**201.04 Clearing.** Delete the text and substitute the following:

Perform this work in conjunction with the conservation of topsoil under Subsection 204.05

Special equipment or techniques may be required to perform clearing around shrubs and vegetation designated to remain.

**201.05 Grubbing.** Delete the text and substitute the following:

Use only hand methods for grubbing inside drip lines of shrubs and vegetation designated to remain.

**201.06 Disposal.** Delete the text.

### **Measurement**

**201.08** Delete the text and substitute the following:

Do not measure clearing and grubbing for payment. All work under this section is considered subsidiary to Placing Conserved topsoil.

**Section 203. - REMOVAL OF STRUCTURES AND OBSTRUCTIONS****Construction Requirements****203.03 Salvaging Material.** Add the following:

Salvage, with reasonable care, and stockpile all highway signs, sign posts and delineators. If the signs, sign posts or delineators become damaged during removal they will become the property of the Contractor. Signs damaged by the contractor will be replaced at the contractor's expense. Do not remove regulatory signs until they are directly in the area of work and appropriate construction signs are in place. Stockpile signs and posts at the LMNRA maintenance facility located at Boulder City, NV.

Remove and stockpile the existing stone waterway protection at the outlet of culvert D276. Stockpile stones at a location as directed by the CO.

**203.04 Removing Material.** Delete the fifth paragraph and substitute the following:

Remove structures and obstructions in the roadbed to 1 meter below subgrade elevation. Remove structures and obstructions outside the roadbed to 0.5 meter below finished ground or to the natural stream bottom. Remove existing portions of the pier columns at the Echo Wash Bridge to 1.5 meters below the natural stream bottom.

**203.05 Disposing of Material.****(a) Remove from Project.** Add the following:

Secure environmental clearances according to Subsection 107.10. Remove and dispose of the entire quantity of asphalt generated from the Removal of Pavement operation from the site and dispose of it outside the limits of the LMNRA boundaries if the removed asphalt pavement is not incorporated into the work under subsection 301.04.

**(b) Burn.** Delete the text.**Section 204. - EXCAVATION AND EMBANKMENT****Description****204.01** Add the following:

This work will also include the hauling of suitable excess excavation from Schedule A and stockpiling it at the staging/storage area at Sta. 71+100. Perform this work according to Subsection 204.14. Subexcavate according to Subsection 204.07. Use subexcavation and other

unsuitable excavation in roadway obliteration areas as shown on the plans and according to Section 211.

Refer to the Seismic Refraction Survey, Echo Wash Realignment prepared by Ninyo & Moore for additional information evaluating the materials in excavation areas at Stations 52+700 right, 53+600 left and 53+700 left.

#### **204.02 Definitions.**

**(c) Conserved topsoil.** Delete the text and substitute the following:

Excavated material conserved from the roadway excavation and embankment foundation areas that is free from toxic substances, hard soil, clay, litter or other deleterious material, and is suitable for growth of grass, cover crops or native vegetation. Topsoil refers to the uppermost soil horizon, approximately 100 millimeters deep. It may include rock, mineral soil and or decayed organic and other materials capable of supporting vegetation.

**204.05 Conserved Topsoil.** Delete the text and substitute the following:

Remove topsoil before beginning other operations. Extract topsoil in one pass if possible. Use equipment capable of excavating small isolated pockets of topsoil. Manually remove topsoil in areas where topsoil cannot be removed mechanically. Do not mix topsoil with subsoil. Do not compact or drive upon topsoil during removal or stockpiling operations.

Conserve topsoil to a depth of 100 mm. There are two types of topsoil, gypsum and non-gypsum. Do not mix the two types of topsoil together. Determine the limits of the two types of topsoil in the field with LMNRA representative. Do not remove topsoil when wet.

Spray non-gypsum soil stockpiles lightly with water so that a surface crust forms.

Stockpile the gypsum topsoil separately from the non-gypsum topsoil. Gather topsoil in stockpiles less than 3 meters high within the project limits approved by the CO or in areas identified in Subsection 105.04. Identify removal areas and stockpiles with stakes so that topsoil may be replaced in the same locations. Provide diagrams of each stockpile storage areas so they can be identified if the stakes are lost or removed.

Do not stockpile topsoil for longer than three months unless approved by the CO. Place conserved topsoil according to Section 624.

**204.07 Subexcavation.** Add the following:

Use subexcavated material in roadway obliteration as shown on the plans and according to Section 211. Do not mix gypsum and non-gypsum materials. Stockpile the subexcavated material near the staging area south of the Valley of Fire Wash until obliteration work begins. Backfill the subexcavated area with suitable excess excavation.

**204.08 Borrow Excavation.** Add the following:

Borrowing for shouldering may be obtained from excess roadway excavation or roadside graded berms as directed by the CO. Obtain all borrow from within the project limits and not necessarily adjacent to the point of need.

**204.10 Embankment Construction.** Add the following:

If Option X is awarded, use the stockpile of suitable material generated from Schedule A for embankment construction. This is the stockpile located at Sta. 71+100. Also at this location are two other stockpiles. One is excess material generated from a previous project, PRA LAME 1(6). Use as much of this material as necessary to complete the project. The second of the two other stockpiles is construction debris, do not use this stockpile.

**204.13 Sloping, Shaping, and Finishing.** Add the following:

Final shaping and cleanup may require hand labor, see Section 623.

**(a) Sloping.** Delete the text and substitute the following:

Leave all slopes with roughened surfaces as they are being constructed. Construct slopes to staked slope ratios, but steepen or flatten randomly and intermittently to simulate the irregularity of existing terrain. Except in solid rock, round tops and bottoms of all slopes including the slopes of drainage ditches. Round material overlaying solid rock to the extent practical.

**(d) Finishing.** Add the following:

Round the bottom of fill slopes approximately 1.5 meters into existing topography. Round the top of cut slopes approximately 2.5 meters into the existing topography. Round additional areas as directed by the CO in consultation with the NPS.

Reshape slopes as directed by the CO in consultation with the NPS. This work will be paid under Section 622 Rental Equipment.

Remove all equipment tracks.

**204.14 Disposal of Unsuitable or Excess Material.** Add the following:

Secure environmental clearances according to Subsection 107.10.

Suitable excess excavation from Schedule A will be stockpiled at the staging\storage area at Sta. 71+100. If Option X is not awarded, surround the stockpile with silt fence to limit erosion. Use unsuitable excavation from Schedule A in roadway obliteration as shown on the plans and according to Section 211. Stockpile the unsuitable excavation from Schedule A near the staging area south of the Valley of Fire Wash until obliteration work begins. If Option Y is awarded, stockpile excess excavation from option Y at future Echo Bay Marina parking area as ordered by CO.

**Measurement****204.16****(a) Roadway Excavation.**

(1) Include the following volumes in roadway excavation:

(e) Delete the text and substitute the following:

Conserved topsoil stripped from cuts.

(h) Delete the text and substitute the following:

Conserved material taken from stockpiles and used in Section 204 work except topsoil measured under Section 624. Only materials required to be conserved by the CO are eligible for measurement under this item.

(2) Do not include the following in roadway excavation: Add the following:

(m) Conserved topsoil stripped from fills.

**(c) Embankment construction.**

(1) Include the following volumes in embankment construction:

(c) Delete the text.

(d) Delete the text.

**Measurement****204.16** Add the following:

Placing of subexcavated and unsuitable excavation in obliterated areas will be measured under Section 211.

**Payment****204.17** Add the following:

Payment for Item 20401 is limited to ten percent of the plan quantity of excavation in the cut until the slope rounding in that cut is completed.

Payment for hauling suitable excess excavation to the stockpile at Sta. 71+100 will be made under Item 20441-0000 Waste (suitable).

**Section 209. - STRUCTURE EXCAVATION AND BACKFILL****209.12 Acceptance.** Add the following:

Structural excavation (walls) work will be evaluated under Subsections 106.02 and 106.04.

**Measurement and Payment****209.13** Add the following:

Do not measure structural excavation (walls) for payment.

**Section 211.— ROADWAY OBLITERATION****Description****211.01** Add the following to subsection (a), delete Subsection (b).:

Apply conserved topsoil, if excess topsoil is available on finished slopes according to Section 624.

**Construction Requirements**

**211.02** Delete the text of this Subsection and substitute the following:

Construct erosion control devices according to Section 157.

Conserve topsoil according to Subsection 204.05.

Conform to the following when obliterating or closing roadways:

**(a) Rigid material.**

**(1) Nonasphalt material.** Break concrete pavements, curbs, gutters, sidewalks, and other nonasphalt rigid material into pieces and dispose of it according to Subsection 203.05(a).

**(2) Asphalt material.** Dispose of asphalt material according to Subsection 203.05(a) and in a manner consistent with State and local regulations. Asphalt material may be considered hazardous waste. Furnish copies of the disposal permits as required.

**(b) Nonrigid Material.**

**(1) Nonasphalt material.** Scarify or rip the gravel, crushed stone, or other nonrigid surface, base, and subbase material and dispose of according to Subsection 203.05(a). Do not mix with underlying soils. Scarify soils from sites where pavement has been removed to a depth of 150 millimeters.

## **Section 253. – GABIONS AND REVET MATTRESSES**

### **Construction Requirements**

**253.03 General.** Delete the first sentence and substitute the following:

Survey according to Section 152 and verify the limits of the structure.

**253.08 Revet Mattresses.** Delete the third sentence and substitute the following:

Anchor the mattress in place per the manufacturer's recommendations.

**Section 301. - UNTREATED AGGREGATE COURSES****Construction Requirements**

**301.03 General.** Delete the third paragraph and substitute the following:

For base course set target values within the gradation ranges shown in Table 703-2, grading C, D, or E.

For surface course aggregate set target values within the gradation range shown in Table 703-3.

**301.04 Mixing and Spreading.** Delete the second sentence of the first paragraph and substitute the following:

Removed pavement material may be incorporated into the aggregate base. If the pavement material is incorporated, mill or pulverize the existing asphalt pavement with an approved rotary milling machine to meet the following size requirements according to AASHTO T27:

| Sieve Designation | Percent Passing |
|-------------------|-----------------|
| 25 millimeters    | 100             |
| 19.5 millimeters  | 85 – 100        |

Mix the aggregate with the recycled pavement material and adjust the moisture content to obtain a uniform mixture with a moisture content within 2 percent of the optimum moisture content.

**Section 402. - HOT ASPHALT CONCRETE PAVEMENT BY  
HVEEM OR MARSHALL MIX DESIGN METHOD**

**Section 402** Delete the Section and substitute the following:

**Description**

**402.01** This work consists of constructing one or more courses of Hveem or Marshall hot asphalt concrete pavement.

The mix design method is designated as Hveem or Marshall. Hot asphalt concrete pavement class is designated as shown in Table 402-1. Aggregate grading is designated as shown in Table 703-4. Pavement smoothness type is designated as shown in Subsection 402.16. Asphalt binder is designated as shown in AASHTO M 320.

A minimum of one percent lime is required in the hot asphalt concrete mixture.

Pavement roughness is type I  
Asphalt binder grade is PG 76-22NV.

### Material

**402.02** Conform to the following Subsections:

|                           |        |
|---------------------------|--------|
| Aggregate                 | 703.07 |
| Antistrip additive        | 702.08 |
| Asphalt binder            | 702.01 |
| Mineral filler            | 725.05 |
| Recycled asphalt pavement | 703.19 |
| Recycling agent           | 702.06 |

### Construction Requirements

**402.03 Composition of Mix (Job-Mix Formula).** Furnish mixes of aggregate, asphalt binder, recycled asphalt pavement, and additives that meet the applicable aggregate gradation in Table 703-4 and design parameters in Table 402-1 for the mix class shown in the bid schedule.

**(a) Recycled asphalt pavement use.** Do not use recycled asphalt pavement in the top lift.

Up to and including 15 percent recycled asphalt pavement material by mass may be used in the mix without adjusting the asphalt binder grade. For mixes with over 15 percent, and up to and including 25 percent, recycled asphalt pavement material by mass, decrease the asphalt binder grade one performance level for both the upper and lower grade level of the asphalt binder specified or use an approved blending procedure with a recycling agent. Do not use more than 25 percent recycled asphalt pavement by mass.

For mixture design, use the specific gravity of the new (virgin) asphalt binder as the specific gravity of the asphalt binder in the recycled asphalt pavement. For calculation purposes, use the effective specific gravity of the aggregate in the recycled asphalt pavement as the bulk specific gravity. When the recycled asphalt pavement contains highly absorptive materials, estimate the amount of absorbed asphalt from historical records, and use the estimate to back-calculate the bulk specific gravity of the aggregate.

**Table 402-1  
Asphalt Concrete Mix Requirements**

| Design Parameters                                | Class of Mix |           |           |
|--|--------------|-----------|-----------|
|  | A            | B         | C         |
| <b>(a) Hveem (AASHTO T 246 and AASHTO T 247)</b> |              |           |           |
| (1) Percent air voids <sup>(1)</sup>             | 3.0 - 5.0    | 3.0 - 5.0 | 3.0 - 5.0 |

|  |                 |           |           |
|--|-----------------|-----------|-----------|
| (2) Stabilometer, minimum  | 37              | 35        | 30        |
| (3) Voids in mineral aggregate, min. %                           | See Table 402-2 |           |           |
| <b>(b) Marshall (AASHTO T 245)</b>                               |                 |           |           |
| (1) Percent air voids <sup>(1)</sup>                             | 3.0 - 5.0       | 3.0 - 5.0 | 3.0 - 5.0 |
| (2) Compaction, number of blows each end of test specimen        | 75              | 50        | 50        |
| (3) Stability, kilonewtons min.                                  | 8.900           | 5.340     | 4.450     |
| (4) Flow, 0.25 mm  | 8 - 14          | 8 - 16    | 8 - 20    |
| (5) Voids in mineral aggregate, min. %                           | See Table 402-2 |           |           |
| <b>(c) Moisture Susceptibility (AASHTO T 283) <sup>(2)</sup></b> |                 |           |           |
| (1) Tensile strength ratio, min.                                 | 0.80            | 0.80      | 0.80      |
| <b>(d) Dust to binder ratio <sup>(3)</sup></b>                   | 0.8 - 1.6       | 0.8 - 1.6 | 0.8 - 1.6 |

<sup>(1)</sup> The percent of air voids are based on AASHTO T 166, T 209, and T 269. Maximum specific gravity (density) will be based on AASHTO T 209. If more than 2.0 percent of water volume is absorbed as determined by AASHTO T 166, use AASHTO T 331 in lieu of AASHTO T 275.

<sup>(2)</sup> Specimens shall be 100 mm in diameter. Note that AASHTO T 283 requires a freeze-thaw cycle.

<sup>(3)</sup> Dust to binder ratio is defined as the percent of material including lime, baghouse fines, and other mineral matter added to the mixture. Calculate the ratio using the effective asphalt content calculated by mass of mix.

**Table 402-2**  
**Voids in Mineral Aggregate (VMA)**  
**Hveem or Marshall Mix Design**

| Sieve Size <sup>(1)</sup> | Voids in Mineral Aggregate, min. <sup>(2)(3)</sup> |          |
|---------------------------|--|----------|
|                           | Hveem  | Marshall |
| 4.75 mm                   | 16.0   | 18.0     |
| 9.5 mm                    | 14.0   | 16.0     |
| 12.5 mm                   | 13.0   | 15.0     |
| 19 mm                     | 12.0   | 14.0     |
| 25 mm                     | 11.0   | 13.0     |

<sup>(1)</sup> The largest sieve size listed in the applicable specification upon which any material is permitted to be retained.

<sup>(2)</sup> VMA to be determined according to AASHTO R 35.

<sup>(3)</sup> When mineral filler or hydrated lime is used, include in the calculation for compliance with the VMA.

**(b) Submission.** Submit written job-mix formulas with Form FHWA 1607 (Hveem) or Form 1622 (Marshall) for approval at least 28 days before production. Include the location of all

commercial mixing plants to be used and a separate job-mix formula for each plant. Include a signed statement prepared by the testing laboratory that certifies the proposed job-mix formula meets the requirements of the contract and can be compacted in the field during production to meet contract requirements. For each job-mix formula, submit the following:

**(1) Aggregate and mineral filler.**

- (a) Designate target values within the gradation band specified for the nominal maximum size aggregate grading shown in Table 703-4.
- (b) Percent passing each sieve size for the aggregate blend; and
- (c) Source and percentage of each aggregate stockpile to be used.
- (d) Average gradation of each aggregate stockpile from process control tests.
- (e) Representative samples from each aggregate stockpile. Use split samples of material taken at the same time samples are taken for testing by the Contractor's laboratory.
  - (1) 250 kilograms of aggregates proportioned by stockpile according to the stockpile's proportion in the mix.
  - (2) 10 kilograms of bag house fines if proposed for the mix; and
  - (3) 10 kilograms of mineral filler if proposed for mix.
- (f) Results of aggregate quality tests for Contractor selected sources. Include Los Angeles abrasion, sodium sulfate soundness, fractured faces, fine aggregate angularity, flat and elongated particles, and sand equivalent results from tests performed within 1 year of aggregate use.

**(2) Asphalt binder.**

- (a) Target asphalt binder content by total weight of mixture.
- (b) Five 4-liter samples of the asphalt binder to be used in the mix. Do not include antistripping additives in these samples.
- (c) Recent test results from the manufacturer for the asphalt binder including a temperature-viscosity curve.
- (d) Laboratory mixing temperature range and laboratory compaction temperature range for the performance grade asphalt to be used in the mix.
- (e) Material safety data sheets.

