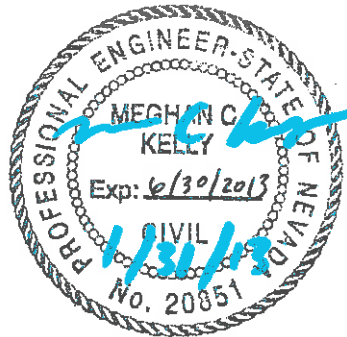


SOLICITATION DOCUMENTS & SPECIFICATIONS

FOR

**GLENBROOK CREEK RESTORATION PROJECT
GLENBROOK
DOUGLAS COUNTY, NEVADA
EIPC2012-0015**



**BY
NEVADA TAHOE CONSERVATION DISTRICT
400 DORLA COURT
ZEPHYR COVE, NEVADA 89448**

(775) 586-1610

**SOLICITATION DOCUMENTS & SPECIFICATIONS
FOR
GLENBROOK CREEK RESTORATION PROJECT
GLENBROOK, DOUGLAS COUNTY, NEVADA**

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NOTICE TO CONTRACTORS

1. Sealed proposals will be received in the Office of the Nevada Tahoe Conservation District at 400 Dorla Court, Zephyr Cove, Nevada, until **4:00 P.M. on February 28, 2013** for the **“GLENBROOK CREEK RESTORATION PROJECT, GLENBROOK, DOUGLAS COUNTY, NEVADA”**. Such sealed proposals will be opened publicly at 4:05 P.M. the same day in the NTCD Conference Room, in the NTCD Office Building at 400 Dorla Court, Zephyr Cove, Nevada. The Nevada Tahoe Conservation District Board of Supervisors will consider award of the contract at a subsequently scheduled meeting.
2. To assure consideration, all proposals shall be made on the blank form of proposal attached to these Specifications and shall be enclosed and sealed in an envelope which is addressed to the Nevada Tahoe Conservation District 400 Dorla Court, Zephyr Cove, Nevada, and marked, **“GLENBROOK CREEK RESTORATION PROJECT.”**
3. No proposal will be considered unless accompanied by a cashier’s check, certified check, or bid bond in an amount equal to five percent (5%) of the bid, made payable to Nevada Tahoe Conservation District as provided for in the General Conditions. The Engineer’s estimate of cost for this project is between \$350,000 and \$400,000.
4. Project Contract Documents may be obtained at no cost at Nevada Tahoe Conservation District at 400 Dorla Court, Zephyr Cove, Nevada 89448.
5. Following receipt of written notification of contract award, the contractor shall execute and return the Agreement within ten (10) calendar days. The contract work shall be commenced upon receiving the NOTICE TO PROCEED. The Notice to Proceed will be issued by the NTCD after execution of the contract.
6. Contracts to work under this proposal will obligate the contractors and subcontractors not to discriminate in employment practices pursuant to Section 338.125 NRS. If the contract sum is \$100,000 or more, the Contractor must pay the prevailing wage rates pursuant to NRS Chapter 338, copies of which may be obtained at the Office of the Nevada State Labor Commission.
7. The Contractor shall visit the project site and familiarize himself with the scope of the Project **PRIOR TO SUBMITTING A BID. There will be an optional job walk for all interested contractors February 20, 2013 at 2:00pm. Please assemble outside the Glenbrook Gate to meet with NTCD personnel and proceed to the site.** If the Contractor finds any errors, omissions, or discrepancies in the plans or specifications, he shall notify the Engineer immediately.
10. No work may be performed outside for the period between October 15 and May 1 without written permission from the TRPA.

SCOPE OF WORK

1. **WORK UNDER THIS CONTRACT:** includes but is not limited to, all material, labor, tools, expendable equipment, utility and transportation service, traffic control, signage, and all other incidental items necessary to perform and complete, in a workmanlike manner, the work described within and required for:
 - Construction special technical provisions as prepared by Nevada Tahoe Conservation District (NTCD).
 - Construction of stream restoration project improvements (refer to plans prepared by NTCD.)– including, but not limited to:
 1. Replace culvert at Old Highway 50 with multi-plate arch culvert, protect or relocate utilities as needed, and replace road and pavement as necessary.
 2. Removed culvert within the meadow on an unused dirt stream crossing.
 3. All work will be performed within Glenbrook Homeowners Association or Glenbrook Cottage Association Property in Glenbrook, Nevada.
 4. Grade site to design elevations.
 5. Revegetate the site.
 6. Provide temporary erosion control and perform traffic control.
 7. Haul any extra material to approved disposal site.
 8. Repair all existing site improvements damaged during the course of the work.
 9. Work must be completed by October 15, 2013 unless written approval from TRPA is provided to NTCD by the Contractor.

2. **PRE-BID MEETING:** There will be an optional job walk for all interested contractors February 20, 2013 at 2:00pm. Please assemble outside the Glenbrook Gate to meet with NTCD personnel and proceed to the site. A second pre-bid meeting may be scheduled at the discretion of NTCD.

3. **CONFORM WITH THE FOLLOWING SCHEDULE:** Work must be completed by October 15, 2013 unless written approval from TRPA is provided to NTCD by the Contractor. If the construction schedule cannot be completed within the scheduled time due to circumstances beyond the Contractor's control, the construction schedule can be extended through a revised schedule established at the discretion of Nevada Tahoe Conservation District and retention shall be held until construction work is completed.

4. **PERMITS AND LICENSES:** NTCD will provide the Tahoe Regional Planning Agency (TRPA), US Army Corps of Engineers (USACE), Nevada Division of Environmental Protection (NDEP), and Douglas County permits. It is anticipated that no other permits will be necessary.

5. **UTILITIES:** The project site has been potholed for utilities and the locations and depths are documented. Coordinate with the Engineer and utilize call before you dig, underground services prior to any work on site.

6. **BID IRREGULARITIES:** The NTCD reserves the right to reject any or all bids and to withhold award for up to thirty (30) days. If there are minor irregularities or informalities in any bid or in the bidding process, the NTCD reserves the right to waive provisions of the specifications relating to said minor irregularities of informalities.

INSTRUCTIONS TO BIDDERS

Proposals, to be entitled for consideration, must be made in accordance with the following instructions:

1. Proposals shall be made on the form provided therefore in these Solicitation Documents, and all applicable blank spaces in the form shall be filled; numbers for item bid shall be stated both in writing and in figures; the signatures of all persons shall be in longhand; and the completed form shall be without interlineation, alteration or erasure. The form shall be enclosed and sealed in an envelope which is to be marked "**GLENBROOK CREEK RESTORATION PROJECT**", and it shall be addressed to the Nevada Tahoe Conservation District, 400 Dorla Court, Zephyr Cove, Nevada 89448.
2. Proposals shall not contain any recapitulation of the work to be done. No oral, telegraphic or telephonic proposals or modifications will be considered.
3. Bids will be accepted only on the complete project as outlined in the Scope of Work. No partial bids will be accepted.
4. Bidder shall visit the site and know all requirements of work within these specifications to his/her satisfaction before submitting a bid. An optional pre-bid meeting will be held at 2:00 P.M. on February 20th, 2013 at the entrance to Glenbrook, Nevada.
5. Should a bidder find discrepancies in, or omissions from, the drawings or documents, or should he be in doubt as to their meaning, he should at once notify NTCDD, who will send a written instruction to all bidders. Neither NTCDD nor the Engineer will be responsible for any oral instructions.
6. Any written instructions, bulletins or drawings issued to bidders by NTCDD or Engineer during the course of bidding shall be covered in the proposal, and in closing a contract, they will become a part thereof.
7. The Agreement Form attached hereto will be used in executing a contract for this work.
8. No proposal will be considered unless accompanied by cashier's check, certified check, or bid bond in an amount equal to five percent (5%) of the bid, made payable to the Nevada Tahoe Conservation District as provided in the General Conditions. The Engineer's estimate of cost for this project is between \$350,000 and \$400,000.
9. Following receipt of written notification of contract award, the contractor shall execute and return the Agreement within ten (10) calendar days. The Notice to Proceed will be issued by NTCDD after execution of the contract, and confirm the date by which work under the contract must commence. The contract work shall commence on or about May 1, 2013. Work shall be completed by October 15, 2013.
10. Should the Contractor fail or refuse to complete the work within the stipulated time, including any authorized extensions of time, there shall be deducted from the monies due him, not as a penalty but as liquidated damages, FIVE HUNDRED DOLLARS (\$500.00) for each day required to complete the work in addition to the period of time hereinbefore set forth.
11. A Labor & Material Payment Bond and a Performance & Completion Bond, each in an amount equal to one hundred percent (100%) of the total contract sum, shall be provided by the successful contractor in accordance with the forms as shown on Pages L-1 through L-2 and PB-1 through PB-2 herein. Said bonds shall be in favor of "Nevada Tahoe Conservation District, a political subdivision of the State of Nevada".
12. Bidders attention is directed to the Insurance Specifications attached as Exhibit "A". The successful bidder shall be required to comply with such provisions.

13. NTCD reserves the right to reject any or all bids and to withhold award for up to thirty (30) days. If there are minor irregularities or informalities in any bid or in the bidding process, NTCD reserves the right to waive provisions of the Specifications relating to said minor irregularities or informalities.
14. Contracts for work under this proposal will obligate the Contractor and subcontractors not to discriminate in employment practices pursuant to NRS 338.125. Further, in the event the contract sum is \$100,000 or more, the Contractor must pay the prevailing wage rates pursuant to NRS Chapter 338, copies of which are available at the office of the Nevada State Labor Commission and provided in Exhibit "B".
15. Attorneys-in-fact who sign contract bonds must file with each bond a certified and effectively dated copy of their Power of Attorney.
16. Award of the contract will be made to the lowest, responsive, and responsible bidder as determined by the NTCD in compliance with the bid documents and which, in the NTCD's sole judgment, best meet the NTCD's needs. In the event that additive alternate and/or optional bid items are requested by the NTCD, in determining the low bid, the NTCD reserves the right, within its sole judgment and discretion, to make the award of the base bid alone, or of the base bid with alternates and any combination or order of additive optional bid items which represent the lowest overall bid combining the base bid, alternates and optional bid items selected by the NTCD. The selected combination and/or order of any additive alternate bid items along with the base bid shall be final at the time of award.
17. Each Contractor, subcontractor and other person who provides labor, equipment, materials, supplies or services for the public work must comply with the requirements of all applicable state and local laws, including without limitation, any applicable licensing requirements and requirements for the payment of sales and use taxed on equipment, materials and supplies provided for the public work.
18. Bidders attention is directed to the Public Works Prevailing Wage Specifications attached as Exhibit "B". The successful bidder shall be required to comply with such provisions.

BID PROPOSAL

NEVADA TAHOE CONSERVATION DISTRICT
400 Dorla Court
Zephyr Cove, Nevada 89448

Gentlemen:

I (we) hereby submit my (our) proposal for the **“GLENBROOK CREEK RESTORATION PROJECT”**.

In compliance with your published Notice to Contractors, the undersigned as bidder declares that he has carefully examined the location of the proposed work and the Plans and Specifications therefore, together with addenda numbered _____ through _____, and I (we) propose and agree that if this proposal is accepted, I (we) will contract with the Nevada Tahoe Conservation District (NTCD) to provide all necessary labor, machinery, tools, apparatus, and other means of construction, and do all the work and furnish all the materials required to complete construction of the project, in a satisfactory manner at the prices stated in the bid proposal.

Construction shall be in strict conformity with the 100% Design Plans, Special Technical Provisions, Specifications, and contract documents prepared therefore, which hereby are made a part of this proposal.

The bidder proposes and agrees to contract with NTCD to furnish and perform all of the described work, including subsidiary obligations as defined in said contract documents and specifications and to complete the work in the manner and within the time limits set forth in the Contract Documents.

The bidder understands that the following quantities are approximate, only being given as a basis for the comparison of Proposals; and that NTCD does not expressly or by implication agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of work as may be deemed necessary or advisable by the Engineer.

BID SCHEDULE

GLENBROOK CREEK RESTORATION PROJECT

BASE BID: Glenbrook Creek Restoration Project construction per bid items. All required equipment, personnel, sweeping, traffic control, public notification, and signage for the complete project shall be part of the unit prices.

All items not covered by in the Plans, Special Provisions, and Special Technical Provisions but are necessary for completion of the project are incidentals to the listed Bid Items.

| Item # | Item Description | Unit of Measure | Unit Price | Estimated Quantity | Item Total Cost |
|---------------|-------------------------------------|------------------------|-------------------|---------------------------|------------------------|
| 1 | Mobilization/Demobilization | LS | | 1 | |
| 2 | Traffic Control | LS | | 1 | |
| 3 | Temporary BMPs | LS | | 1 | |
| 4 | Dewatering | LS | | 1 | |
| 5 | Tree Removal (>6.0" DBH) | EA | | 1 | |
| 6 | Utility Protection and Relocation | LS | | 1 | |
| 7 | Clearing and Grubbing | LS | | 1 | |
| 8 | Excavation | CY | | 521 | |
| 9 | Engineered Fill | CY | | 270 | |
| 10 | Offhaul and Disposal | CY | | 270 | |
| 11 | AC Removal | SF | | 1,200 | |
| 12 | AC Paving | SF | | 1,200 | |
| 13 | Open Bottom Arch Culvert | LS | | 1 | |
| 14 | Culvert Footings | LS | | 1 | |
| 15 | Concrete Collar and Decorative Rock | EA | | 2 | |
| 16 | Guardrail with Rustic Stain | LF | | 230 | |
| 17 | Demo and Fill Old Culvert | LS | | 1 | |
| 18 | Rock Sill | LS | | 1 | |
| 19 | Rock Slope Protection | SF | | 500 | |
| 20 | Proposed Channel | LF | | 250 | |
| 21 | Culvert Removal (In Meadow) | LS | | 1 | |
| 22 | Proposed Channel with Log Toe | LF | | 61 | |
| 23 | Like Stakes | EA | | 275 | |
| 24 | Containerized Plants | EA | | 40 | |
| 25 | Erosion Control Fabric | SF | | 6,500 | |
| 26 | Riparian Seed Mix Application | SF | | 10,000 | |
| 27 | Upland Seed Mix Application | SF | | 13,500 | |

BASE BID TOTAL (in numerals) _____

BASE BID TOTAL (in words) _____

BID SUMMARY

**GLENBROOK CREEK RESTORATION PROJECT
EIPC2012-0015**

TOTAL BID: \$ _____

The unit prices above shall be the basis of determining the amount paid for the completed project including any increased or decreased quantities authorized by the Engineer.

If the undersigned be notified of the acceptance of his proposal, he agrees to execute the Agreement within ten (10) calendar days for the work covered in his proposal for the above stated prices as full compensation for furnishing all materials and labor, and doing all of the work, in strict accordance with the contract documents, to the satisfaction of the Engineer.

The undersigned further agrees to commence the work within the time stated in the Notice to Proceed and to complete the work specified within the time stated in the Agreement.

The undersigned states that he has a thorough understanding of the conditions embodied in the contract documents and specifications.

Name of Firm _____

By _____

Address _____

Phone _____

Fax _____

Email _____

Nevada Contractor's License
No. _____

Date _____

WITNESS

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____
_____, as Principal, and _____

(legal description and address of Surety)

authorized to do business of Surety in the State of Nevada, as Surety, are held and firmly bound unto Nevada Tahoe Conservation District, as NTCD, in the sum of _____ Dollars (\$_____), (which is not less than 5% of the contract price) for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, and administrators, successors, and assigns.

Signed this ____ day of _____, 2013.

The conditions of the above obligation is such that whereas the Principal has submitted to NTCD, a certain bid, attached hereto and hereby made a part hereof, to enter into a Contract in writing for the **“GLENBROOK CREEK RESTORATION PROJECT.”**

Now, therefore, if said bid shall be rejected, or in the alternative, if said bid shall be accepted and the Principal shall execute and deliver a Contract in the form of contract attached hereto (properly completed in accordance with said Bid) and shall furnish a Bond for his Faithful Performance of said Contract, and a Bond for the payment of all persons performing labor or furnishing materials in connection therewith, and shall provide and comply with the insurance requirements, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be void.

Otherwise, the same shall remain in force and effect, and the sum herein specified paid over to the NTCD, it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by an extension of the time within which the NTCD may accept such bid; and said Surety does hereby waive notice of such extension.

In Witness whereof, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their officers, the day and year first set forth above.

Principal

(Seal)

By

Surety

(Seal)

By

BID BOND (continued)

STATE OF NEVADA)
) SS:
COUNTY OF DOUGLAS)

On this _____ day of _____, 2013, personally appeared before me, a Notary Public,
_____, who acknowledged to me that he/she was the Principal
authorized to sign the foregoing Bid Bond.

NOTARY PUBLIC

STATE OF NEVADA)
) SS:
COUNTY OF DOUGLAS)

On this _____ day of _____, 2013, personally appeared before me, a Notary Public,
_____, who acknowledged to me that he/she was the Surety authorized
to sign the foregoing Bid Bond.

NOTARY PUBLIC

Surety's Licensed Nevada Agent:

Company Name

Address

Telephone

By: _____
(Note: Signature to be Notarized)

Type: _____

Bond No. _____

Subscribed and sworn to before me this _____ day of _____, 2011.

Notary Public

GENERAL CONTRACTOR

(Firm Name)

(Nevada Contractors License #)

(Name of Officer) is authorized to bid and to enter into this Contract for the above listed firm.

The firm is: (check one)

____ a corporation ____ a partnership ____ sole proprietorship

Principal Officers:

Name

Title

Signature

Owners Not Listed Above:

I _____ (Name of Officer) certify that the above lists includes all officers, owners and financial partners of the above mentioned firm corporate structures to the best of my knowledge.

Signature and Title of Officer

FIVE PERCENT LIST OF RESPONSIBLE TRADES

PURSUANT TO NRS 338 PRIME CONTRACTORS MUST LIST THE WORK THEY INTEND ON COMPLETING THAT MEETS THE REQUIREMENTS OF 5% ON THIS FORM

List below the name, address and contractor's license number for each company by trade who will provide labor or a portion of the work on this project for which the company will be paid an amount exceeding five percent (5%) of the prime contractor's total bid. (Attach additional sheets if necessary.)

| Trade (type of work) | Name/Address | License No. |
|----------------------|-------------------------|-------------|
| 1. _____ | _____ _____ _____ | _____ |
| 2. _____ | _____ _____ _____ | _____ |
| 3. _____ | _____ _____ _____ | _____ |
| 4. _____ | _____ _____ _____ | _____ |
| 5. _____ | _____ _____ | _____ |

Note: Within 2 hours after bid opening, the bidders who submitted the three lowest bids must submit a list of the name and contractor's license number of each contractor who will provide labor or a portion of the work on the project for which he will be paid an amount exceeding one percent (1%) of the contractor's total bid or \$50,000, whichever is greater. A bidder who fails to submit the lists as required herein within the time prescribed herein shall be deemed not responsive. The bidder is hereby notified that the prime contractor must include his name on the list required by NRS 338.141(3) if he is to perform any of the work that is required to be listed. The prime contractor's bid will be deemed not responsive for failure to comply with this statutory requirement.

A bidder whose bid is accepted may not substitute subcontractors named in the bid or listed within 2 hours after bid opening, except as provided in NRS 338.141

TWO HOUR ONE PERCENT LIST OF RESPONSIBLE TRADES

PURSUANT TO NRS 338 PRIME CONTRACTORS MUST LIST THE WORK THEY INTEND ON COMPLETING THAT MEETS THE REQUIREMENTS OF 1% ON THIS FORM

List below the name, address and contractor's license number for each company by trade who will provide labor or a portion of the work on this project for which the company will be paid an amount exceeding one percent (1%) of the prime contractor's total bid. (Attach additional sheets if necessary.)

| Trade (type of work) | Name/Address | License No. |
|----------------------|-------------------------|-------------|
| 1. _____ | _____ _____ _____ | _____ |
| 2. _____ | _____ _____ _____ | _____ |
| 3. _____ | _____ _____ _____ | _____ |
| 4. _____ | _____ _____ _____ | _____ |
| 5. _____ | _____ _____ | _____ |

Note: Within 2 hours after bid opening, the bidders who submitted the three lowest bids must submit a list of the name and contractor's license number of each contractor who will provide labor or a portion of the work on the project for which he will be paid an amount exceeding one percent (1%) of the prime contractor's total bid or \$50,000, whichever is greater. A bidder who fails to submit the lists as required herein within the time prescribed herein shall be deemed not responsive. The bidder is hereby notified that the prime contractor must include his name on the list required by NRS 338.141(3) if he is to perform any of the work that is required to be listed. The prime contractor's bid will be deemed not responsive for failure to comply with this statutory requirement.

A bidder whose bid is accepted may not substitute subcontractors named in the bid or listed within 2 hours after bid opening, except as provided in NRS 338.141.

Nevada Tahoe Conservation District, FAX (775) 586-1612

AFFIDAVIT OF NONCOLLUSION

State of _____)
County of _____) SS

I, _____ (Name of party signing this affidavit and the Proposal Form),
_____ (title), under penalty of perjury, being duly sworn, depose and

say: That _____ (name of person, firm, association, or corporation) has
not, either directly or indirectly, entered into agreement, participated in any collusion, or otherwise taken any action in
restraint of free competitive bidding in connection with this Contract.

Signature

Title

SUBSCRIBED AND SWORN to before me
this _____ day of _____, _____.

NOTARY PUBLIC

**CERTIFICATION OF BIDDER, PROPOSED CONTRACTOR OR
SUBCONTRACTOR REGARDING DEBARMENT, SUSPENSION,
INELIGIBILITY OR VOLUNTARY EXCLUSION**

The undersigned bidder, proposed contractor or subcontractor certifies, to the best of his knowledge and belief, that:

1. Neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this contract by any Federal department, agency or program.
2. Neither it nor its principles are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in public works contracts by the Nevada Labor Commissioner.
3. Where either the bidder or subcontractor is unable to certify to any of the above statements, the bidder or subcontractor shall attach an explanation as to why a certification cannot be submitted.

Name of Bidder, Proposed Contractor or Subcontractor

Name and Title of Authorized Representative

Signature

Date

**CERTIFICATION OF BIDDER REGARDING PENALTIES FOR
NONCOMPLIANCE WITH NEVADA PREVAILING WAGE REQUIREMENTS**

The undersigned bidder, proposed contractor or subcontractor certifies that:

1. This contract is for a public work as set forth in Nevada Revised Statutes Chapter 338.
2. A contractor engaged on public works shall forfeit, as a penalty to the public body on behalf of which the contract has been made and awarded to the contractor, not less than \$20 nor more than \$50 for each calendar day or portion thereof that each workman employed on the public work:
 - a) Is paid less than the designated rate for any work done under the contract, by the contractor or any subcontractor under him;
 - b) Is not reported accurately to the public body awarding the contract as required pursuant to NRS 338.070.
3. If a penalty is imposed pursuant to this section, the costs of the proceeding, including investigative costs and attorney's fees, may be recovered by the Labor Commissioner.

Name of Bidder

Name and Title of Authorized Representative

Signature

Date

QUALIFICATION OF BIDDER CERTIFICATE

The undersigned bidder, proposed contractor or subcontractor certifies, that they are qualified to do the Glenbrook Creek Restoration Project and associated revegetation as described in Section 105 CONTRACTOR QUALIFICATIONS of the Special Technical Provisions and submitted all qualification as stated in 105.01 Description together with the bid document.

Contractor Qualifications _____

Name of Bidder, Proposed Contractor or Subcontractor

Name and Title of Authorized Representative

Signature

Date

AGREEMENT FORM

THIS AGREEMENT, made and entered into this _____ day of _____, 2013, by and between the NEVADA TAHOE CONSERVATION DISTRICT, a political subdivision of the State of Nevada, acting through its Board of Supervisors, hereinafter called the "NTCD" and _____,
General Contractor, Nevada State License No. _____, hereinafter called the "Contractor".

W I T N E S E T H :

That the NTCD and the Contractor, for the consideration hereinafter named, agree as follows:

Article 1. Scope of Work. The Contractor shall furnish all of the materials and perform all of the work described in the Specifications entitled "**GLENBROOK CREEK RESTORATION PROJECT, GLENBROOK, DOUGLAS COUNTY, NEVADA**", prepared by the Nevada Tahoe Conservation District, and shall do everything required by this Agreement and the Specifications.

Article 2. Time of Completion. The work to be performed under this Agreement shall be completed within Three-hundred twenty-five (325) working days from the date that the Contractor is issued the Notice to Proceed.

The date specified in the Notice to Proceed shall be the effective date of this Agreement.

Should the Contractor fail or refuse to complete the work within the stipulated time, including any authorized extensions of time, there shall be deducted from the monies due him, not as a penalty, but as liquidated damages, FIVE HUNDRED DOLLARS and NO CENTS (\$500.00) for each work day required to complete the work in addition to the period of time hereinbefore set forth.