**(3) Antistripping additives.** If part of the job-mix formula:

- (a) 5 kilograms of cement, fly ash, or lime antistripping additive.
- (b) Name of product.
- (c) Manufacturer.
- (d) Dosage rate.
- (e) Material safety data sheet.

**(4) Recycled asphalt pavement material.** If part of the job-mix formula:

- (a) Source and percentage of recycled asphalt pavement material.
- (b) Average gradation of the recycled asphalt pavement material.
- (c) Percent asphalt binder in the recycled asphalt pavement.
- (d) Target value for the asphalt binder content (that considers the percent asphalt binder in the recycled asphalt pavement) and the percent new (virgin) asphalt binder to be added to the mix.
- (e) 100-kilogram representative sample of recycled asphalt pavement material. For existing pavements, mill where designated by the CO to the pavement removal depth. Sample the removed material and replace it with an approved asphalt concrete mix. Do not use the replacement material in the recycled mix.
- (f) 4 liters of recycling agent, if part of the job-mix formula.

**(c) Verification.** The CO will review and may perform design verification testing. If verification testing is performed, the information supplied in the contractor's design must agree with the verification test results within the tolerances shown below.

**(1) Aggregate Gradations.** Representative aggregate samples from each stockpile, when combined according to the Contractor's recommendation for stockpile percentages, shall be within the gradation defined by the Contractor's target values plus or minus the following tolerance for each sieve.

| Sieve Size  | Tolerance, % ( $\pm$ ) |
|-------------|------------------------|
| 25 mm       | 3.0                    |
| 19 mm       | 3.0                    |
| 12.5 mm     | 3.0                    |
| 9.5 mm      | 3.0                    |
| 4.75 mm     | 3.0                    |
| 2.36 mm     | 3.0                    |
| 600 $\mu$ m | 2.0                    |
| 300 $\mu$ m | 2.0                    |
| 75 $\mu$ m  | 1.0                    |

An aggregate gradation correction factor shall be determined for those aggregates that have a proven history or potential for excessive breakdown. Aggregate breakdown shall be performed and determined in accordance with AASHTO T 308. If the permitted sieving differences as outlined in AASHTO T 308 are exceeded then test procedure AASHTO T 164 Method A or B shall be used for testing asphalt mix.

**(2) Bulk specific gravity of aggregate ( $G_{sb}$ ).** The Contractor's coarse and fine  $G_{sb}$  is verified if the CO's results are within the acceptable range for the AASHTO Multilaboratory precision D2S shown in AASHTO T 84 and T 85. Once verified, the mean of the Contractor's and CO's combined coarse and fine  $G_{sb}$  values will be used to calculate volumetrics on field produced mix samples.

**(3) Air Voids ( $V_a$ ).** The Contractor's  $V_a$  result is verified if the CO's result at the same design asphalt binder content is between 3.0 and 5.0 percent.

**(4) Hveem stabilometer value.** The Contractor's Hveem stabilometer value is verified if the CO's result is above the minimum specification limit in Table 402-1.

**(5) Marshall stability and flow value.** The Contractor's Marshall stability and flow values are verified if the CO's result meet the contract specifications in Table 402-1.

**(6) Voids in the mineral aggregate (VMA).** The Contractor's VMA result is verified if the CO's result is above the minimum specification limit in Table 402-2.

**(7) Tensile strength ratio (TSR).** The Contractor's TSR result is verified if the CO's result is above the minimum specification of 0.80.

**(d) Changes and resubmissions.** If a job-mix formula is rejected or a material source or the recycled asphalt pavement is changed, submit a new job-mix formula for acceptance. Up to 21 days may be required to evaluate a change. Approved changes in target values will not be applied retroactively for payment.

The CO will deduct all job-mix formula evaluation costs resulting from the following:

- (1) Contractor-requested changes to the approved job-mix formula.
- (2) Contractor requests for additional job-mix formula evaluations.
- (3) Additional testing necessary due to the failure of a submitted job-mix formula.

**(e) Acceptance.** Do not begin mix production until the job-mix formula is accepted by the CO.

**402.04 Mixing Plant.** Use mixing plants conforming to AASHTO M 156 supplemented as follows:

**(a) All plants.**

**(1) Automated controls.** Control the proportioning, mixing, and discharging of the mix automatically.

**(2) Dust collector.** AASHTO M 156, Requirements for All Plants, Emission Controls is amended as follows:

Equip the plant with a dust collector. Dispose of the collected material. In the case of baghouse dust collectors, dispose of the collected material or return the collected material uniformly.

Use of baghouse fines in asphalt concrete mixes requires approval unless included as part of

the approved job-mix formula. If baghouse fines are approved for use, batch or continuous mix plants will meter it by volume or mass into the mixing chamber.

**(3) Recycled asphalt pavement.** When recycled asphalt pavement material is incorporated into the mixture, modify plants according to the plant manufacturer's recommendations to process reclaimed material.

**(b) Drum dryer-mixer plants.**

**(1) Bins.** Provide a separate bin in the cold aggregate feeder for each individual aggregate stockpile in the mix. Use bins of sufficient size to keep the plant in continuous operation and of proper design to prevent overflow of material from one bin to another.

**(2) Stockpiling procedures.** Separate aggregate into at least 2 stockpiles with different gradations. As a minimum, stockpile mostly coarse material in one stockpile and mostly fine material in another.

**(c) Batch and continuous mix plants.**

**(1) Hot aggregate bin.** Provide a bin with 3 or more separate compartments for storage of the screened aggregate fractions to be combined for the mix. Make the partitions between the compartments tight and of sufficient height to prevent spillage of aggregate from one compartment into another.

**(2) Load cells.** Calibrated load cells may be used in batch plants instead of scales.

**(3) Recycled asphalt pavement.** Modify batch plants so the recycled asphalt pavement is introduced into the mix after bypassing the dryer. Design the cold feed bin, conveyor system, and special bin adjacent to the weigh hopper, if used, to avoid segregation and sticking of the recycled asphalt pavement material. Heat aggregate to a temperature that will transfer sufficient heat to the recycled asphalt pavement material to produce a mix of uniform temperature within the range specified in the approved job-mix formula.

**402.05 Pavers.** Use pavers that are:

**(a)** Self-contained, power-propelled units with adjustable vibratory screeds with full-width screw augers.

**(b)** Heated for the full width of the screed.

**(c)** Capable of spreading and finishing courses of asphalt mix in widths at least 300 millimeters more than the width of one lane.

- (d) Equipped with a receiving hopper having sufficient capacity to ensure a uniform spreading operation.
- (e) Equipped with automatic feed controls, which are properly adjusted to maintain a uniform depth of material ahead of the screed.
- (f) Operable at forward speeds consistent with satisfactory mix lay down.
- (g) Capable of producing a finished surface of the required smoothness and texture without segregating, tearing, shoving, or gouging the mix.
- (h) Equipped with automatic screed controls with sensors capable of sensing grade from an outside reference line, sensing the transverse slope of the screed, and providing the automatic signals that operate the screed to maintain grade and transverse slope.

**402.06 Surface Preparation.** Prepare the surface according to Subsection 410.05 as applicable. Apply an asphalt tack coat to contact surfaces of pavements, curbs, gutters, manholes, and other structures according to Section 412.

**402.07 Weather Limitations.** Place hot asphalt concrete pavement on a dry, unfrozen surface when the air temperature in the shade is above 2 °C and rising and the temperature of the road surface in the shade conforms to Table 402-3.

**Table 402-3**  
**Asphalt Concrete Mix Placement Temperature**

| Compact Lift Thickness →    | < 50 mm                                     | 50 – 75 mm | > 75 mm |
|-----------------------------|---|------------|---------|
| Road Surface Temperature °C | Minimum Lay Down Temperature <sup>(1)</sup> |            |         |
| < 2.0                       | (2)   | (2)        | (2)     |
| 2.0 – 3.9                   | (2)   | (2)        | 138     |
| 4.0 – 9.9                   | (2)   | 141        | 135     |
| 10.0 – 14.9                 | 146   | 138        | 132     |
| 15.0 – 19.9                 | 141   | 135        | 129     |
| 20.0 – 24.9                 | 138   | 132        | 129     |
| 25.0 – 29.9                 | 132   | 129        | 127     |
| ≥ 30.0                      | 129   | 127        | 124     |

<sup>(1)</sup> Do not heat the asphalt concrete mix above 185°C.

<sup>(2)</sup> Paving not allowed.

**402.08 Asphalt Preparation.** Uniformly heat the asphalt binder to provide a continuous supply of the heated asphalt binder from storage to the mixer. Do not heat asphalt binder above 185 °C.

**402.09 Aggregate Preparation.** Adjust the aggregate moisture to at least 4 percent by mass of aggregate. Mix the lime uniformly with the aggregate before introducing the aggregate into the dryer or dryer drum. Use calibrated weighing or metering devices to measure the amount of lime and moisture added to the aggregate.

For batch plants, heat, dry, and deliver aggregate for pugmill mixing at a temperature sufficient to produce a mix temperature within the approved range. Adjust flames used for drying and heating to prevent damage to and contamination of the aggregate.

Control plant operations so the moisture content of the mix behind the paver is 0.5 percent or less according to AASHTO T 255.

Add lime to the aggregate by Method A below.

**Method A** - Add lime to the produced aggregates during stockpiling using a pugmill. Add twenty-five (25) percent of the lime to be added to the coarse aggregate stockpile, and add seventy-five (75) percent of the lime to be added to the fine aggregate stockpile. When more than two stockpiles are used, include the distribution of lime per stockpile in the mix design.

Adjust the moisture of the coarse and fine aggregates, or combination of aggregates, to obtain uniform coating of the aggregate with the lime.

Marinate (wet cure) the aggregates in stockpiles for a minimum of 48 hours.

Use wet cured aggregate in the stockpile within 60 days.

**402.10 Mixing.** Measure the aggregate and asphalt into the mixer according to the approved job-mix formula. Mix until all the particles are completely and uniformly coated with asphalt according to AASHTO M 156. Maintain the discharge temperature within the approved range.

**402.11 Hauling.** Use vehicles with tight, clean, and smooth metal beds for hauling asphalt concrete mixes.

Thinly coat the beds with an approved material to prevent the mix from adhering to the beds. Do not use petroleum derivatives or other coating material that contaminates or alters the characteristics of the mix. Drain the bed before loading.

Equip each truck with a canvas cover or other suitable material of sufficient size to protect the mix from the weather. When necessary to maintain temperature, use insulated truck beds and securely fastened covers. Provide access ports or holes for checking temperature of asphalt mix in the truck.

**402.12 Production Start-Up Procedures.**

**(a) Pre-paving conference.** At least 14 days before the start of paving operations, arrange for a pre-paving conference. Coordinate attendance with CO and all applicable subcontractors. Submit and prepare to discuss the following:

- (1) Proposed schedule of paving operations.
- (2) List of all equipment (excavation, compaction, laydown, haul, pugmill, etc.), and personnel used in the production and construction of the work.
- (3) Proposed traffic control plan for paving operations including provisions for pavement drop-offs and moving operations.
- (4) Contractor quality control plan for paving and sampling and testing according to Sections 153 and 154.
- (5) Procedures for constructing the control strip including placing, finishing, compacting, and smoothness procedures.
- (6) Acceptance procedures according to Subsections 106.05 and 401.17.

**(b) Control strip.** Provide 7 days notice before beginning production of an asphalt concrete mix.

On the first day of production, produce sufficient mix to construct a 300-meter long control strip, one-lane wide, and at the designated lift thickness. Construct the control strip on the project at an approved location.

Construct the control strip using mix production, lay-down, and compaction procedures intended for the entire mix. Cease production after construction of the control strip until the asphalt concrete mix and the control strip are evaluated and accepted.

**(1) Mixture.** Take and test at least three control strip asphalt concrete mix samples and evaluate according to Subsection 402.17. The mix is acceptable if all test results are within specification limits for asphalt content and gradation and the calculated pay factor for asphalt content and gradation is 0.90 or greater.

**(2) Compaction.** Take nuclear density readings behind each roller pass to determine the roller pattern necessary to achieve required density.

At a minimum of five locations within the control strip, take nuclear gauge readings, and cut and test core samples according to Subsection 402.17. Density is acceptable if all tests are above the specification limit or the calculated pay factor is 0.90 or greater. Furnish the CO with the nuclear gauge readings and correlations of the readings to the core specific gravities using

FHWA Form 1646 at completion of control strip.

Repeat the control strip process until an acceptable control strip is produced. See Subsection 106.01 for the disposition of material in unacceptable control strips. Accepted control strips may remain in place and will be accepted and measured as a part of the completed pavement. Tests used for the control strip will not be included in the evaluation for payment according to Subsection 106.05. When a control strip is accepted, full production may begin.

Use these start-up procedures when producing material from a different plant or when resuming production after a termination of production due to unsatisfactory quality according to Subsection 106.05.

**402.13 Placing and Finishing.** Do not use mixes produced from different plants unless the mixes are produced according to the same job-mix formula, use material from the same sources, and are approved. Construct control strips according to Subsection 401.12 for each plant from which production is intended.

Place asphalt concrete mix at a temperature conforming to Table 401-2. Measure temperature of the mix in the hauling vehicle just before dumping into spreader or measure it in the windrow immediately before pickup.

Place the mix with a paver conforming to Subsection 401.05. Control horizontal alignment using a reference line. Automatically control the grade and slope from reference lines, a ski and slope control device, or dual skis. Use skis having a minimum length of 6 meters.

In areas where mechanical spreading and finishing is impractical, place and finish the mix with alternate equipment to produce a uniform surface closely matching the surface obtained when using a mechanical paver.

Offset the longitudinal joint of one layer at least 150 millimeters from the joint in the layer immediately below. Make the longitudinal joint in the top layer along the centerline of two-lane roadways or at the lane lines of roadways with more than two lanes.

For simple curve widening locations (widening only on one side) shift the centerline joint location such that the final layer is midway between the normal edge of shoulders. The shift from the staked centerline will be towards the widened lane one-half the total curve widening specified for the given station as shown in the plans.

The CO will designate the job-mix formula to be used for wedge and leveling courses at each location. Place wedge and leveling courses in maximum 75-mm lifts. Complete the wedge and leveling before starting normal paving operations.

Use a Materials Transfer Vehicle (MTV) with storage and remixing capabilities on all mainline construction when placing asphalt concrete mixtures. The MTV will independently remix and deliver mixture from the hauling equipment to the paving equipment.

Furnish an MTV with the following capabilities:

- An unloading system to receive mixtures from the hauling equipment.
- A minimum storage capacity of 13 tons with a remixing system in the MTV storage bin.
- A discharge conveyor to deliver the mixture to the paver hopper.
- The MTV system cannot exceed maximum legal loadings on structures.

Acceptable Material Transfer Vehicles are:

- Barber Greene MTV-3500
- Roadtec SB-1500
- Roadtec SB-2500

In the event the MTV malfunctions during paving operations, the Contractor must suspend paving, however hot mix in transit and stored in the silo at the time of breakdown may be placed without the use of an MTV. Do not resume hot mix placement until the MTV is operational.

#### **402.14 Compacting.**

Furnish at least 3 rollers. Furnish one roller each for breakdown, intermediate, and finish rolling. At least one roller will be pneumatic-tired. Size the rollers to achieve the required results. Operate rollers according to the recommendation of the manufacturer. Diesel fuel will not be used as a release agent with any roller used to compact the asphalt mix. Do not cause cracking, shoving, or undue displacement. Continue rolling until all roller marks are eliminated, all cracks are sealed, and the required density is obtained. Do not roll the mix after the surface cools below 80 °C.

Monitor the compaction process with nuclear density gauges calibrated to the control strip core density test results. Compact to a pavement specific gravity (density) that is no less than 91.0 percent of the maximum specific gravity (density) determined according to AASHTO T 209.

Cut 150 millimeter diameter core sample from the compacted pavement. Fill and compact the core holes with asphalt concrete mixture. Label the cores and protect them from damage due to handling or temperature during storage. Perform specific gravity and thickness tests on the cores and deliver them to CO.

**402.15 Joints, Trimming Edges, and Cleanup.** Complete pavement construction of adjacent traffic lanes to the same elevation within 24 hours. If drop-offs are left overnight, sign the drop-offs in excess of 50 millimeters with "*Uneven Lanes*" warning signs and provide a 1V:3H fillet for drop-offs in excess of 100 millimeters.

At connections to existing pavements and previously placed lifts, make the transverse joints vertical to the depth of the new pavement. Form transverse joints by cutting back the previous run to expose the full-depth course.

To both transverse and longitudinal joints, apply an asphalt tack coat to the joint edge according to Section 412.

Place the asphalt concrete mix as continuously as possible. Do not pass rollers over the unprotected end of a freshly laid mix.

Dispose of material trimmed from the edges and any other discarded asphalt mix according to Subsection 211.02(a)(2).

**401.16 Pavement Smoothness.** Measure the smoothness/roughness of the final paved surface course after final rolling, within 14 days of completing roadway paving, before placing a surface treatment, and according to the designated type below. In addition, construct all pavement surfaces to meet the requirements of (b) below.

**(a) Profile ride index (PRI).** For type I or II pavement smoothness, furnish a California type profilograph and personnel to operate the profilograph. The CO will direct and observe its operation. Operate the profilograph in the "mode" such that the continuous plot produced can be reduced according to FLH T 504. Measure in the middle portion of each lane and exclude areas according to FLH T 504. Measure excluded areas according to (b) below. Submit the trace to the CO.

A PRI will be calculated for each 0.1-kilometer lane of traveled way using a zero blanking-band. The PRI will be determined according to FLH T 504. Bumps will be located using a 10-millimeter bump template.

**(1) Type I pavement smoothness (PRI measurements for reconstructed and new roads).** Measure the smoothness of the final paved surface course. The upper specification limit is 380 millimeters per kilometer for reconstructed and new roads. Defective areas are bumps in excess of 10 millimeters in 7.62 meters, 0.1-kilometer profile ride index greater than 450 millimeters per kilometer, or surfaces with a pay factor less than 0.75 as determined under Subsection 106.05.

**(2) Type II pavement smoothness (PRI measurements for overlay, recycle with overlay, or milling with overlay projects).** Before construction traffic, measure the smoothness of the existing surface. The existing surface is the original surface before overlaying, recycling,

or milling. The existing profile ride index and standard deviation will be used to determine the upper specification limit.

For one-lift placement of the final surface:

$$USL_1 = 0.71 * PRI_0 + 0.39 * Sd_0, \text{ but not less than } 380 \text{ mm/km}$$

For two-lift placement of the final surface:

$$USL_2 = 0.50 * PRI_0 + 0.30 * Sd_0, \text{ but not less than } 380 \text{ mm/km}$$

where:

$USL_1$  = Upper specification limit for one lift rounded to the nearest whole number (mm/km)

$USL_2$  = Upper specification limit for two lifts rounded to the nearest whole number (mm/km)

$PRI_0$  = Existing surface profile ride index (mm/km)

$Sd_0$  = Existing surface profile standard deviation

Measure the smoothness of the final paved surface course. Defective areas are bumps in excess of 10 millimeters in 7.62 meters, 0.1-kilometer profile ride index greater than 1.5 times the calculated upper specification limit, or surfaces with a pay factor less than 0.75 as determined under Subsection 106.05.

**(b) Type V pavement smoothness (straightedge measurement).** Use a 3-meter metal straight edge to measure at right angles and parallel to the centerline. Defective areas are surface deviations in excess of 6 millimeters in 3 meters between any two contacts of the straightedge with the surface.

**(c) Defective area correction.** Correct defective areas from (a) and (b) above. Obtain approval for the proposed method of correction. If no corrections are allowed, no adjustment will be made to the pay adjustment factors.

Re-measure corrected areas according to the specified type of pavement smoothness. The smoothness value obtained will replace the original.

**402.17 Acceptance.** See Table 402-7 for sampling and testing requirements and the acceptance quality characteristic category.

Mineral filler, antistripping additive, and recycling agent will be evaluated under Subsections 106.02 and 106.03.

Asphalt binder will be evaluated under Subsections 106.04, and 702.09 and Table 402-6.

Construction of the Hveem or Marshall designed hot asphalt concrete pavement course will be evaluated under Subsections 106.02 and 106.04.

Asphalt content, aggregate gradation, density, and type I and II pavement smoothness will be evaluated under Subsection 106.05. Other aggregate quality properties will be evaluated under Subsections 106.02 and 106.04.

**(a) Asphalt content.** The upper and lower specification limits are the approved job-mix formula target value plus or minus 0.4 percent.

**(b) Aggregate gradation.** The upper and lower specification limits are the approved job-mix formula target values plus or minus the allowable deviations shown in Table 703-4. See Table 402-7 for the acceptance quality characteristics category.

**(c) Density.** The lower specification limit is 91.0 percent of the maximum specific gravity (density) determined according to AASHTO T 209.

**(d) Pavement smoothness.** The evaluation will be made after all defective areas are corrected. See Subsection 402.16.

### Measurement

**402.18** Measure the Section 402 items listed in the bid schedule according to Subsection 109.02.

### Payment

**402.19** The accepted quantities will be paid at the contract price per unit of measurement for the Section 402 pay items listed in the bid schedule except the hot asphalt concrete pavement contract unit bid price will be adjusted according to Subsections 106.05, 402.16, and Table 402-6. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Payment for hot asphalt concrete pavement will be made at a price determined by multiplying the contract unit bid price by the material pay factor. The material pay factor is calculated as follows:

$$A1 = [(PF_{\text{Mix}} - 1) + (PF_{\text{PG}} - 1)]$$

where:

A1 = Material pay factor.  
 $PF_{\text{Mix}}$  = Pay factor for hot asphalt concrete pavement.  $PF_{\text{Mix}}$  is the lowest single pay factor determined for asphalt binder content, gradation, and core density.

$PF_{PG} =$  Pay factor for asphalt binder. The  $PF_{PG}$  formula is as follows:

$$PF_{PG} = (PF_1 + PF_2 + PF_3 + \dots + PF_n) / n$$

where:

$PF_{\#} =$  For each sample, the lowest pay factor determined from any test in Table 402-6. If the lowest pay factor for a sample is in reject, the sample's pay factor is zero.

$n =$  Number of samples tested.

If either the pay factor for the asphalt binder ( $PF_{PG}$ ) or the pay factor for hot asphalt concrete pavement ( $PF_{Mix}$ ) is below 0.75, the lot for hot asphalt concrete pavement is in reject.

When the contract contains provisions for hot asphalt concrete pavement, type I and type II pavement smoothness, a separate pay adjustment will be made for pavement roughness calculated as follows:

$$A2 = 20,300 (PF_{smooth} - 1.00)(L)$$

where:

$A2 =$  Adjustment to contract payment in dollars for pavement smoothness.

$L =$  Total project length in lane kilometers of traveled way including excluded areas. Measure the project length to 3 decimals.

$PF_{smooth} =$  Pay factor for smoothness with respect to the upper specification limit determined according to Subsection 402.16 and 106.05 after completion of corrective work.

**Table 402-6  
Asphalt Binder Pay Factor Table**

| Tests on Original                                | Specifications<br>(See 702.01) | Pay Factor = |                |                    |                |                |         |
|--|--------------------------------|--------------|----------------|--------------------|----------------|----------------|---------|
|  |                                | 1.01         | 1.00           | 0.95               | 0.90           | 0.75           | Reject  |
| Dynamic Shear Rheometer, kPa                     | ≥ 1.00                         | ≥ 1.17       | 1.16 to 1.00   | 0.99 to 0.89       | 0.88 to 0.77   | 0.76 to 0.50   | < 0.50  |
| <b>Tests after Rolling Thin Film Oven (RTFO)</b> |                                |              |                |                    |                |                |         |
| Dynamic Shear Rheometer, kPa                     | ≥ 2.20                         | ≥ 2.69       | 2.68 to 2.20   | 2.19 to 1.96       | 1.95 to 1.43   | 1.42 to 1.10   | < 1.10  |
| <b>Tests on Pressure Aging Vessel (PAV)</b>      |                                |              |                |                    |                |                |         |
| Bending Beam Rheometer, s, MPa                   | ≤ 300                          | ≤ 247        | 248 to 300     | Use Direct Tension |                |                | > 600   |
| Bending Beam Rheometer, m                        | ≥ 0.300                        | ≥ 0.320      | 0.319 to 0.300 | 0.299 to 0.294     | 0.293 to 0.278 | 0.277 to 0.261 | < 0.261 |
| Direct Tension <sup>(1)</sup> , %                | ≥ 1.00                         | ---          | ≥ 1.00         | 0.99 to 0.56       | ---            | ---            | < 0.56  |

<sup>(1)</sup> Use Direct Tension for payment if the creep stiffness values from the Bending Beam Rheometer are between 301 and 600 Mpa.

**Table 402-7  
Sampling and Testing Requirements**

| <b>Material or Product</b>        | <b>Type of Acceptance (Subsection)</b>               | <b>Characteristic</b>                              | <b>Category</b> | <b>Test Method Specifications</b> | <b>Sampling Frequency</b>       | <b>Point of Sampling</b> | <b>Split Sample</b> | <b>Reporting Time</b> |
|-----------------------------------|--|--|-----------------|-----------------------------------|---------------------------------|--------------------------|---------------------|-----------------------|
| Aggregate source quality (703.07) | Measured and tested for conformance (106.04 and 105) | LA abrasion  | ---             | AASHTO T 96                       | 1 per type & source of material | Source of materials      | Yes                 | Before producing      |
|                                   |  | Sodium sulfate soundness loss (coarse & fine)      | ---             | AASHTO T 104                      | "                               | "                        | "                   | "                     |
|                                   |  | Fractured faces                                    | ---             | ASTM D 5821                       | "                               | "                        | "                   | "                     |
|                                   |  | Fine aggregate angularity                          | ---             | AASHTO T 304                      | "                               | "                        | "                   | "                     |
|                                   |  | Flat and elongated particles                       | ---             | ASTM D 4791                       | "                               | "                        | "                   | "                     |
|                                   |  | Sand equivalent                                    | ---             | AASHTO T 176                      | "                               | "                        | "                   | "                     |
| Hot asphalt concrete (mix design) | Measured and tested for conformance (106.04)         | Gradation  | ---             | AASHTO T 11<br>AASHTO T 27        | 1 per each submitted mix design | Stockpiles               | Yes                 | 28 days before paving |
|                                   |  | Bulk specific gravity of aggregate (coarse & fine) | ---             | AASHTO T 84<br>AASHTO T 85        | "                               | "                        | "                   | "                     |
|                                   |  | Hveem S-value                                      | ---             | AASHTO T 246                      | "                               | ---                      | "                   | "                     |
|                                   |  | Marshall stability and flow                        |                 | AASHTO T 245                      | "                               | ---                      | "                   | "                     |
|                                   |  | VMA  | ---             | AASHTO R 35                       | "                               | ---                      | "                   | "                     |
|                                   |  | Retained strength (TSR)                            | ---             | AASHTO T 283                      | "                               | ---                      | "                   | "                     |
| Asphalt binder (mix design)       |  | (quality)  | ---             | AASHTO M 320                      | "                               | Mixing plant (702.09(c)) | "                   | "                     |

**Table 402-7 (continued)**  
**Sampling and Testing Requirements**

| Material or Product                          | Type of Acceptance (Subsection) | Characteristic         | Category                     | Test Method Specifications           | Sampling Frequency                                      | Point of Sampling                                     | Split Sample | Reporting Time |
|--|---------------------------------|------------------------|------------------------------|--------------------------------------|---|---|--------------|----------------|
| Hot asphalt concrete (control strip)         | Statistical (106.05)            | Gradation:             |                              | AASHTO T 30                          | 3 minimum   | Behind the paver before compaction                    | Yes          | 4 hours        |
|  |                                 | 12.5 mm                | II                           |                                      |   |   |              |                |
|  |                                 | 9.5 mm                 | I                            |                                      |   |   |              |                |
|  |                                 | 4.75 mm                | I                            |                                      |   |   |              |                |
|  |                                 | 2.36 mm                | I                            |                                      |   |   |              |                |
|  |                                 | 600 µm                 | II                           |                                      |   |   |              |                |
|  |                                 | 300 µm                 | I                            |                                      |   |   |              |                |
|  |                                 | 75 µm                  | I                            |                                      |   |   |              |                |
|  |                                 | Other specified sieves | II                           |                                      |   |   |              |                |
|  | Asphalt content <sup>(1)</sup>  | I                      | AASHTO T 308 or AASHTO T 164 | “                                    | “   | “   | “            |                |
|  | Core density <sup>(2)</sup>     | I                      | AASHTO T 166                 | 5 minimum                            | In-place after compacting                               | To CO after determining specific gravity & compaction | 24 hours     |                |
| Measured and tested for conformance (106.04) | Maximum specific gravity        | ---                    | AASHTO T 209                 | 3 minimum                            | Behind the paver before compaction                      | Yes   | 24 hours     |                |
|  | VMA                             |                        | AASHTO R 35                  | “                                    | “   | “   | “            |                |
|  | Mix temperature                 | ---                    | ---                          | First load & as determined by the CO | Hauling vehicle before dumping or windrow before pickup | ---   | “            |                |

**Table 402-7 (continued)**  
**Sampling and Testing Requirements**

| Material or Product                          | Type of Acceptance (Subsection)                            | Characteristic | Category                     | Test Method Specifications | Sampling Frequency                                    | Point of Sampling                               | Split Sample        | Reporting Time |
|--|--|----------------|------------------------------|----------------------------|---|---|---------------------|----------------|
| Hot asphalt concrete (production)            | Statistical (106.05)                                       | Gradation:     |                              | AASHTO T 30                | 3 minimum   | Behind the paver before compaction              | Yes                 | 4 hours        |
|  |  | 12.5 mm        | II                           |                            |   |   |                     |                |
|  |  | 9.5 mm         | I                            |                            |   |   |                     |                |
|  |  | 4.75 mm        | I                            |                            |   |   |                     |                |
|  |  | 2.36 mm        | I                            |                            |   |   |                     |                |
|  |  | 600 µm         | II                           |                            |   |   |                     |                |
|  |  | 300 µm         | I                            |                            |   |   |                     |                |
|  |  | 75 µm          | I                            |                            |   |   |                     |                |
|  | Other specified sieves                                     | II             |                              |                            |   |   |                     |                |
|  | Asphalt content <sup>(1)</sup>                             | I              | AASHTO T 308 or AASHTO T 164 | 1 per 700 tonnes           | Behind the paver before compaction                    | Yes   | 4 hours             |                |
| Core density <sup>(2)</sup>                  | I  | AASHTO T 166   | “                            | In-place after compacting  | To CO after determining specific gravity & compaction | 24 hours  |                     |                |
| Measured and tested for conformance (106.04) | Maximum specific gravity <sup>(3)</sup>                    | ---            | AASHTO T 209                 | Minimum 1 per day          | “   | “   | “                   |                |
|  | VMA  | I              | AASHTO R 35                  | “                          | “   | “   | “                   |                |
| Asphalt binder (production)                  | Measured and tested for conformance (106.04 & Table 402-6) | Quality        | Table 402-6                  | AASHTO M 320               | 1 per 2100 t of mix, but not less than 5 samples      | In line between tank & mixing plant (702.09(c)) | Two 1-liter samples | ---            |

**Table 402-7 (continued)**  
**Sampling and Testing Requirements**

| <b>Material or Product</b>                    | <b>Type of Acceptance (Subsection)</b>       | <b>Characteristic</b>           | <b>Category</b> | <b>Test Method Specifications</b> | <b>Sampling Frequency</b> | <b>Point of Sampling</b> | <b>Split Sample</b> | <b>Reporting Time</b>      |
|---|--|---------------------------------|-----------------|-----------------------------------|---------------------------|--------------------------|---------------------|----------------------------|
| Hot asphalt concrete pavement (final surface) | Measured and tested for conformance (106.04) | Type I & II Pavement Smoothness | I               | FLH T 504                         | See Subsection 402.16     | See Subsection 402.16    | ---                 | 14 days after final paving |

- <sup>(1)</sup> Use AASHTO T 308, Method A. Calculate the asphalt binder content by weighing the sample before and after the burn using a calibrated external balance. Modify AASHTO T 308, parts 8.2 and 10.2 to allow the use of AASHTO T 255, Total Evaporable Moisture Content of Aggregate by Drying. **If excessive aggregate breakdown is encountered, see SCR subsection 402.03(c)(1).**
- <sup>(2)</sup> Cut core samples from the compacted pavement and carefully remove using a core retriever. Fill and compact the sample holes with asphalt concrete mixture. Cores shall be 150 millimeters in diameter. Perform specific gravity, and thickness tests on the cores and deliver to the CO after testing is completed. Label cores and protect from damage due to handling or alteration due to temperature during storage or transfer. If more than 2.0 percent of water volume is absorbed as determined by AASHTO T 166, use AASHTO T 331 in lieu of AASHTO T 275.
- <sup>(3)</sup> After production paving has begun, use the Maximum specific gravity value (AASHTO T 209) for each day to adjust the percent compaction for the cores that represent that day's paving.

**Section 405. - OPEN-GRADED ASPHALT FRICTION COURSE****Description****405.01** Add the following:

Open-graded friction coarse asphalt binder grade is PG 76-22 NV.

**Table 405-1  
Sampling and Testing**

Delete text under **Sampling Point** for Asphalt content and Gradation and substitute the following:

Sampling Point will be at the point of discharge of the mixing unit.

**Section 411. - ASPHALT PRIME COAT****Description****411.01** Delete the second paragraph and substitute the following:

Prime coat asphalt grade is designated as shown in AASHTO M 140 or AASHTO M 208 for emulsified asphalt; AASHTO M 81 or AASHTO M 82 for cut-back asphalt; or Subsection 702.03(e) for other emulsified asphalts

**Measurement****411.08** Add the following after the second paragraph:

Indicate a breakdown of total emulsion and water added on the load invoices supplied to the CO for payment.

**Section 412. - ASPHALT TACK COAT****Description****412.01** Delete the text and substitute the following:

This work consists of applying an emulsified asphalt or hot asphalt cement tack coat.

Tack coat emulsified asphalt grade will meet AASHTO T 140 or AASHTO T 208.

Tack coat asphalt cement grade will meet AASHTO M 20, M 226, or M 320

**Measurement**

**412.08** Add the following after the second paragraph:

Indicate a breakdown of total emulsion and water added on the load invoices supplied to the CO for payment.

**Section 414. - ASPHALT PAVEMENT CRACK AND JOINT SEALING**

**Measurement**

**414.08** Add the following:

Measure along the centerline of the parking area.