In the event that the NTCD has failed to appropriate or budget funds for the purposes specified in this agreement, or that NTCD has been required (in its sole judgment) to amend previous appropriations or budgeted amounts to eliminate or reduce funding for the purposes in this agreement, this agreement shall be terminated without penalty, charge or sanction. (NRS 244.320)

Article 3. Contract Time Extensions. All claims for extensions of time shall be made in writing to the Engineer within seven (7) calendar days after the beginning of the delay; otherwise, they will be disallowed.

If the Contractor is delayed at any time in the progress of the work by any act or neglect of the NTCD or the Engineer, or by any employee of either, or by any separate contractor disputes, fire, unusual weather conditions, unusual delay in transportation, or by unavoidable casualties, the contract time may be extended by change order for such reasonable time as the NTCD may determine.

It is further expressly understood and agreed that the Contractor shall not be entitled to any damages or compensation, or be reimbursed for any losses, on account of any delay resulting from any of the aforesaid causes or any other cause regardless of whether the delay is foreseeable or not, except that the NTCD agrees to compensate the Contractor for any damage resulting from any affirmative, willful act in bad faith performed by the NTCD or its employees which unreasonably interferes with the Contractor's ability to perform the work.

An extension of contract time for a delay will be allowed only in the case that a normal working day is lost. A normal working day is defined as any day, except weekends and holidays, during which the Contractor can work for at least four hours. Delays will not be allowed for non-working days (e.g., weekends and holidays). Claims by the Contractor for delays will not be allowed on account of failure to furnish information, until 14 days after a request for information is submitted by the Contractor, and then not unless such claim is reasonable.

Extensions of contract time shall not be allowed for the following types of delays:

1. Delays which could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor.
2. Delays in the execution of parts of the work, which may in themselves be unavoidable, but do not prevent or delay prosecution of other parts of the work, or the completion of the whole work within the time specified.

3. Delays arising from interruptions occurring during the prosecution of the work on account of reasonable interference of other contractors employed by the NTCD, which do not prevent the completion of the whole work within the contract time.

Article 4. Progress Payments. If acceptable progress has been made, the NTCD shall, once each month, make an estimate of the total amount of work completed to date and the monetary value thereof and make a partial payment on the Contract.

The NTCD shall retain ten percent (10%) of such estimated value of the work done as part security for the fulfillment of the Contract and shall pay monthly to the Contractor, while carrying on the work the balance not retained, after deducting there from all previous payments.

The amount withheld as provided herein shall be retained for a period of thirty (30) days from the date of the Notice of Completion.

NTCD shall pay to Contractor, at the end of each quarter this Agreement is in effect, interest for the quarter on the amount withheld at a rate to be determined by NTCD in accordance with State law. If the amount due the Contractor pursuant to this provision for any quarter is less than Five Hundred Dollars (\$500.00), the NTCD may withhold the interest until: (1) the end of a subsequent quarter after which the amount of interest due is Five Hundred Dollars (\$500.00) or more; (2) the end of the fourth consecutive quarter for which no interest has been paid to the Contractor; or (3) final payment is due under the Agreement or State law; whichever occurs first. Contractor shall pay the subcontractors progress payments and pay interest on amounts retained from said progress payments in accordance with the provisions of State law.

Article 5. Acceptance and Final Payment. As soon as practical, following the completion of the work, the Contractor shall make a request by letter to the NTCD for a final inspection and acceptance of the work; if, in the NTCD's opinion, all provisions of the Construction Specifications and Agreement have been satisfied, the NTCD will cause a Notice of Completion to be filed with the Douglas County Recorder.

At the expiration of thirty (30) days following the filing of the Notice of Completion or use or occupancy of the public work by the NTCD, final payment shall be made as follows:

After deducting all previous payments from the total value of the work, the remaining balance shall be paid unless any of the following conditions exist to allow withholding of payment: (a) claims, liens or outstanding debt have been filed against the Contractor or against the work because of Contractor or its agents; (b) claims or demands by NTCD including those involving: disputes about the Contract, Contractor or subcontractor compliance with applicable codes and laws, the work, time or liquidated damages; (c) amounts required by law to be retained by the NTCD. Contractor shall submit proof satisfactory to the NTCD that all payrolls, materials, bills, and other indebtedness relating to the work performed, have been paid before final payment is made.

Article 6. The Contract Sum. The NTCD shall pay the Contractor, as full compensation for furnishing all materials and labor and doing all the work in strict accordance with the Construction Specifications and to the satisfaction of the Engineer the amount set forth in the contract documents. This sum is to be paid in the manner and under the conditions here in before specified.

Article 7. Performance and Payment Bonds. The Contractor agrees that he will, before this contract becomes effective, furnish the NTCD a Performance and Completion Bond and a Labor and Material Payment Bond, furnished by a company or companies acceptable to the NTCD, each in an amount equal to one hundred percent (100%) of the total contract sum. The Performance and Completion Bond shall be conditioned upon the Contractor's full and faithful performance of the contract in accordance with the plans, specifications and conditions of the contract in accordance with the Contract Documents and this Agreement and further conditioned upon the guarantee of said work for a period of one (1) year from the date the work is completed and accepted by NTCD. The Labor and Material Payment Bond is solely for the protection of claimants supplying labor or materials to the contractor to whom the contract was awarded and shall be conditioned upon the Contractor's obligation to pay for all materials and labor provided on the work. (See NRS 339.025)

Article 8. The Contract Documents. The following is an enumeration of all of the Contract Documents making up the Agreement (also herein and throughout the Contract Documents referred to as Contract), which are by this reference hereby incorporated into this Agreement and they are as fully a part of the Agreement as if hereto attached or herein repeated:

- o Notice to Contractors

- Scope of Work
- Instructions to Bidders
- Bid Proposal
- Bid Schedule
- Bid Summary
- Bid Bond
- General Contractor Information Form
- Five Percent List of Responsible Trades
- Two Hour One Percent List of Responsible Trades
- Affidavit of Non-Collusion
- Certification of Bidder, Proposed Contractor or Subcontractor Regarding Debarment, Suspension, Ineligibility or Voluntary Exclusion
- Certification of Bidder Regarding Penalties for Noncompliance with Nevada Prevailing Wage Requirements
- Agreement Form
- Labor & Material Payment Bond
- Performance and Completion Bond
- Hazard Communication Program Contractor Communication Form
- Special Provisions to the Standard Specifications for Public Works Construction, 2012, or latest edition, including Special Technical Provisions for **Glenbrook Creek Restoration Project** prepared by NTCD
- General Provisions of the Standard Specifications for Public Works Construction, 2007, or latest edition, including supplemental General Provisions attached to this document
- Exhibit A - Public Works Construction/Indemnification and Insurance Specifications
- Exhibit B - Prevailing Wage Rates
- Exhibit C – Special Technical Provisions by NTCD
- Exhibit D - TRPA Permit File Number EIPC 2012-0015
- Exhibit E – Other Permits
- Addenda
- Change Orders
- Construction Change Directives
- Any amendments made hereto

In the event of any conflict between any of the Contract Documents, this contract shall be governed in accordance with the following order:

- a) This Agreement
- b) Drawings
- b) Special Technical Provisions by NTCD
- c) Detail Specifications
- d) General Provisions

Article 9. Nondiscrimination. In accordance with NRS 338.125, in connection with the performance of work under this Agreement, the Contractor agrees not to discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, sexual orientation or age, including, without limitation, with regard to employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including, without limitation, apprenticeship. The Contractor further agrees to insert this provision in all subcontracts hereunder, except subcontracts for standard commercial supplies or raw materials. Any violation of this article constitutes a material breach of the Contract.

Article 10. Veteran's Preference. As provided in NRS 338.130, Contractor agrees as follows:

1. When persons are employed in the performance of this contract or in the construction of this public work, employment preference will be given, the qualifications of the applicants otherwise being equal:

(a) First: To persons who:

(1) Have been honorably discharged from the Army, Navy, Air Force, Marine Corps or Coast Guard of the United States, a reserve component thereof or the National Guard; and

(2) Are citizens of the State of Nevada.

(b) Second: To other citizens of the State of Nevada.

NOTICE TO CONTRACTORS:

If the provisions of NRS 338.130 (dealing with Preferential Employment in Construction of Public Works) are not complied with by the contractor engaged on the public work, THE CONTRACT IS VOID, and any failure or refusal to comply with any of the provisions of this section renders any such contract void. All boards, commissions, officers, agents and employees having the power to enter into contracts for the expenditure of public money on public works such as this contract shall file in the Office of the Labor Commissioner the names and addresses of all contractors holding contracts with the public body, and upon the letting of new contracts, the names and addresses of such new contractors must likewise be filed with the Labor Commissioner. Upon the demand of the Labor Commissioner, contractor shall furnish a list of the names and addresses of all subcontractors employed by the contractor engaged on a public work. Subject to the exceptions contained in NRS 338.130, no money may be paid out of the treasury of NTCD to any person employed on any work mentioned in this section unless there has been compliance with the provisions of this section. Any contractor engaged on a public work or any other person who violates any of the provisions of this section is guilty of a misdemeanor.

Article 11. Prevailing Wage Rates. In the event that the Contract sum as listed above exceeds One Hundred Thousand Dollars (\$100,000.00) or more due to a change order, Contractor agrees that it shall pay the prevailing wage rates in effect at the time of the bid to the persons who are entitled to such wages as determined by the regulations of the labor commissioner. This applies to the entire contract period. Further, and in accordance with NRS 338.060, Contractor shall forfeit as a penalty to the NTCD, Twenty to Fifty Dollars (\$20.00 - \$50.00) for each worker employed for each calendar day or portion thereof that such worker is paid less than the designated rate for any work done under the Agreement by him or any subcontractor under him. The exact amount of the penalty is determined by the labor commissioner's regulations. In addition, Contractor shall keep accurate records showing the name, occupation and actual per diem wages and benefits paid to each worker employed by him in connection with this project. The records shall be open to inspection by the NTCD, its officers and agents at all reasonable hours. No provision of this Contract shall be construed to excuse any duty either Party has under the prevailing wage laws of Nevada. (NRS 338.010 et.seq.)

Article 12. Indemnification/Insurance. NTCD has established specific indemnification and insurance requirements for agreements/contracts with contractors to help assure that reasonable insurance coverage is maintained. Indemnification and hold harmless clauses are intended to assure that contractors accept and are able to pay for the loss of liability related to their activities. Exhibit A, pages 1-5, is included by reference. All conditions and requirements identified in this exhibit shall apply to any work completed under this Agreement.

Article 13. Alternative Dispute Resolution. NRS 338.150 requires that a method of alternate dispute resolution be utilized to resolve any disputes that arise between the public body and the contractor engaged on a public work before initiation of a judicial action. The parties agree to submit any dispute that arises under this contract to a mutually agreeable alternative dispute resolution method prior to the initiation of a judicial proceeding. In addition, it is further agreed that neither party is entitled to an award of attorney's fees from the opposing party as a result of the outcome of an alternative dispute resolution method or a judicial proceeding even if the party is considered to be a prevailing party.

Article 14. Termination. In addition to the other provisions of this Agreement, NTCD has the right to terminate the Agreement without cause at any time upon giving the Contractor seven (7) days notice in writing. In the event the Agreement is terminated by NTCD in accordance with this provision, NTCD agrees to pay Contractor for all work satisfactorily completed and for materials installed prior to the date of termination.

Article 15. Laws and Compliance with Laws. This Contract is governed by and shall be interpreted under the laws of the State of Nevada. The Contractor and his agents including subcontractors, employees and persons who provide labor, equipment, materials, supplies or services for the work shall comply with the requirements of all applicable state and local laws, including, without limitation, any applicable licensing requirements and the requirements for the payment of sales and use taxes on equipment, materials and supplies provided for the work. In addition, the parties to this contract agree and stipulate that the venue for any dispute arising under this Agreement will be in a court of competent jurisdiction in Douglas County, Nevada.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first above written.

NEVADA TAHOE CONSERVATION DISTRICT, by:

GLEN SMITH, Chairman
NEVADA TAHOE CONSERVATION DISTRICT

STATE OF NEVADA)
) SS:
COUNTY OF DOUGLAS)

On this _____ day of _____, 2013, before the undersigned, a Notary Public in and for the County of Douglas, State of Nevada, personally appeared before me _____, as Chairman of the Nevada Tahoe Conservation District Board of Supervisors, whose name is subscribed to the above agreement, and who acknowledged to me that he executed the same freely and voluntarily and for the uses and purposes therein mentioned.

NOTARY PUBLIC

CONTRACTOR

STATE OF NEVADA)
) SS:
COUNTY OF DOUGLAS)

On this _____ day of _____, 2013, before the undersigned, a Notary Public in and for the County of Douglas, State of Nevada, personally appeared before me _____, General Contractor, whose name is subscribed to the above agreement, and who acknowledged to me that he executed the same freely and voluntarily and for the uses and purposes therein mentioned.

NOTARY PUBLIC

LABOR AND MATERIAL PAYMENT BOND
FOR PUBLIC WORKS REQUIRED PURSUANT TO NRS CHAPTER 339

KNOW ALL MEN BY THESE PRESENTS: That _____
(Name and Address [or legal description] of Contractor)
as Principal, hereinafter called "Principal", and _____

(Legal Designation and Address of Surety)

authorized to do business of surety in the State of Nevada, as Surety, hereinafter called "Surety", are held and firmly bound unto the NEVADA TAHOE CONSERVATION DISTRICT, a political subdivision of the State of Nevada, as Obligee, hereinafter called "NTCD", for the use and benefit of claimants supplying labor or materials to the Principal or to any of the Principal's subcontractors in the prosecution of the work provided for in the Contract referred to below in the amount of _____ Dollars (\$_____) said sum being 100% of the contract amount payable by the NTCD under the terms of the Contract referred to below, for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated _____, entered into contract with NTCD for "**GLENBROOK CREEK RESTORATION PROJECT**" which contract and its plans and specifications are attached hereto and by reference made a part hereof, as if fully and completely set out in full herein, and is hereinafter referred to as the "Contract".

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH that, if Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, and shall save and hold harmless and indemnify NTCD from and against any and all claims and demands of liens for work performed and materials supplied, then this obligation shall be void; otherwise it shall remain in full force and effect.

THIS BOND is executed for the purpose of complying with the laws of the State of Nevada as contained in Chapter 339 of Nevada Revised Statutes and all acts amendatory thereof and supplemental thereto, and this Bond shall inure to the benefit of any and all persons who perform labor upon or furnish materials to be used in or furnish appliances, teams or power contributing to the work described in said contract, in accordance with provisions of Chapter 339 of Nevada Revised Statutes.

Any suit or action brought on this bond shall be maintained in accordance with provisions as set forth in Chapter 339 of NRS, and all acts amendatory thereof and supplemental to.

IN WITNESS WHEREOF, the above bounden Principal and the above bounden Surety have hereunto set their hands and seal, this _____ day of _____, ____.

PRINCIPAL: _____

By: _____

(Note: Signature to be notarized)

Type: _____

Title: _____

State of Nevada Contractor's License #

Subscribed and sworn to before me this
_____ day of _____, ____.

Notary Public

Surety:

Name of Surety

By: _____

(Note: Signature to be Notarized)

Type: _____

Attorney-in-Fact

Amount of Bond Premium (to be filled in by the Surety Company):

\$ _____

Subscribed and sworn before me this _____ day of _____, ____.

Notary Public

Surety's Licensed Nevada Agent:

Company Name

Address

Telephone

By: _____

(Note: Signature to be Notarized)

Type: _____

Bond No. _____

Subscribed and sworn to before me this _____ day of _____, ____.

Notary Public

PERFORMANCE AND COMPLETION BOND
FOR PUBLIC WORKS REQUIRED PURSUANT TO NRS CHAPTER 339

KNOW ALL MEN BY THESE PRESENTS: That _____

(Name and Address [or legal description] of Contractor)

As Principal, hereinafter called "Principal", and _____

(Legal Designation and Address of Surety)

authorized to do business of surety in the State of Nevada, as Surety, hereinafter called "Surety", are held and firmly bound unto the NEVADA TAHOE CONSERVATION DISTRICT, a political subdivision of the State of Nevada, as Obligee, hereinafter called "NTCD", in the amount of _____ Dollars (\$_____) said sum being 100% of the contract amount payable by the NTCD under the terms of the Contract referred to below, for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated _____, entered into contract with NTCD for "**GLENBROOK CREEK RESTORATION PROJECT**" which contract and its plans and specifications are attached hereto and by reference made a part hereof, as if fully and completely set out in full herein, and is hereinafter referred to as the "Contract"; and

WHEREAS, said Principal is required by the Nevada Revised Statutes 339.025, and all acts amendatory thereof and supplemental thereto, to furnish a bond in connection with said Contract guaranteeing the faithful performance thereof; and

WHEREAS, the Principal under the terms of the Contract agrees to replace and/or repair without cost to the NTCD any damage or imperfections due to faulty labor or materials incorporated in said work, including the landscaping, for a period of one (1) year, from and after the date of completion and acceptance by NTCD of the work contracted to be performed.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH that, if Principal shall well and truly perform and complete in all its parts of the work described in said Contract within the time and in the manner therein specified and shall, for a period of one (1) year from the date of the work contracted to be performed is completed and accepted by NTCD, replace and repair any and all defects arising in said work, whether resulting from defective material or workmanship, and shall also observe, perform, fulfill, and keep all and every covenant and agreement in said Contract on the part of the Principal to be kept, performed and complied with within the time and manner therein specified and shall truly and fully comply with all guarantees required in said Contract, then this obligation shall become null and void, otherwise it shall remain in full force and effect.

And the said Surety, for value received, hereby stipulates and agrees, if requested to do so by the NTCD, to perform and fully complete the work mentioned and described in said Contract, pursuant to the terms, conditions and covenants thereof, if for any cause, said Principal fails or neglects to so perform and fully complete said work; the said Surety further agrees to commence said work to full completion within twenty (20) days after notice thereof from the NTCD, and to fully complete the same with all due diligence and in accordance with the plans and specifications.

Further, Surety for value received, hereby stipulates and agrees that no prepayment or delay in payment and no change, extension, addition or alteration of the work or any provision of the Contract or in the plans, profiles, detailed drawings, specifications, and no extension of time and no forbearance on the part of the NTCD shall operate to release or exonerate the Surety upon this bond, and consent thereto without notice to or consent by Surety is hereby given, and Surety hereby waives provisions of any law relating thereto. It is expressly agreed and understood that this bond is made and executed contemporaneously with the Contract above mentioned, and in consideration of the covenants and agreements therein made and entered into on the part of the NTCD; and that the due execution and delivery hereof is condition precedent to liability on the part of the NTCD, on said above mentioned Contract. It is further understood and agreed that this bond is

made in compliance with NRS 339.025 and all acts amendatory thereof and supplemental thereto; and that all benefits therein set forth inure to the benefits of the NTCD.

IN WITNESS WHEREOF, the above bounden Principal and the above bounden Surety have hereunto set their hands and seal, this _____ day of _____, _____.

PRINCIPAL: _____

By: _____
(Note: Signature to be Notarized)

Type: _____

Title: _____

State of Nevada Contractor's License #

Subscribed and sworn to before me this
_____ day of _____, _____.

Notary Public

Surety:

Name of Surety

By: _____
(Note: Signature to be Notarized)

Type: _____

Attorney-in-Fact

Amount of Bond Premium (to be filled in by the Surety Company):

\$ _____

Subscribed and sworn before me this _____ day of _____, _____.

Notary Public

Surety's Licensed Nevada Agent:

Company Name

Address

Telephone

By: _____
(Note: Signature to be Notarized)

Type: _____

Bond No. _____

Subscribed and sworn to before me this _____ day of _____, _____.

Notary Public

***** SAMPLE *****
NEVADA TAHOE CONSERVATION DISTRICT

HAZARD COMMUNICATION PROGRAM
CONTRACTOR COMMUNICATION FORM

To meet the requirements of the OSHA Hazard Communication Standard, information regarding the hazards of chemicals or compounds brought to the project site must be exchanged between the Department and the Contractor. This form is designed to satisfy those communication requirements.

Project Name/Location: **“GLENBROOK CREEK RESTORATION PROJECT, GLENBROOK, DOUGLAS COUNTY, NEVADA”**

Contractor: _____

Subcontractor: _____

Nature of work to be completed: _____

Effective date: Start of construction through the Notice of Acceptance.

| <u>Chemical Used or Stored at Project in Work Area</u> | <u>Required Precautions</u> | <u>Emergency Actions</u> |
|--|-----------------------------|--------------------------|
|--|-----------------------------|--------------------------|

All chemical (compounds) containers must be labeled with the name of the chemical and the hazards of that chemical. Detailed information regarding the hazards and protective measures for all chemicals found at this project can be found in the “MATERIAL SAFETY DATA SHEETS” for those chemicals and are collected in a binder labeled “NTCD HAZARD COMMUNICATION” located in the office of the Nevada Tahoe Conservation District.

The Contractor is responsible to ensure that their employees and the employees of any subcontractor are informed of the information provided here.

Before contract work can begin, the Contractor must provide the Department with complete “MATERIAL SAFETY DATA SHEETS” for all chemicals brought to the work area by the Contractor. All containers must be labeled with chemical name and hazard information.

Examples, but not a complete list, of chemicals requiring “MATERIAL SAFETY DATA SHEETS”: Painting materials, drywall compounds, concrete hardener, caulking, ceramic tile bedding, vinyl tile adhesive, cleaning compounds, etc.

CONTRACTOR SIGNATURE

DATE

Exhibit A

PUBLIC WORKS CONSTRUCTION/INDEMNIFICATION AND INSURANCE SPECIFICATIONS FOR GLENBROOK CREEK RESTORATION PROJECT

INTRODUCTION

NTCD has established specific indemnification, insurance, and safety requirements for public works construction contracts to help assure that reasonable insurance coverage is purchased and safe working conditions are maintained. Indemnification and hold harmless clauses are intended to assure that CONTRACTOR accepts and is able to pay for the loss or liability related to its activities.

BIDDERS' ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS BELOW. IT IS HIGHLY RECOMMENDED THAT BIDDERS CONFER WITH THEIR RESPECTIVE INSURANCE CARRIERS OR BROKERS TO DETERMINE IN ADVANCE OF BID SUBMISSION THE AVAILABILITY OF INSURANCE CERTIFICATES AND ENDORSEMENTS AS PRESCRIBED AND PROVIDED HEREIN. IF ANY APPARENT LOW BIDDER FAILS TO COMPLY STRICTLY WITH THE INSURANCE REQUIREMENTS, THAT BIDDER MAY BE DISQUALIFIED FROM AWARD OF THE CONTRACT.

INDEMNIFICATION AGREEMENT

CONTRACTOR agrees to hold harmless, indemnify, and defend NTCD, its officers, agents, employees, and volunteers from any loss or liability, financial or otherwise resulting from any claim, demand, suit, action, or cause of action based on bodily injury including death or property damage, including damage to CONTRACTOR'S property or injury to CONTRACTOR'S employee, caused by any action, either direct or passive, the omission, failure to act, or negligence on the part of CONTRACTOR, its employees, agents, representatives, or Subcontractors arising out of the performance of work under this Agreement by CONTRACTOR, or by others under the direction or supervision of CONTRACTOR.

CONTRACTOR must either defend NTCD or, upon determination that the work performed by CONTRACTOR was negligent in any manner or that CONTRACTOR failed to perform any duty set forth in this Agreement, pay NTCD'S costs related to the investigation and defense of any claim, demand, action, or cause of action.

If NTCD's personnel are involved in defending such actions, CONTRACTOR shall reimburse NTCD for the time spent by such personnel at the actual cost incurred by NTCD for such services.

In determining the nature of the claim against NTCD, the incident underlying the claim shall determine the nature of the claim, notwithstanding the form of the allegations against NTCD.

GENERAL REQUIREMENTS

CONTRACTOR shall purchase Industrial Insurance, General Liability, Automobile Liability, Property Insurance and Professional Insurance as described below. The cost of such insurance shall be included in the CONTRACTOR'S bid.

INDUSTRIAL INSURANCE

It is understood and agreed that there shall be no Industrial Insurance coverage provided for CONTRACTOR or any Subcontractor by NTCD. CONTRACTOR agrees, as a precondition to the performance of any work under this Agreement and as a precondition to any obligation of the NTCD to make any payment under this Agreement to provide NTCD with a certificate issued by an insurer in accordance with NRS 616B.627 and with certificates of an insurer showing coverage pursuant to NRS 617.210 for CONTRACTOR and all subcontractors.

If CONTRACTOR or Subcontractor is unlicensed and is a sole proprietor, coverage for the sole proprietor must be purchased and evidence of coverage must appear on the Certificate of Insurance. Such requirement may be waived for a sole proprietor who does not use the services of any employees, subcontractors, or independent contractors and completes an Affirmation of Compliance pursuant to NRS 616B.627(2).