**Section 552. - STRUCTURAL CONCRETE**

**Material**

**552.02** Add the following:

|  |        |
|--|--------|
| Concrete coloring agent                  | 711.05 |
| Precast reinforced concrete box sections | 706.07 |
| Precast concrete units                   | 725.11 |
| Reinforcing fibers                       | 725.29 |

**Construction Requirements**

**552.03 Composition (Concrete Mix Design).** Add the following after the first sentence of the first paragraph.

Use Type II low alkali cement or Type V high sulfate resistant cement for all cast-in-place structural concrete, except use Type V high sulfate resistant cement for all structural concrete in contact with soil and within 305 mm of the surface of rock or soils. Reinforcing fibers will be allowed in bridge deck concrete, but will not be allowed in any other portion of the bridge structures including girders, intermediate diaphragms, approach slabs, sleeper slabs, bridge rails, guardwalls, abutment caps, abutment endwalls, wingwalls, pier caps, pier diaphragms and pier columns.

Delete Tables 552-1, 2, and 3 and substitute the following:

**Table 552-1**  
**Composition of Concrete**

| Class of Concrete    | Minimum Cement Content (kg/m <sup>3</sup> ) | Maximum W/C Ratio | Slump <sup>(1)</sup> (mm) | Maximum Nominal Coarse Aggregate Size <sup>(5)</sup> (mm) |
|----------------------|---|-------------------|---------------------------|---|
| A                    | 360   | 0.49              | 50 to 100                 | 12.5  |
| A(AE)                | 360   | 0.44              | 25 to 100                 | 37.5  |
| B                    | 310   | 0.58              | 50 to 100                 | 63  |
| B(AE)                | 310   | 0.58              | 50 to 100                 | 63  |
| C                    | 390   | 0.49              | 50 to 100                 | 19  |
| C(AE)                | 390   | 0.44              | 25 to 75                  | 19  |
| D(AE) <sup>(2)</sup> | 360   | 0.40              | 25 to 75                  | 37.5  |
| E(AE) <sup>(3)</sup> | 360   | 0.40              | 100 to 150 <sup>(4)</sup> | 19  |
| P (Prestressed)      | 390   | 0.44              | 0 to 100                  | 25  |
| P(AE)                | 390   | 0.44              | 0 to 100                  | 25  |
| Seal                 | 390   | 0.54              | 100 to 200                | 37.5  |

<sup>(1)</sup> Maximum slump is 200 millimeters if approved mix design includes a high-range water reducer.

<sup>(2)</sup> Concrete with a water reducing and retarding admixture conforming to AASHTO M 194, type D.

<sup>(3)</sup> A latex modified concrete with 0.31 liters of modifier per kilogram of cement.

<sup>(4)</sup> Measure the slump 4 to 5 minutes after the concrete is discharged from the mixer.

<sup>(5)</sup> Meeting the processing requirements of AASHTO M43, Table 1 – Standard Sizes of Processed Aggregate.

**Table 552-2**  
**Minimum Air Content for Air Entrained Concrete**

| Nominal Maximum Aggregate Size <sup>(1)</sup> | As Delivered Minimum Air Content <sup>(2)(3)</sup> (%) |
|---|--|
| 63 mm   | 3.5  |
| 50mm  | 3.5  |
| 37.5 mm                                       | 4.0  |
| 25 mm   | 4.5  |
| 19 mm   | 4.5  |
| 12.5 mm                                       | 5.5  |

<sup>(1)</sup> Meeting the processing requirements of AASHTO M 43, Table 1 – Standard Sizes of Processed Aggregate.

<sup>(2)</sup> These air contents apply to the total mix. When testing these concretes, aggregates larger than 37.5 millimeters is removed by handpicking or sieving, and air content is determined on the minus 37.5-millimeter fraction of the mix. Air content of the total mix is computed from the value determined on the minus 37.5-millimeter fraction.

<sup>(3)</sup> For P(AE) concrete, the as delivered minimum air contents may be reduced 1.0 % and the maximum air content is 6.0 %

**Table 552-3**  
**Required Average Compressive Strength <sup>(1)</sup>**

| Specified Compressive Strength ( $f'_c$ ) (MPa) | Required Average Compressive Strength ( $f'_{cr}$ ) (MPa) |
|---|---|
| Less than 21                                    | $f'_c + 7.0$  |
| 21 to 35  | $f'_c + 8.5$  |
| Over 35   | $1.10f'_c + 5.0$  |

<sup>(1)</sup> Use this table when there is not enough data available to establish a standard deviation

**552.06 Batching Plant, Mixers, and Agitators.** Delete the first paragraph and substitute the following:

Use a batching plant, mixer, and agitator conforming to AASHTO M 157. Continuous volumetric mixing equipment shall conform to AASHTO M 241. Concrete will be batched between 16 and 21 °C.

**552.09 Quality Control of Mix.** Add the following after the first paragraph:

At least 2 weeks prior to the start of concrete placement operations, arrange a pre-concrete placing conference. Coordinate attendance with the CO and any applicable subcontractors. Be prepared to discuss and/or submit the following:

- (1) Proposed concrete placement schedule.
- (2) Review approved concrete mix design and determination of batch weights.
- (3) Discuss Section 153, Contractor Quality Control, minimum frequency schedule for process control sampling and testing (to be performed by the Contractor).
- (4) Discuss batching, mixing, placing, and curing requirements.
- (5) Discuss Subsections 106.03, Certification, and 106.05, Statistical Evaluation of Material for Acceptance.

**552.10 Temperature and Weather Conditions.**

**(b) Hot weather.** Add the following:

Contractor will provide a portable weather station on-site to determine evaporation rates prior to the start of concrete placement and to monitor evaporation rates at regular intervals.

**552.12 Construction Joints.** Delete the third paragraph and substitute the following:

When the joint is between two fresh concrete placements, rough float the first placement to thoroughly consolidate the surface and leave the surface in an intentionally roughened condition.

Before fresh concrete is placed against the joint surface clean the surface of laitance, curing compound, and other foreign materials. Use abrasive blast or other approved methods to clean the surface to the extent that clean aggregate is exposed. Flush with water and allow to dry to a surface dry condition immediately prior to placing new concrete.

When forms at construction joints overlap previously placed concrete, re-tighten the forms before depositing new concrete.

#### **552.14 Finishing Plastic Concrete.**

(c) **Texturing.** Delete the first paragraph and substitute the following:

Produce a skid-resistant surface texture on all driving surfaces by grooving. Use an approved machine designed specifically for sawing grooves in concrete pavement.

(1) **Grooved finish.** Delete the first and second paragraphs and substitute the following:

Groove perpendicular to the centerline of the roadway.

Cut grooves approximately 5 millimeters wide and 3 to 5 millimeters deep at a spacing of 15 to 25 millimeters.

#### **552.16 Finishing Formed Concrete Surfaces.** Add the following after the first paragraph:

Use an approved form release agent to produce a minimum of staining, air holes, and hydration discoloration.

Add the following:

(h) **Class 8 - Integral color finish.** All concrete in the deck, exterior girders, intermediate diaphragms, approach slabs, sleeper slabs, bridge rails, guardwalls, abutment caps, abutment endwalls, wingwalls, pier caps, pier diaphragms and pier columns will be integrally colored by adding a concrete coloring agent. After curing, the colored concrete will match as closely as possible the color of the concrete placed in accordance with Subsection 601.03(i).

Prepare five square textured test panels with each panel 300 mm square. Use coarse and fine aggregates and cement as delivered on the project at the job mix rates with variable quantities of coloring agent as directed by the CO. Complete a Class 1 finish according to (a) above. The CO will select a test panel to serve as a guide for the colored concrete. Use the same rate of coloring agent used in the selected panel on all relative subsequent work.

Prepare and transport the test panels to the project staging area. Cure the test panels similar to the structure. Allow test panels a minimum of four weeks to cure prior to placing concrete requiring coloring agent.

## Measurement

### 552.20

#### Add the following:

Do not measure for payment the volume of concrete required outside the neat lines of the footing to pour against undisturbed rock as shown on the plans. When the CO directs the removal of material below the established elevation of the bottom of the footing, the volume of concrete required to fill the void will be measured for payment.

#### Add the following:

Measure concrete coloring agent by the pound.

#### Delete footnote (3) in Table 552-9 and substitute the following:

<sup>(3)</sup> A single compressive strength test result is the average result form 2 cylinders cast from the same load and tested at 28 days.

## Section 554. – REINFORCING STEEL

### Construction Requirements

#### **554.07 Epoxy Coated Reinforcing Steel.** Delete the fifth paragraph and substitute the following:

Field repairs will not be allowed on bars that have severely-damaged coatings. Replace bars with severely-damaged coatings. A severely-damaged coating is defined as a bar where the sum of all areas covered with patching material, including overlaps, exceeds five percent of the total surface area of the bar. This limit on repaired damage coating does not include sheared or cut ends that are coated with patching material. Coat mechanical splices after splice installation according to AASHTO M 284M for patching damaged epoxy coatings.

#### **554.08 Placing and Fastening.** Delete the first sentence of the first paragraph and substitute the following:

Place, fasten, and support the bars according to the CRSI *Manual of Standard Practice*. Use precast concrete blocks or metal supports.

#### **554.09 Splices.** Add the following:

Mechanical splices, at locations where approved for use or at locations shown on the plans, may be made using the following devices:

(a) Vertical column/shaft reinforcement may be mechanically butt spliced using the **Bar-Lock MBT** coupler as produced by Splice Sleeve North America, or an approved alternative.

(b) Other reinforcement, including spirals, may be spliced using the **Bar-Lock MBT** coupler as produced by Splice Sleeve North America, the **OS Splice Clip** as produced by Splice Sleeve North America, or the **Quick-Wedge** as produced by Erico Concrete Construction Products, or an approved alternate.

Approval of an alternative splicing design will be based on technical data, including test results, and other necessary proof of satisfactory performance submitted by the manufacturer. Criteria for approval is as follows:

(a) The total slip of the reinforcing bars within the splice after loading in tension to 133450 newtons and relaxing to 13345 newtons shall not exceed 2.5 mm) for bars No. 14 or smaller as measured between gage points clear of the splice.

(b) Acceptance on Washington DOT OR Caltrans "Approved Products List" will be considered in reviewing submittal for use on this project.

Splice components shall have a clear coverage of not less than 38 mm measured from the surface of the concrete to the outside face of the splice component.

Provide 610 mm minimum distance between butt splices of adjacent bars as measured along the longitudinal axis of the shaft/column.

All splicing procedures shall be in accordance with the manufacturer's standard equipment, jigs, clamps, and other required accessories. Procedures used in making the mechanical butt splices shall be as recommended by the manufacturer and approved by the CO.

### **Measurement**

**554.11** Add the following:

Measure reinforcing steel for the Echo Wash and Valley of Fire Wash bridges. Do not measure reinforcing steel for other structures for payment.

## **Section 562. – TEMPORARY WORKS**

### **Material**

**562.02** Delete the second sentence and substitute the following:

Furnish factory fabricated components of vertical shoring towers complying with the *Certification Program for Bridge Temporary Works* (FHWA-RD-93-033).

### Design Requirements

#### 562.03 Design.

Delete the seventh paragraph and substitute the following:

Do not use overhang form brackets for girder bridges that require holes to be cast or drilled into the girder webs.

### Construction Requirements

#### 562.07 Maintenance and Inspection. Delete the text and substitute the following:

Inspect and maintain temporary works in an acceptable condition throughout the period of use.

In the presence of the CO, perform an in-depth inspection of temporary works not more than 24 hours before beginning each concrete placement or before allowing people to enter a cofferdam or excavation support structure. Inspect other temporary works at least once a month to insure they are functioning properly. Use a registered professional engineer to inspect cofferdams, shoring, support of excavation structures, and support systems for load tests before loading.

Furnish written results of the inspections to the CO before placing concrete, before allowing people to enter a cofferdam or excavation support structure, and before loading temporary works. Include a certification that the system meets the requirements of the contract and drawings.

Clearly mark the capacity of factory fabricated components of vertical shoring towers according to the *Certification Program for Bridge Temporary Works* (FHWA-RD-93-033). Make inspections and certifications for factory fabricated components of vertical shoring towers according to the *Certification Program for Bridge Temporary Works* (FHWA-RD-93-033).

**Section 563. - PAINTING****563.01** Add the following:

This work also includes the application of weathering agents to achieve the appearance of the undisturbed natural soil and rocks.

**563.09 Painting Timber Structures.** Delete the subsection and substitute the following:**563.09 Weathering Agents.**

Apply weathering agent, such as Permeon or an approved equal, to all placed boulders, riprap, and as directed by the CO.

Permeon manufactured by  
Advanced Concrete Technologies  
11622 Newport Avenue  
Santa Ana, CA 92705  
(714) 731-0906

- a) **Desert Application.** Prepare a minimum of three test sections, each 3.0 m by 3.0 m, before applying weathering agent. Leave test sections in place for the duration of the project. Use different dilutions and application methods on the test sections, to determine mix and method to be used to best match the surrounding terrain. Mark each section and record mixture and application used on each section. The CO in consultation with the NPS will determine the application rates and mixtures to be applied to the slopes.
- b) **Boulder Application.** Apply weathering agent at the rate necessary to achieve the desired color.

Remove all litter before the weathering agent is applied. Use the approved application rates to apply the weathering agent over the CO designated areas. Exercise care to avoid any splashing or spray drift onto plants or other surfaces that might be damaged or stained by the weathering agent.

**Section 565. – DRILLED SHAFTS****565.06 Reinforcing Steel for Drilled Shafts and Placement of Crosshole Sonic Logging Access Tubes.** Delete the 2<sup>nd</sup> and 3<sup>rd</sup> paragraphs, and substitute the following:

Install access tubes for each drilled shaft in accordance with ASTM D 6760-02. Extend access tubes a minimum of 2 feet above shaft tops and a maximum of 3 inches above shaft bottom.

**565.07 Concrete for Drilled Shafts.** Delete the 5<sup>th</sup> paragraph.

**565.08 Integrity Testing.**

(a) **Testing.** Delete the text, and substitute the following:

Perform integrity testing on production drilled shafts in accordance with ASTM D 6760-02. Test drilled shafts no earlier than 3 days and no later than 45 days after concrete placement. Before testing, provide precise information to the CSL subcontractor as to drilled shaft bottom and tip elevations, access tube lengths, surveyed tube positions, and date of concrete placement. Perform tests between adjacent perimeter access tubes and diagonally between tubes within the drilled shafts. Test all possible cross-sections between access tubes.

If any access tube is not acceptable for testing (e.g. tube is not plumb, tube does not retain water, tube-concrete debonding has occurred, tube obstructions exists), provide a core hole to replace the rejected tube or propose an alternative integrity-test method that is acceptable to the CO. After integrity testing, inspection, and data analysis are completed and accepted by the CO, fill access tubes with neat cement grout in accordance with section 725.22(f). During grouting, use a tremie beginning at the bottom of the tube.

(b) **Test results and reporting.** Delete the 2<sup>nd</sup> sentence.

**Section 601. – MINOR CONCRETE STRUCTURES****Material**

**601.02** Add the following:

|  |        |
|--|--------|
| Concrete coloring agents                 | 711.05 |
| Precast reinforced concrete box sections | 706.07 |
| Reinforcing fibers                       | 725.29 |

**601.03 Concrete Composition.** Add the following:

All Portland cement concrete will include reinforcing fibers and integral color.

(i) Delete the text and substitute the following:

When colored concrete is required, submit samples of the colored concrete.

Integrally color by the addition of Davis colors No. 641, “Yosemite Brown”, and No. 8084, “Jet Black”, as produced by Frank D. Davis, Davis Colors Western Headquarters, 3700 E. Olympic Blvd., Los Angeles, CA 90023, phone 1-800-356-4848, or color 242 Sahara as manufactured by Solomon Colors or an approved equal.

Use coloring agents of mineral oxide pigments, light fast, lime proof, stable, and inert when used in concrete or mortar. Do not use coloring agents containing carbon black.

Determine coloring agent batch amounts by weight not volume. Use additional mixing time as recommended by the manufacturer. Use the amount of coloring agent as follows: No. 641, "Yosemite Brown" – 0.7 kg to 1.1 kg/sack of cement, in 0.2 kg/sack of cement increments, and No. 8084, "Jet Black" – 0.06 kg/sack of cement or 2% liquid color agent based on the weight of cementitious material .

Prepare five square textured test panels with each panel 300 mm square. Finish and cure the panels in the same manner as the concrete will be finished and cured on the project.

Delete Table 601-1 and substitute the following:

**Table 601-1**  
**Composition of Minor Structure Concrete**

| Property                    | Specification                                  |
|-----------------------------|--|
| Cement content              | 362 kg/m <sup>3</sup> minimum                  |
| Water/cement ratio          | 0.49 maximum                                   |
| Slump                       | 125 mm maximum                                 |
| Air Content                 | 4% minimum                                     |
| Size of coarse aggregate    | AASHTO M43 with 100% passing the 37.5-mm sieve |
| 28-day compressive strength | 31.0 MPa minimum                               |

## Section 602. – CULVERTS AND DRAINS

### Material

#### 602.02 Add the following:

Precast concrete units

725.11

### Construction Requirements

#### 602.03 **General.** Add the following:

Do not use precast units unless included in the plans or approved by the CO. Coat metal pipe and end sections with asphalt coating, type A.

Encase the sanitary sewer pipe and water line crossing the storm sewer at the Echo Bay Marina with lean concrete backfill at least 4 inches thick and extend a distance of 10 feet either side of the storm sewer. Obtain approval from the CO prior to construction.

**602.06 Laying Plastic Pipe.** Add the following to the second paragraph:

Provide watertight joints for plastic pipe culverts.

**Measurement**

**602.09** Add the following:

Do not measure the cutting of existing culvert miter ends for culvert extensions.

**Payment**

**602.10** Add the following:

Encasement for the sanitary sewer and water line crossing at the Echo Bay Marina will not be paid for separately, but will be included in the pipe culvert.

**Section 609. – CURB AND GUTTER**

**Construction Requirements**

**609.03 General.** Add the following:

Color concrete placed under this section in accordance with Subsection 601.03.

**Section 611. – WATER SYSTEMS**

**Construction Requirements**

**611.03 General.** Add the following:

Field verify all existing utility locations, including potholing, prior to construction. Any discrepancies from the utilities shown in the plans will be brought to the attention of the CO.

Encase the sanitary sewer pipe and water line crossing the storm sewer at the Echo Bay Marina with according to section 602.03. Obtain approval from the CO prior to construction.

6 monitoring wells in the Echo Bay Marina will be adjusted. Adjust metal frames and covers to grade before placing the surface course. Remove and clean the frames and covers. Trim the walls down to solid material. Reconstruct the walls with the same material as existing and reset the cleaned frames and rims at the required elevation.

All telephone and power relocation work will be preformed by the owners prior to construction. Contact the telephone and power company at least 30 days prior to beginning construction.

### **Payment**

#### **611.10** Add the following:

Encasement for the sanitary sewer and water line crossing at the Echo Bay Marina will not be paid for separately, but will be included in the pipe culvert. Adjusting monitoring wells and all utility verification and potholing will also be included in the work.

## **Section 615. – SIDEWALKS, DRIVE PADS AND PAVED MEDIANS**

### **Construction Requirements**

#### **615.03 General.** Add the following:

Color all Portland Cement Concrete (PCC) sidewalks in accordance Subsection 601.03.

#### **615.04 Concrete Sidewalks, Drive Pads, and Medians.**

##### **(a) Joints.**

##### **(1) Expansion joints.** Delete the second sentence and substitute the following:

Use colored Sikaflex or equivalent with backer rod for all joints. Submit colored samples of joint material that match the color of the concrete to the CO.

## **Section 618. – CONCRETE BARRIERS AND PRECAST GUARDWALLS**

### **Description**

#### **618.01** Add the following:

This work also consists of constructing reinforced concrete guardwalls and concrete parapets with simulated stone masonry surface.

### **Material**

**618.02** Add the following:

Simulated stone masonry surface

613

**Construction Requirements**

Add the following:

**618.04A Concrete Guardwall.** Construct concrete guardwall of cast in place concrete according to Section 552. The location of the pattern to be used to create the formliner will be taken from the existing Lakeshore Bridge at a specific location to be determined by the CO and the NPS. The Lakeshore bridge is located along Lakeshore Drive near mile post 9.7. The molding for the formliner will be taken from the top of the existing bridge rail and or guardwall down. The existing pattern will be extended downward as required to achieve the required formlined height of the proposed concrete guardwall. Vertical formliner impressions that intersect the top of the guardwall will be extended across the top of the guardwall and the areas between these impressions will be stamped by methods approved by the CO and the NPS.

**618.04B Concrete Parapet.** Construct concrete parapet of cast in place concrete according to Section 552. The location of the pattern to be used to create the formliner will be taken from the existing Lakeshore Bridge at a specific location to be determined by the CO and the NPS. The Lakeshore bridge is located along Lakeshore Drive near mile post 9.7. The molding for the formliner will be taken from the top of the existing bridge rail and or guardwall down. The existing pattern will be extended downward as required to achieve the required formlined height of the proposed concrete parapet. Formliner joint locations will match concrete parapet joint locations as shown in the plans. Vertical formliner impressions that intersect the top of the parapet will be extended across the top of the parapet and the areas between these impressions will be stamped by methods approved by the CO and the NPS.

**618.08 Acceptance.** Add the following:

Material for concrete guardwall and concrete parapet (except concrete and reinforcing steel) will be evaluated under Subsections 106.02 and 106.03.

**Measurement****618.09** Add the following:

Do not measure the following for payment: structure excavation, structural concrete, epoxy coated reinforcing steel, reinforcing steel, structure backfill, backfill material, simulated stone masonry surface, and joint material.

Measure concrete guardwall and concrete parapet by the linear meter along the traffic face of the wall including terminal sections.

**Section 619. – FENCES, GATES, AND CATTLEGUARDS****Construction Requirements****619.03 Fences and Gates.** Add the following:

For temporary construction fence, use plastic fence that conforms to Subsection 710.11. Work around existing vegetation and obstructions as much as possible. At the end of every work day, completely enclose the work areas, staging areas and storage areas with temporary construction fence. Use temporary construction fence to provide a closure of the work areas by connecting to the silt fence around the work areas. Remove all temporary fences from the park at the completion of the project.

Access gates will be installed in 2 locations. The first gate will be installed at the Las Vegas Wash. This is located at mile post 1.2 of Northshore Road near Station 1+925. Gate to be located on the access road at the south end of the parking area. Contractor to place a physical barrier (boulders or earth berm) at each end of the gate as directed by the NPS. The second gate will be installed at the maintenance access road south of the Valley of Fire Wash at station 67+490. All concrete for the access gates shall be in accordance with section 602. The pipes for the access gates shall meet the requirements of ASTM A53, Grade B. Placement of the physical barrier to be paid for as general labor and equipment hours.

**Section 622. – RENTAL EQUIPMENT****Description****622.01** Add the following:

This work may require non-conventional grading practices and equipment and equipment operators capable of controlled sculpting of slopes. This work includes, but may not be limited to the following:

Reshaping of cut and fill slopes to obtain more natural appearing contours as described in Subsections 204.01 and 204.13.

This work also includes filling and compacting small erosion gullies forming in the existing shoulder and down through the existing embankment.

**622.02 Rental Equipment.** Add the following:

Use the following type of equipment to reshape cut and fill slopes:

Bulldozer, 50 kW minimum flywheel power.

Dump truck, 8 cubic meter minimum capacity.

Hydraulic excavator, 1.1 cubic meter bucket, track type, 120 kW flywheel power, equivalent to a Caterpillar 225B.

Backhoe loader, 180 liter minimum rated capacity bucket, 600 mm width.

Wheel loader, 2 cubic meter minimum rated capacity, equivalent to a Caterpillar 966E.

Reshape slopes as directed by the CO in consultation with the Park. Use the following equipment:

Backhoe loader, 180 liter minimum rated capacity bucket, 600 mm width.

Dump truck, 8 cubic meter minimum capacity.

Rough grade and narrow the existing Northshore Road bench to approximately 3.5 meters from station 68+050 to 68+600 (Old Northshore alignment) to match the existing Fire Cove access road. Use the following equipment:

Backhoe loader, 180 liter minimum rated capacity bucket, 600 mm width.

Dump truck, 8 cubic meter minimum capacity.

Use a Materials Transfer Vehicle (MTV) with storage and remixing capabilities on all mainline construction when placing asphalt concrete mixtures. The MTV will independently remix and deliver mixture from the hauling equipment to the paving equipment.

Furnish an MTV with the following capabilities:

- An unloading system to receive mixtures from the hauling equipment.
- A minimum storage capacity of 13 tons with a remixing system in the MTV storage bin.
- A discharge conveyor to deliver the mixture to the paver hopper.
- The MTV system cannot exceed maximum legal loadings on structures.

Acceptable Material Transfer Vehicles are:

- Barber Greene MTV-3500
- Roadtec SB-1500
- Roadtec SB-2500

**Section 623. – GENERAL LABOR**

Delete the text of this Section and substitute the following:

**Description**

**623.01** This work consists of furnishing workers and hand tools for construction work, survey crews, and/or furnishing qualified personnel to perform technical work ordered by the CO and not otherwise provided for under the contract.

**623.02 Workers and Equipment.** Furnish competent workers and appropriate hand tools for the work.

Obtain approval of the length of a workday and workweek before beginning the work. Keep daily records of the number of hours worked. Submit the records along with certified copies of the payroll.

**623.03 Surveying Services.** Furnish personnel, equipment, and material that conform to the requirements of Subsection 152.01. Survey according to Section 152.

Survey and establish controls within the tolerances shown in Table 152-1, or within other tolerances as established by the CO.

Prepare field notes in an approved format. Furnish calculations. All field notes, supporting documentation, and calculations become the property of the Government upon completion of the work.

**623.04 Office Technical Services.** Furnish qualified engineering personnel experienced in highway construction and design, capable of performing in a timely and accurate manner. Provide personnel with a minimum of NICET Level II certification in highway design and construction, or State (SHA) or industry certification-related design and construction equivalent to their intended responsibilities. Personnel with 2 years or more of recent job experience in the type of highway design and construction provided for under the contract may be used in lieu of certifications. Provide the names and relevant experience of all personnel. Furnish supporting tools and equipment (e.g., calculator, computer, and software, and appropriate and commonly-used drafting tools for the assigned task).

All calculations, notes, and supporting documentation become the property of the government upon completion of the work.

**623.05 Acceptance.** Additional surveying services will be evaluated under Section 152.

Hired technical services will be evaluated under Subsections 106.02 and 106.04

### Measurement

**623.06** Measure the Section 623 items listed in the bid schedule according to Subsection 109.02 and the following as applicable.

Round portions of an hour up to the nearest half hour. Measure time in excess of 40 hours per week at the same rate as the first 40 hours.

For surveying services, the minimum field survey crew is two persons. Measure surveying service by the crew hour. Do not measure time spent in making preparations, performing calculations, plotting cross-sections and other data, and processing computer data, and other efforts necessary to successfully accomplish the ordered survey services.

Do not measure time for worker's transportation time to and from the project site.

Measure office technical services by the hour as ordered by the CO for performing calculations, plotting cross-sections and other data, and processing computer data.

### Payment

**623.07** The accepted quantities will be paid at the contract price per unit of measurement for the Section 623 pay item listed in the bid schedule. Payment will be full compensation for the work prescribed in this section. See Subsection 109.05.

## Section 624. – TOPSOIL

### Description

**624.01** Add the following:

This work also includes placing topsoil on obliterated areas and on unpaved turnouts and turnarounds.

### Construction Requirements

**624.03 Preparing Areas.** Delete the text and substitute the following:

Scarify and contour the surface of the cut and fill slopes in a direction perpendicular to the natural flow of water to create sufficient roughness prior to topsoil placement.

NPS LMNRA Park personnel will place topsoil desert crust from station 53+420 to 53+440, station 67+300 to 67+54 and station 71+640 to 72+000. Contact Alice Corrine Newton (702-293-8777) or Cayenne Engel (601 Nevada Highway, Boulder City, NV 89005. 702 293 8666

Cel – 865 250 7625) prior to placement of topsoil to coordinate with the NPS regarding the desert crust placement.

**624.04 Placing Topsoil.** Delete the text and substitute the following:

Place conserved topsoil as follows:

- (a) Grade site to specifications.
- (b) Notify CO 10 days prior to the commencement of the rock and topsoil placement. All cut and fill slopes will be approved by the CO in consultation with the NPS prior to the placement of the boulders and topsoil.
- (c) Place the stockpiled 900 mm and larger boulders, not used as barrier boulders, in areas approximately the same location from which they were removed. In some areas, the new slopes may be steeper than before and placing the boulder may be difficult or the new location may be unstable. Place these boulders elsewhere within the project limits as ordered by the CO in consultation with the NPS. Expose the weathered sides, if any, of the boulder. Boulders shall be buried to a depth of 1/3 of the boulder diameter. After initial placement, the CO in consultation with NPS will determine any adjustments in the location of the 900 mm and larger boulders. Any adjustments in location after initial placement, as directed by the CO, will be paid for under Sections 622 and 623.
- (d) Scarify and contour the surface of slopes as directed by the CO in consultation with the NPS.
- (e) Place conserved topsoil in approximately the same location from where it was removed. If gypsum is identified at the surface, stockpile topsoil from these areas separately and placed in the same locations as it was taken from. Stockpile any gypsum topsoil as ordered by the CO. Spread the material to conform to the shaped slopes as described in subsection 204.01 and 204.13. Do not place topsoil when the ground or soil is frozen, excessively wet, or otherwise in a condition detrimental to work. Place conserved boulders less than 900 mm in areas throughout the project, designated by the CO. These boulders may not necessarily be placed in the same location they were salvaged from.
- (f) Remove all equipment tracks.
- (g) Upon acceptance of the placement of the topsoil, water when directed by the CO in consultation with the NPS according to subsection 625.05 to create a crust. Apply tackifier to soils where the slope is 1:3 or steeper.

Spread topsoil to a depth of 50 mm on the cut and fill slopes. Place topsoil mixture in rocky areas on ledges, pockets, and depressions.

Break clods and lumps as needed to provide a uniform textured soil.

Place topsoil on scarified slopes using the lightest weight equipment possible and minimize movement. If topsoil is compacted, remove topsoil, scarify the subsurface, and replace the topsoil. Cut slopes: start at the top of the cut slope and work down. Fill slopes: start at the bottom and work up the road. Do not drive over previously placed topsoil.

Add the following:

Topsoil shall be placed according to the following priority:

1. Embankment and excavation slopes of the new roadway alignment.
2. Obliteration areas that are within 50 meters of the new alignment construction limits and within view of the new roadway alignment.
3. All other remaining obliteration areas.

**Measurement**

**624.06** Add the following:

Measure topsoil by the cubic meter in the stockpile. Measure boulders 900 mm and larger, not used as Item 25125, Boulder (barrier boulder), and all boulders less than 900 mm as topsoil.

**Payment**

**624.07** Add the following:

All preparatory work required in collecting and stockpiling of materials discussed in this subsection is subsidiary to Item 20401, and direct payment will not be made. Tackifier is considered subsidiary to placing topsoil.

Rework and work in placing additional rocks and gravel, boulders, and watering, will be paid for under Sections 622, 623, and 625 as applicable.

**Section 625. - TURF ESTABLISHMENT****Material****625.02** Add the following:

Tackifier

713.12

**Construction Requirements****625.05 Watering.** Delete text and substitute the following:

After boulders are placed throughout the project, spray newly placed topsoil and boulders with landscape water using a fine mist nozzle and wet the soil at least 50 mm deep. Remove all soil from rocks before applying weathering agent. Determine the maximum water pressure to be used to minimize erosion of the topsoil. Stop spraying before it causes erosion. Clean rocks in conjunction with watering of topsoil. To minimize erosion, it may take several sprayings to remove soil from rocks. Apply additional water to the topsoil to thicken the surface crust and accelerate plant growth when directed by the CO in consultation with the NPS.

Water for landscape watering will be available from Lake Mead at Echo Bay Marina or at Callville Bay Marina at no charge. Building a temporary, above ground pipeline to pump water into trucks is allowed. A stand tank is permitted.

To stabilize non-gypsum soil stockpiles water within 1 week of stockpiling to remove the surface fines. Apply water in a manner not to create erosion.

**625.08 Mulching.** Delete the text and substitute the following:

Apply tackifier to gypsum soil stockpiles.

Apply tackifier to replaced gypsum and non-gypsum topsoil within 1 week of placing.

(b) Hydraulic method. Apply tackifier to gypsum soil stockpiles at a rate of 40 pounds per acre with wood fiber tracer/mulch material at 750 pounds per acre.

Apply tackifier to all replaced topsoil. Apply tackifier at a rate of 40 pounds per acre with 750 – 1,000 pounds of wood fiber tracer/mulch on 3:1 and flatter slopes. For slopes steeper than 3:1 apply tackifier at a rate of 60 pounds per acre with 750 – 1,000 pounds of wood fiber tracer/mulch.

Follow manufacturer's recommendations for mixing. To ensure proper curing of the tackifier, it shall be applied when the daytime temperature is above 50 degrees F. and minimum

temperatures do not fall below freezing. It should not be applied to saturated wet soil, during rain, high winds, or when the temperature is less than 50 degrees F.

Accepted quantities will be paid at the contract price per unit of measurement for the section 15703 pay items listed in the bid schedule.

## **Section 634. - PERMANENT PAVEMENT MARKINGS**

### **Construction Requirements**

634.03 General.

Place the centerline stripe along the existing striped centerline, as recorded under Subsection 152.03(n).

Add the following:

The Contractor may use, upon approval, permanent pavement marking materials and layouts meeting current state approved standards that are practiced in the region of the project in lieu of contract requirements, if the state standards meet the requirements of the MUTCD. The material substituted must be equivalent to that required in the specifications. Obtain the CO's approval before incorporating into the work. When requesting approval, furnish to the CO the applicable state standards (specifications and drawings), manufacturer's name and address, supplier's certification indicating material is produced to state approved specifications, pricing data showing cost difference for labor and materials, and any other available information describing application and performance. When directed, submit samples for approval at the Contractor's expense. Within 14 days, the CO will inform the Contractor as to the acceptance of the request. The unit price for the contract item(s) will be reduced to reflect any cost savings.

## **Section 635. - TEMPORARY TRAFFIC CONTROL**

**635.07 Construction Signs.** Add the following to the end of the first paragraph:

Provide the same type of sheeting on all post-mounted construction signs that pertain to the project.

**635.13 Temporary Pavement Markings and Delineation.** Delete the text and substitute the following:

Before opening a pavement surface to traffic, remove all conflicting pavement markings by sandblasting or other methods that do not damage the surface or texture of the pavement. Make removal pattern uneven so it does not perpetuate the outline of the removed pavement markings. Lightly coat sandblasted or removal areas on asphalt surfaces with emulsified asphalt.

Provide pavement markings or delineation and signing according to Section 156, the MUTCD, and project plans. Install and maintain temporary pavement markings that are neat, crack free, true, straight, and unbroken.