It is further understood and agreed by and between NTCD and CONTRACTOR that CONTRACTOR shall procure, pay for, and maintain the above mentioned industrial insurance coverage at CONTRACTOR'S sole cost and expense.

Should CONTRACTOR be self-funded for Industrial Insurance, CONTRACTOR shall so notify NTCD in writing prior to the signing of this Agreement. NTCD reserves the right to approve said retentions, and may request additional documentation, financial or otherwise, for review prior to the signing of this Agreement.

MINIMUM LIMITS OF INSURANCE

CONTRACTOR shall maintain limits no less than:

1. General Liability: \$1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, the general aggregate limit shall be increased to equal twice the required occurrence limit or revised to apply separately to each project or location.
2. Automobile Liability: \$1,000,000 combined single limit per accident for bodily injury and property damage covering "Any Auto". No aggregate limits may apply.
3. Professional Errors and Omissions as required by Risk Manager, \$0.

The General Contractor shall provide, at its sole cost and expense, maintaining during the entire term of this Agreement, a policy of commercial general liability insurance naming Glenbrook Homeowners' Association as an additional insured covering the premises (including the land, equipment, controls and other facilities) insuring against the risks of death, bodily injury, property damage and personal injury liability arising out of or in connection with the use of the roads on the Premises, including roads used for traffic diversion purposes in connection with the Project, for the purposes authorized by this Agreement. Such insurance shall provide not less than the following limits: One Million Dollars (\$1,000,000.00) with respect to bodily injury or death to any one person; Two Million Dollars (\$2,000,000.00) with respect to bodily injury or death arising out of any one (1) occurrence; and One Million Dollars (\$1,000,000.00) with respect to property damage or other loss arising out of any one (1) occurrence. The insurance required under this Agreement shall (a) be issued by insurance companies authorized to do business in the State of Nevada, with classification of at least A and a financial rating of XI or better as rated in the most current issue of "Best's Key Rating Guide," and (b) contain an endorsement requiring thirty (30) days' written notice from the insurance company to all additional insureds before cancellation or change in the coverage, scope, or amount of the policy.

DEDUCTIBLES AND SELF-INSURED RETENTIONS

Any deductibles or self-insured retentions must be declared to and approved by the NTCD. NTCD reserves the right to request additional documentation, financial or otherwise, prior to giving its approval of the deductibles and self-insured retention and prior to executing the underlying agreement. Any changes to the deductibles or self-insured retentions made during the term of this Agreement or during the term of any policy, must be approved by the NTCD prior to the change taking effect.

OTHER INSURANCE PROVISIONS

The policies are to contain, or be endorsed to contain, the following provisions:

1. General Liability and Automobile Liability Coverages

- a. NTCD, its officers, agents, employees, and volunteers are to be included as insureds as respects damages and defense arising from: activities performed by or on behalf of CONTRACTOR, including the insured's general supervision of CONTRACTOR; products and completed operations of CONTRACTOR; premises owned, occupied, or used by CONTRACTOR; or automobiles owned, leased, hired, or borrowed by the CONTRACTOR. The coverage shall contain no special limitations on the scope of protection afforded to the additional insureds nor shall the rights of the additional insureds be affected by the insured's duties after an accident or loss.
- b. CONTRACTOR'S insurance coverage shall be primary insurance as respects NTCD, its officers, agents, employees, and volunteers. Any insurance or self-insurance maintained by NTCD, its officers, employees, or volunteers shall be excess of CONTRACTOR'S insurance and shall not contribute with it in any way.
- c. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to NTCD, its officers, agents, employees, or volunteers.
- d. CONTRACTOR'S insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- e. CONTRACTOR'S insurance shall issue a Waiver of Subrogation endorsement.

2. Property Coverages

CONTRACTOR shall provide builders risk insurance on an "All Risk" basis on a policy form satisfactory to NTCD. The limit of coverage will be the amount necessary to cover the bid value of any structures in the Contract or other value determined by NTCD. CONTRACTOR shall provide boiler and machinery insurance coverage or other forms of property insurance as appropriate for the project. If the project is in a flood plain, NTCD reserves the right to require flood coverage at CONTRACTOR'S expense. Losses paid under any property insurance policy or policies shall be paid directly to NTCD by the insurer(s).

3. All Coverages

Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled, or non-renewed by either CONTRACTOR or by the insurer, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to NTCD except for nonpayment of premium.

ACCEPTABILITY OF INSURERS

Insurance is to be placed with insurers with a Best's rating of no less than A-: VII. NTCD, with the approval of the Risk Manager, may accept coverage with carriers having lower Best's ratings upon review of financial information concerning CONTRACTOR and insurance carrier. NTCD reserves the right to require that CONTRACTOR'S insurer be a licensed and admitted insurer in the State of Nevada, or on the Insurance Commissioner's approved but not admitted list.

VERIFICATION OF COVERAGE

CONTRACTOR shall furnish NTCD with certificates of insurance and with original endorsements affecting coverage required by this exhibit. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. *All certificates and endorsements are to be addressed to the NTCD and be received and approved by NTCD before work commences.* NTCD reserves the right to require complete certified copies of all required insurance policies at any time.

SUBCONTRACTORS

CONTRACTOR shall include all Subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each Subcontractor. All coverages for Subcontractors shall be subject to all of the requirements stated herein.

MISCELLANEOUS CONDITIONS

1. CONTRACTOR shall be responsible for and remedy all damage or loss to any property, including property of NTCD, caused in whole or in part by CONTRACTOR, any Subcontractor, or anyone employed, directed, or supervised by CONTRACTOR.
2. Nothing herein contained shall be construed as limiting in any way the extent to which CONTRACTOR may be held responsible for payment of damages to persons or property resulting from its operations or the operations of any Subcontractors under it.
3. In addition to any other remedies NTCD may have if CONTRACTOR fails to provide or maintain any insurance policies or policy endorsements to the extent and within the time herein required, NTCD may, at its sole option:
 - a. Purchase such insurance to cover any risk for which NTCD may be liable through the operations of CONTRACTOR under this Agreement and deduct or retain the amount of the premiums for such insurance from any sums due under the Agreement;
 - b. Order CONTRACTOR to stop work under this Agreement and/or withhold any payments which become due CONTRACTOR here under until CONTRACTOR demonstrates compliance with the requirements hereof; or,
 - c. Terminate the Agreement.

SAFETY PROGRAM

CONTRACTOR shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work.

CONTRACTOR shall take all necessary precautions for the safety of, and shall provide all necessary protection to prevent damage, injury, or loss to:

1. All employees on the work site and all other persons who may be affected thereby.
2. All the work, materials, and equipment to be incorporated therein, whether in storage on or off the site.
3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

CONTRACTOR shall comply with all applicable laws, ordinances, rules, regulations, and others of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury, or loss. He shall erect and maintain, as required by existing conditions and progress on the work, all necessary safeguards for safety and protection, including posting danger signs, other warnings against hazards, promulgating safety regulations, and notifying owners and users of adjacent utilities. CONTRACTOR shall comply with OSHA'S Hazard Communication Standards.

CONTRACTOR shall designate a responsible member of its organization at the site whose duty shall be the prevention of accidents. This person shall be CONTRACTOR'S superintendent unless otherwise designated in writing by CONTRACTOR to the Owner and the Engineer.

Exhibit B

2013 PREVAILING WAGE RATES For DOUGLAS COUNTY

**Shall be
Obtained at**

http://www.laborcommissioner.com/prevailingwage_2013counties.html

By Contractor for utilization

Hard copies or questions call the Nevada Labor Commission @ 775-687-6409

DATE OF DETERMINATION: October 1, 2012

**APPLICABLE FOR PUBLIC WORKS PROJECTS BID/AWARDED OCTOBER 1, 2012
THROUGH SEPTEMBER 30, 2013***

*Pursuant to NAC 338.040(3), "After a contract has been awarded, the prevailing rates of wages in effect at the time of the opening of bids remain in effect for the duration of the project."

As Amendments/Addenda are made to the wage rates, such will be posted to sites of the respective counties. Please review regularly for any amendments posted or contact our offices directly for further assistance with any amendments to the rates.

GENERAL PROVISIONS

The “Standard Details for Public Works Construction” (a copy of which may be purchased from Washoe County) and the General Provisions listed in the “Standard Specifications for Public Works Construction, Washoe County, Nevada” Revision No. 5 – 02/14/07 (a copy of which may be purchased from the Regional Transportation Commission [775-348-0171]) are an integral part of the contract and are incorporated herein by reference. Those provisions shall apply unless a different requirement is set forth in the Notice to Contractors, Scope of Work, Instructions to Bidders, Bid Proposal, Bid Bond, General Contractor Form, List of Subcontractors, Affidavit of Non-Collusion, Agreement, Labor and Materials Payment Bond, Performance and Completion Bond, modifications made herein, Public Works Construction/Indemnification and Insurance Specifications, or Construction Specifications. If a different requirement is contained in any of these documents, that requirement shall control. The contractor is advised to become familiar with the contents of the Standard Specifications as they shall govern the construction of this project. The following is a list of items found in the Standard Specifications for the contractor’s convenience.

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The following modifications of Part 1 - General Provisions of the latest revision of "Standard Specifications for Public Works Construction, Washoe County, Nevada 2007" shall apply:

1. Section 100.12 CONTRACT

- A. Delete the first sentence and insert the sentence:

The bidder to whom award is made shall execute a written Contract with NTCD within ten (10) calendar days after the date on which the Contract is awarded.

2. Section 100.14 INSURANCE

- A. Delete Section 100.14 in its entirety and substitute Public Works Construction/Indemnification and Insurance Specifications (Exhibit A).

3. Section 100.15 COMPLIANCE WITH LAWS AND LOCAL LABOR AND MATERIAL REQUIREMENTS

- A. Add the following to the first sentence of SECTION 100.15:

".....including Clear Air Act, Clean Water Act, and Environmental Protection Agency Regulations.

- B. Add the following to paragraph 100.15.01 Prevailing Wage:

Projects up to but not including \$100,000.00 shall be exempt from prevailing wage rates per NRS 338.00.

NRS 338.070 states in part:

4. The contractor and each subcontractor shall keep or cause to be kept an accurate record showing the name, occupation and the actual per diem, wages and benefits paid to each workman employed by him in connection with the public work.
5. The record must be open at all reasonable hours to the inspection of the public body awarding the contract, and its officers and agents. A copy of the record for each calendar month must be sent to the labor commissioner and the public body awarding the contract no later than 1 week after the end of the month. The copy must be open to public inspection as provided in NRS 239.010. The record in the possession of the public body awarding the contract may be discarded by the public body 1 year after final payment is made by the public body for the public work.

- C. Add the following paragraphs to this section:

100.15.06 The Tahoe Regional Planning Agency.

The location of the proposed work is within an area partially controlled by the Tahoe Regional Planning Agency (TRPA). A permit is expected to be issued covering work to be performed under this contract. The Contractor shall fully inform himself of all rules, regulations, and conditions of TRPA and the permit issued. Attention shall be drawn to the October 15 Grading Deadline. See Section 1.01 of the Special Provisions.

The TRPA permit is included as Exhibit D. The Contractor shall obtain all other permits and licenses necessary for prosecution and completion of the contract.

4. Section 100.19 COMMENCEMENT OF WORK

- A. Delete the third paragraph and replace with the following paragraph:

The Contractor will be allowed 10 calendar days after the date on which the contract is awarded, in which to deliver the contract with the Contractor's signature affixed thereto, together with the bonds prescribed by law, to the Agency.

- B. Add the following paragraphs to this section:

Within ten (10) days after the effective date of the Agreement, Contractor shall submit to NTCD for review, and submit to TRPA for review and approval, a vicinity map and site plan for the Contractor's proposed material and equipment storage yard(s). The submittal shall also include a detailed emergency (spillage) contingency plan and temporary erosion control plan for the proposed storage yard(s). TRPA approval will be required prior to use of the storage yard(s).

Within ten (10) days after the effective date of the Agreement, Contractor shall submit to NTCD in writing for review all sources of materials as may be required by the NTCD including, but not limited to, rock; revegetation seed, mulch, soil amendments; rock rip rap; geotextile fabric; retaining wall components; asphalt concrete and recycled asphalt pavement. The Contractor shall furnish to NTCD a complete written statement or material certification that all materials comply with the construction specifications. Please refer to the Special Technical Provisions for additional information.

5. Section 100.20 BASE LINE, BENCH MARKS, AND REFERENCE POINTS

- A. Delete Section 100.20 in its entirety and substitute the following:

100.20 Base Line, Bench Marks, and Reference Points. The Engineer will provide the control points shown on Sheet iii of the Design Plans and one set of construction stakes at NTCD's expense. The Contractor shall be fully responsible for conformance and agreement of the work to the lines and elevations shown on the drawings and staked in the field. Please refer to the Special Technical Provisions for additional information on construction staking.

If the Contractor finds that apparent discrepancies exist, the Contractor shall promptly notify the Engineer and allow sufficient time for checking and/or corrections to be made by the Engineer. All construction that is accomplished by the Contractor after his discovery of the apparent discrepancy which is directly or indirectly affected by such apparent discrepancy shall be at his own risk and shall bear all costs arising therefrom.

This work shall consist of staking the project sufficiently to construct the improvements accurately. Contractor shall provide property owners who have improvements within the construction area one week to relocate their improvements prior to performing any grading which could affect such improvements. The contractor shall include language in the "Notice" to make property owners aware of this process. The "Notice" shall be approved by the Engineer prior to distribution.

6. Section 100.21 PROGRESS SCHEDULE

- A. Add the following to the end of the first paragraph in this section:

Said schedule shall include completion dates for each item of construction, as well as temporary BMP installations for the entire project area. The construction schedule shall indicate that excavation will be phased to minimize the potential for erosion. The construction schedule shall also include an estimated

date for final inspection by TRPA staff to ensure that all conditions of project approval are satisfied. Please refer to the Special Technical Provisions for additional information.

7. Section 100.29 SPECIFICATIONS AND DRAWINGS.

- A. Add the following paragraph to this section:

The Contractor shall take no advantage of any apparent error or omission in the Drawings or Construction Specifications, and the Engineer will be permitted to make such corrections and interpretations as may be deemed necessary to fulfill the intent of the Contract Documents.

8. Section 100.33 PROTECTION OF PERSON AND PROPERTY

- A. In addition to the requirements of the Standard Specifications the Contractor is responsible to protect existing property corner monumentation. If a property corner monument is disturbed by the Contractor through his own actions he shall replace it at his own expense employing a licensed land surveyor approved by the Engineer.

9. Section 100.33.01 MAINTENANCE OF TRAFFIC

- A. Contractor is directed shall give special attention to this section of the Standard Specifications for Public Works Construction and Section 350 of the Detailed Specification of this document.

10. Section 100.33.04 UTILITIES

- A. Add the following paragraphs to this section:

The Contractor shall notify the following underground utility locating services prior to beginning work: DIGS (916) 541-DIGS, and the Underground Services Alert (USA) 1-800-227-2600.

At points where the Contractor's operations are adjacent to public and private utilities, Contractor shall not commence work until Contractor has made all necessary arrangement for the protection of the utilities.

11. Section 100.48 ARBITRATION

- A. Delete Section 100.48.00 in its entirety and substitute Article 13 Alternative Dispute Resolution of the Agreement.

12. Section 100.49 Permits & Licenses

- A. Add the following to the first sentence of SECTION 100.49:

“.....including Clear Air Act, Clean Water Act, and Environmental Protection Agency Regulations.

- B. Add the following sentence to the end of the first paragraph of SECTION 100.49:

The cost of any work, materials or reports required by NDEP, TRPA, or other agencies shall be incidental to the contract and shall be included in the contract bid items.

Exhibit C

SPECIAL TECHNICAL PROVISIONS

SPECIAL TECHNICAL PROVISIONS

FOR

GLENBROOK CREEK RESTORATION PROJECT

NEVADA TAHOE CONSERVATION DISTRICT

DOUGLAS COUNTY, NEVADA

FOR USE WITH:

Standard Specifications, as referred to in these Special Technical Provisions, are the Standard Specifications for Public Works Construction – Washoe County “Orange Book,” current edition. These Special Technical Provisions are supplemental to the Standard Specifications.

PREPARED BY:

**Nevada Tahoe Conservation District
400 Dorla Court
Box 915
Zephyr Cove, NV 89448**

**Meghan Kelly, P.E.
NV P.E. #: CE 020851**

Date: January 21, 2013

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SECTION 100 – GENERAL

101.01 Description. The work described herein shall conform to the Contract Documents, Project Plans, Standard Specifications, these Special Technical Provisions, and Project Permits. Standard Specifications, as referred to in these Special Technical Provisions, are the Standard Specifications for Public Works Construction – Washoe County “Orange Book,” current edition. These Special Technical Provisions are supplemental to the Standard Specifications.

In case of conflict between the Standard Specifications and these Special Technical Provisions, the Special Technical Provisions shall govern, take precedence over, and be used in lieu of such conflicting portions.

SECTION 102 – CONTRACTOR QUALIFICATIONS

102.01 Description. In addition to any bidder qualifications noted elsewhere in the Contract Documents, Project Plans, Standard Specifications, and these Special Technical Provisions, each bidder shall attach sufficient documentation to the bid forms to clearly demonstrate his/her ability to meet the minimum experience qualifications stated in this section. The following items shall be included in the bid submittal:

1. Project descriptions of similar projects to the Glenbrook Creek Restoration Project including:
 - a. Location of projects
 - b. Dates project was initiated and completed by the Contractor
 - c. Description of size of restoration and any road crossings
 - d. Total contract costs
 - e. Client/agency contact in responsible charge (owner of the work)
2. Other references demonstrating Contractor qualifications on similar projects. These references shall only include regulatory, funding and/or local agency representatives or licensed Professional Engineers working on similar projects within the Lake Tahoe Basin.

The above items shall clearly demonstrate the Contractor’s qualifications to perform the work associated with the Glenbrook Creek Restoration Project and past similar experience on other projects. The experience to be demonstrated above is required to meet the following minimum requirements:

- A. The Contractor is required to have successfully performed a minimum of one (1) project, within the past five (5) years, which included work components of a similar scope and nature as to that which is indicated herein within a US Army Corps of Engineers regulated wetland area or within the Tahoe Basin and consisted of minimum project total costs of \$100,000 and contract times exceeding 15 days.
- B. All landscape and revegetation work required as part of this project shall be performed by a licensed Landscape Contractor.

Failure of the Contractor to submit the information required or to demonstrate experience as required in this section shall warrant the Contractor’s bid submittal incomplete. The determination of whether the Contractor meets the qualifications is at the sole discretion of the Nevada Tahoe Conservation District.

102.02 Measurement and Payment. Full compensation for furnishing all labor, materials, tools, equipment, and incidentals for all work associated with performing all the work involved in provisions of this section, complete in place as shown on the Project Plans, as specified in the Contract Documents, Project Permits(s), Standard Specifications, these Special Technical Provisions, and as directed by the Engineer, shall be considered as included in prices paid for the various contract items of work involved; and no additional compensation will be allowed for.

SECTION 110– ORDER OF WORK

110.01 Description. The construction of this project shall conform to the Contract Documents, Plans, Standard Specifications, and these Special Technical Provisions. Prior to commencing work, the Contractor shall submit to the Engineer a sequence and schedule of work for review and acceptance in accordance with the Standard Specifications and these Special Technical Provisions. The schedule shall include all work necessary for a full and complete project as shown on the 100% Design Plans and described in these Special Technical Provisions.

The project requires coordination with several different public entities (Douglas County, the Nevada Tahoe Conservation District, the Tahoe Regional Planning Agency, the Nevada Division of Environmental Protection, the US Army Corps of Engineers, and Nevada Department of State Lands). Additionally, the project will require coordination with the Glenbrook Homeowners Association (GHOA) who owns and manages the land. The Nevada Tahoe Conservation District will assist the contractor in coordinating with all entities public and private. The Contractor shall be solely responsible for coordinating with all contractors working in the area whether listed in these Special Technical Provisions or not.

The order of work shall be as follows:

1. Verification of all underground utilities within the project area.
2. Installation of Temporary Traffic Control Measures.
3. Construction of all temporary erosion control measures as shown on the project plans and as approved by the Engineer and Tahoe Regional Planning Agency (TRPA).
4. Construction of project as shown on the project plans and as described in these Special Technical Provisions. Contractor may select sequence for construction; however, the Old Highway 50 road closure shall not occur between May 24, 2013 and September 3, 2013.
5. Restoration of entire project site:
 - a. Restoration/revegetation of all disturbed areas.
 - b. Road sweeping.
 - c. Restoration of staging and access.
 - d. Removal of temporary BMPs with approval of Engineer.
6. Pre-Final site walk with the Engineer, Contractor, Nevada Division of State Lands, TRPA, and GHOA.
 - a. Development of project punchlist (by Engineer).
7. Completion of punchlist items.
8. Final site walk with Engineer, Contractor, and GHOA.

The Contractor may submit a revised order of work to the Engineer for review and approval. In the event the Engineer does not accept the Contractor's proposed order of work, the above order of work shall hold for the contract.

The Contractor will be responsible for meeting all the requirements of all the regulations and

requirements set forth by TRPA, Douglas County, NDEP, USACE, and all other permitting and funding agencies. In the event fines are levied by any of these agencies, the Contractor shall be solely responsible for all costs associated with these fines. In the event the project receives a stop work order by any entity, the Contractor will not be granted any additional working days. The working days during which no work is performed will be counted as contract working days, even though the Contractor is unable to work due to the stop work order.

The Contractor shall submit a construction schedule in accordance with the provisions of this section, these Special Technical Provisions and the Standard Specifications for review and approval by the Engineer.

110.02 Measurement and Payment. Full compensation for furnishing all labor, materials, tools, equipment, and incidentals for all work associated with all work involved in provisions of this section, complete in place as shown on the Plans, as specified in the Standard Specifications, these Special Technical Provisions, and as directed by the Engineer, shall be considered as included in prices paid for the various contract items of work involved; no additional compensation will be allowed.

SECTION 160 – RELATIONS WITH TAHOE REGIONAL PLANNING AGENCY

160.01 Description. This project is located within the Lake Tahoe Basin, which is regulated by TRPA. TRPA will issue a construction permit for this project. The permit will have specific requirements covering work to be performed under this contract. The Contractor shall meet the permit requirements for Best Management Practices (BMPs), selection of staging areas, grading season restrictions, and all other agency approval conditions. The Contractor will be responsible for all permit requirements upon receipt of the permits for the project.

It shall be the Contractor's responsibility to completely inform him or herself of the conditions of said permit and conduct construction operations accordingly. Any change in the agency's conditions of approval proposed by the Contractor shall be submitted to the Engineer for the transmittal to TRPA for their approval. The Contractor shall also be responsible for adhering to the requirements of the TRPA Code of Ordinances relating to this project. Should conflicts arise between the Standard Specifications and the TRPA Code of Ordinances, the TRPA Code of Ordinances shall supersede the Standard Specifications.

The Contractor shall maintain a copy of the permit at the construction site and shall make the permit available to operating personnel during construction activities.

The Contractor is responsible for coordinating the pre-grading meeting with TRPA to review the project site and determine the adequacy of temporary erosion control measures deployed by the Contractor. The Contractor shall coordinate the meeting so that the Contractor, Engineer, and TRPA staff are present. The contractor shall follow the requests of the reviewing agencies as necessary to bring the construction site temporary erosion control devices into compliance with the permit requirements, regulations, and these Special Technical Provisions. The contractor shall maintain temporary BMP's until the project is complete and TRPA has reviewed the project site at the "Final Walk Through". The contractor will only be allowed to remove the temporary BMPs after approval by the TRPA and Engineer to do such. If the requirement is that temporary BMPs must stay in place for more than 10 days after project completion, NTCD will remove the temporary BMPs.

In addition to TRPA BMP requirements, the Contractor shall be responsible for complying with NDEP and other agency requirements and responsibilities provided in these Construction Documents, as follows, and as shown on the plans, and as described in these Special Technical Provisions:

Noxious weed requirements:

- All earth-moving equipment, gravel, fill, or other materials are required to be weed-free. Use onsite sand, gravel, rock, or organic matter when possible. Otherwise, obtain materials from gravel pits and fill sources that have been determined to be weed-free by the noxious weed coordinator on the United States Forest Service Lake Tahoe Basin Management Unit (LTBMU).
- Minimize the amount of ground and vegetation disturbance in the construction areas. Reestablish vegetation on all disturbed bare ground, in excess of plans, to minimize weed establishment and infestation.
- Use weed-free equipment and mulches.
- Staging areas for equipment, materials, or crews will not be sited in weed infested areas.