For seasonal suspensions, apply permanent pavement marking pattern with temporary traffic paint.

Install permanent pavement markings within 14 days. If permanent pavement markings are not placed within 14 days, provide, at no cost to the contract, additional temporary delineation equivalent to the permanent pavement marking pattern required by the contract. Do not apply temporary traffic paint to the final surface.

For temporary pavement markings, use preformed retroreflective tape, traffic paint, or temporary raised pavement markers as follows:

**(a) Temporary Markings.** For temporary pavement markings, use preformed retroreflective tape, traffic paint, or temporary raised pavement markers as indicated in the plans and as follows:

**(1) Preformed retroreflective tape.** Apply according to the manufacturer's instructions. Remove all loose temporary preformed retroreflective tape before placing additional pavement layers.

**(2) Temporary traffic paint.** Apply temporary traffic paint at a 0.38-millimeter minimum wet film thickness (0.38 liters per square meter). Immediately apply type 1 glass beads on the paint at a minimum rate of 0.7 kilograms per liter of paint.

**(3) Raised pavement markers.** When chip seals, slurry seals, or tack coats are used after marker placement, protect the markers with an approved protective cover, which is removed after the asphalt material is sprayed.

Remove all temporary pavement markers before placing additional pavement layers. Remove all temporary pavement markings from the surface course before placing permanent pavement markings.

**(b) Delineation for Unmarked Pavements with Vehicle Positioning Guides.** For ADT's greater than 1000, vehicle positioning guides may be used in lieu of temporary markings for the delineation of unmarked pavements for a period of no longer than 3 days. For ADT's of 1000 or less, vehicle positioning guides may be used in lieu of temporary markings for the delineation of unmarked pavements for the full 14 day temporary marking period.

For unmarked pavements, install signing and vehicle positioning guides as indicated on plan sheet M635-2. Use vehicle positioning guides that meet the requirements of Subsection 718.21(b), raised pavement markers.

Remove all vehicle positioning guides before placing additional pavement layers. Remove all vehicle positioning guides from the surface course before placing permanent pavement markings.

### Measurement

**635.26** Delete the tenth paragraph and substitute the following:

Measure temporary pavement markings by the kilometer along the centerline of the roadway. Measure temporary pavement markings as a single measurement, inclusive of all markings, from end to end regardless of color, material type, or number of lines. Do not deduct for standard gaps between stripes. Measure only one application of temporary pavement markings per lift.

Measure vehicle positioning guides used at the option of the Contractor in lieu of temporary markings as equivalent temporary pavement markings. When vehicle positioning guides exceed the period of use stated in the plans, provide additional temporary or permanent pavement markings at no cost to the Government. Measure vehicle positioning guides by the kilometer along the centerline of the roadway. Measure as a single measurement, inclusive of all markings, from end to end regardless of material type, gaps or number of lines. Measure only one application of vehicle positioning guides per lift. "DO NOT PASS", "PASS WITH CARE", and "NO CENTER STRIPE" signs required to be used with vehicle positioning guides are subsidiary to the temporary pavement marking item. Do not measure these signs as construction signs.

## Section 701. - CEMENT

### 701.01 Hydraulic Cement

**(a) Portland Cement.** Delete the text and substitute the following:

Conform to AASHTO M85, the low-alkali cement criteria of Table 2 – Optional Chemical Requirements, and Table 701-1.

**Table 701-1  
Cement Type**

| Concrete Class | Cement Type |
|----------------|-------------|
| A or A(AE)     | II or V     |
| P or P(AE)     | II or III   |

**Section 702. - ASPHALT MATERIAL**

**702.01 Asphalt Binder.** Delete the Subsection and add the following:

**702.01 Asphalt Binder.** Conform to M 320, Table 1. Conform to Subsection 702.04.

In AASHTO M 320, Table 1 replace footnote *g* with the following:

<sup>8</sup> If the creep stiffness is below 300MPa, the direct tension test is not required. If the creep stiffness is between 301 and 600 MPa, the direct tension failure strain requirement shall be used in lieu of the creep stiffness requirement. The *m*-value requirement must be satisfied in both cases.

**702.01 Asphalt Cement.** Add the following:

Asphalt binder for the hot asphalt concrete pavement and open-graded asphalt friction course will be Grade PG 76-22NV conforming to Table 702-2 and subsection 702.04. Blend the PG 76-22NV at the source of supply and deliver as a completed mixture to the job site. Do not transport PG 76-22NV by railroad car.

**Table 702-2**  
**Asphalt Binder Grade PG 76-22NV Specifications**

| TEST  | TEST METHOD                 | REQUIREMENT |
|---|-----------------------------|-------------|
| <b>Tests on Original Binder:</b>  |                             |             |
| Viscosity @ 135°C, Pa-s   | AASHTO T 316                | 3.00 Max.   |
| Dynamic Shear, $G^*/\sin \delta$ , Test Temp 76°C @ 10 rad/s, kPa       | AASHTO T 315                | 1.30 Min.   |
| Ductility @ 4°C, 5 cm/min, cm   | AASHTO T 51                 | 20 Min.     |
| Polymer Content, % by mass  | (a)                         | 3.0 Min.    |
| <b>Tests on Residue from R.T.F.O., AASHTO T 240:</b>                    |                             |             |
| Mass Loss, %  | AASHTO T 240                | 0.50 Max.   |
| Dynamic Shear, $G^*/\sin \delta$ , Test Temp 76°C @ 10 rad/s, kPa       | AASHTO T 315                | 2.20 Min.   |
| Multiple Stress Creep Recovery, Test Temp 76°C @ 3200 Pa, %             | AASHTO TP 70                | 25 Min.     |
| Ductility @ 4°C, 5 cm/min, cm   | AASHTO T 51                 | 10 Min.     |
| <b>Tests on Residue from Pressure Aging Vessel, AASHTO R28 @ 110°C:</b> |                             |             |
| Dynamic Shear, $G^*/\sin \delta$ , Test Temp 31°C @ 10 rad/s, kPa       | AASHTO T 315                | 5000 Max.   |
| Creep Stiffness, <i>S</i> , Test Temp -12°C @ 60 sec, MPa               | AASHTO T 313 <sup>(b)</sup> | 300 Max.    |
| Creep Stiffness, <i>m</i> -value, Test Temp -12°C @ 60 sec              | AASHTO T 313 <sup>(b)</sup> | 0.300 Min.  |
| Direct Tension, Failure Strain, Test Temp -12°C @ 1.0 mm/min, %         | AASHTO T 314 <sup>(b)</sup> | 1.00 Min.   |

(a) **Certificates of compliance provided for the material shall certify that the minimum polymer content is present.**

(b) If the creep stiffness is below 300 MPa, the direct tension test is not required. If the creep stiffness is between 300 and 600 MPa, the direct tension failure strain can be used in lieu of the creep stiffness requirement. The m-value requirement must be satisfied in both cases.

**702.03 Emulsified Asphalt.** Add the following:

(e) **Other emulsified asphalts.** Other emulsified asphalts not covered by item (a) through (d) will conform to the following:

|  |              |
|--|--------------|
| (1) Saybolt furol viscosity at 50°C, AASHTO T 59 | 15 - 150 sec |
| (2) Settlement, AASHTO T 59                      | 1% max.      |
| (3) Residue by distillation, AASHTO T 59         | 65% min.     |
| (4) Oil Distillate by volume, AASHTO T 59        | 25% max.     |
| (5) Solubility in trichloroethylene, AASHTO T 44 | 97.5 % min.  |

**Section 703. – AGGREGATE**

**703.02 Coarse Aggregate for Concrete.** Delete the text and substitute the following:

**703.02 Coarse Aggregate for Concrete.** Conform to AASHTO M 80 class A including the restriction on reactive materials, except as amended or supplemented by the following:

Add the following:

In addition to the requirements under **703.01** and **703.02** the following will also apply to fine and coarse aggregate for concrete.

**Fine and Coarse Aggregate for Concrete.**

Alkali reactivity of aggregates (Mortar bar method), ASTM C 1260 0.10% max.

Aggregates tested by ASTM C 1260, which exhibit mortar bar expansions less than 0.10 % at 16 days after casting, are considered innocuous and may be used.

Aggregates tested by ASTM C 1260 which exhibit mortar bar expansions between 0.10 and 0.20 % at 16 days after casting may be used if acceptable supplemental information is submitted which confirms that mortar bar expansions are not caused by alkali-silica reactions. Acceptable supplemental information includes:



**703.07 Hot Asphalt Concrete Aggregate.** Delete the Subsection and substitute the following:

**703.07 Hot Asphalt Concrete Aggregate.** Furnish hard, durable particles or fragments of crushed stone, crushed slag, or crushed gravel conforming to the following:

- |   |          |
|---|----------|
| (a) Los Angeles abrasion, AASHTO T 96   | 35% max. |
| (b) Sodium sulfate soundness, AASHTO T 104 (5 cycles):  |          |
| Coarse aggregate  | 12% max. |
| Fine aggregate  | 12% max. |
| (c) Fractured faces, ASTM D 5821 (one or more)  | 90% min. |
| (d) Fine aggregate angularity, AASHTO T 304 (method A)  | 40% min. |
| (e) Flat and elongated particles, ASTM D 4791 (1:5 ratio,<br>+9.5 mm sieve, calculated by mass, weighted average) | 10% max. |
| (f) Sand equivalent AASTHO T 176 (referee method, alt 2)  | 45 min.  |

**(g) Gradation.** Size, grade and combined the aggregate fractions in mix proportions that result in a composite blend meeting the specified gradation. Nominal maximum size is one sieve size greater than the first sieve to retain more than 10 percent of the combined aggregate. Test according to AASHTO T 27 and T 11.

(1) See Table 703-12 for Superpave aggregate gradation.

(2) See Table 703-4 for Hveem or Marshall aggregate gradation.

For surface course, do not use aggregates known to polish or carbonate aggregates containing less than 25 percent by mass of insoluble residue when tested according to ASTM D 3042.

**703.08 Open-Graded Asphalt Friction Course Aggregate.**

Delete line (c).

**Section 704. – SOIL**

**704.02 Bedding Material.** Delete the text and substitute the following:

- |  |   |
|--|---|
| (a) Maximum particle size                                    | 12.5 mm or half the corrugation depth, whichever is smaller |
| (b) Material passing 75- $\mu$ m sieve, AASHTO T 27 and T 11 | 10% max.  |

**Section 705. - ROCK**

**705.01 Gabion and Revet Mattress Rock.** Add the following:

- |                                       |          |
|---------------------------------------|----------|
| (d) Los Angeles abrasion, AASHTO T 96 | 50% max. |
|---------------------------------------|----------|

**705.02 Riprap Rock.** Delete lines (a), (b), (c), (d), and substitute the following:

- |  |             |
|--|-------------|
| (a) Apparent specific gravity, AASHTO T 85 | 2.40 min.   |
| (b) Absorption, AASHTO T 85                | 4.0% max.   |
| (c) Los Angeles abrasion, AASHTO T 96      | 50% max.    |
| (d) Gradation for the class specified      | Table 705-1 |

**Section 706. - CONCRETE AND PLASTIC PIPE**

**706.07 Precast Reinforced Concrete Box Sections.** Delete this subsection and substitute the following:

Conform to ASTM C 1433M. Provide concrete box culvert sections meeting the design requirements for HS20 loading.

The following information shall be clearly marked on the inner surface of each box section by indentation, waterproof paint or other approved means.

- Box span and rise
- Date of manufacture
- Name of manufacturer

**706.08 Plastic Pipe.** Delete the text and substitute the following:

Furnish perforated and nonperforated plastic pipe conforming to the following for the size and types specified. For watertight joints, conform to ASTM D 3212. For pipe culvert, furnish pipe conforming to types (a), (b), or (c) for the size specified.

### **Section 709. – REINFORCED STEEL AND WIRE ROPE**

#### **709.01 Reinforcing Steel.**

**(b) Reinforcing bars.** Delete the text and substitute the following:

Furnish deformed, grade 420 bars conforming to AASHTO M31M or M 322M.

**(d) Tie bars.** Delete the text and substitute the following:

Furnish deformed, grade 420 bars conforming to AASHTO M31M.

**(e) Hook bolts.** Delete the text and substitute the following:

Furnish deformed, grade 420 bars conforming to AASHTO M31M with M14 rolled threads or M16 cut threads. Furnish a threaded sleeve nut capable of sustaining a minimum axial load of 76 kilonewtons.

### **Section 713.— ROADSIDE IMPROVEMENT MATERIAL**

**713.05 Mulch.** Delete paragraphs (a),(c), (d), (e), (f), (g) and (h). and substitute the following:

**(b) Wood fiber.** Furnish processed wood fiber from wood chips conforming to the following:

- (1) Readily dispersible in water;
- (2) Nontoxic to seed or other plant material;
- (3) Free of growth or germination inhibiting substances;
- (4) Free of weed seed;
- (5) Air dried to an equilibrium moisture content of 12±3 percent;
- (6) Packaged in new label containers; and
- (7) Packaged in a condition appropriate for mixing in a homogeneous slurry suitable for application with power spray equipment.

**713.12 Stabilizing Emulsion Tackifiers.** Delete paragraph (a),(b) and (c) and substitute the following:

(b) Non-asphaltic tackifier. Use a non-toxic, biodegradable guar gum based tackifier. The tackifier shall contain a dispersal agent that is natural and hydrocolloid treated for field mixing. The tackifier shall be made from 100% natural, non-toxic ingredients. The emulsion shall have good cover and adherence to soil. The tackifier shall be minimum of 93% soluble and able to yield 80% of peak viscosity within 5 minutes of mixing. The cured product has high resistance to wind and train drop impacts. Follow manufacturer's recommendation for mixing.

### **Section 718. - TRAFFIC SIGNING AND MARKING MATERIAL**

#### **718.08 Signposts.**

(b) **Galvanized Steel posts.** Delete the first sentence and substitute the following:

Furnish posts that are straight, smooth, and free from defects affecting strength, durability, or appearance. Paint all sign posts with exterior gloss brown, Federal STN. Color #10080 (Sherwin Williams, Plantation Brown). Treat all metal surfaces with an approved method before painting.

#### **(2) Square tubular steel posts.**

(c) Delete the text and substitute the following:

*Galvanizing after punching*  
(inside and outside of post)

ASTM A 653M,  
coating designation Z275

### **Section 725. - MISCELLANEOUS MATERIAL**

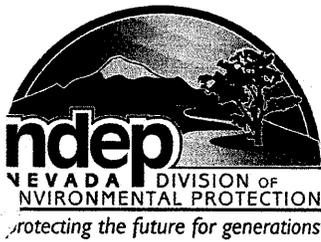
**725.29 Reinforcing Fibers.** Delete the text and substitute the following:

When reinforcing fibers are specified, conform to the following:

(a) **Use with concrete.** Fibers will be fully oriented, 100% virgin polypropylene, collated fibrillated, white in color, 38 mm long, dosed at 0.9 kilograms per cubic meter of concrete, conforming to ASTM C 1116, Type III.

# Appendix A

NV PRA LAME 1(8)  
Northshore Road



# STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

Jim Gibbons, Governor

Allen Biaggi, Director

Leo M. Drozdoff, P.E., Administrator

May 2, 2008

Mr. Kiel Downing  
U.S. Army Corps of Engineers  
321 North Mall Drive, Suite L-101  
St. George, Utah 84790-7310

Dear Mr. Downing:

Nevada Division of Environmental Protection (NDEP) grants 401 Certification for the Federal Highway Administration/National Park Service Northshore Road Rehabilitation Project which will impact Echo Wash, Valley of Fire Wash and Thomas Wash, in the Lake Mead National Recreation Area, Clark County, Nevada. BMPs must be properly installed and maintained throughout the project construction period until all disturbed areas are stabilized. Photographs of BMPs must be submitted to this office within two weeks of their installation. If straw bales are selected as BMPs they should be certified as weed free.

**Any modifications to original project submittal must be reviewed and approved by this office prior to implementation.**

**All conditions of NDEPs Temporary Authorization To Discharge Permit (Construction / Dewatering Permit) or any other permit issued by NDEP for the project must be followed.**

This Section 401 Water Quality Certification is subject to the acquisition of all necessary local, regional, state and federal permits and approvals as required by law. Failure to meet any conditions of this 401 Water Quality Certification or the Temporary Authorization Permit (Construction/Dewatering Permit) or any other permit issued by NDEP for this project or any violation of NAC 445A may result in the revocation of this 401 Water Quality Certification.

If you have any question please give me a call.

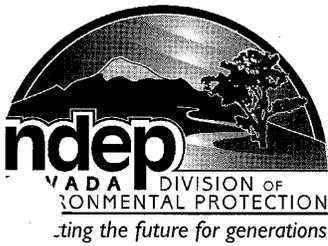
Sincerely yours,

Glen Gentry  
Monitoring Branch Supervisor  
Bureau Water Quality Planning

cc: Bill Jones, FWHA  
Icyl Mulligan, NDEP

# Appendix B

NV PRA LAME 1(8)  
Northshore Road



# STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

March 17, 2008

Jim Gibbons, Governor

Allen Biaggi, Director

Leo M. Drozdoff, P.E., Administrator

Mr. Gary Strike, P.E.  
Project Manager  
U.S. Department of Transportation  
Federal Highway Administration  
Central Federal Lands Highway Division  
12300 West Dakota Avenue, Suite 380  
Lakewood, Colorado 80228-2583

**RE: Temporary Rolling Stock Permit #TNEV2008475 - FHWA, CFLHD - Northshore Road, Roadway Rehabilitation Project - Clark County, Nevada.**

Dear Mr. Strike,

Enclosed please find a copy of the temporary permit for the above cited project for operating heavy equipment (rolling stock) and working in the subject drainages (waters of the State) tributary to Lake Mead, Nevada. The temporary permit is in effect from July 15, 2008 through January 15, 2009.

Please advise the Division if there are any changes or additions to the activities related to the permit activities prior to the end of the temporary permit. **Please note that the permit requires photo documentation of the project's progress, with a narrative report (two copies) describing the project elements. The reporting will be due at the end of the project per Part I.A.3. of the permit.**

Please advise me when this phase of the project is close to completion and or if a second temporary permit will have to be applied for to complete the project.

If you have any questions regarding this second permit, please contact me at (775) 687-9432.

Sincerely,

Icyl C. Mulligan, MS, ES  
Bureau of Water Pollution Control

CC: Nadir Sous, NDEP  
Bill Jones, Permit Coordinator, Federal Highway Administration  
(FHWA), 12300 Dakota Avenue, Suite 380, Lakewood, Colorado 80228-2593

C:\FEDHWYADMIN.NSHOREROAD.1tr08



Nevada Division of Environmental Protection

# TEMPORARY

## AUTHORIZATION TO DISCHARGE

In compliance with the provisions of Chapter 445A of the Nevada Revised Statutes,

Federal Highway Administration (FHWA)  
Central Federal Lands Highway Division (CFLHD)  
Department of Transportation (DOT)  
12300 West Dakota Avenue, Suite 380  
Lakewood, CO 80228-2583

for

A Federal Highway Administration Highway Project  
Lake Mead National Recreation Area (LMNRA)  
NV PRA LAME 1(8)

The Northshore Road MP. 32.9 to 45.7 Roadway Project

is authorized to operate heavy equipment in, along and across Echo Wash, Valley of Fire Wash, and Thomas Wash (Overton Intersection Realignment) tributary to Lake Mead for the subject roadway projects to rehabilitate and reconstruct existing asphalt pavement, to repair and or replace tributary crossings with two new bridges and remove and replace culverts with new culverts in several locations, including some that are realigned. Additionally, other ancillary work, and installation of riprap and other BMPs for erosion protection at various locations along this specific segment of Northshore Road are included to prevent erosion and to protect water quality along the ROW of the project within LMNRA.

Clark County, Nevada

Echo Wash - Latitude: 36°, 18', 32"N., Longitude: 114°, 29., 21"W.; T.19S., R67E.

Valley of Fire Wash - Latitude: 36°, 24', 19"N., Longitude: 114°, 25', 06"W., T.17S., R.68E., Sec. 32.

Thomas Wash - Latitude: 36°, 26', 15"N., Longitude: 114°, 24', 31"W.; T.17S., R68 E., Sections 19, 20 MDB&M

in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Part I, II and III hereof.

EFFECTIVE DATE OF PERMIT

July 15, 2008

EXPIRATION DATE OF PERMIT (midnight),

January 15, 2009

Gayle C. Mulligan  
Gayle C. Mulligan, MS. ES  
Bureau of Water Pollution Control

DATE

March 17, 2008

## Part I

## A. LIMITATIONS, MONITORING REQUIREMENTS AND CONDITIONS

1. During the period beginning on the effective date of this permit, and lasting until the permit expires, the named Permittee is authorized to: operate heavy equipment (rolling stock) and work in waterways for work on the Northshore Road approximately between milepost 32.9 and 45.7, in, along and at crossings of Echo Wash, Valley of Fire Wash, and Thomas Wash tributary to Lake Mead for purposes of conducting the reconstruction and rehabilitation of the roadway, bridge construction and installation of culverts, and ancillary and maintenance work, and for the erosion protection necessary for work proposed for the stated project.

## MONITORING REQUIREMENTS

The project activities shall be monitored and documented by means of a brief narrative report describing the project activities, with supporting documentary photos of these typical and specific project activities as much as is practicable. The photos shall be taken from established photo points showing the various Best Management Practices installed at all sites, and the construction activities related to each drainage crossings. Photos shall be numbered and arranged to give examples of each activity conducted. The narrative report should describe typical activities conducted and describe what the photos illustrate. The photos and narrative report (2 copies) shall be submitted to the Division in accordance with Part I. A. 3. of this permit.

## 2. SPECIFIC CONDITIONS

For any working in waterways (rolling stock) used in the above cited subject specified areas along Northshore Road in LMNRA in Clark County, Nevada, the operations shall be conducted in accordance with the following terms and conditions:

- a.) Any heavy equipment (excavator, dozer, loader, hoe or other heavy equipment etc.) to be used on this project crossing and in the tributary drainages must be steam cleaned at least once before work at the site. All equipment shall be inspected for leaks daily prior to use. All leaks shall be repaired immediately.
- b.) All fueling and service areas, staging areas, and any approved storage areas where petroleum based products, and any other products which are toxic, hazardous, or otherwise could be a threat to water quality shall be conducted at least 100 feet away from mainstem tributaries as feasible. Best Management Practices shall be implemented to contain, control and prevent any potential spills of any fuels, hydraulic fluids or other pollutants from entering the waters of the Bay and or the groundwater.

c.) FHWA and CFLHD/Gary Strike bear the sole responsibility to ensure that the requirements of this temporary permit are fully satisfied.

d.) All work conducted in and around the drainages shall include implementation of Best Management Practices to minimize erosion and to prevent the transport of sediments or fuels that will degrade water quality or damage aquatic life in Lake Mead.

e.) All earthwork operations (rolling stock) shall be conducted in accordance with practices to ensure erosion control and to prevent sediment runoff or transport of soil or other pollutants. No temporary soil berms shall be placed in drainages; sand bag/rock bag/ or Jersey Barriers (K-Rails) shall be used instead. This does not apply to any temporary detour placement of fill during roadway construction.

f.) **No petroleum products, chemicals or foreign debris of any kind shall be discharged into any drainages.**

g.) All construction debris shall be removed and deposited at an approved site.

h.) **Silt fencing utilized on the project shall be backed and supported by welded wire fencing material or equivalent, and be properly entrenched and staked with steel posts to prevent being blown down by the wind, and for proper function. Strawwattles may also be used where appropriate, and in conjunction with silt fencing and riprap.**

i.) Any water pumping operations shall be managed using appropriate best management practices for erosion, sediment control and water quality protection.

3. All documentation (narrative report and photos) must be submitted as specified in Part I. A. 1., and shall be submitted to the Division **at the address given below, by the 28<sup>th</sup> day of the month following the conclusion of the permit. Two copies are required, one to Diana Silsby and one to Icycl Mulligan at the same address.** The reports shall contain the original signature of the Engineer-In-Charge of the project.

Division of Environmental Protection  
Bureau of Water Pollution Control  
ATTN: Compliance Coordinator Ms. Diana Silsby  
901 South Stewart Street, Suite 4001  
Carson City, Nevada 89701

4. There shall be no objectionable odors generated in the conduct of this project.

**Part I.A.**

5. There shall be no discharge of substances that would cause a violation of water quality standards of the State of Nevada.
6. There shall be no discharge of waters or working in waters of the State with heavy equipment (rolling stock) activities except as authorized by this permit.
7. The rolling stock project and water management activities shall be conducted in conformance with Plans approved by the Division.
8. **Schedule of Compliance**

The Permittee shall achieve compliance with the permit limitations upon issuance of the permit.

**B. MONITORING AND REPORTING**

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. Analyses shall be performed by a laboratory certified by the State of Nevada.
2. **Definitions**
  - a. The "30-day average discharge" means the total discharge during a month divided by the number of samples in the period that the facility was discharging. Where less than daily sampling is required by this permit, the 30-day average discharge shall be determined by the summation of all the measured discharges divided by the number of samples during the period when the measurements were made.
  - b. The "daily maximum" is the highest measurement during the monitoring period.
  - c. The "30-day average concentration", other than for fecal coliform bacteria, means the arithmetic mean of measurements made during a month. The "30-day average concentration" for fecal coliform bacteria means the geometric mean of measurements made during a month. The geometric mean is the " $n^{\text{th}}$ " root of the product of " $n$ " numbers. Geometric mean calculations where there are  $n$  non-detect results for fecal coliform shall use the detection limit as the value for the non-detect results.
  - d. A "discrete" sample means any individual sample collected in less than 15 minutes.
  - e. For flow-rate measurements a "composite" sample means the arithmetic mean of no fewer than six individual measurements taken at equal time intervals for 24 hours, or for the duration of discharge, whichever is shorter.

**3. Test Procedures**

Test procedures for the analysis of pollutants shall conform to regulations (40 CFR, Part 136) published pursuant to Section 304(h) of the Act, under which such procedures may be required unless other procedures are approved by the Division.

**4. Recording the Results**

For each measurement or sample taken pursuant to the requirements of this permit, the Permittee shall record the following information:

- a. the exact place, date, and time of sampling;
- b. the dates the analyses were performed;
- c. the person(s) who performed the analyses;
- d. the analytical techniques or methods used; and
- e. the results of all required analyses.

**5. Additional Monitoring by Permittee**

If the Permittee monitors any pollutant at the location(s) designate herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form. Such increased frequency shall also be indicated.

**6. Records Retention**

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation, shall be retained for a minimum of three years, or longer if required by the Administrator.

**7. Modification of Monitoring Frequency and Sample Type**

After considering monitoring data, stream flow, discharge flow and receiving water conditions, the Division, may for just cause, modify the monitoring frequency and/or sample type.

**PART II****A. MANAGEMENT REQUIREMENTS****1. Change in Discharge**

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, or treatment modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new

application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Any changes to the permitted treatment facility must comply with Nevada Administrative Code (NAC) 445A.283 to 445A.285. Pursuant to NAC 445A.263, the permit may be modified to specify and limit any pollutants not previously limited.

## 2. Facilities Operation

The Permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities, collection systems or pump stations installed or used by the Permittee to achieve compliance with the terms and conditions of this permit.

## 3. Adverse Impact

The Permittee shall take all reasonable steps to minimize any adverse impact to receiving waters resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

## 4. Noncompliance, Unauthorized Discharge, Bypassing and Upset

- a. Any diversion, bypass, spill, overflow or discharge of water under the control of the Permittee is prohibited except as authorized by this permit. In the event the Permittee has knowledge that a diversion, bypass, spill, overflow or discharge not authorized by this permit is probable, the permittee shall notify the Division immediately.
- b. The Permittee shall notify the Division within twenty-four (24) hours of any diversion, bypass, spill, upset, overflow or discharge of water other than that which is authorized by the permit. A written report shall be submitted to the Administrator within five (5) days of diversion, bypass, spill, overflow, upset or discharge, detailing the entire incident including:
  - (1) time and date of discharge;
  - (2) exact location and estimated amount of discharge;
  - (3) flow path and any bodies of water which the discharge reached;
  - (4) the specific cause of the discharge; and
  - (5) the preventive and/or corrective actions taken.
- c. The following shall be included as information which must be reported within 24 hours: any visual inspection of the silt curtain which indicates that the curtain is not performing as designed or that it has been mechanically damaged so as to compromise its performance; and violation of a limitation for any toxic pollutant or any pollutant identified as the method to control a toxic pollutant.

- d. The Permittee shall report all instances of noncompliance not reported under Part II.A.4.b. at the time monitoring reports are submitted. The reports shall contain the information listed in Part II.A.4.b.
- e. An "upset" means an incident in which there is unintentional and temporary noncompliance with the permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- f. In selecting the appropriate enforcement option, the Division shall consider whether or not the noncompliance was the result of an upset.
- g. The burden of proof is on the Permittee to establish that an upset occurred.

In order to establish that an upset occurred, the Permittee must provide, in addition to the information required under paragraph II.A.4.b. above, properly signed contemporaneous logs or other documentary evidence that:

- (1) The facility was at the time being properly operated as required in paragraph II.A.2. above; and
- (2) All reasonable steps were taken to minimize adverse impacts as required by paragraph II.A.3. above.

#### 5. **Removed Substances**

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of waste waters shall be disposed of in a manner such as to prevent any pollution from such materials from entering any navigable waters.

#### 6. **Safeguards to Electric Power Failure**

In order to maintain compliance with the effluent limitations and prohibitions of this permit the Permittee shall either:

- a. provide at the time of discharge an alternative power source sufficient to operate the wastewater control facilities; and
- b. halt or reduce all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

### **B. RESPONSIBILITIES**

#### 1. **Right of Entry**

The Permittee shall allow the Administrator and/or his authorized representatives, upon the presentation of credentials:

- a. to enter upon the Permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and
- b. at reasonable times, to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to perform any necessary sampling to determine compliance with this permit or to sample any discharge.

## 2. **Transfer of Ownership or Control**

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, the Permittee shall notify the succeeding owner or controller of the existence of this permit, by letter, a copy of which shall be forwarded to the Administrator. ALL transfer of permits shall be approved by the Division.

## 3. **Availability of Reports**

Except for data determined to be confidential under NRS 445A.665, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of the Division. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in NRS 445A.710.

## **Part II.B.4.**

### 4. **Furnishing False Information and Tampering with Monitoring Devices**

Any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan or other document filed or required to be maintained by the provisions of NRS 445A.300 to 445A.730, inclusive, or by any permit, rule, regulation or order issued pursuant thereto, or who falsifies, tampers with or knowingly renders inaccurate any monitoring device or method required to be maintained under the provisions of NRS 445A.300 to 445A.730, inclusive, or by any permit, rule, regulation or order issued pursuant thereto, is guilty of a gross misdemeanor and shall be punished by a fine of not more than \$10,000 or by imprisonment. This penalty is in addition to any other penalties, civil or criminal, provided pursuant to NRS 445A.300 to 445A.730, inclusive.

### 5. **Penalty for Violation of Permit Conditions**

Nevada Revised Statutes (NRS) 445A.675 provides that any person who violates a permit condition is subject to administrative and judicial sanctions as outlined in NRS 445A.690 through 445A.705.

### **Permit Modification, Suspension or Revocation**

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

- a. violation of any terms or conditions of this permit;
- b. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
- c. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

### **7. Toxic Pollutants**

Notwithstanding Part I.B.6. above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the Permittee so notified.

### **8. Liability**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable Federal, State or local laws, regulations, or ordinances.

### **9. Property Rights**

The issuance of this permit does not convey any property rights, in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local law or regulations.

### **10. Severability**

The provisions of this permit are severable, and if any provision of this permit, or the application of any provisions of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

## **PART III**

### **OTHER REQUIREMENTS**

1. **Signature on Reporting Form Required.** Reporting forms submitted to the department must be signed by the authorized representative who is responsible for the overall operation of the facility from which the discharge described in the application or reporting form originates.

2. **Holding Pond Conditions**

If any wastewater from the Permittee's facility is placed in ponds, such ponds shall be located and constructed so as to:

- a. contain with no discharge the once-in-twenty-five year 24 hour storm at said location;
- b. withstand with no discharge the once-in-one-hundred year flood of said location; and
- c. prevent escape of wastewater by leakage other than as authorized by this permit.

4. The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modification which the Administrator may make in approving the schedule of compliance.

# Appendix C

NV PRA LAME 1(8)  
Northshore Road

Storm Water Pollution Prevention Plans (SWPPPs) must remain on the project site and be updated as necessary during the duration of the project.

**Owner**

Lake Mead NRA  
Mr. Michael Boyles  
601 Nevada Highway

Boulder City, NV 89005-2426

**Operator**

FHWA CFL  
Mr. Gary Strike  
12300 W. Dakota Avenue  
Suite 300  
Lakewood, CO 80228-2583

**Renewal: No**

**Re: Stormwater General Permit NVR100000**

**Confirmation Number: CSW- 9598**

**Project Name: Northshore Road - SR167**

Your submittal to be included under the Stormwater General Permit has been received. Please mail the filing fee of \$200.00 along with this notice to:

Stormwater Coordinator 3173  
Bureau of Water Pollution Control  
Nevada Division of Environmental Protection  
901 South Stewart Street, Suite 4001  
Carson City, NV 89701-5249

After receipt of the filing fee, an approval letter will be mailed to you.

\* **If this is a Renewal Application, NO filing fee is required.**

At the time of any on-site inspections, our inspectors will ask to review your copy of the SWPPP in an effort to ensure proper compliance with the program.

Should you have any questions, please call Bonnie Hartley at (775) 687-9430.

## Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. I also confirm that a storm water pollution prevention plan (SWPPP) has been completed, will be maintained at the project site from the start of construction activities, and that the SWPPP will be compliant with any applicable local sediment and erosion control plans. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines for knowing violations.

**Confirmation Number: CSW- 9598**

**Date: 5/21/2008**

**Owner or Operator Name (Please Print):**

Gary Strike

**Signature:**

Gary Strike

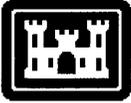
**An unsigned or undated Notice of Intent - Section 6 Certification will not be granted permit coverage.**

# Appendix D

NV PRA LAME 1(8)  
Northshore Road

(Permit Applied For, but Not Received)

Anticipated  
404 NWP 14



U S Army Corps of  
Engineers  
Sacramento District

## Nationwide Permit Summary

33 CFR Part 330; Issuance of Nationwide Permits - March 19, 2007 includes corrections of May 8, 2007 and addition of regional conditions December 2007

**14. Linear Transportation Projects.** Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

**Notification:** The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10 acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 27.) (Sections 10 and 404)

**Note:** Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4)

### A. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact

the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP.