Weed infestations identified before project implementation that are within the project area or along travel routes near the project area will be hand treated or flagged and avoided, depending on the species present and project constraints. The identification and flagging will be completed by NTCD with the approval of the TRPA. The entire perimeter of the infestation will be flagged by NTCD and then the contractor shall install construction fencing around the area (outside of the flagging by 10 feet) and avoided by anyone on the construction site. If ground disturbance is necessary within the infested area and excess material is generated from an infested area, this soil will be labeled as contaminated and shipped to licensed landfill outside the Tahoe Basin. The material will not under any circumstances be used at any other site within the project area because of the extremely invasive and persistent nature of noxious weeds.

The Contractor will be required to meet all of the requirements of the project permits. Contractor shall also sweep the streets affected by construction activities at the end of each work day. Sweeping may be performed by a mechanical sweeper, or if the area is not very large, by a push broom. The use of backpack leaf blowers will not be permitted on any part of the project.

Contractor shall check and maintain staging and stockpiling areas at least on a weekly basis and before and after every storm event. Contractor shall maintain a log and maintenance records of these inspections and actions for the duration of the project.

The hours of work for the project will be in accordance with TRPA regulations and shall be from 8 AM to 6:30 PM Monday through Friday, non-holiday (Federal Holiday). No project work will be allowed on weekends, holidays, or at night unless permission is obtained from the Engineer and GHOA.

Finally, the Contractor will be required to meet all the requirements of all of the project permits issued by the permitting agencies. The Contractor will be responsible for adhering to all requirements of the permits, for which no additional compensation will be allowed.

160.02 Measurement and Payment. No direct payment shall be made for relations with the Tahoe Regional Planning Agency or other entities. Conforming to the requirements of this section shall be included in the contract prices paid for other items of work. Full compensation for conforming to the requirements of this Section shall be considered as included in the contract prices of the various items of work involved and no additional payment will be made therefore except where individual bid items are

provided. Street sweeping and maintenance and repair of stockpiling and staging areas shall be paid for by the lump sum bid prices provided to furnish all labor, materials, tools, equipment and incidentals necessary to complete the work as specified and denoted in the project plans.

SECTION 170– CONSTRUCTION STAKING

170.01 Description. Work under this item shall consist of furnishing all labor, tools, materials, and equipment necessary to complete all construction staking in accordance with the Standard Plans and Specifications and these Special Technical Provisions.

NTCD shall furnish one set of stakes and/or marks to establish lines and grades required for the completion of the work as shown on the Plans and as specified in the Standard Specifications and these Special Technical Provisions. The Contractor will be responsible for any and all additional construction staking necessary for the full and complete construction of the Project. The Contractor shall be solely responsible for maintenance and protection of the survey stakes or marks. Contractors construction staking will be verified by the Engineer, at the Engineer’s discretion.

NTCD shall furnish labor and surveying equipment necessary for staking the Project including the following:

- Control points,
- Stream and culvert alignments,
- Limits of grading,
- Access road location,
- Temporary BMPs, and
- Tree removal.

The contractor shall provide any survey in excess of the aforementioned items.

All stakes and survey markers will be conspicuously marked with flagging tape or paint. The Contractor shall inform the Subcontractors of the importance of the preservation of all survey markers. The Contractor shall be responsible for protecting and maintaining all stakes from destruction. In the event that one or more of the stakes are damaged or destroyed, the Contractor will replace the stakes at the expense of the Contractor.

The Contractor’s surveyor will be provided with the northing, easting and elevation of the control points existing in the field as shown on the Project Plans. Additionally, the Contractor’s surveyor will be provided with an electronic copy (ASCII Format) of the control points depicted on the Project Plans to develop the construction staking as stated in these Special Technical Provisions.

If the Project surveyor wishes to develop a different work plan it shall be the Contractor’s responsibility to develop such a work plan and present to the Project Engineer for approval.

170.02 Measurement and Payment. Full compensation for furnishing all labor, materials, tools, equipment, and incidentals for all work associated with all work involved in provisions of this section, complete in place as shown on the Plans, as specified in the Standard Specifications, these Special Technical Provisions, and as directed by the Engineer, should be incidental to the other construction

items; no additional compensation will be allowed.

SECTION 200 – GRAVEL, COBBLE, ROCK, BOULDER & OTHER AGGREGATES

200.01 General. Work under this item shall consist of furnishing all labor, tools, materials, and equipment necessary to furnish and place chinking, gravel, cobble, rock, boulder, sand aggregate, and other aggregates in the work, including but not limited to, proposed creek channel, aggregate base courses, bituminous courses, bedding and backfill, mortar and grout, portland cement, and general rip-rap as indicated on the Project Plans, described in these Special Technical Specifications, and directed by the Engineer, in conformance with the Contract Documents, Project Permits, Standard Specifications, and these Special Technical Specifications. The work will require excavation and preparation of the sub-grade, and possible embedment of larger rock and boulders in the sub-grade, in order to properly set the stone materials to the proposed finish grade as shown on the Project Plans. The limits of loose aggregate and aggregate base course placement as indicated on the Project Plans are approximate, and the exact limits of placement shall be determined in the field by the Engineer. All aggregates used in the work for aggregate base courses, bituminous courses, bedding and backfill, mortar and grout, Portland cement, and general rip-rap shall be in strict conformance with the Standard Specifications, and other applicable provisions found elsewhere in these Special Technical Specifications. All chinking, gravel, cobble, rock, boulders, sand aggregate, and other loose aggregate used in the work for proposed creek channel shall be in conformance with these Special Technical Specifications, and other applicable provisions of the Standard Specifications.

All stone, aggregate materials, and soils imported to the site shall be from a certified “Weed Free” source approved by the NDEP and/or TRPA.

All loading, transport, temporary stockpiling, on-site hauling, excavation, preparation of sub-grade, placement, embedment, chinking, backfill, compaction, clean-up, and off-haul and disposal of excess materials needed to install all chinking, gravel, cobble, rock, boulder, sand aggregate, and other aggregates where incorporated in the work shall be considered as included in the applicable bid item unit price, and no additional compensation will be allowed.

All aggregate materials generated on-site and meeting the quality requirements as stated in Section 200, “Gravel, Cobble, Rock, Boulder & Other Aggregates” of these Special Technical Specifications may be incorporated in the work upon acceptance of the Engineer prior to placement; any such material that is rejected for placement in the work shall be removed and disposed of in conformance with the provisions found elsewhere in these Special Technical Specifications, and the Standard Specifications. Use of said aggregate material in the work shall be considered as included in prices paid for the various contract items of work involved; and no additional compensation will be allowed for.

200.02 Submittals. The Contractor shall submit certificate(s) and other material testing data as necessary to validate the source of the chinking, gravel, cobble, rock, boulder, sand aggregate, and other aggregate materials and its conformance with the Standard Specifications and these Special Technical Specifications. Include all applicable test results for specific gravity, resistance to degradation, absorption, durability index, and soundness (as described elsewhere in these Special Technical Specifications). Samples of loose stone aggregates shall be submitted to the Engineer a minimum of ten (10) working days prior to large-scale delivery to the project site or placement in the work, for review and acceptance of color and material.

All aggregate materials generated on site shall be reviewed and accepted by the Engineer, prior to placement in the work. Visual evaluation of the source, samples, suitable certificates and material testing data sheets, and service records may be used to determine the acceptability of any aggregate materials imported or generated on-site. The Engineer reserves to the right to reject said materials.

200.03 Quality Requirements for Loose Stone Aggregates. The Contractor shall use stone (i.e. chinking, gravel, cobble, rock, boulder, etc.) that is sound and durable against disintegration under conditions to be met in handling and placing, and is hard and tenacious and otherwise of a suitable quality to ensure permanency in the specified kind of work. All applicable stone materials shall meet the requirements stated herein and conform to the following test requirements.

| | <u>Requirement</u> | <u>Test Method</u> |
|--|--------------------|---------------------------|
| Apparent specific gravity, minimum | 2.5 | ASTM C-127-59 |
| Abrasion, maximum percent | 45 | ASTM C-535-65 |
| Freeze-thaw loss, maximum percent After 12 cycles | 10 | AASHTO 103 Procedure A |

Stone shall be of such shape to form a stable protection structure for the required section or feature. Flat or elongated shapes will not be accepted unless the thickness of the individual pieces is at least 1/3 of the length. Stones shall be sound, durable, hard, resistant to abrasion and free from laminations, weak cleavage planes, and the undesirable effects of weathering. It shall be of such character that it will not readily disintegrate from the action of air, water, or the typical conditions experienced during handling and placing. All aggregate material shall be clean and free from deleterious impurities, including alkali, earth, clay, refuse, and adherent coatings.

Gravel, cobble, rock, and boulder identified for use in the proposed creek channel, channel grade control structure, valley-wide grade control structure, and other areas subject to or where it is expected to be exposed to hydraulic conditions (water flow) shall be smooth and rounded in shape, as is typical of river run cobblestone, fieldstone, or that from a former stream deposited source. Angular rock, quarried, split rock, crushed rock or shot rock shall not be used (except where specified or allowed as shown on the Plans). In addition the said stone materials shall be of a native nature to the Tahoe Basin (i.e. of similar color and texture to that generally found within the Tahoe Basin and in particular the project area Glenbrook, NV and vicinity). All creek channel toe boulders and other specified boulders used for the grade control structures that are located within and immediately adjacent to the proposed creek channel shall be smooth and rounded in shape as noted above and of a natural earth tone color/hue that blends with the surrounding environment (or generally described as “round and brown”). Attention is directed to the submittal requirements as noted in this section.

The stone used for “chinking” material, creek channel sub bed material (only where defined/shown on the Plans), shall be angular, fractured or crushed stone and be in conformance with these Special Technical Specifications, and applicable sections of the Standard Specifications.

200.01.03 Crushed Aggregate Base. Crushed aggregate base shall be Type 2, Class B as depicted in Table 200.0.03-I. Type 2 Base shall be placed under all paving and concrete improvements.

200.01.09 Structural Fill. Fill and backfill materials for all excavations shall meet the requirements of Section 200.01.09 inclusive.

200.02.03 Plantmix and Roadmix Aggregate. Aggregates used for roadmix paving and permanent patching shall be Type 3 as Identified in Table 200.02.03-I.

200.03.02 Class A Backfill. Class A backfill shall be used for bedding and backfilling pipes.

200.07 RipRap. In addition to the requirements of Section 200.07, riprap stone shall be of such shape to form a stable protection structure for the required section. Flat or elongated shapes will not be accepted unless the thickness of the individual pieces is at least 1/3 of the length. Stones shall be sound, durable, hard, resistant to abrasion and free from laminations, weak cleavage planes, and the undesirable effects of weathering. It shall be of such character that it will not disintegrate from the action of air, water, or the conditions experienced during handling and placing. Stone shall additionally be of native nature to the Tahoe Basin, of similar color and texture to that found within the Tahoe Basin and in particular the project area (Glenbrook, Nevada vicinity), and samples shall be provided to the Engineer for review and approval for use, prior to placement of any stone. All material shall be clean and free from deleterious impurities, including alkali, earth, clay, refuse, and adherent coatings. Visual evaluation of the source, suitable tests and service records may be used to determine the acceptability of the stone. Routine control of gradation will be by visual inspection.

RIPRAP SIZE SPECIFICATION TABLE

| <u>% PASSING</u> | <u>SIZE (diameter inches)</u> |
|--------------------------------------|-------------------------------|
| <u>8" TO 10" ROCK RIPRAP</u> | |
| 100 | 12 |
| 35-50 | 8 |
| 0-15 | 4 |
| <u>10" TO 15" ROCK RIPRAP</u> | |
| 100 | 15 |
| 35-50 | 10 |
| 0-15 | 6 |

200.08 Stream Substrate and Engineered Streambed Material.

Engineered Streambed Material: Engineered Streambed Material shall consist of dense, hard, durable non-friable stone free of organic debris and other deleterious materials. Stone shall additionally be of native nature to the Tahoe Basin, of similar color and texture to that found within the Tahoe Basin and in particular the project area (Glenbrook, Nevada vicinity), and samples shall be provided to the Engineer for review and approval for use, prior to placement of any stone. All material shall be clean and free from deleterious impurities, including alkali, earth, clay, refuse, and adherent coatings. The rock shall have a minimum specific gravity of 2.5 and shall be sub-rounded to rounded, as derived from a natural stream or pit-run mining operation. Angular quarried material will not be acceptable. Volcanic cinder material shall not be acceptable. Engineered Streambed Material shall conform to the gradation requirements of the table, below:

Gradation requirements for Engineered Streambed Material

| Percent of Mix (by weight) | Size Range (inches or sieve size) |
|-------------------------------|--------------------------------------|
| 20 | 18-30 |
| 30 | 12-18 |
| 30 | 2-12 |
| 12 | .08-2 |
| 8 | < .08 |

Stream Substrate: Stream Substrate Material shall consist of dense, hard, durable non-friable stone free of organic debris and other deleterious substances. The rock shall have a minimum specific gravity of 2.5. Angular quarried material is acceptable in areas where the rock is not visible. Volcanic cinder material shall not be acceptable. Stream Substrate shall conform to the gradation requirements, per the table below. Stream substrate material may be salvaged from the site, provided it meets the material properties specified herein.

Gradation requirements for Stream Substrate, inches or sieve size

| Size Class | 100% passing | 75-85% passing | 45-55% passing | 12-20% passing | 10% passing |
|-------------|--------------|-------------------|-------------------|-------------------|----------------|
| 50 | 5 | 2 | 3/4 | 1/4 | No. 10 |
| 100 | 10 | 4 | 1 3/4 | 0.530 | No. 10 |
| 150 | 14 | 6 | 2 1/2 | 3/4 | No. 10 |
| 225 | 22 | 9 | 3 1/2 | 1.06 | No. 10 |
| 300 | 29.5 | 12 | 5 | 1 1/2 | No. 10 |
| 375 | 35.5 | 14 | 6 | 1 3/4 | No. 10 |
| 450 | 45 | 16.5 | 7 | 2 1/2 | No. 10 |
| 600 | 59 | 23.5 | 10 | 3 | No. 10 |
| 750 | 74 | 29.5 | 12 | 3 1/2 | No. 10 |
| 900 | 88.5 | 35.5 | 14 | 4.24 | No. 10 |
| 1050 | 103 | 45 | 16.5 | 5 | No. 10 |

Backfill Material. Backfill Material shall consist of dense, hard, durable non-friable stone free of organic debris and other deleterious substances. The rock shall have a minimum specific gravity of 2.5 and shall be sub-rounded to rounded, as derived from a natural stream or pit-run mining operation. Angular quarried material will not be acceptable. Volcanic cinder material shall not be acceptable.

201.05 Execution.

- A. Rip Rap. Rip Rap shall be placed to the lines, grades and depths shown on the Drawings, or as directed by the Engineer. Place rock so as to minimize the number of voids. Rock shall be placed in lifts with a thickness not exceeding the D100 of the specified stone. Each lift shall be backfilled to half its depth with "Backfill Material", prior to placement of the subsequent lift. Backfill shall be placed in a manner that does not interfere with direct rock to rock contact of successive lifts. Backfill shall be placed to match the finished surface of the RIPRAP and water-jetted to fill all voids, as directed by the Engineer.
- B. Refer to Section 340 Proposed Creek Channel for placement of Stream Substrate and Engineered Streambed Material

201.06 Measurement and Payment.

Riprap will be paid for at the contract price per square foot, which price will be payment in full for furnishing all labor, materials, tools, equipment, and incidentals necessary to complete the riprap placement, including subgrade preparation, processing work, rock placement, backfill of voids.

Stream substrate and Engineered Streambed Material will not be separately measured for payment. Full compensation for all costs associated with this work shall be included in the contract price for Proposed Channel in accordance with Section 340.

Rock sill is a lump sum pay item and will not be independently measured for payment.

SECTION 202 – EROSION CONTROL FABRIC

202.01 General. Work under this section includes furnishing all labor, materials, equipment, and incidentals to install and maintain Erosion Control Fabric to protect newly constructed or excavated and seeded soil slopes, as shown on the Drawings and as specified herein, or as otherwise directed by the Engineer.

202.02 Submittals. Submit to the Engineer for review, the following:

Manufacturer's Data and Certification's:

The Contractor shall provide the Engineer a certificate stating the name of the Erosion Control Fabric manufacturer, product name, style, chemical compositions of filaments or yarns and other pertinent information to fully describe the geotextile.

The Manufacturer is responsible for establishing and maintaining a quality control program to assure compliance with the requirements of the Specification. Documentation describing the quality control program shall be made available upon request.

The manufacturer’s certificate shall state that the furnished products meet requirements of the Specification as evaluated under the manufacturer’s quality control program. The certificate shall be attested to by a person having legal authority to bind the Manufacturer.

Fabric

Erosion Control Fabric shall be North American Green C125BN, or equivalent, meeting the following Specifications: The Erosion Control Fabric shall meet requirements established by the Erosion Control Technology Council (ECTC) Specification and the U.S. Department of Transportation, Federal Highway Administration’s (FHWA) Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-03 2003 Section 713.17 as a Type 4. Long-term Erosion Control Blanket.

Erosion Control Fabric shall be a long-term erosion control blanket, constructed of 100% biodegradable materials containing a 100% coconut fiber matrix, with a functional longevity of up to 24 months. The coconut fiber shall be evenly distributed over the entire area of the blanket. The blanket shall be covered on the top and bottom with 100% biodegradable natural organic fiber netting woven into an approximate 0.50 x 1.00 inch (1.27 x 2.54 cm) mesh. The blanket shall be sewn together with biodegradable thread on 1.50 inch (3.81 cm) centers.

| Property | Test Method | Typical |
|-----------------------|--------------------|---|
| Thickness | ASTM D5199/ECTC | 0.26 in (6.60 mm) |
| Resiliency | ECTC Guidelines | 85% |
| Mass per Unit Area | ASTM D6475 | 8.83 oz/yd ² (300 g/m ²) |
| Water Absorption | ASTM D1117/ECTC | 155% |
| Swell | ECTC Guidelines | 40% |
| Stiffness/Flexibility | ASTM D1388/ECTC | 0.11 oz-in (1,218 mg-cm) |
| Light Penetration | ECTC Guidelines | 16.40% |
| Smolder Resistance | ECTC Guidelines | Yes** |
| MD Tensile Strength | ASTM D5035 | 342.00 lbs/ft (4.98 kN/m) |
| MD Elongation | ASTM D5035 | 7.60% |
| TD Tensile Strength | ASTM D5035 | 211.00 lbs/ft (3.08 kN/m) |
| TD Elongation | ASTM D5035 | 11.10% |

**Material is smolder resistant according to specified test

MD – Machine Direction

TD – Transverse Direction

Stakes

Stakes shall be shaped hardwood pins designed to safely and effectively secure the slope stabilization fabric. The wood stake must exhibit ample rigidity to enable being driven into hard ground, with sufficient flexibility to resist breakage. The wood stake shall be the North American Green Eco-Stake or approved equal, with the following dimensions:

| | |
|-----------------|-------------------------------|
| Leg Length: | 11.00 in |
| Head Width: | 1.25 in. |
| Head Thickness: | 0.40 in. |
| Leg Width: | 0.60 in. (tapered to a point) |
| Leg Thickness | 0.40 in. |
| Total Length: | 12.0 in |

202.03 Measurement and Payment. Erosion Control Fabric will be measured by the square foot of slope protection fabric installed in accordance with the Drawings, as specified, or as directed by the Engineer. Measurements will be taken parallel to the finished surface. No additional payment will be made for seams, overlaps, anchor trenches, or wastage. Erosion Control Fabric will be paid for at the contract unit price per square yard, which price will be payment in full for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing fabric, complete in place, including trench excavation and backfill, and maintenance, as shown on the Drawings, as specified herein, or as directed by the Engineer.

SECTION 300 – CLEARING AND GRUBBING

300.01 Description. This section covers the construction methods involved in tree removal operations, stump removal operations and clearing and grubbing operations required for the construction of the project.

300.02 Clearing and Grubbing. Clearing and grubbing shall consist of removing all natural and artificial objectionable materials from areas designated on plans. This work shall include removal of all items, in accordance with the project plans, project permits, these Special Technical Provisions, and as directed by the Engineer to construct the project in a proper manner. This work additionally includes removal of all trees and stumps less than 6” diameter at breast height (DBH) (4’ above the existing ground surface). This work shall be performed in advance of grading operations and in accordance with the requirements herein specified, subject to erosion control requirements.

300.04 Tree Removal (greater than 6" DBH). No Trees shall be removed from the project site other than those identified on the plans. In the event the contractor removes any trees not marked by the Engineer, the Contractor shall be solely responsible for any and all fines and/or penalties levied to the Contractor, the Engineer or Washoe County in association with the tree removal.

300.07 Work Outside of Stated Limits. No payment will be made to the Contractor for clearing and grubbing outside the stated limits as shown on the Project Plans, or as described in these Special Technical Provisions, unless such work is authorized in writing by the Engineer.

300.08 Protection of Vegetation. Trees and plants that are not to be removed shall be fully protected from injury by the Contractor at his expense. Trees shall be removed in such a manner as not to injure standing trees, plants, and improvements which are to be preserved. The Contractor shall remove additional tree branches under the direction of the Engineer, in such a manner that the tree will present a balanced appearance. Scars resulting from the removal of branches shall be treated with a heavy coat of a tree sealant approved by the Engineer.

300.10 Protection of Utilities and Underground Facilities. The Contractor shall inform him or herself of the exact location of all conduits, ducts, cables, pipe systems, or other above ground and/or underground facilities and shall protect all utilities encountered in the process of construction. The Contractor shall contact Underground Service Alert (USA) at least 48 hours prior to any construction activity. Any damages to underground facilities shall be immediately repaired by the Contractor at his own expense, except for damage to utilities, in which case the Contractor shall immediately notify the proper Utility Company. Unless cleared by the Utility Company, the Contractor shall be responsible for reimbursing said Utility Company for any and all work required to repair or replace damaged utility facilities with no additional compensation allowed for.

300.11 Measurement and Payment. "Clearing and Grubbing (trees under 6" DBH)" shall be measured on a lump sum basis. The lump sum price for "Clearing and Grubbing (trees under 6" DBH)" shall include furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in the clearing and grubbing of the project site as shown on the plans and as specified in these Special Technical Provisions, and as directed by the Engineer, including the removal and disposal of all the resulting materials from the Tahoe Basin. Payment for "Clearing and Grubbing" will not be made until all work associated with "Clearing and Grubbing" has been 100% complete to the acceptance of the Engineer. No partial payments will be allowed.

SECTION 301 – REMOVAL OF EXISTING IMPROVEMENTS

301.01 Removal of Existing Materials. Work under this section shall consist of the removal and disposal of existing improvements and facilities, which interfere with construction or as required to properly construct the project, as shown on the Project Plans, described in the Standard Specifications, these Special Provisions, and as directed by the Engineer. Any materials removed, including excavated earthen material, in conformance with this section shall become the property of the Contractor and shall be removed and disposed of by the Contractor in accordance with all federal, state, and local ordinances and permit conditions. All materials scheduled or specified for removal shall be removed from the project area and disposed of outside of the Lake Tahoe basin in accordance with TRPA ordinances and NAC 444.8565.

Where any pipes, fittings, valves, drainage inlets, frames and covers, or other devices are removed from any manhole, structure, junction box, joint, valve, fitting, valve, etc. and the remaining facility is to be protected in place; all repairs, seals, plugs, caps, and other modifications as necessary to make the structure or device sound and complete shall be constructed by the Contractor as shown on the Project Plans, and in conformance with the Standard Specifications and these Special Provisions, or as directed by the Engineer. All repairs, plugs, caps and other modifications as noted above shall be considered as included in the prices paid for each associated bid item of work, not otherwise provided for, and no additional compensation shall be allowed for.

301.02 Remove Asphalt/Concrete Pavements. Work under this section shall include removal of asphalt concrete pavement and other concrete surface improvements as required to properly construct the project, as shown on the Project Plans, described in the Standard Specifications, these Special Technical Specifications, and/or as directed by the Engineer. This includes removal and disposal of any and all asphalt/concrete structural section associated with the removal of any existing facility or installation of all proposed improvements shown on the Project Plans.

Where no joint exists in the pavement on the line at which pavement is to be removed, a straight, neat cut with a power driven saw shall be made along the line to a minimum depth of 6-inches before removing pavement. If saw cut pavement is damaged prior to paving, it shall be the Contractor's responsibility to re-cut any damaged, broken, or uneven portion prior to paving at his own expense. Under no circumstance shall the Contractor be allowed to "jack-hammer" the existing pavement instead of cutting with a power driven saw.

Any materials removed in conformance with this provision shall become the property of the Contractor and shall be removed and disposed of by the Contractor in conformance with the Standard Specifications and these Special Technical Specifications.

Sawcutting of all roadways required for the proper construction of the Project in accordance with the Project Plans, these Special Technical Specifications, the Project permits and as directed by the engineer shall be included in costs of various other items of work and no additional compensation shall be allowed for.