#### 1. Navigation.

(a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

3. **Spawning Areas.** Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. **Migratory Bird Breeding Areas.** Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. **Shellfish Beds.** No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.

6. **Suitable Material.** No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. **Water Supply Intakes.** No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. **Adverse Effects From Impoundments.** If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or

restricting its flow must be minimized to the maximum extent practicable.

**9. Management of Water Flows.** To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

**10. Fills Within 100-Year Floodplains.** The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

**11. Equipment.** Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

**12. Soil Erosion and Sediment Controls.** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

**13. Removal of Temporary Fills.** Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

**14. Proper Maintenance.** Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

**15. Wild and Scenic Rivers.** No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

**16. Tribal Rights.** No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

**17. Endangered Species.**

(a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No

activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at <http://www.fws.gov/> and <http://www.noaa.gov/fisheries.html> respectively.

**18. Historic Properties.**

(a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to

notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

**19. Designated Critical Resource Waters.** Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NHPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NHPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NHPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

**20 Mitigation.** The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the

aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWP. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

**21. Water Quality.** Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR

330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

**22. Coastal Zone Management.** In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

**23. Regional and Case-By-Case Conditions.** The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

**24. Use of Multiple Nationwide Permits.** The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

**25. Transfer of Nationwide Permit Verifications.** If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

“When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

-----  
(Transferee)

-----  
(Date)

**26. Compliance Certification.** Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;

(b) A statement that any required mitigation was completed in accordance with the permit conditions; and

(c) The signature of the permittee certifying the completion of the work and mitigation.

**27. Pre-Construction Notification.**

(a) **Timing.** Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) Forty-five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) **Contents of Pre-Construction Notification:** The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);

(4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic

property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination:

(1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWP's and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

(e) In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant

submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

(a) **28. Single and Complete Project.** The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

## **B. Regional Conditions:**

### **I. Sacramento District (All States, except Colorado)**

1. When pre-construction notification (PCN) is required, the prospective permittee shall notify the Sacramento District in accordance with General Condition 27 using either the South Pacific Division Preconstruction Notification (PCN) Checklist or a completed application form (ENG Form 4345). In addition, the PCN shall include:

a. A written statement explaining how the activity has been designed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States;

b. Drawings, including plan and cross-section views, clearly depicting the location, size and dimensions of the proposed activity. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and size (in acreage) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the high tide line should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation; and

c. Pre-project color photographs of the project site taken from designated locations documented on the plan drawing.

2. The permittee shall complete compensatory mitigation required by special conditions of the NWP verification before or concurrent with construction of the authorized activity, except when specifically determined to be impracticable by the Sacramento District. When project mitigation involves use of a mitigation bank or in-lieu fee program, payment shall be made before commencing construction.

3. The permittee shall record the NWP verification with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records of title to or interest in real property against areas (1) designated to be preserved as part of mitigation for authorized impacts, including any associated covenants or restrictions, or (2) where structures such as boat ramps or docks, marinas, piers, and permanently moored vessels will be constructed in or adjacent to navigable waters (Section 10 and Section 404). The recordation shall also include a map showing the surveyed location of the authorized structure and any associated areas preserved to minimize or compensate for project impacts.

4. The permittee shall place wetlands, other aquatic areas, and any vegetative buffers preserved as part of mitigation for impacts into a separate "preserve" parcel prior to discharging

dredged or fill material into waters of the United States, except where specifically determined to be impracticable by the Sacramento District. Permanent legal protection shall be established for all preserve parcels, following Sacramento District approval of the legal instrument.

5. The permittee shall allow Corps representatives to inspect the authorized activity and any mitigation areas at any time deemed necessary to determine compliance with the terms and conditions of the NWP verification. The permittee will be notified in advance of an inspection.

6. For NWPs 29, 39, 40, 42, 43, 44, and 46, requests to waive the 300 linear foot limitation for intermittent or ephemeral waters of the U.S. shall include an evaluation of functions and services provided by the waterbody taking into account the watershed, measures to be implemented to avoid and minimize impacts, other measures to avoid and minimize that were found to be impracticable, and a mitigation plan for offsetting impacts.

7. Road crossings shall be designed to ensure fish passage, especially for anadromous fisheries. Permittees shall employ bridge designs that span the stream or river, utilize pier or pile supported structures, or involve large bottomless culverts with a natural streambed, where the substrate and streamflow conditions approximate existing channel conditions. Approach fills in waters of the United States below the ordinary high water mark are not authorized under the NWPs, except where avoidance has specifically been determined to be impracticable by the Sacramento District.

8. For NWP 12, clay blocks, bentonite, or other suitable material shall be used to seal the trench to prevent the utility line from draining waters of the United States, including wetlands.

9. For NWP 13, bank stabilization shall include the use of vegetation or other biotechnical design to the maximum extent practicable. Activities involving hard-armoring of the bank toe or slope requires submission of a PCN per General Condition 27.

10. For NWP 23, the PCN shall include a copy of the signed Categorical Exclusion document and final agency determinations regarding compliance with Section 7 of the Endangered Species Act, Essential Fish Habitat under the Magnuson-Stevens Act, and Section 106 of the National Historic Preservation Act.

11. For NWP 44, the discharge shall not cause the loss of more than 300 linear feet of streambed. For intermittent and ephemeral streams, the 300 linear foot limit may be waived in writing by the Sacramento District. This NWP does not authorize discharges in waters of the United States supporting anadromous fisheries.

12. For NWPs 29 and 39, channelization or relocation of intermittent or perennial drainage, is not authorized, except when, as determined by the Sacramento District, the relocation would result in a net increase in functions of the aquatic ecosystem within the watershed.

13. For NWP 33, temporary fills for construction access in waters of the United States supporting fisheries shall be accomplished with clean, washed spawning quality gravels where practicable as determined by the Sacramento District, in consultation with appropriate federal and state wildlife agencies.

14. For NWP 46, the discharge shall not cause the loss of greater than 0.5 acres of waters of the United States or the loss of more than 300 linear feet of ditch, unless this 300 foot linear foot limit is waived in writing by the Sacramento District.

15. For NWPs 29, 39, 40, 42, and 43, upland vegetated buffers shall be established and maintained in perpetuity, to the maximum extent practicable, next to all preserved open waters, streams and wetlands including created, restored, enhanced or preserved waters of the U.S., consistent with General Condition 20. Except in unusual circumstances, vegetated buffers shall be at least 50 feet in width.

16. All NWPs except 3, 6, 20, 27, 32, 38, and 47, are revoked for activities in histosols and fens and in wetlands contiguous with fens. Fens are defined as slope wetlands with a histic epipedon that are hydrologically supported by groundwater. Fens are normally saturated throughout the growing season, although they may not be during drought conditions. For NWPs 3, 6, 20, 27, 32, and 38, prospective permittees shall submit a PCN to the Sacramento District in accordance with General Condition 27.

17. For all NWPs, when activities are proposed within 100 feet of the point of groundwater discharge of a natural spring, prospective permittees shall submit a PCN to the Sacramento District in accordance with General Condition 27. A spring source is defined as any location where ground water emanates from a point in the ground. For purposes of this condition, springs do not include seeps or other discharges which lack a defined channel.

## II. California Only

1. In the Lake Tahoe Basin, all NWPs are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.

2. In the Primary and Secondary Zones of the Legal Delta, NWPs 29 and 39 are revoked. New development activities in the Legal Delta will be reviewed through the Corps' standard permit process.

## III. Nevada Only

1. In the Lake Tahoe Basin, all NWPs are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.

## IV. Utah Only

1. For all NWPs, except NWP 47, prospective permittees shall submit a PCN in accordance with General Condition 27 for any activity, in waters of the United States, below 4217 feet mean sea level (msl) adjacent to the Great Salt Lake and below 4500 feet msl adjacent to Utah Lake.

2. A PCN is required for all bank stabilization activities in a perennial stream that would affect more than 100 linear feet of stream

3. For NWP 27, facilities for controlling stormwater runoff, construction of water parks such as kayak courses, and use of grout or concrete to construct in-stream structures are not authorized. A PCN is required for all projects exceeding 1500 linear feet as measured on the stream thalweg, using in stream structures exceeding 50 cubic yards per structure and/or incorporating grade control structures exceeding 1 foot vertical

drop. For any stream restoration project, the post project stream sinuosity shall be appropriate to the geomorphology of the surrounding area and shall be equal to, or greater than, pre project sinuosity. Sinuosity is defined as the ratio of stream length to project reach length. Structures shall allow the passage of aquatic organisms, recreational water craft or other navigational activities unless specifically waived in writing by the District Engineer.

## V. Colorado Only

1. Final Regional Conditions Applicable to Specific Nationwide Permits within Colorado.

a. Nationwide Permit Nos. 12 and 14, Utility Line Activities and Linear Transportation Projects. In the Colorado River Basin, utility line and road activities crossing perennial water or special aquatic sites require notification to the District Engineer in accordance with General Condition 27 (Pre-Construction Notification).

b. Nationwide Permit No. 13 Bank Stabilization. In Colorado, bank stabilization activities necessary for erosion prevention in streams that average less than 20 feet in width (measured between the ordinary high water marks) are limited to the placement of no more than 1/4 cubic yard of suitable fill\* material per running foot below the plane of the ordinary high water mark. Activities greater than 1/4 cubic yard may be authorized if the permittee notifies the District Engineer in accordance with General Condition 27 (Pre-Construction Notification) and the Corps determines the adverse environmental effects are minimal. [\* See (g) for definition of Suitable Fill]

c. Nationwide Permit No. 27 Aquatic Habitat Restoration, Establishment, and Enhancement Activities.

(1) For activities that include a fishery enhancement component, the Corps will send the Pre-Construction Notification to the Colorado Division of Wildlife (CDOW) for review. In accordance with General Condition 27 (Pre-Construction Notification), CDOW will have 10 days from the receipt of Corps notification to indicate that they will be commenting on the proposed project. CDOW will then have an additional 15 days after the initial 10-day period to provide those comments. If CDOW raises concerns, the applicant may either modify their plan, in coordination with CDOW, or apply for a standard individual permit.

(2) For activities involving the length of a stream, the post-project stream sinuosity will not be significantly reduced, unless it is demonstrated that the reduction in sinuosity is consistent with the natural morphological evolution of the stream (sinuosity is the ratio of stream length to project reach length).

(3) Structures will allow the upstream and downstream passage of aquatic organisms, including fish native to the reach, as well as recreational water craft or other navigational activities, unless specifically waived in writing by the District Engineer. The use of grout and/or concrete in

building structures is not authorized by this nationwide permit.

(4) The construction of water parks (i.e., kayak courses) and flood control projects are not authorized by this nationwide permit.

d. Nationwide Permits Nos. 29 and 39; Residential Developments and Commercial and Institutional Developments. A copy of the existing FEMA/locally-approved floodplain map must be submitted with the Pre-Construction Notification. When reviewing proposed developments, the Corps will utilize the most accurate and reliable FEMA/locally-approved pre-project floodplain mapping, not post-project floodplain mapping based on a CLOMR or LOMR. However, the Corps will accept revisions to existing floodplain mapping if the revisions resolve inaccuracies in the original floodplain mapping and if the revisions accurately reflect pre-project conditions.

## 2. Final Regional Conditions Applicable to All Nationwide Permits within Colorado

e. Removal of Temporary Fills. General Condition 13 (Removal of Temporary Fills) is amended by adding the following: When temporary fills are placed in wetlands in Colorado, a horizontal marker (i.e. fabric, certified weed-free straw, etc.) must be used to delineate the existing ground elevation of wetlands that will be temporarily filled during construction.

f. Spawning Areas. General Condition 3 (Spawning Areas) is amended by adding the following: In Colorado, all Designated Critical Resource Waters (see enclosure 1) are considered important spawning areas. Therefore, In accordance with General Condition 19 (Designated Critical Resource Waters), the discharge of dredged or fill material is not authorized by the following nationwide permits in these waters: NWP's 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50. In addition, in accordance with General Condition 27 (Pre-Construction Notification), notification to the District Engineer is required for use of the following nationwide permits in these waters: NWP's 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37 and 38".

g. Suitable Fill. In Colorado, use of broken concrete as fill material requires notification to the District Engineer in accordance with General Condition 27 (Pre-Construction Notification). Permittees must demonstrate that soft engineering methods utilizing native or non-manmade materials are not practicable (with respect to cost, existing technology, and logistics), before broken concrete is allowed as suitable fill. Use of broken concrete with exposed rebar is prohibited in perennial waters and special aquatic sites.

h. Invasive Aquatic Species. General Condition 11 is amended by adding the following condition for work in perennial or intermittent waters of the United States: If heavy equipment is used for the subject project that was previously working in another stream, river, lake, pond, or wetland within 10 days of initiating work, one the

following procedures is necessary to prevent the spread of New Zealand Mud Snails and other aquatic hitchhikers:

(1) Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc.) and keep the equipment dry for 10 days. OR

(2) Remove all mud and debris from Equipment (tracks, turrets, buckets, drags, teeth, etc.) and spray/soak equipment with either a 1:1 solution of Formula 409 Household Cleaner and water, or a solution of Sparquat 256 (5 ounces Sparquat per gallon of water). Treated equipment must be kept moist for at least 10 minutes. OR

(3) Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc.) and spray/soak equipment with water greater than 120 degrees F for at least 10 minutes.

## 3. Final Regional Conditions for Revocation/Special Notification Specific to Certain Geographic Areas

i. Fens: All Nationwide permits, except permit Nos. 3, 6, 20, 27, 32, 38 and 47, are revoked in fens and wetlands adjacent to fens. Use of nationwide permit Nos. 3, 20, 27 and 38, requires notification to the District Engineer, in accordance with General Condition 27 (Pre-Construction Notification), and the permittee may not begin the activity until the Corps determines the adverse environmental effects are minimal. The following defines a fen:

Fen soils (histosols) are normally saturated throughout the growing season, although they may not be during drought conditions. The primary source of hydrology for fens is groundwater. Histosols are defined in accordance with the U.S. Department of Agriculture, Natural Resources Conservation Service publications on Keys to Soil Taxonomy and Field Indicators of Hydric Soils in the United States (<http://soils.usda.gov/technical/classification/taxonomy>).

j. Springs: Within the state of Colorado, all NWP's, except permit 47 (original 'C'), require preconstruction notification pursuant to General Condition 27 for discharges of dredged or fill material within 100 feet of the point of groundwater discharge of natural springs. A spring source is defined as any location where groundwater emanates from a point in the ground. For purposes of this regional condition, springs do not include seeps or other discharges which do not have a defined channel.

## 4. Additional Information

The following provides additional information regarding minimization of impacts and compliance with existing general Conditions:

a. Permittees are reminded of the existing General Condition No. 6 which prohibits the use of unsuitable material. Organic debris, building waste, asphalt, car bodies, and trash are not suitable material. Also, General Condition 12 requires appropriate erosion and sediment controls (i.e. all fills must be permanently stabilized to

prevent erosion and siltation into waters and wetlands at the earliest practicable date). Streambed material or other small aggregate material placed along a bank as stabilization will not meet General Condition 12. Also, use of erosion control mats that contain plastic netting may not meet General Condition 12 if deemed harmful to wildlife.

b. Designated Critical Resource Waters in Colorado. In Colorado, a list of designated Critical Resource Waters has been published in accordance with General Condition 19 (Designated Critical Resource Waters). This list will be published on the Albuquerque District Regulatory home page (<http://www.spa.usace.army.mil/reg/>)

c. Federally-Listed Threatened and Endangered Species. General condition 17 requires that non-federal permittees notify the District Engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project. Information on such species, to include occurrence by county in Colorado, may be found at the following U.S. Fish and Wildlife Service website:  
[http://www.fws.gov/mountain%2Dprairie/endspp/name\\_county\\_search.htm](http://www.fws.gov/mountain%2Dprairie/endspp/name_county_search.htm)

### C. Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

### D. Definitions

**Best management practices (BMPs):** Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

**Compensatory mitigation:** The restoration, establishment (creation), enhancement, or preservation of aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

**Currently serviceable:** Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

**Discharge:** The term "discharge" means any discharge of dredged or fill material.

**Enhancement:** The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic

resource function(s). Enhancement does not result in a gain in aquatic resource area.

**Ephemeral stream:** An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

**Establishment (creation):** The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

**Historic Property:** Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

**Independent utility:** A test to determine what constitutes a single and complete project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

**Intermittent stream:** An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

**Loss of waters of the United States:** Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.

**Non-tidal wetland:** A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands

contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

**Open water:** For purposes of the NWP, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

**Ordinary High Water Mark:** An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

**Perennial stream:** A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

**Practicable:** Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

**Pre-construction notification:** A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

**Preservation:** The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

**Re-establishment:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area.

**Rehabilitation:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

**Restoration:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

**Riffle and pool complex:** Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

**Riparian areas:** Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects waterbodies with their adjacent uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 20.)

**Shellfish seeding:** The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

**Single and complete project:** The term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete project must have independent utility (see definition). For linear projects, a "single and complete project" is all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

**Stormwater management:** Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

**Stormwater management facilities:** Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

**Stream bed:** The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

**Stream channelization:** The manipulation of a stream's course, condition, capacity, or location that causes more than minimal

interruption of normal stream processes. A channelized stream remains a water of the United States.

**Structure:** An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

**Tidal wetland:** A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line, which is defined at 33 CFR 328.3(d).

**Vegetated shallows:** Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

**Waterbody:** For purposes of the NWP, a waterbody is a jurisdictional water of the United States that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent--meaning bordering, contiguous, or neighboring--to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.