301.03 Remove Storm Drainage Structures. Work under this section shall include the complete removal and disposal of storm drainage culvert and standpipe, pipes, inlets, outfalls, and any associated asphalt concrete pavement, the backfill and compaction, and restoration of the disturbed area as shown on the Project Plans, described in the Standard Specifications, these Special Technical Specifications, and/or as directed by the Engineer. Any areas where storm drainage structures are removed shall be backfilled, graded, and restored to match the surrounding area, unless otherwise noted on the plans, or directed by the Engineer. The resulting waste materials and debris shall become the property of the Contractor and disposed of by the Contractor in conformance with the Standard Specifications and these Special Technical Specifications. Under no circumstances shall any storm drainage pipe, culvert or other structure designated for removal be abandoned in place, unless otherwise noted on the plans and/or acceptance of the Engineer.

Existing Culvert for Glenbrook Creek at Old Highway 50

The designated portions of the outer ends of the existing pipe culvert (Old Hwy 50) shall be cut by mechanical means to provide a clean, neat, and even finish and removed where indicated on the Project Plans, applicable details, and as directed by the Engineer. Following removal of the designated end

sections and the remnant culvert section shall be abandoned in place by completely filling with concrete slurry backfill.

The remnant pipe culvert sections shall be free of any standing water (by trash pumps or other means) prior to placement of the slurry backfill. The slurry backfill shall be Type A (excavatable) in conformance with Section 337.08, "Slurry Backfill" of the Standard Specifications. **The Contractor shall submit a slurry backfill mix design to the Engineer for review and acceptance at least ten (10) working days prior to placement in the work.**

The Engineer will only accept the work where the designated portion of the existing pipe culvert has been properly abandoned in place; the Contractor is required to completely fill the remnant culvert sections with slurry backfill and make all necessary provisions to prevent any air pockets or other void spaces. For placement of the slurry backfill it shall be the sole responsibility of the Contractor, including any required engineering design, to furnish all materials and equipment as necessary to fully close off or plug the ends of the existing pipe culvert in order to abandon the remnant portion of the existing pipe culverts in place.

Under no circumstance shall any portion of the existing pipe culvert including inlet and outlet structures and associated creek channel areas, be disturbed or removed from service until Glenbrook Creek is properly diverted and authorization is granted by the Engineer. The Contractor shall notify the Engineer in advance of the intended pipe culvert removal/abandonment (10 working day minimum notification required).

301.04 Backfill and Compaction. All disturbed areas where pipe, structures, surface pavements, and other miscellaneous improvements are removed, shall be restored in like kind to match the pre-existing lines and grades and surrounding adjacent area, unless otherwise noted on the Plans, or as directed by the Engineer. The Contractor is required to backfill and compact excavated trenches to sub-grade using accepted native material and/or local borrow or imported borrow as determined by the Engineer if import is required; replace the structural section, pavement, and other surface improvements as applicable; and/or replace the topsoil and pre-existing landscape features or revegetate the disturbed area. **Any native, local borrow, or imported borrow soils used for backfill shall be accepted by the Engineer prior to placement.**

Trenches, holes, depressions and pits caused by the removal of existing improvements shall be backfilled with materials equal to or better in quality and to the same thicknesses as the surrounding materials, and in conformance with Section 304, "Unclassified Fill", of the Standard Specifications. **No broken concrete, asphalt concrete, or other debris shall be left in excavated trenches or be included as part of the backfill.** All backfill materials at a minimum shall not exceed optimum moisture content, and be free of stones or lumps exceeding 3 inches in greatest dimension, organic matter, or other unsatisfactory material that may restrict compaction requirements. In surfaced areas (i.e. pavement, concrete) that are otherwise to remain undisturbed, the structural section shall be replaced with materials equal to or better in quality and to the same thicknesses as the surrounding materials.

Fill to be placed beneath structures, junction boxes, asphalt pavements, concrete slabs, buildings, and all other components subject to structural loading shall conform to the requirements of Section 200.01.09 "Structural Fill", of the Standard Specifications. If a new structure is specified to replace the old structure, unsuitable materials shall be removed as directed by the Engineer. Unless otherwise specified remaining material and fill material shall be compacted to ninety-five percent (95%) relative dry density,

within the roadway and shoulder prism, and ninety percent (90%) in ditch and slope areas, and brought up to the bottom grade of aggregate structural section of the new structure, unless otherwise specified on the Project Plans (compaction requirements on the Project Plans shall govern).

Restoration of an area and/or replacement of all pavements and other surface improvements in conformance with this section shall be considered as included in the prices paid for each associated bid item removed, except components of the work for which payment is made under separate contract items, and no additional compensation shall be allowed for.

301.05 Basis of Payment. Full compensation for saw cutting, removal, and disposal of existing asphalt/concrete and associated backfills in conformance with this section and other sections of the Standard Specifications, and these Special Technical Specifications is included in the prices paid for various Contract items of work involved, and no additional compensation will be allowed.

“Remove and abandon existing culvert” shall be measured on a lump sum basis, completed and accepted by the Engineer as conforming to all the requirements in the complete work. The lump sum price shall include furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in the removal and disposal of the existing storm drain pipe culvert structure and the abandonment by filling with concrete slurry as shown on the project Plans and as specified in the Standard Specifications, these Special Technical Specifications, and as directed by the Engineer, and no additional compensation shall be allowed for. This work also includes the removal and disposal of all the resulting materials from the Tahoe Basin; and any backfill and compaction, for a complete restoration of the area as shown on the Plans, described elsewhere in these Special Technical Specifications, and/or as directed by the Engineer.

SECTION 302 – UTILITY RELOCATION – ELECTRICAL, PHONE, and CABLE

302.01 Description. Any and all underground electrical, cable and phone line relocations, as required to facilitate construction of the proposed project improvements, shall be coordinated with NV Energy, Frontier Communications at least two (2) weeks prior to commencement of work in that area. Any costs incurred due to relocation, shutoff, or any other costs due to the construction of the project shall be the responsibility of the Contractor, not otherwise provided for in a specified bid item of work.

Any saw-cutting and removal of existing pavements shall be in conformance with Section 301 “Removal of Existing Improvements” of these Special Technical Specifications.

302.02 Measurement and Payment

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals for all work associated with performing all the work involved in provisions of this section, complete in place as shown on the Project Plans, as specified in the Contract Documents, Project Permits(s), Standard Specifications, these Special Technical Provisions, and as directed by the Engineer, shall be considered as included in prices paid for the various contract items of work involved; and no additional compensation will be allowed for.

SECTION 303 – UTILITY RELOCATION – POTABLE WATER

303.01 Description:

Any and all potable water line relocations, as required to facilitate construction of the proposed project improvements, shall be coordinated with The Glenbrook Water Company at least two (2) weeks prior to

commencement of work in that area. The Contractor will perform all work as described herein in coordination with The Glenbrook Water Company and in conformance with the Project Plans, all permits, and these Special Technical Specifications.

Any saw-cutting and removal of existing pavements shall be in conformance with Section 301 "Removal of Existing Improvements" of these Special Technical Specifications.

The Contractor shall be responsible for the final design, installation, construction, operation, maintenance and removal and relocation of the potable water main as required for completion of the contract work. The applicable Project Plan sheets provide a basis for, show, and describe a preliminary potable water main relocation plan and minimum requirements. **The Contractor shall submit their own detailed Temporary Potable Water Main Bypass or Relocation Plan (including all necessary diagrams/exhibits) to the Engineer for review and acceptance prior to commencement of any construction activities that may require bypass or relocation of an existing water main.** Should the Contractor's operations be delayed, for whatever reason, as a result of the relocation of potable water lines, no additional contract time, or compensation will be allowed for.

Work under this item shall include repair and/or replacement of any applicable components of the potable water system that are removed, relocated, or damaged as part of this work. The subject potable water system shall be returned to its pre-construction condition, for a sound, complete and fully operational water main and potable water system in conformance with all the requirements of The Glenbrook Water Company. Any components of the existing water system that is removed from service may not be reused without prior acceptance from the Engineer and The Glenbrook Water Company.

Based on potholing performed at the proposed culvert location in June 2012, the existing eight-inch (8") water main is a major transmission line and shall not be shut down for any extended periods of time (not to exceed eight (8) continuous hours in any given period of time).

In addition, no existing isolation valves are located within the vicinity of the project on either side of the projected excavation (for the proposed arch culvert structure). In order to minimize impacts on existing service laterals (i.e. water service to residences and businesses) two additional gate valves shall be installed to the north and south sides of the excavation area as shown on the Project Plans and directed by the Engineer. The following time constraints, requirements, and notifications shall be adhered to during all applicable portions of the work:

- Contractor to schedule the shut down with The Glenbrook Water Company a minimum of one week in advance
- Contractor to provide the Engineer with a 72 hour notice of any shut down
- Shall include notification to Tahoe Douglas Fire Protection District for any impacts to fire hydrants or other fire protection apparatus.
- Contractor to post all affected residences and businesses with door hangers supplied by NTCD – posted 48 hours prior to shut down
- Maximum of 4 hours (shut down time) allowed for the installation of the proposed gate valve – where it has effect on service laterals
- Maximum of 8 hours (shut down time) allowed for the temporary water main bypass relocation – shall be completed in conjunction with the installation of the gate valves in order to limit impacts to water services and reduce shut downs to one working day.
- All conformance testing and disinfection requirements are applicable to both the temporary water main bypass work and permanent water main replacement work.

Following completion of the arch culvert structure, any associated utility relocations, and any inspections, the resultant disturbed area within the roadway shall receive a temporary hot mix asphalt roadway patch as shown on the Plans, and as directed by the Engineer and Washoe County. This temporary roadway patch shall be in place prior to opening the full width of the roadway to public traffic.

All backfill within the roadway prism and roadway structural section, including aggregate base, shall be as depicted on the Project Plans and conform to these Special Technical Specifications and Standard Specifications. Attention is directed to Section 311 "Asphalt Concrete Paving" of these Special Technical Specifications.

303.02 Materials

All materials shall conform to the standard Specifications except as follows.

A. Pipe:

(1) Ductile iron pipe in accordance with AWWA C151 in the sizes and classes as shown on the plans. Minimum pressure class rating of 350 psi "Tyton" push-on joints or TR-Flex.

(a) All ductile iron pipe with push-on joints to be installed with "Field-Lok 350" gaskets.

(2) Lubricant shall be FDA approved for human consumption, non-toxic, ecologically safe, water soluble, etc., and shall be designed to be used for installation of potable water line systems.

(3) C900 will be restrained thirty feet (30') from fitting on pipe main, and bends with restraining couplers.

B. Fittings:

(1) Main fittings shall be ductile iron, Class 250, suitable for 250 psi service; fittings shall be coated with fusion-bonded epoxy coatings to the requirements of ANSI/AWWA C153/A21.53.

(a) Thrust blocks will be poured at fittings, bends and tees as required, line to be restrained within 30 feet from the bend, tee or fitting.

(b) All fittings will be wrapped in plastic prior to pouring concrete.

(2) Service line fittings shall be flared or mechanical compression type.

(3) Miscellaneous fittings, necessary for service connections, including reducers and adapters, shall be brass construction, Mueller Company, Ford Manufacturing Company, or equal.

(4) Flange fittings and blind flanges shall be drilled and faced to AWWA Standards. Dimensions of specials shall conform to those stated in the AWWA Standards. Prior to fabrication of specials, the CONTRACTOR shall furnish the ENGINEER shop drawings showing the details of such specials for acceptance.

(5) Flexible couplings and flange coupling adapters shall be as manufactured by Romac, Rockwell, or accepted equal. All mechanical couplings shall have the longest standard sleeve length.

(6) Reducers will be ductile iron. Romac (slip-on type) reducers will not be allowed.

(7) Tapping sleeve shall be stainless steel with flange face, and meet required Class rating of connecting pipe.

(8) All bolts shall be 316 stainless steel.

C. Valves:

(1) Gate valves larger than two inches (2") shall be modified wedge disc, resilient seat, NRS valves with O-ring seals, similar and equal to Mueller A-2360, and shall open when the stem is rotated counter-clockwise. Unless otherwise shown, valves shall have a two-inch (2") square operating nut. Valves shall conform to AWWA C-509. All valves shall be of the same manufacturer. All valves shall be restrained.

(a) Valve bodies shall be cast iron ASTM A-126, Class B.

(b) Joint materials for flanged joints shall consist of full-face one-piece gaskets conforming to AWWA C-207. Bolts and nuts shall conform to AWWA C-207.

(c) All shaft bearings shall be of the self-lubricating, corrosion resistant, sleeve type.

(d) All valves shall be hydrostatic and leak tested according to AWWA C-504.

(e) Operator components shall withstand an input torque of three hundred foot-pounds (300 ft/lbs.) at extreme operator positions without damage, per AWWA C-505.

(f) Valves two inches (2") and smaller shall be wedge disc, non-rising stem, screwed, all bronze, similar and equal to Crane No. 438.

(g) Valve boxes shall be provided for all gate valves placed underground, and shall be similar and equal to Christy G5, with an eight-inch (8") PVC (SDR 35) pipe extension sleeve. Cover shall be marked "WATER."

(h) Concrete pillow under valves for support.

(i) All bolts shall be 316 stainless steel.

(2) Corporation Stops:

(a) Corporation stops for copper service lines shall have "pipe" thread inlets and compression connection outlets, and shall be Mueller 110 or equivalent.

(b) Corporation stops shall be used on all services and connections two inches (2") and smaller. All services and connections larger than two inches (2") shall utilize gate valves as specified in this section.

D. Miscellaneous Appurtenances:

(1) Location wire shall be Number 10 solid, insulated, AWG copper, soft drawn with connectors wrapped in insulation tape, or copperhead steel core copper wire #10 with snake bite direct bury connectors.

(2) Warning tape shall be blue color, three inches (3") in width, 5 mil thickness, permanently printed "CAUTION: BURIED WATER LINE BELOW."

(3) Valve stem extensions shall be provided where necessary so that the operating nut for any valve is not more than thirty-six inches (36") below the valve box cover.

(4) Magnesium Anode to be five pound (5#) "High Potential" packaged in chemical backfill with ten feet (10') of number twelve (#12) leadwire. Connecting clamp to be CalPico GC or equivalent.

(5) Full circle repair clamp: Single-band stainless steel single lug ductile iron gasket, Grade 60; bolts are low alloy.

303.03 Execution. All materials shall be handled and stored in a manner that will not damage or depreciate the integrity and quality of the material or its coating. Before installation, each article shall be inspected and any damaged material shall be removed from the site. Any damaged coating shall be repaired. The interior and ends of the pipe and appurtenances shall be clean. When it is necessary to cut pipe, such cuts shall be neatly made. All valves and appurtenances shall be thoroughly cleaned before installation and shall be installed in strict accordance with the manufacturer's recommendations. Contractor shall submit As-Built plans to The Glenbrook Water Company upon completion of work.

Water Mains

- A. The depth of pipe shall be a minimum of 40 inches, unless indicated otherwise on the plans, from finished surface grade to top of pipe.
- B. The minimum separation between the water line and the proposed culvert at Old Highway 50 shall be 32 inches.
- C. All gate valves will be restrained and wrapped in plastic prior to pouring thrust blocks.

Valves and Appurtenances

- A. Valves shall be set plumb and inspected in opened and closed positions to ensure that all parts are in working condition.
- B. Flanged valves and appurtenances shall be set with no stresses on the flanges. Bolts shall be tightened uniformly around the joints.
- C. All underground valves shall be provided with valve boxes.
 - (1) Valve boxes shall be centered and set plumb over the operating nut of the valves so that they do not transmit shock or stress to the valves. Valve box covers shall be set three-eighths to five-eighths inch (3/8" to 5/8") below the surface of the finished pavement as shown on the plans, or as instructed by the Engineer. Riser pipe shall be cut to the proper length so that the valve box does not ride on the riser pipe when set at grade, and the top of the riser pipe is at least six inches (6") below the top of the box.
- D. All valves and fittings will be wrapped in plastic prior to pouring concrete.

Testing

- A. Scope:
 - (1) The CONTRACTOR shall provide all labor, tools, and equipment necessary to perform the required pipeline tests.
 - (2) The hydrostatic test shall be completed prior to the chlorination test and then a final flushing of the line shall be done.
- B. Hydrostatic Tests:
 - (1) All appurtenances of the entire main line, including service saddles and corporation stops, shall be installed prior to testing. The pipeline shall be tested at a pressure equal to the class of pipe or 50 psi over working pressure, whichever is greater. The tests shall be made in the presence of the ENGINEER or his representative.
 - (2) Before the test, the pipeline shall be completely anchored and backfilled. During the filling of the line with water, precautions shall be taken to prevent air pockets at high points. Water may be allowed to stand in the line for several hours prior to the test. During the test, which shall be conducted for at least sixty (60) minutes, the allowable leakage shall be as computed by the following formula:

$$L = \frac{SD P^{1/2}}{148,000}$$

- L = allowable leakage in gallons per hour
- S = length of pipe being tested
- D = nominal diameter of the pipe in inches
- P = test pressure in pounds per square inch gage

If any valved section of pipe shows greater leakage than specified, the CONTRACTOR shall locate and repair the leaks and shall retest that section of line at no additional cost to the OWNER.

- C. Disinfection of Completed Mains:

(1) Before being placed in service, the entire main line shall be chlorinated by the CONTRACTOR. Chlorine shall be applied by the following methods: Liquid chlorine or calcium hypochlorite water mixture, unless the District Engineer approves another method. The chlorinating agent shall be applied at the beginning of each section adjacent to the feeder connection and shall be injected through a corporation stop, hydrant, or other connection ensuring treatment of the entire line. One test point shall be installed per 300 feet of line being tested with no less than two (2) test points for sections of less than 300 feet. Water shall be fed slowly into the line with chlorine applied in amounts to produce a dosage of 50 parts per million. Portions of the existing mains, which have been connected to a new line or otherwise contaminated by construction, shall be included in the system being sterilized. The solution shall remain in the line for a minimum of 24 hours. A residual of not less than 10 parts per million shall be produced in all parts of the line after the 24-hour period. During the chlorination process, all valves shall be operated. Tablets will NOT be installed in pipe sections during installation.

(2) OWNER will supply injection unit and chlorine.

D. Final Flushing:

(1) After chlorination, the CONTRACTOR shall flush all the water from the lines at the extremities until the replacement water tests are equal, chemically, in turbidity and bacteriologically to those of the permanent water supply. The treated water shall be discharged into a sanitary sewer manhole.

303.04 Measurement and Payment

“UTILITY RELOCATION – POTABLE WATER” shall be measured on a lump sum basis, completed and accepted by the Engineer as conforming to all the requirements in the complete work. The contract unit price paid shall include full compensation for furnishing all labor, materials (i.e. pipe, couplings, fittings, valves, concrete, slurry, aggregate base, backfill, etc.), tools, equipment, and incidentals, and for performing all the work involved in providing for and/or constructing a temporary potable water main bypass or relocation and replacement of existing water main pipes, complete in place, including any excavation, diversion and re-routing of the water main lines during construction, bedding, structural backfill, temporary roadway patch, off-haul and disposal of excess materials and waste debris, and performance of conformance testing as shown on the Project Plans, as specified in the Standard Specifications, these Special Technical Specifications, and as directed by the Engineer and utility purveyor: and no additional compensation will be allowed.

SECTION 304 – EXCAVATION

304.01 General. Work covered under this specification consists of furnishing all of the labor, materials, and equipment necessary for all excavation and finish grading. All excavation shall be made true to the lines and grades as shown on the project plans and staked by the Contractor and verified by the Engineer, and shall be so constructed as to avoid removing or loosening any material outside the required construction limits. Limits of excavation shall be defined as the extents necessary to construct the improvements as shown on the plans plus additionally required excavation due to unsuitable material.

304.02 Measurement and Payment. Measurement and payment for excavation shall be made on the cubic yard basis as delineated in the Bid Schedule and shall be considered complete payment for furnishing all labor, materials, equipment, tools and incidentals necessary to construct excavation improvements complete and in place as specified and as denoted in the project plans. No additional compensation shall be paid for bid items which include the excavation in the lump sum price. No

separate payment will be made for surveys or construction staking. All costs in connection with this work will be considered incidental to the contract price per cubic yard for Excavation.

SECTION 305 – ENGINEERED FILL

305.01 General. Work under this item shall consist of furnishing all labor, tools, equipment, and materials necessary for to complete engineered fill construction as shown on the Plans and in accordance with the Standard Specifications, and these Special Technical

305.02 Engineered Fill Materials. To the extent they are needed, all suitable materials from the specified excavations shall be used in the construction of required permanent earthfill. The suitability of materials for specific purposes will be determined by an Engineer, in conformance with these specifications. Materials used for fill shall consist of predominantly granular soil conforming to the quality and gradation requirements as follows: The soil shall be relatively free of organic material and contain no rock or clods greater than 4 inches in diameter, with no more than 15 percent larger than 2 ½ inches. The material shall have a plasticity index of less than 15, a liquid limit less than 35, and not more than 15 percent passing the #200 sieve.

305.03 Measurement and Payment. Measurement and payment for engineered fill shall be made on the cubic yard basis as delineated in the Bid Schedule and shall be considered complete payment for furnishing all labor, materials, equipment, tools and incidentals necessary to construct excavation improvements complete and in place as specified and as denoted in the project plans. No additional compensation shall be paid for bid items which include the e in the lump sum price.

SECTION 306 – TRENCH EXCAVATION AND BACKFILL

306.01 General. This work shall include excavating, trenching and backfilling for trenches, structures and underground infiltration facilities.

The Contractor shall follow OSHA safety regulations (29 CFR, Part 1926, Subpart P, Excavations) for sloping the sides of excavations, using shoring and bracing, and for using other safety features. When sides of excavations are sloped for safety considerations the Contractor shall provide, for informational purposes, one copy of the design that demonstrates conformity with OSHA regulations to the Engineer. Where support systems, shield systems, or other protective systems are to be used the Contractor shall submit design calculations along with detailed drawings that demonstrate conformity with OSHA regulations to the Engineer. Such drawings shall be stamped with a seal and signed by an Engineer who is registered as a Civil Engineer in the State of Nevada.

306.02 Bedding. Pipe bedding for storm drains and sanitary sewers shall be Class C backfill conforming to Section 200.03.04 of the Standard Specifications. Pipe bedding for water lines shall be Class A backfill conforming to Section 200.03.02 of the Standard Specifications. Pipe bedding for perforated pipe (French drain) shall be ¾" drain rock.

306.03 Payment. There shall be no direct payment for excavation or backfill for trenches and structures. Payment for excavation and backfill for trenches and structures shall be deemed included in the bid prices for other items of work. No additional compensation shall be paid for structural excavation or backfill.

SECTION 307 – STORM DRAIN AND CULVERT CONSTRUCTION

307.01 General. This work shall include, but not be limited to the construction of new storm drains, culverts, and sanitary sewer mains, and relocation of existing sanitary sewer laterals and waterlines, including connections to existing structures, storm drains, culverts and sanitary sewers.

At those locations indicated on the plans where new pipes or culverts are connected to existing pipes or culverts, the Contractor shall clean each existing pipe or culvert to the satisfaction of the Engineer prior to installing the pipe or culvert. The Contractor shall dispose of material removed from pipes or culverts outside of the Tahoe Basin as specified in Section 301 of these Special Provisions. No additional compensation will be provided for making connections to new and existing drainage and/or sanitary sewer improvements.

The water line is owned by Glenbrook Water Company (GWC) and all water line construction including relocation of the water line, shall conform to their standards.

307.02 Multi Plate Arch Culvert. The galvanized steel structural plate structure shall be a single radius arch as per the project plans and consist of plate and appurtenant items as shown on the plans and of 0.125' thick galvanized steel plate as manufactured by Contech or equivalent. The structure shall conform to the requirements of A.A.S.H.T.O. M 167/ASTM A 761. All manufacturing processes, including corrugating, punching, curving and galvanizing, shall be performed within the United States using raw materials made in the United States. Assembly bolts and nuts shall be galvanized and meet the provisions of ASTM A 449, Type 1 and ASTM A-563, Grade C, respectively.

Assembly

The structure shall be assembled in accordance with the shop drawings provided by the manufacturer and per the manufacturer's recommendations. Bolts shall be tightened using an applied torque of between 100 and 300 ft.-lbs.

Installation

The structure shall be installed in accordance with the plans and specifications, the manufacturer's recommendations, and the A.A.S.H.T.O. Standard Specifications for Highway Bridges, Section 26 (Division II).

Bedding

Proper bedding preparation is critical to both structure performance and service life. The bed should be constructed to avoid distortions that may create undesirable stresses in the structure and/or rapid deterioration of the roadway. The bed should be free of rock formations, protruding stones, and frozen matter that may cause unequal settlement.

It is recommended that the bedding be stable, *well graded* granular material. Placing the structure on the bedding

surface is generally accomplished by one of the two following methods:

- Shaping the bedding surface to conform to the lower section of the structure
- Carefully tamping a granular or select material beneath the haunches to achieve a well-compacted condition

Using one of these two methods ensures satisfactory compaction beneath the haunches.

Structural Backfill

The structure shall be backfilled using clean, well graded granular material that meets the requirements of A.A.S.H.T.O. M 145 for soil classification A-1, A-2 or A-3. Backfill must be placed symmetrically on each side of the structure in 6 to 8-inch lifts. Each lift shall be compacted to a minimum of 90 percent density per A.A.S.H.T.O. T 99.

Satisfactory backfill material, proper placement and compaction are key factors in obtaining maximum strength and stability. The backfill material should be free of rocks, frozen lumps, and foreign material that can cause hard spots or decompose to create voids. Backfill material should be *well graded* granular material that meets the requirements of A.A.S.H.T.O. M 145 for soil classifications A-1, A-2, or A-3. Backfill must be placed symmetrically on each side of the structure in six-inch loose lifts. Each lift is to be compacted to a minimum of 90 percent density per A.A.S.H.T.O. T 99. A high percentage of silt or fine sand in the native soils suggests the need for a *well graded* granular backfill material to prevent soil migration. During backfill, only small tracked vehicles (D-4 or smaller) should be near the structure as fill progresses above the crown and to the finished grade. The Engineer and Contractor are cautioned that the minimum cover may need to be increased to handle temporary construction vehicle loads (larger than D-4). For more information, refer to ASTM A 807 and A.A.S.H.T.O. Standard Specifications for Highway Bridges Div. II – Construction Section 26.

Bolting

If the plates are well aligned, the torque applied with a power wrench need not be excessive. Bolts should be torque initially to a minimum 100 foot pounds and a maximum 300 foot pounds. A good plate fit is far better than high torque. Complete detailed assembly instructions and drawings are provided with each structure.

307.03 Perforated High Density Polyethylene Pipe (HDPE) 8 Inch. High Density Polyethylene Pipe (HDPE) specified for the French drain use shall be perforated on all sides with a smooth interior. HDPE at a minimum shall meet the requirements of section 203.16 inclusive. The end of the pipe shall be capped with HDPE cap.

307.04 Riprap Outlet Protection. Riprap shown on the construction drawings required at storm drain outlets shall conform to Section 200.07 of these Special Provisions.

307.05 Measurement and Payment. The costs for furnishing all labor, equipment, tools, and materials for hauling, bedding, and placing the French drain, including all incidentals is considered part of the other items of work and no additional compensation will be allowed therefore.

Multi-Plate Arch Culvert will be paid for at the lump sum contract price, which price will be considered payment in full for furnishing all labor, materials, including structural backfill, tools, equipment, and incidentals necessary for the complete installation of the Arch Culvert, including but not limited to delivery (from coordinated drop-off point) and installation, as specified, as shown on the Drawings, or as directed by the Engineer.

SECTION 308 – CULVERT FOOTINGS

308.01 General. This work shall include, but not be limited to the design and installation of concrete footings for the proposed single radius multi plate arch culvert.

308.02 Concrete Footings. A qualified Engineer should be engaged to design the footings, to create a proper foundation and adequate bedding. The footing size and bedding material shall be based on soil-

bearing capacity and loading conditions available in the Geotechnical Report (Appendix A). Footings may be precast or cast in place. Footings must be installed to the depth shown on the design plans.

308.03 Measurement and Payment. The culvert footings will be paid for at the lump sum contract price, which price will be considered payment in full for furnishing all labor, materials, including structural backfill, tools, equipment, and incidentals necessary for the complete installation of two concrete culvert footings necessary to properly support the multi-plate arch culvert, including but not limited to delivery (from coordinated drop-off point) and installation, as specified, as shown on the Drawings, or as directed by the Engineer.

SECTION 309 – CONCRETE COLLAR AND DECORATIVE ROCK

309.01 General. This work shall include, but not be limited to the installation of a concrete slope collar at each end of the proposed arch culvert.

309.02 Concrete Collar. The concrete collar shall be installed per the culvert manufacturer's recommendations and include continuous #4 reinforcing bar for the length of the collar, proper anchoring using $\frac{3}{4}$ " x 6" anchor bolts approximately 18" on center, and shall extend to the culvert footings.

309.03 Decorative Rock. Decorative rock shall be formed into each façade of the concrete collar. Rock shall be of natural earthen colors typical of the Lake Tahoe area with smooth edges. A colored form or river rock stone veneer may be used if approved by Engineer.

309.04 Measurement and Payment. The concrete collar with decorative rock will be paid for at the each contract price, which price will be considered payment in full for furnishing all labor, materials, including placement, forms, tools, equipment, and incidentals necessary for the complete installation of the concrete collar with decorative rock including but not limited to delivery (from coordinated drop-off point) and installation, as specified, as shown on the Drawings, or as directed by the Engineer.

SECTION 310 – AGGREGATE BASE COURSES

310.01 Measurement and Payment. The costs for furnishing all labor, equipment, tools, and materials for hauling, placing, spreading, watering, treating, mixing, maintaining of the base materials including all incidentals is considered part of the other items of work and no additional compensation will be allowed therefore.

SECTION 311 – ASPHALT CONCRETE PAVING

311.01 Description. Work under this item shall consist of furnishing all labor, tools, equipment, and materials necessary for the complete construction of an asphalt concrete structural pavement section including excavation, subgrade preparation, and aggregate base course, as shown on the Project Plans and in accordance with the Contract Documents, Standard Specifications, Special Technical Provisions, Project Permits, or as directed by the Engineer.

311.02 Roadway Excavation and Grading. All earthworks (i.e. excavation, sub-grade preparation, backfill, local borrow, grading, etc.) as shown on the Project Plans and described in the Special Technical Provisions, shall be considered as included in the roadway reconstruction work, and completed by the Contractor, for all areas within the grading limits as depicted on the Plans, which generally includes the areas within the limits of paving, road shoulders, and road prism embankment. Other areas that may be considered part of the road prism embankment but are outside of the defined grading limits for the roadway reconstruction work, are to be considered as part of the floodplain grading defined elsewhere in these Special Technical Provisions.

The Contractors attention is directed to the applicable sections of these Special Technical Provisions and the Standard Specifications for additional information in regards to provisions for excavation, subgrade preparation, grading, backfill, and compaction operations.

311.03 Aggregate Base Course

The aggregate base course for roadway construction shall conform to the provisions of the applicable sections of the Standard Specifications and these Special Technical Provisions. Aggregate base courses shall be placed to the lines, dimensions, and grades shown on the Plans or as directed by the Engineer. The exact limits of the aggregate base course will be determined in the field by the Engineer. Aggregate base shall be produced from commercial quality aggregates and be Type 2, Class B conforming to Tables 200.01.03-I and 200.01.03-II, of the Standard Specifications. Existing asphalt concrete (AC) pavement may be crushed or pulverized and mixed with virgin aggregate or used solely as aggregate base, provided the resulting processed material complies with the requirements of the Standard Specifications (Section 200.01.03 for Type 1, Class A or Type 2, Class B Crushed Aggregate Base) or where accepted and as directed by the Engineer comply with the requirements of the Standard Specifications for recycled asphalt concrete base (Section 200.01.04 for Type 1 or Type 2 Recycled Aggregate Base). The Contractor is responsible to perform and furnish all material testing as necessary to ensure compliance with the provisions in the Standard Specifications and these Special Technical Provisions. No existing AC is to be recycled and used on the Project on-site.

The construction including placement, spreading, and compaction of one or more courses of aggregate base on a prepared sub-grade shall be in accordance with Section 308, "Aggregate Base Courses" of the Standard Specifications.

311.04 Asphalt Concrete. Asphalt concrete shall be Type 3 (4% Marshal Voids) and shall conform to the provisions of the applicable sections of the Standard Specifications and these Special Technical Provisions. Asphalt concrete shall be placed to the lines, dimensions, and grades shown on the Plans or as directed by the Engineer. The exact limits of asphalt concrete paving will be determined in the field by the Engineer.

Asphalt concrete shall be produced from commercial quality asphalt and aggregates at a central mixing plant and conform to the following requirements:

- A. Asphalt binder (cement) shall be performance graded PG 64-22NV conforming to Table 201.02-III, of the Standard Specifications.
- B. Aggregate shall be Type 3 conforming to Tables 200.02.03-I and 200.02.03-II, of the Standard Specifications.
- C. A mix design shall be completed and submitted by the Contractor prior to incorporation in the work, in accordance with Section 337, "Composition of Mixtures" and Section 337.04, "Bituminous Plantmix" of the Standard Specifications.

The construction including placement, spreading, and compaction of one or more courses of asphalt concrete pavement on a prepared base or road surface shall be in accordance with Section 320, "Plantmix Bituminous Pavement" of the Standard Specifications.

The Contractor shall make all provisions to saw cut the edges of existing asphalt to expose the full depth of the section and form a clean edge at any transverse joint, for the freshly laid mixture. As directed by the Engineer in the field, a twelve inch (12") "T" cap key-in joint shall be created at all transverse joints with existing asphalt structural sections.

311.05 Tack Coat. A tack coat of liquid asphalt shall be applied in accordance with the provisions in Section 316, "Tack Coat" of the Standard Specifications, to all contact surfaces of existing pavement, curbing, manholes, and other surfaces as designated by the Engineer prior to any asphalt concrete pavement being placed against them.

311.06 Slurry Seal. Slurry Seal shall be Type III (micro-surfacing) and shall be applied to the finish surface of all asphalt concrete installed by the Contractor in accordance with the provisions in Section 318, "Slurry Seal" of the Standard Specifications. Slurry Seal shall conform to the following requirements:

- A. Emulsified asphalt shall be conform to Section 510.06 of these Special Technical Provisions.
- B. Aggregate shall be Type III conforming to Tables 200.02.06-I and 200.02.06-II, of the Standard Specifications.
- C. A mix design shall be completed and submitted by the Contractor prior to incorporation in the work, in accordance with Section 337, "Composition of Mixtures" and Section 337.07, "Slurry Seal and Micro-surfacing" of the Standard Specifications.

311.06 Measurement and Payment. "ASPHALT CONCRETE ROADWAY RECONSTRUCTION" shall be measured on a per square foot basis measured along the boundary of finished surface of the asphalt concrete pavement section constructed and compacted in place, and accepted by the Engineer as conforming to all the requirements in the complete work. Full compensation for all labor, material, and equipment necessary to perform excavation, backfill, grading, sub-grade preparation, and compaction within the designated limits of grading shall be considered as included in the Contract price paid for various items requiring aggregate base, and no additional compensation will be allowed. Full compensation for all labor, material, and equipment necessary to furnish and apply aggregate base courses shall be considered as included in the Contract price paid for various items requiring aggregate base, and no additional compensation will be allowed. Full compensation for all labor, material, and equipment necessary to furnish and apply tack coat shall be considered as included in the Contract price paid for various items requiring tack coat, and no additional compensation will be allowed. Full compensation for all labor, material, and equipment necessary to furnish and apply slurry seal shall be considered as included in the Contract price paid for various items requiring slurry seal, and no additional compensation will be allowed.

SECTION 312 – ROADSIDE BARRIERS

312.01 Description. Work under this item shall consist of furnishing all labor, tools, equipment, and materials necessary for the installation and construction of the new roadside barriers including any excavation, sub-grade preparation, backfill, and compaction, as shown on the Project Plans and details

in accordance with the Contract Documents, Standard Specifications, Standard Plans, Special Technical Provisions, Project Permits, or as directed by the Engineer.

All certificates, installation recommendations, and shop drawings for the guardrail, terminals, posts, foundation details, plates, connectors, fittings, hardware, and other appurtenances for a complete job in place shall be submitted to the Engineer, a minimum of ten (10) working days prior to placement in the work, for review and acceptance.

Reference shall be made to the applicable sections of the State of Nevada Department of Transportation (NDOT), Standard Specifications for Road and Bridge Construction (2001 or current version) and the NDOT Standard Plans for Road and Bridge Construction (2010 or current version).

312.02 Guardrail, Connections, and Terminals

Materials for guardrail shall conform to the provisions of Section 720, "Guardrail Materials" of the NDOT Standard Specifications for Road and Bridge Construction. Construction shall be performed in accordance with Section 618, "Guardrail" of the NDOT Standard Specifications for Road and Bridge Construction.

Construction of guardrail terminals shall be in conformance with the applicable NDOT Standard Specifications for Road and Bridge Construction and the Manufacturer's details and requirements. Applicable components of the guardrail system including guardrail terminals shall only be accepted as furnished by manufacturers listed in the NDOT Qualified Product List (QPL)

[http://www.nevadadot.com/About_NDOT/NDOT_Divisions/Planning/Research/Qualified_Product_List\(QPL\).aspx](http://www.nevadadot.com/About_NDOT/NDOT_Divisions/Planning/Research/Qualified_Product_List(QPL).aspx)

All galvanized guardrail assembly shall be colored with the specified "Natina Steel" product (or equal). Attention is directed to Section 313, "Galvanized Steel Coloring" of these Special Technical Provisions.

312.03 Measurement and Payment

"GUARDRAIL" shall be measured on a per linear foot basis measured along the centerline of the newly installed guardrail system complete in place, and accepted by the Engineer as conforming to all the requirements in the complete work. All guardrail terminals and end treatments shall be measured on a per linear foot basis and included with the total guardrail footage for payment.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in installing guardrail and guardrail terminal(s) including but not limited to all fittings, hardware, posts, and other appurtenances for a complete guardrail system in place, as shown on the Project Plans and Standard Plans, as specified in the Standard Specifications, these Special Technical Specifications, and as directed by the Engineer shall be at the contract unit price per each linear foot of guardrail installed and accepted by the Engineer under the bid item for "GUARDRAIL" and no additional compensation will be allowed. Full compensation for conforming to the provisions of this Section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved, and no additional compensation will be allowed.

SECTION 313 – GALVANIZED STEEL COLORING

313.01 General. Work under this item shall consist of furnishing all labor, materials, tools, equipment, and incidentals as necessary for cleaning and staining exposed galvanized steel components listed below

or as identified on the Project Plans and details to achieve a brown natural color finish (level of darkness to blend with surrounding features and/or as directed by the Engineer) in accordance with the Contract Documents, Standard Specifications, Special Technical Provisions, Project Permits, or as directed by the Engineer.

The following galvanized steel components (exposed portions above grade) shall be colored with a "Natina Steel" product (or equal).

- All guardrails, guardrail barrier rail connections, guardrail terminals, fittings, hardware, and other galvanized steel appurtenances of the finished guardrail assembly.

313.02 Description. The Engineer will verify all locations of galvanized steel surfaces that are to be cleaned and stained prior to initiation of the work.

Materials

The stain must consist of a clear soluble solution of soft buffered organic acids that accelerates the oxidization process without compromising the protective qualities of the galvanized surfacing. No pigment based colorants should be added to achieve the desired color. The stain must react with the galvanized surface over a period of 5-10 days to produce a dark brown color with a matte finish. The stain must be resistant to fading in the sun.

Preparation

Galvanized surfacing to be stained must be free of oils, dirt, and other contaminants. Cleaning of galvanized surface must be performed by one of the following methods:

- a) Steam cleaning conforming to Section 324.03.03.c of the Standard Specifications.
- b) Scrubbing with a brush and biodegradable detergent and thoroughly rinsing with clean water.
- c) Pressure washing with biodegradable detergent and thoroughly rinsing with clean water.
- d) Solvent cleaning conforming to the requirements in Surface Preparation Specification No. 1, "Solvent Cleaning," of the "SSPC - The Society for Protective Coatings."

All surfaces must be dried thoroughly before application of stain.

Application

After the designated areas to be stained have been prepared and the test section accepted, apply stain to all visible galvanized surfaces. Apply stain according to the Manufacturer's instructions to achieve a color consistent with the accepted test section. Spray application must be contained to prevent overspray onto adjacent surfaces and wood posts. Spray application should not be performed under windy conditions. Stain must be applied uniformly. Any irregularities must be corrected according to the stain manufacturer's recommendations. Stained surfaces must be kept dry for a period of ten (10) days following the application of stain.

Test Section

The Contractor shall apply stain to a minimum 2 foot test section of galvanized steel identified by the Engineer. The Engineer shall be notified not less than seven (7) days before staining the test section. Prepare and stain the test section with the same materials, tools, equipment and methods to be used in staining final surfaces. The applied stain must be allowed to cure for a minimum of five (5) days before the Engineer's inspection. In the event more than one test section is required by the Engineer, each

additional test section will be paid for as change order work. Use the accepted test section as the standard of comparison in determining acceptability of staining.

Submittals

The Contractor shall submit the following items to the Engineer a minimum of seven (7) days prior to application of staining (see test section requirements above):

1. A copy of the stain manufacturer's product Material Safety Data Sheet, written stain application instructions, and the location and date of staining test section.
2. Certificate of Compliance for the stain product
3. Proposed methods to control overspray, spillage and protection of adjacent surfaces for staining work occurring at the job site, to the Engineer for acceptance not less than seven (7) days prior to applying stain. No staining work will be allowed prior to such acceptance.

Pre-Accepted Products

The following product(s) are accepted for use in conformance with this section. Any substitute product must be submitted at least one (1) week prior to the bid date.

Product: Natina Steel
Natina Products, LLC
1577 First Street, Coachella, CA 92236
Phone 877-762-8462

313.03 Measurement and Payment. Full compensation for furnishing all labor, materials, tools, equipment, and incidentals for all work associated with performing all the work involved in provisions of this section, complete in place as shown on the Project Plans, as specified in the Contract Documents, Project Permits(s), Standard Specifications, these Special Technical Provisions, and as directed by the Engineer, shall be considered as included in prices paid for the various contract items of work involved; and no additional compensation will be allowed for.

SECTION 340 – PROPOSED CREEK CHANNEL and PROPOSED CREEK CHANNEL WITH LOG TOE

340.01 General. Work under this item shall consist of furnishing all labor, tools, equipment, and materials necessary to construct the proposed creek channel, complete in place, including excavation and backfilling, stream substrate, engineered streambed material, and fabric wrapped soil lifts, in accordance with the Project Plans, Contract Documents, Standard Specifications, these Special Provisions, Project Permit(s), and as directed by the Engineer.

340.01.02 Submittals. Contractor shall submit a certificate stating both sources of stone and certifying materials for all types of stone shall meet the requirements of this section. Include test results for specific gravity, abrasion and freeze-thaw. A sample of the proposed rock shall be submitted to the Engineer five (5) working days prior to constructing any of the proposed improvements specified in this section. Rock color shall be approved by the Engineer.

340.02.01 Materials.

- A. Erosion control fabrics (woven and non-woven) shall comply with the notes and details on the drawings.
- B. Stream Substrate and Engineered Streambed Material shall be as shown on the plans and conform to Section 200 of these Special Technical Provisions.

340.02.02 Stone Requirements and Standards. Stone for creek channel shall be rounded river rock conforming to the requirements set forth in section 200 of these Special Technical Provisions.

340.02.03 Shape. Stone shall be of such shape as to look natural when placed as shown on the plans. Angular boulders or cobbles will not be acceptable. Rounded shapes may only be used for channel construction. Logs shall be harvested on site and at least 10' in length and in good health as identified by Engineer or Geomorphologist.

340.03 Site Preparation and Placement of Erosion Control Fabrics. The surface where the erosion control fabric is to be placed shall be cleared of all obstacles. The surface shall be smooth and any depressions shall not exceed six (6) inches.

Storing and handling of the erosion control fabrics shall be in accordance with manufacturer's recommendations. However, in no case shall the erosion control fabrics be exposed to direct sunlight, ultraviolet rays, temperatures greater than 140°F, mud, dirt and debris to the extent that its strength or toughness requirements are diminished. Torn or punctured erosion control fabrics shall not be used.

The erosion control fabric shall not be dragged across the surface. Wrinkles and folds are to be removed by stretching as required.

If any defects are found, the section of erosion control fabric containing the defect shall be repaired by placing a new layer of fabric extending beyond the defect in all directions a minimum of the overlap required for parallel rolls. Alternatively, the defective section can be replaced. Holes, rips, tears or any other defects to the non-woven shall be repaired or replaced at the Contractor's own expense.

340.04 Placement. In general, rocks and logs shall be placed as directed by the Engineer or Geomorphologist. Rock stones shall not be dropped from a height of more than 24 inches during placement.

- A. Stream Substrate and Engineered Streambed Material shall be placed to the lines, grades and depths shown on the Drawings, or as directed by the Engineer. Uniformly distribute large stones to produce the required gradation of rock. Prevent contamination of rock materials by excavation and/or earth materials. Subgrade shall be uniform with no soil clumps or rocks greater than two inches.
- B. Following placement of the Stream Substrate and Engineered Streambed Material, the finished surface shall be jetted with water until fines (material with a diameter less than 2mm) have been washed into the interstices of the mix to form a uniform plane of embedment, to the satisfaction of the Engineer. Jetting shall continue until the turbidity levels of runoff produced from the jetting process have reached an acceptable level. All sediment-laden runoff generated by the jetting operations shall be pumped to a settling tank or similar device, or localized depression to reduce turbidity to acceptable levels, in compliance with permit conditions, prior to discharge to the creek.

- C. Soil Backfill within the upper one foot of the fabric wrapped soil lifts shall consist of engineered fill, as specified in SECTION 304 Engineered Fill. Fill shall be placed in horizontal lifts not to exceed 8-inches when un-compacted and mechanically compacted to a relative compaction of 85%. Following placement of each individual soil lift, the structure shall be thoroughly saturated to induce settlement and migration of soil fines, to the satisfaction of the Engineer, prior to placement of the next soil lift.
- D. Erosion Control Fabric. Fabric shall be installed in two layers, as indicated on the Drawings. Fold each layer of fabric to double thickness when securing top and bottom ends. Fabric shall be pulled tight to remove all wrinkles and secured with stakes placed 3ft. on center, driven through both layers of fabric. The holes for the fabric shall not be pre-cut. Allow the stake to break the minimum number of strands as it is being driven. Fabric shall be folded and staked at each bend. Splices shall be constructed in accordance with the manufacturer's recommendations for the application. All overlaps shall be constructed with the lap pointing downstream. Splices shall be staggered from lift to lift by a minimum of 5 feet.

340.04 Measurement. The quantity of proposed creek channel measured for payment shall be by the length in linear feet complete and in place to the width specified on the plans.

340.05 Basis of Payment. Payment for the proposed creek channel shall be made at the applicable linear foot price bid for the construction and shall be deemed full compensation for all labor, materials, equipment and incidentals necessary to complete the work as specified, including excavation and backfill, delivery, placement of rock and soil, erosion control fabric, finish grading, and cleanup.

SECTION 370 – CONSTRUCTION TRAFFIC CONTROL

370.01 Traffic Control Plans. All traffic control shall conform to the latest editions of the Manual on Uniform Traffic Control Devices (MUTCD) and the State of Nevada Department of Transportation (NDOT) Standard Plans for Road and Bridge Construction, and specifically, Plan sheet C-4, and as directed by the Engineer. The Contractor shall submit the proposed traffic control plans, with the same number of copies of the proposed project schedule, to the Engineer for review and comments at least 7 calendar days prior to the preconstruction conference. The proposed traffic control plans shall be prepared and signed by a Professional Traffic Operations Engineer (PTOE) or a Traffic Control Supervisor certified by the American Traffic Safety Services Association (ATSSA), hereinafter designated "TCS", if it is to vary in any way from that depicted in the project plans (plan sheet C-2). If the Contractor makes significant changes to the traffic control plans, these changes must also be prepared and signed by the PTOE/TCS. The final traffic control plans, signed by the PTOE/TCS shall be submitted to the Engineer within 5 working days after receipt of review comments to the proposed traffic control plans.

The Contractor's traffic control plans shall include, but not be limited to, the following as needed:

- Proposed construction zone and existing speed limits
- All construction signing
- Location of flaggers
- Types and location of traffic control devices
- Detours

- Letter of conformance stating that all Category 1 and 2 traffic control devices used on the project meet the evaluation criteria of National Cooperative Highway Research Program (NCHRP) Report 350. Note that a sign together with its portable support is considered as a system, which together must meet the NCHRP Report 350 requirements.

The Engineer will provide written comments and/or corrections to the Traffic Control Plans. If necessary, the Contractor and Engineer will meet to consider the comments and/or corrections to the plan prior to the preconstruction conference to resolve any issue relative to the traffic control plans. Upon resolution of all issues or acceptance of the traffic control plans as submitted, the Engineer shall accept the plans in writing.

Acceptance by the Engineer of the submitted traffic control plans shall in no way relieve the Contractor of the responsibility for safety requirements. Acceptance of the traffic control plans by the Engineer indicates that the plans generally appear to conform to the contract requirements. Such acceptance shall in no way be construed as confirmation of the technical accuracy or adequacy of the contents of the plans and shall not relieve the Contractor of the obligation to institute traffic control measures in full compliance with contract requirements, and which function safely and correctly, and are in conformance with applicable statutes, ordinances, and regulations.

Immediately after set up of new or modified traffic control plans, the Contractor shall have the TCS inspect the controls installed in the field to determine if all required controls have been installed and are operating as intended. If the TCS determines that the traffic controls are not in conformance with the approved traffic control plans, contract requirements, or determines that the traffic controls are not functioning as intended, the TCS shall address such deficiencies and make recommendations for changes. The Engineer may require the Contractor's PTOE/TCS to revise the traffic control plans accordingly.

If at any time it is determined that traffic controls have been modified or are not functioning as intended, the Engineer's representative may request the Contractor's PTOE/TCS to evaluate the traffic controls installed by the Contractor. Additionally, if during construction, revisions to the accepted plans are necessary for safety or accommodation to traffic, the Engineer may require such revisions.

370.02 Traffic Control Notification. Upon approval of the traffic control plans, and at least 2 working days prior to beginning construction, the Contractor shall notify and submit a copy of the approved traffic control plans to the Engineer, refuse collection agencies, and appropriate police and fire departments, REMSA, and any other emergency service as directed by the Engineer.

370.03 Traffic Control General Requirements. The Contractor shall designate a construction TCS who shall be responsible for initializing, installing and maintaining all traffic control devices as shown on the traffic control plans, as specified in the MUTCD, the NDOT Standard Plans for Road and Bridge Construction.

The Contractor shall not proceed with any construction until traffic control plans and the construction TCS have been approved and the proper traffic control has been provided to the satisfaction of the Engineer. Any days lost due to improper traffic control or lack of the construction TCS, will be charged against the Contractor's allowable working days.

The Contractor shall maintain public traffic throughout the project in accordance with the approved traffic control plans and perform work in a manner that assures the safety and convinces of the public and protects the residents and property adjacent to the project. During the course of construction, the Contractor shall be prepared to provide access through the construction zone for police, fire or emergency vehicles as necessary to reach their destination with a minimum delay.

If existing control signs are removed, the Contractor shall install temporary signs of the same designation as close as possible to the original location.

Unless otherwise approved by the Engineer, the Contractor shall maintain two-way traffic on all roads in and around the project area at all times for the duration of the project. The Contractor shall make special considerations for local access to and from properties adjacent to the construction zone. All efforts shall be made to minimize the inconveniences to the local residents and business owners. All driveways shall be opened and accessible at the end of shift.

The Contractor shall not allow for any traffic control or disruption of traffic flow to any State Highway.

Traffic control devices shall be removed as soon as they no longer apply to the current construction activities.

370.04 Traffic Control Measurement. Traffic Control shall be measured on a lump sum basis.

370.05 Traffic Control Payment. The contract price paid for traffic control shall include full compensation for preparation of a traffic control plan, approval of the traffic control plan, temporary construction sign, flagging, flasher units, tools, labor, transportation, materials, barricades, lights, electrical power, changeable message signs, resetting of traffic signs and delineators, project signs and all incidentals and materials necessary to provide these items throughout the construction.

The schedule for payment for "Traffic Control" shall be in direct proportion to the percentage of work completed; i.e. if 20% of the project is completed, the Contractor may request payment for 20% of the lump sum total of the bid item "Traffic Control." Measurement of the percentage of work completed shall be based on the percentage of work billed by the Contractor based on the total dollar amount of the contract. Increases in the total contract price for any reason do not justify an increase in the lump sum price paid for "Traffic Control."

SECTION 371 – DEWATERING AND DIVERSION

371.01 General. Work under this item shall consist of furnishing all labor, tools, equipment, and materials as necessary to dewater, divert and/or bypass any groundwater or surface waters and to maintain a reasonably dry excavation or general work area for the proper installation, construction, curing, grow-in, maintenance, and completion of any improvements and utility relocations, including revegetation/ restoration activities, for a complete job in place as shown on the Project Plans, described in the Special Technical Provisions, Standard Specifications, or as directed by the Engineer.

Groundwater elevations encountered at the time of project construction may vary and it is the responsibility of the Contractor to make all provisions as necessary to provide for any dewatering operations as stated herein. In general, the Contractor should expect/anticipate that groundwater may be encountered at any time the existing ground is disturbed within the project area, as a majority of the project site is located within a TRPA delineated SEZ (land capability SEZ 1b) shown on the Project

Plans.

The Contractor shall be responsible for the final design, installation, operation, maintenance and removal of any dewatering and/or diversion systems as required for completion of the contract work. The Project Plan sheets as provided as part of the Contract Documents provide a basis for, show, and describe dewatering scenarios and minimum requirements. **The Contractor shall submit their own detailed Dewatering and Diversion Plan (including all necessary diagrams/exhibits) to the Engineer for review and acceptance (by the Engineer, TRPA, and NDEP) prior to commencement of any construction activities that may require dewatering and/or diversion operations.** The proposed Dewatering, Diversion, and Water Introduction Plan shall be prepared by a licensed Engineer in the state of Nevada, or qualified licensed Contractor (at discretion of the Engineer) that specializes in dewatering, filtration, pumping, and liquid handling operations. Information required to be submitted shall include but is not limited to the following:

- Any Sub-Contractor information and proof of experience
- Qualified operator of the system and equipment
- Access routes, pads, spill containment devices, and locations for equipment
- Sources for power supply and pump operation
- Dewatering/diversion system design performance measures for volume and pumping rates
- Pump equipment description, performance measures and manufacturer's data sheets
- Intake and discharge locations, methods, and materials
- Disposal methods and any proposed treatment practices
- Provisions to provide back-up equipment and/or stage on-site
- Emergency plan to accommodate high flow flood events

Throughout the course of the project and prior to initiating any dewatering and/or diversion work, discussions between the Contractor and the Engineer shall take place to make a determination if the dewatering and/or diversion operations are necessary at a given location for each phase of the work.

371.02 Dewatering and/or Diversion for Culvert Construction. Dewatering and/or diversion operations as necessary for, including but not limited to, the construction of the proposed culvert structure and any associated utility relocations (described elsewhere in these Special Technical Provisions), shall be as shown on the accepted Contractor's Dewatering, Diversion, and Water Introduction Plan, and in conformance with the Project Plans and these Special Technical Provisions, and in accordance with the required contract phasing timelines. Discharge of all captured and/or diverted waters shall be in conformance with all project permit regulations.

The excavation and general work area shall be sufficiently dry to allow for the proper construction and inspection of the culvert structure sections and footings for a complete in place arch culvert structure, as shown on the Project Plans and described in these Special Technical Provisions. The location and depth of sumps and/or well points for pumping of ground water or surface water is at the discretion of the Contractor, but shall be reviewed and accepted by the Engineer prior to initiating the work involved. The dewatering operations shall also be sufficient to produce a stable sub-grade within the excavation or general work area as necessary for access of equipment and personnel to complete the work.

371.03 Dewatering and/or Diversion for Creek Channel Construction. Dewatering and/or diversion operations as necessary for, including but not limited to, the construction of the proposed creek channel, the removal and/or abandonment of the existing pipe culvert structures (described elsewhere

in these Special Technical Provisions), shall be as shown on the accepted Contractor's Dewatering, Diversion, and Water Introduction Plan, and in conformance with the Project Plans, and these Special Technical Provisions. Discharge of all captured and/or diverted waters shall be in conformance with all project permit regulations. The creek channel excavation(s) and general work area shall be sufficiently dry to allow for the proper construction and inspection of the proposed creek channel and the removal/abandonment of the existing pipe culvert structures, for a complete job in place as shown on the Project Plans and described in these Special Technical Provisions. The location and depth of sumps and/or well points for pumping of ground water or surface water is at the discretion of the Contractor, but shall be reviewed and accepted by the Engineer prior to initiating the work involved. The dewatering operations shall also be sufficient to produce a stable sub-grade within the excavation(s) or general work area as necessary for access of equipment and personnel to complete the work. Dewatering and/or diversion operations shall include the temporary diversion of Glenbrook Creek as necessary to properly construct and complete the proposed channel. Fish block nets shall be installed as indicated on the Project Plans.

371.04 Dewatering and/or Diversion for Revegetation/Restoration. Dewatering and/or diversion operations as necessary for, including but not limited to, the construction, installation, planting, inspection, grow-in, and maintenance of the required revegetation/restoration requirements (described elsewhere in these Special Technical Provisions), shall be as shown on the accepted Contractor's Dewatering, Diversion, and Water Introduction Plan, and in conformance with the Project Plans and these Special Technical Provisions. Discharge of all captured and/or diverted waters shall be in conformance with all project permit regulations. All areas designated to receive any revegetation/restoration or landscape treatments shall be free of any standing waters, sufficiently dry, and consist of unsaturated soils (i.e. where excessively wet to inhibit the establishment, livelihood or growth of the subject vegetation, excluding a prevailing seasonal or environmental condition such as snow cover) to allow for the proper installation, construction and inspection of the proposed revegetation/restoration or landscape treatments for a complete job in place as shown on the Project Plans and described in these Special Technical Provisions. The location and depth of sumps and/or well points for pumping of surface water or ground water is at the discretion of the Contractor, but shall be reviewed and accepted by the Engineer prior to initiating the work involved. The dewatering operations shall also be sufficient to produce a stable sub-grade within the designated work area(s) as necessary for access of equipment and personnel to complete the work.

Dewatering and/or Diversion operations as necessary, or as directed by the Engineer and Revegetation Specialist (defined elsewhere in these Special Technical Provisions), are required to be performed at any time and on a continual basis, following installation of the revegetation/restoration or landscape treatments, for the duration of the project and any ensuing maintenance period, to allow for the proper establishment, grow-in, and maintenance of the proposed revegetation/restoration or landscape treatments. All designated areas that have received any revegetation/restoration or landscape treatments shall be free of any standing waters, sufficiently dry, and consist of unsaturated soils (i.e. where excessively wet to inhibit the establishment, livelihood or growth of the subject vegetation, excluding a prevailing seasonal or environmental condition such as snow cover).

371.05 Sediment Control

General

Comply with Section 401 Water Quality Certification.

Materials

Earthen materials shall not be used within the flowing channel, with the exception of clean, washed rock.

Cofferdam Construction

During construction of the cofferdam, install silt barrier(s) along the water side of the installation, as necessary to minimize mobilization and entrainment of disturbed soils within the active flowing channel, to a level in accordance with the permit conditions.

Discharge of Seepage/Groundwater

Discharge of water from the dewatered construction site, either by gravity or pumping, shall be performed in a manner to prevent excessive turbidity from entering the Glenbrook Creek and to prevent scour and erosion outside of the construction site. Pumped water should be prefiltered with sand/gravel pack around sumps for subsurface flows and a silt fence or hay bales around pumps for surface flow. Pumped water shall be discharged into adjacent gravel bars, isolated local depressions, or temporary sediment basins, as determined by Engineer. Where water to be discharged into the creek will create excessive turbidity, the water shall be routed through a sediment interceptor or other facilities to remove sediment from water.

Isolation of Construction Area

Place silt fences or cofferdams between construction area and flowing creek channel, at all locations, in accordance with the project plans and permits.

371.06 Measurement and Payment

The dewatering and diversion bid item shall be measured on a lump sum basis, completed and accepted by the Engineer as conforming to all the requirements in the complete work. Payment for the dewatering and diversion bid item as directed in this section shall be made at the lump sum price bid, with no additional compensation therefore. The dewatering and diversion bid item shall be paid in full if any dewatering operations are required and performed as part of the project work for that subject phase, as directed and accepted by the Engineer. No additional compensation will be allowed for if excess ground water or higher than expected creek flows are encountered and dewatering operations beyond what was anticipated by the Contractor is required for proper construction of the project improvements. All dewatering necessary for the proper installation, construction, and maintenance of the project improvements, including revegetation/restoration activities shall be included in this bid item(s). Full compensation for conforming to the provisions of this Section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved, and no additional compensation will be allowed.

SECTION 375 – EROSION CONTROL MEASURES

375.01 General. This work shall consist of both permanent and temporary pollution control and erosion control measures that may be shown on the plans, specified in this Special Technical Specification, or directed by the Engineer during the life of the contract. Temporary erosion control measures will also be required at staging areas utilized during project construction. Said work is intended to provide prevention, control, and abatement of water and air pollution within the limits of the project and to minimize damage to the work, adjacent properties and Lake Tahoe, streams or other bodies of water.

The Contractor is reminded that the project is located within the Lake Tahoe Basin and all pollution control measures and clean-up measures must satisfy the requirements of TRPA, NDEP and the permits issued for the project. During the course of project construction, the Contractor shall cooperate with the Engineer, TRPA, and other regulatory officials and take immediate action as directed to provide erosion or other pollution control.

375.02 Filter Fence. Filter fence shall be manufactured from polyester or polypropylene material. The fabric shall be woven and shall conform to the following:

| Test | Test Method | Requirement |
|--|-------------|-------------|
| Grab Tensile Strength, Newton, (25 millimeter grip, in each direction) | 4623 | 400 min. |
| Elongation at Break, percent | 4632 | 20 min. |
| Apparent Opening Size, Micrometers (um) | D 4751 | 850 min. |
| Coefficient of Permeability, cm/sec. | D 4491 | 0.01 min. |
| Ultraviolet Resistance, percent strength retention | D 4355 | 90 min. |

Filter fencing is considered a temporary erosion control measure or BMP. A fine of \$1,000 per day will be levied against the Contractor for each day the Contractor delays in responding to the Engineer’s request to install new temporary erosion control devices and/or maintain existing temporary erosion control devices, in addition to any other fines levied by any other regulatory agency with no additional compensation allowed for. Filter fencing locations as shown on the design plans are approximate and will be installed as indicated in the field by the Engineer. All filter fencing shall remain in place until Engineer and TRPA approval is obtained for removal.

375.03 Construction Limit Fence. Work under this item shall consist of furnishing all labor, tools, equipment, and materials necessary to install, maintain, remove, and dispose of this temporary erosion control measure as required by the Project Plans, the Standard Specifications, these Special Technical Provisions, The Project Permits and the TRPA Best Management Practices.

The Contractor shall perform all construction activities that are within the road right-of-way within the construction limits staked by the Contractor’s surveyor and delineated with construction limit fence installed by the Contractor. Where directed by the Engineer and/or shown on the plans, construction limit fence shall be placed around individual trees that are to remain, in accordance with the Tree Protection and Construction Limit Fence depicted on the project plans. The area within which the Contractor will be allowed to work will be the area within the limits of the construction limit fence. All construction limit fencing shall remain in place until equipment access is no longer necessary in the area and TRPA approval is obtained.

375.04 Erosion Control Fabric. Work under this item shall consist of furnishing all labor, tools, materials, and equipment necessary to install and maintain all erosion control fabric in accordance with the Standard Plans and Specifications, and these Special Technical Provisions. Erosion control fabric extents as shown on the design plans are approximate and will be installed as indicated in the field by the Engineer.

375.05 Coir Log. Work under this item shall consist of furnishing all labor, tools, materials, and equipment necessary to install and maintain all coir logs in accordance with the Standard Plans and Specifications, and these Special Technical Provisions. Coir logs will be a pre-manufactured roll made from coconut fiber encapsulated within a biodegradable jute, sisal, or coir fiber netting, North American

Green, Rolanka “Bio-D,” or equivalent. The netting shall have a minimum durability of 2 years after installation. The netting shall be secured tightly at each end of the roll. **Rolls shall be between eight inches and 12 inches in diameter.** Rolls between eight inches and ten inches in diameter shall have a minimum weight of one pound per linear foot and a minimum length of 20 feet. Rolls between ten inches and 12 inches in diameter shall have a minimum weight of three pounds per linear foot and a minimum length of 10 feet. Coir log locations as shown on the design plans are approximate and will be installed as indicated in the field by the Engineer. All coir logs shall remain in place until Engineer and TRPA approval is obtained for removal.

375.06 Measurement and Payment. Temporary BMPs including filter fence “tree protection and construction limit fence”, and “rock entrance” shall be measured as a lump sum bid price for temporary BMPs. Coir logs shall be included as part of the proposed channel construction. Payment for Temporary BMPs shall be made at the contract linear foot bid price which shall be deemed full compensation for all labor, materials, equipment and incidentals necessary to complete and maintain the work as specified and making any required modifications due to field conditions. The costs for furnishing all labor, equipment, tools, and materials for hauling, placing, and maintaining coir logs including all incidentals is considered part of the other items of work and no additional compensation will be allowed therefore.

Payment for “construction limit fence” shall be made at the contract linear foot bid price which shall be deemed full compensation for all labor, materials, equipment and incidentals necessary to complete and maintain the work as specified and making any required modifications due to field conditions.

SECTION 376 – REVEGETATION

376.01 General. Work shall be conducted and/or overseen by a licensed Landscape Contractor (C-10) and will be inspected by the Engineer, in conjunction with a Revegetation Specialist (RS). The Contractor shall perform all revegetation work as specified herein and in accordance with the provisions of these Special Technical Provisions, the Project Plans and the Standard Specifications. The revegetation work shall consist of all site preparations associated with the revegetation treatments and shall include temporary erosion control, seedbed preparation, seeding, wetland sod/organic matter salvage and replanting, mulching, installation of erosion control blankets, installation of containerized plants, installation of willow stakes and willow and alder rootball salvage and replanting, in accordance with the requirements as shown on the Project Plans, and as directed by the Engineer and/or the RS.

Revegetation work shall be conducted during non-windy conditions. Windy conditions are defined as a sustained wind of 8 mph or more; gusts where the difference between the ambient and the increased velocity is more than 4 mph; or any conditions that may make the dispersal of revegetation and erosion control material difficult or inaccurate. The Contractor is responsible for providing certified instruments or data from certified instruments in case of a claim or conflict. There shall be no pay item, payment or claim for instruments or data from measuring instruments.

The Contractor shall notify the Engineer and Revegetation Specialist no less than three (3) working days in advance of revegetation work and shall not begin work until prepared revegetation treatment areas have been accepted by the Engineer and Revegetation Specialist. The Contractor shall request that treatment types and boundaries are located by the Engineer and/or RS prior to progressing with the work.

Soil disturbance shall be minimized and limited to those areas that require treatment. All existing vegetation within the project limits not designated for removal shall be protected. Delineate project boundaries with fencing per the requirements in Construction Limit Fencing and in these Special Technical Provisions. Traffic outside of project area is prohibited. Any existing or previously installed vegetation damaged shall be replaced by the Contractor. Areas to receive revegetation treatments shall include all areas disturbed during construction, as indicated on the Project Plans and as directed by the Engineer and/or the Revegetation Specialist.

All compacted soils in the project area shall be loosened as needed to a depth of 6" unless otherwise specified or directed by the Engineer and/or RS. Soils shall be loosened so that no soil clods are larger than an average of 1 inch in diameter. Final surfaces shall be left rough unless erosion control blankets are specified, in which case soils shall be raked smooth. No wheeled or other mechanical equipment shall be permitted to travel on the prepared seedbed.

No substitutions or alterations to these Special Technical Specifications shall be accepted without the prior written approval of the Engineer and the Revegetation Specialist. No further disturbance of any treatment area shall be allowed once seeding or installation of cuttings and plant materials has been initiated.

Irrigation installation, operation and maintenance will be performed outside of this project by Glenbrook Homeowner's Association.

All Containerized Plants and Seed Mixes for desired application rate will be supplied by the Owner.

376.02. Revegetation Treatment Types and Summaries

Revegetation shall progress in an order submitted by the Contractor and as approved by the Engineer and RS.

Riparian Seed Application

Loosen soils to a minimum depth of six inches unless otherwise directed by the Engineer and/or RS. Apply Riparian Seed Mix at recommended seeding rate and incorporate to a depth of ¼ to ½ inch. Install erosion control blanket.

Upland Seed Application

Loosen compacted soils to a depth of six inches. Apply Upland Seed Mix at recommended seeding rate and incorporate to a depth of ¼- ½ inch. Apply mulch.

Containerized Plants

Plant containerized plants of aspen, currant, dogwood, serviceberry and white birch as shown on plans and directed in field by the Engineer or RS.

Willow Stakes

Install willow stakes as shown on the project plans and directed in field by the Engineer or RS.

376.03 Materials

Seed

All Seed Mix shall be supplied by the Owner to the Contractor 3 days prior to seeding. The Owner will supply the contractor with enough seed for applying to disturbed areas plus an additional 20%.

Contractor will supply at their expense any additional seed necessary to adequately seed the revegetation areas.

Riparian Seed Mix

| Scientific Name | Common Name | PLS Lbs/Acre |
|------------------------------|-----------------------|-------------------------|
| <i>Glyceria elata</i> | Tall manna grass | 1.00 |
| <i>Leymus triticoides</i> | Creeping wildrye | 5.00 |
| <i>Mimulus guttatus</i> | Yellow Monkeyflower | 0.05 |
| <i>Scirpus microcarpus</i> | Small-fruited bulrush | 1.00 |
| <i>Juncus balticus</i> | Baltic rush | 0.10 |
| <i>Agastache urticifolia</i> | Sierra horsemint | 0.25 |
| <i>Potentilla gracilis</i> | Cinquefoil | 0.10 |
| <i>Agrostis stolonifera</i> | Creeping bentgrass | 1.00 |
| <i>Rosa woodsii</i> | Woods rose | 0.50 |
| <i>Penstemon rydbergii</i> | Penstemon | 0.50 |
| <i>Carex nebraskensis</i> | Nebraska sedge | 0.50 |
| <i>Delphinium glaucum</i> | Sierra Larkspur | 0.25 |
| <i>Ribes aureum</i> | Golden currant | 0.25 |
| <i>Lupine polyphyllus</i> | Lupine | 0.25 |
| | TOTALS | 10.75 |

Upland Seed Mix

| Scientific Name | Common Name | PLS Lbs/Acre |
|---|---------------------------|-----------------|
| <i>Bromus carinatus var. carinatus</i> | Mountain brome | 4.00 |
| <i>Elymus glaucus</i> | Blue wildrye | 3.00 |
| <i>Elymus elymoides var. californicus</i> | Squirrel tail grass | 2.00 |
| <i>Artemisia tridentata ssp. vaseyana</i> | Mountain Big Sagebrush | 0.25 |
| <i>Purshia tridentata</i> | Antelope Bitterbrush | 1.00 |
| <i>Achillea millefolium</i> | Yarrow | 0.25 |
| <i>Paeonia brownii</i> | Brown's peony | 0.25 |
| <i>Linum lewisii</i> | Blue Flax | 0.25 |
| <i>Eschscholzia californica</i> | California Poppy | 0.25 |
| <i>Eriogonum umbellatum ssp. polyanthum</i> | Sulfur Flowered Buckwheat | 0.25 |
| <i>Gaillardia pulchella</i> | Indian Blanketflower | 0.25 |
| <i>Lupinus argenteus</i> | Silvery Lupine | 0.25 |
| <i>Wyethia mollis</i> | Mule's Ears | 1.00 |
| | TOTAL | 13.00 |

Salvaged Wetland Sod and Organic Matter

Salvaged wetland sod and organic matter shall be obtained during swale grading and shall be replanted as shown on the Project Plans and as directed by the Engineer and/or the RS. Work shall progress in such a manner as to minimize the disturbance of the soil bound by the root mass and the contiguous integrity of the material. Material that cannot be moved in a contiguous manner shall be salvaged and re-applied as organic matter. The Contractor shall minimize the duration of storage and shall re-plant or re-apply concurrent with channel construction to the greatest extent possible and as directed by the RS. The Contractor is responsible for providing adequate moisture to the material during the interim storage period, and is responsible for maintaining healthy material until it is replanted.

Mulch

Mulch shall be wood chips, tub grindings, pine needles, or hammer-milled rice straw. Wood chips particle size shall be between 0.5 inch and 3 inches in length and not less than 0.5 inch in width and 0.125 inch in thickness. At least 95 percent by volume of wood chips shall conform to the sizes specified. Clean pine needles shall have been collected no more than 6 months prior to application, have acceptable moisture content, and be collected on site or imported from local sources as approved by the RS. Needles shall be free of rock, garbage, pinecones, and other debris. Pine needles collected on site shall not be in such quantity as to remove protective mulch cover, as per the direction of the RS. Needle length shall be at minimum 4 inches. A representative sample shall be submitted to the RS for approval and acceptance. Rice straw shall be hammer milled. Clearance must be obtained from the County Agricultural Commissioner, as required by law, before straw obtained from outside the County in which it is to be used is delivered to the site of the work. All straw shall be free of noxious weeds and mold.

Containerized Plants

All containerized plants shall be supplied by the Owner to the Contractor 3 days prior to planting. Plants shall be planted in the locations shown on the plans and directed in the field by the Engineer or RS.

Willow Stakes

All materials shall be cut from healthy, live, dormant branches of willow (*Salix lemmonii*, *S. geyeriana*) and shall be taken from suitable plants within the project area as identified by the RS. Stakes shall measure between four and five feet in length and between ¾ - inch and 2 inches in diameter. Material shall not be cut more than seven days prior to installation unless approved by the RS in accordance with construction schedules. Stakes shall be straight, with all leaves removed from the stems. All cuts shall be clean without frayed ends. Cut bottoms on a forty-five degree angle. Keep stakes in a water filled bucket in a shaded environment or submerge the cut bottoms in a shaded stream pool.

333.05 Installation of Treatments

The Contractor shall notify the RS no less than three working days in advance of revegetation work and shall not begin the work until prepared treatment areas have been approved. All work shall take place within the planting windows approved by the RS.

Preparation of Seed Beds.

All compacted soils shall be thoroughly loosened to a depth of up to 6 inches as with hand tools, an agricultural disc, rippers, or other equipment approved by the RS. The staging area and access road may require loosening to greater depths depending on compaction.

Seeding.

Seed shall be uniformly broadcast with hand-held seeders to achieve desired application rate. Incorporate seed by raking or harrowing to a depth of ¼ inch to ½ inch. Seed shall not be left uncovered more than 24 hours unless otherwise approved by the RS. Seeding shall not occur under conditions that would allow the seed to become windborne (winds greater than 5 mph) or to wash away.

Mulching.

Material shall be evenly applied to a depth of approximately ½ to 1 inch, for 100% cover over the entire upland revegetation area.

Containerized Planting.

The RS shall approve the planting dates and final locations. No plants shall be laid out more than one hour before planting. The contractor shall schedule the planting three working days in advance of the proposed planting time with the RS. Thoroughly water all plants before planting.

For shrubs and trees, hand dig holes at a minimum four inches deeper and 12 inches wider than the root ball (six inches on either side). Thoroughly water holes prior to planting and plant immediately to avoid drying of soils. Loosen soils in the bottom and along the sides of the hole. Place the plant in the hole and backfill with the excavated moist soil so that the crown is at grade. Tamp soil firmly into place. Form a saucer with a two-inch doughnut-shaped berm centered on the plants. Immediately water plants after completion of planting.

Installing Willow Stakes.

Install willow stakes per the project plans. Stakes shall be planted on average three-foot centers. Stakes must be planted when dormant, after August 31 or as approved by the RS. Soils shall be moist at the time of installation, which may require irrigation. Stakes shall be pushed into a hole slightly larger than the diameter of the stake, prepared using a 4' bucket stinger other approved methodology. Plant stakes so that a minimum of 80 percent of the stake is buried. The bottom of the stake shall be at an elevation

below the bankfull water elevation of the creek. Firmly tamp soils around the stakes to eliminate air pockets and so that stakes cannot be easily removed.

376.08 Irrigation.

Temporary irrigation of the project area will be installed, operated and maintained by Glenbrook Homeowner’s Association (GHOA). No Compensation to the Contractor will be made for this item.

376.10 Measurement and payment

The Contract unit price paid per square foot for all aspects of Revegetation Treatment Type *“Riparian Seed Mix Application”* shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work required to install the revegetation, and no additional payment shall be allowed therefore.

The Contract unit price paid per square foot for all aspects of Revegetation Treatment Type *“Upland Seed Mix Application”* shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work required to install the revegetation, and no additional payment shall be allowed therefore.

The Contract unit price paid per each *“Containerized Plants”* and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work required to install the revegetation, and no additional payment shall be allowed therefore.

The Contract unit price paid per each *“Willow Stakes”* and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work required to install each stake, and no additional payment shall be allowed therefore.

APPENDIX A: GEOTECHNICAL REPORT

**GEOTECHNICAL INVESTIGATION
REPORT
for
GLENBROOK CREEK
Glenbrook, Nevada**

Prepared for:

**Nevada Tahoe Conservation District
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February, 2012

JN: 8042.012

GEOTECHNICAL INVESTIGATION REPORT

GLENBROOK CREEK

Glenbrook, Nevada

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GEOTECHNICAL INVESTIGATION REPORT
for
GLENBROOK CREEK
Glenbrook, Nevada

INTRODUCTION

Submitted herewith are the results of Lumos and Associates, Inc. (Lumos) geotechnical investigation for the proposed Glenbrook Creek project to be located in Glenbrook, Nevada. The project site boundaries generally consist of open fields/residential development surrounding both the footbridge and culvert sites and are south and west of Pray Meadow Road (Plate 1).

It is our understanding that the proposed Glenbrook Creek project will consist of a footbridge and a culvert with conventional spread footings and asphalt concrete paving patch for the road. Structural loads for this project have been assumed not to exceed one (1) to two (2) kips per lineal foot and 10 to 20 kips for continuous-wall and isolated-column loads, respectively. We have assumed that final grades at the site will be within three (3) feet from existing grades.

The purpose of our investigation was to characterize the site geology and soil conditions, describe the native soils and determine their engineering properties as they relate to the proposed construction. The investigation was also intended to identify possible adverse geologic, soil, and or water table conditions. However, this study did not include an environmental assessment or an evaluation for soil and/or groundwater contamination at the site.

This report concludes with recommendations for site grading, foundations, footing area preparation, utility installation, asphalt concrete pavement, and Portland cement concrete. In addition, information such as logs of all exploratory borings, laboratory test data, allowable soil bearing capacities, estimated total and differential settlements based on static loads, lateral earth pressures and International Building Code (IBC) seismic site class designation are provided in this report.

The recommendations contained herein have been prepared based on our understanding of the proposed construction, as outlined above. Re-evaluation of the recommendations presented in this report should be conducted after the final site grading and construction plans are completed, if there are any variations from the assumptions described herein.

It is possible that subsurface discontinuities may exist between and beyond exploration points. Such discontinuities are beyond the evaluation of the Engineer at this time. No guarantee of the consistency of site geology and sub-surface conditions is implied or intended.

GEOLOGIC SETTING

Glenbrook is located along the eastern edge of the Lake Tahoe Basin, a large fault-bounded valley within the eastern portion of the Sierra Nevada geomorphic province. Lake Tahoe is one of the world's largest and deepest alpine lakes, approximately 22 miles long and at least 1,600 feet deep. The Sierra Nevada is geographically characterized by a steep eastern slope that separates the Sierra Nevada and Great Basin geomorphic provinces and a gentle western slope that eases down into the Great Valley.

The surface geology of the project has been mapped by George J. Saucedo (2005). The mapping indicates that Lacustrine terrace deposits (Qlt) from the Pleistocene era and Alluvium (Q) from the Holocene and Pleistocene era underlie the site. The map also indicates the West Tahoe fault is located approximately eight (8) miles west of the site. The fault is not within 50 feet of the proposed structure locations, the customary setback from a potentially active fault. Holocene faults (less than 12,000 years old) are considered active. This fault is not shown on the "Quaternary Fault Map of Nevada Reno Sheet" by John W. Bell (1984), therefore, we understand the West Tahoe fault to be older than a Holocene.

The geologic evolution of the Sierra Nevada province is extremely complex and involved a long sequence of events. First, subduction and abduction of oceanic plates below and across the continental plate began. This interaction between the two plates created different metamorphic rock complexes at the collision area known as a trench. Then, the deep continental crust began to melt into granite magma and volcanoes began to erupt above the granite batholiths. The basin and range to the east began to widen and open. Finally, the Sierra Nevada began to rise and tilt a few degrees to the west.

Glaciers have played an active roll in shaping the Sierra Nevada Mountains, particularly during the past two (2) million years. Alpine glaciers were present around Lake Tahoe during much of this period and extended below the current level of the Lake along the west shoreline (i.e., at Emerald Bay). The large U-shaped valleys surrounding the Lake were carved out by ice and display typical glacial features such as polished rock, lateral moraines and glacial lakes (tarns).

SEISMIC CONSIDERATIONS

The Glenbrook area, similar to many areas of the California—Nevada border, is located near active faults, which are capable of producing significant earthquakes. This area lies within Zone 3, as defined by the 1997 Uniform Building Code (UBC). This zone can be described as an area that may experience damage due to earthquakes having intensities of V or more when evaluated using the Modified Mercalli Intensity Scale of 1931 (Plate 3).

Glenbrook is located within the Sierra Nevada-Great Basin seismic belt and at least two (2) major earthquakes, with magnitudes equal to or greater than 6.0 (Plate 4), have occurred historically within thirty miles of the site (DePolo and DePolo, 1999).

No evidence of Holocene faulting was found in the field or on published fault maps, which would indicate faulting on this site. However, the approximate location of the West Tahoe Fault (Saucedo, 2005), which is considered potentially active, is eight (8) miles west of the site. The West Tahoe Fault, in the past, was noted to have a maximum moment magnitude ranging between 6.8–7.4. It is worth noting that the potential for surface rupture at or near these faults is inferred to be low. The largest active fault in the area, however, is the Mt. Rose Fault System, located approximately 25 miles northeast of the site. The Mt. Rose Fault System is reported to have had activity within the past ten thousand (10,000) years and be capable of producing earthquakes with a maximum moment magnitude of 6.9.

Ground shaking intensities should be estimated based on activity of the Mt. Rose Fault using a maximum credible earthquake with a moment magnitude of 6.9. According to the USGS 2002 website the ground motion corresponding to a 10% probability of exceedance in 50 years is 0.38g and the ground motion corresponding to a 2% probability of exceedance in 50 years is 0.68g (Appendix C).

Liquefaction is the phenomena where more commonly loose saturated sands or silty sands lose their shear strength when subjected to cyclic loading, and become unstable.

Large earthquakes, as described above, may provide that type of cyclic loading. Ground water was encountered during our field exploration at approximately 5.5 feet below the existing ground surface. Standard Penetration tests indicate the site saturated sands are loose to medium dense. Therefore, the potential for liquefaction exists.

2009 IBC Design: The mapped maximum considered earthquake spectral response acceleration at short periods (S_s) is 1.59g corresponding to a 0.2 second spectral response acceleration at five percent (5%) of critical damping and for a Site Class B (IBC Figure 1615(3)). The mapped maximum considered earthquake spectral response acceleration at a 1-second period (S_1) is 0.60g corresponding to a 1.0 second spectral response acceleration at five percent (5%) of critical damping and for a Site Class B (IBC Figure 1615(4)). The site may be considered to be a stiff soil profile, corresponding to a Site Class D (IBC Table 1615.1.1). Therefore, the spectral response accelerations must be adjusted for site class effects. The site coefficient for spectral response accelerations adjustment at short periods (F_a) is 1.00 (IBC Table 1615.1.2(1)). The site class effect for spectral response acceleration adjustment at 1-second periods (F_v) is 1.50 (IBC Table 1615.1.2(2)) the maximum considered earthquake spectral response acceleration parameter for short period (S_{Ms}) is 1.59g and for 1-second period (S_{M1}) is 0.90g. This corresponds to design spectral response acceleration parameters of 1.06g for short period (S_{Ds}) and of 0.60g for 1-second period (S_{D1}). A peak ground acceleration of 0.42g ($S_{Ds}/2.5$) may be used for design.

In conclusion, seismic concerns for this site are not unlike other sites in the Glenbrook area. No evidence of active faulting was found on the site. However, due to the proximity of the site to a number of faults that are considered active, as noted above, strong seismic shaking should be anticipated during the life of the proposed structures.

Note that the above values are considered the minimum requirements intended to maintain public safety during strong ground shaking. These minimum requirements are meant to safeguard against loss of life and major structural failures. However, they are not intended to prevent damage or insure the functionality of the structure during and/or after a large seismic event.

SITE CONDITIONS AND FIELD EXPLORATION

At the time of our investigation, the site was vegetated with grasses, sagebrush, large pine trees and thick deciduous trees around the creek area. The existing grades generally slope toward the creek.

Field exploration included a site reconnaissance and subsurface soil-exploration. During the site reconnaissance, surface conditions were noted and the locations of the exploratory borings were determined. They were located using existing features as a guide. Locations and elevations of the exploratory borings should be considered accurate only to the degree implied by the method used.

Three (3) exploratory borings were excavated within the proposed footbridge and culvert sites to a maximum depth of 21.5 feet below-ground-surface (bgs). The approximate locations of the exploratory borings within the site are shown on Plate 2. The subsurface soils were continuously logged and visually classified in the field by our Geotechnical Intern in accordance with the Unified Soil Classification System. Representative bulk soil samples were collected from the upper five (5) feet of each boring. Penetration testing utilizing a Standard split spoon (SPT) and California Modified split spoon sampler were collected at 2.5 and five (5) foot intervals within the exploratory borings. All the samples, subsequently, were transported to our Carson City geotechnical laboratory for testing and analysis.

The native subsurface soils consisted generally of clayey sands to a depth of about 21.5 feet below-ground-surface (bgs).

Groundwater was encountered at a depth of between five (5) and 17 feet bgs in our exploratory borings at the time of our field investigation. However, seasonal groundwater (water table) fluctuations should be anticipated at the site.

FIELD AND LABORATORY TEST DATA

Field and laboratory data was developed from samples taken and tests conducted during the field exploration and laboratory phases of this project. The borings were advanced by a B-55 Drill Rig. Representative samples were collected from the borings at 2.5 and five (5) foot intervals using a 1.4-inch inside diameter Standard Penetration Testing (SPT) and California Modified split spoon samplers. A 140-pound safety hammer powered by a rope / cathead pulley system, free falling 30 inches, drove the sampler. Representative samples utilizing bulk techniques were collected from the upper five (5) feet of each boring.

Laboratory tests performed on representative samples included sieve analysis, Atterberg Limits, moisture density curve, direct shear, soluble sulfates, pH value, and resistivity. Much of this data is displayed on the "logs" of the exploratory borings and test pits to facilitate correlation. Field descriptions presented on the logs have been modified, where appropriate, to reflect laboratory test results. The logs of the exploratory borings are included in Appendix A of this report as Plates A-1 through A-3. Plate A-4 describes the various symbols and nomenclature shown on the logs.

Individual laboratory test results are presented in Appendix B as Plates B-1 through B-5. Laboratory testing was performed per ASTM standards, except when test procedures are briefly described and no ASTM standard is specifically referenced in the report. Atterberg limits were determined using the dry method of preparation (Plate B-2). Special testing conducted for this project is described below.

Analytical Testing: Silver State Analytical Laboratories, out of Las Vegas, Nevada, conducted this testing. The testing included pH value, resistivity and soluble sulfates. Test results are included (on Silver State letterhead) in Plate B-5.

The soil samples obtained during this investigation will be held in our laboratory for 30 days from the date of this report. The samples may be retained longer at an additional cost to the client or obtained from this office upon request.

DISCUSSION AND RECOMMENDATIONS

General

From a geotechnical viewpoint, the site is considered suitable for the proposed improvements when prepared as recommended herein.

The following recommendations are based upon the construction and our understanding of this project, as outlined in the introduction of this report. If changes in the construction are proposed, they should be presented to Lumos, so that these recommendations can be reviewed and modified in writing, as necessary. As a minimum, final construction drawings should be submitted to Lumos for review prior to actual construction and verification that our geotechnical design recommendations have been implemented.

General Site Grading

Prior to placement of fill, the areas to receive fill shall be cleared and grubbed. Clearing and grubbing is anticipated to be as much as six (6) inches or more where thicker vegetation is present.

Root- or organic-laden soils encountered during excavations, should be stockpiled in a designated area on site for later use in landscaping, or removed off site as directed by the owner. Excavated soils free from any organics, debris or otherwise unsuitable material and with particles no larger than three (3) inches in maximum dimension may be stockpiled and moisture conditioned for later use as compacted fill provided it meets the criteria for acceptable fill soils.

All Surfaces to receive fill, should be observed and approved by a Lumos representative prior to placement of fill. The surfaces shall be scarified to a minimum of twelve (12) inches, moisture conditioned to within two percent (2%) of optimum, and re-compacted to at least ninety percent (90%) of the ASTM D1557 standard. Fill material should not be

placed, spread or compacted while the ground is frozen or during unfavorable weather conditions. When site grading is interrupted by heavy rain or snow, grading or fill operations should not resume until a Lumos representative approves the moisture content and density conditions of the subgrade or previously placed fill.

Unstable conditions due to yielding and/or pumping soils are anticipated on site. Native soils may yield or pump under heavy equipment loads or where vibratory equipment draws up water. If yielding or pumping conditions are encountered, the soils should be scarified in place, allowed to dry as necessary and re-compacted, where applicable. Alternatively, the unsuitable or saturated soil should be removed, the exposed surface leveled and compacted/tamped as much as practical without causing further pumping, and covered (including the sides) with geotextile stabilizing fabric (Mirafi HP370 or other equivalent). The fabric should then be covered with at least 12 inches of 4- to 12-inch **angular rock fill** with enough fines to fill the inter-rock pore spaces. Placement should be by end dumping. No traffic or other action should be allowed over the fabric, which may cause it to deflect/deform prior to cobble placement. Test sections should be used to determine the minimum thickness and/or number of layers required for stabilization.

Stabilization should be evaluated by proof-rolling standards commensurate with the equipment used, and approved by a Lumos representative. The placement of the stabilizing rock-fill may require additional over-excavation to maintain appropriate grading elevations. A filter fabric (Mirafi 180N or equal) should also be placed over the cobble rock fill to prevent piping of fines from covering soils into the stabilizing rock matrix. Then there should be at least six (6) inches of structural fill placed above the fabric for the footings to bear on.

Acceptable structural fill soils to be used for this project should consist of non-expansive material (LL less than 35 and/or a PI less than 12, and/or an Expansion Index less than 20), and should be free of contaminants, organics (less than two percent (2%)), rubble, or natural rock larger than three (3) inches in largest dimension. The soluble sulfate content shall be less than 0.1% and the R-Value shall be a minimum of 30. Any import soils should be tested and approved prior to being placed or delivered on-site (seven (7)

day advanced notice). Structural fill soils shall also meet the following gradation requirements (Table 1):

**TABLE 1
STRUCTURAL FILL GRADATION**

| Sieve Size | % Passing |
|-------------------|------------------|
| 3" | 100 |
| ¾" | 70-100 |
| #40 | 15-65 |
| #200 | 10-35 |

Soils not meeting all of the above requirements may be approved for use as structural fill at the discretion of the Geotechnical Engineer. The site clayey sands are suitable for reuse as structural fill. Compacted fill should be placed only on compacted sub-grade or on compacted fill in lifts not exceeding eight (8) inches in loose thickness, moisture conditioned to within two percent (2%) of optimum, and compacted to at least ninety-five percent (95%) relative compaction, as determined by the ASTM D1557 standard.

Landscaped areas should be cleared of all organic and objectionable material such as wood, root stumps, etc., if any. In cut areas, no other work is necessary except grading to proper elevation and drainage conditions. In landscape fill areas, fill should be placed in loose lifts not exceeding eight (8) inches, and compacted to at least eighty-five percent (85%) relative compaction to prevent erosion.

A representative of Lumos should be present during all site clearing, excavation removals, and grading operations to ensure that any unforeseen or concealed conditions within the site are identified and properly mitigated, and to test and observe earthwork construction. This testing and observation is an integral part of our services as acceptance of earthwork construction and is dependent upon compaction and stability of the subgrade soils. The soils engineer may reject any material that does not meet acceptable fill, compaction, and stability requirements. Further, recommendations in this report are provided upon the assumption that earthwork construction will conform to recommendations set forth in this section of the report.

FOUNDATION DESIGN CRITERIA

Conventional spread footings founded on properly compacted structural fill or properly prepared subgrade as recommended previously, may be used to support the proposed culvert and footbridge within the project site.

Spread footings: Footings should have a minimum embedment of 24 inches below lowest adjacent grade for frost protection. Footings founded on properly compacted structural fill or properly prepared subgrade (but not a combination of the two) may be designed for a net allowable bearing pressure of 1,500 pounds-per-square-foot (psf).

If fill is placed to bring building pads to grade, no footings should be founded within a distance of at least one third of the total height of fill ($H/3$) placed from the face of the slope or equal to the depth of compacted fill below the bottom of footing, whichever is greater. In drainage areas, no footings should be located or founded above a 1:1 (horizontal:vertical) plane drawn up from the toe of slopes, outside edge of drainage conduits or drainage ditches, to avoid loss of bearing strength of supporting soils. No drainage or water diverting conduits other than associated utilities should be allowed underneath building footprints.

Footing Settlements: The maximum anticipated settlements, caused by static loading, for continuous or isolated footings bearing on properly compacted structural fill or properly prepared subgrade and designed for a 1,500 psf bearing pressure is estimated at one (1) inch or less. Differential settlements are generally expected to be half of the total settlements. Settlements in granular soils are primarily expected to occur shortly after dead and sustained live loads are applied.

Lateral Loading: Resistance to lateral loads can be provided by friction acting at the base of foundations and by lateral earth resistance. A coefficient of friction of 0.40 may be assumed at the base of footings. An allowable passive earth resistance of 250 psf per foot of depth starting six (6) inches below lowest adjacent grade may be used for the sides of footings poured against properly compacted structural fill/subgrade. Passive resistance should not exceed 1,500 psf. The at-rest lateral pressure can be calculated utilizing an equivalent fluid pressure of 60 pcf.

Dynamic Factors: Vertical and lateral bearing values indicated above are for total dead-load and frequently applied live loads. If normal code requirements are applied for design, the above vertical bearing values may be increased by thirty-three percent (33%) for short duration loading due to wind or seismic forces. The additional Dynamic Lateral earth pressure can be calculated utilizing the following equation.

$$\text{Dynamic Lateral Force} = 20.8H^2$$

H = height of wall

This force should be assumed to act at a height of 0.6H above the bottom of the wall.

RETAINING WALLS

Retaining structures over three (3) feet in height, if used, will require local code compliance and engineered based on parameters described in this section of the report. Retaining structures should be designed to resist the appropriate lateral earth pressures. Cantilevered walls, which are able to deflect at least 0.01 radians, can be designed using an equivalent fluid (backfill) unit weight of 30 pounds-per-cubic-foot (pcf). However, if the wall is fixed against rotation, the wall should be designed using an equivalent fluid (backfill) unit weight of 60 pcf. These design parameters are based upon the assumption that walls will retain only level backfill and no hydrostatic pressure will be present. Any other surcharge pressures should be added to the above recommended lateral earth pressures. Retaining walls should be backfilled with free draining granular material that extends vertically to the bottom of the stem and laterally at least six (6) inches beyond the face of the stem (wall) and wrapped with a Mirafi 180 N or equivalent non-woven filter fabric. Weep holes should be provided on the walls at regular intervals, or a slotted drainpipe placed at the bottom of the wall (bottom of granular material) to relieve any possible build-up of hydrostatic pressure. Backfill material within two (2) feet of the wall should be compacted with hand-held equipment only, and to at least 90% of the maximum ASTM D1557 standard.

PAVEMENT DESIGN

Areas to be paved shall be scarified in place to a depth of at least 12 inches, moisture conditioned to within two percent (2%) of optimum, and compacted to at least ninety-five percent (95%) of the laboratory maximum dry density determined by the ASTM D1557 standard. Pavement structural section for the proposed asphalt patch utilizing an R-value of 30 (assumed) is provided in Table 2, "Recommended Asphalt Pavement Sections". A Traffic Index (TI) value of 6 was utilized for design. Aggregate base should consist of Type 2, Class B material and meet the requirements of the Standard Specifications for Public Works Construction (SPPWC). Aggregate base material should be compacted to at least ninety-five percent (95%) of the laboratory maximum density, as determined by the ASTM D1557 standard.

**TABLE 2
RECOMMENDED ASPHALT PAVEMENT SECTIONS**

| Pavement Area | Minimum Asphalt Pavement | Minimum Aggregate Base | Properly Compacted Suitable Subgrade |
|----------------------|---------------------------------|-------------------------------|---|
| TI = 6 | 3" | 9" | 12" |

In all areas of the project, asphalt concrete should consist of AC-20 (PG64-22) or AC-20P (PG64-28NV), and Type 3 asphalt aggregate per the "Orange Book" standards. We recommend a 50-blow Marshall mix that targets four percent (4%) air voids. The selection of AC-20P (PG64-28NV) will add about 5% – 10% to the paving costs, but will significantly reduce cracking and future maintenance cost. Asphalt concrete, in any case, should be compacted to between ninety-two percent (92%) and ninety-seven percent (97%) of the Rice theoretical maximum density.

If there is trench paving the paving section shall be saw cut a minimum of one (1) foot wider than the trench on either side of the trench.

All mix designs for asphalt concrete should be submitted to the Geotechnical Engineer for review and approval a minimum of seven (7) days prior to paving.

CORROSION AND CHEMICAL ATTACK

On-site soils have a negligible water soluble sulfate content of less than 0.10% (0.00% actual). No specific type of cement is required for concrete in direct contact with on-site soils, as required by the International Building Code. However, Type II cement (meeting ASTM C150) is recommended for concrete in direct contact with on-site soils.

All exterior concrete should have between 4.5 and 7.5 percent entrained air, a maximum water-cement ratio of 0.45, and comply with all other ACI recommendations for concrete placed in areas subject to freezing. A minimum compression strength of 4,000 psi is recommended for all external concrete.

Native soils have a pH of 6.25 and have a resistivity of 4,430 ohm-cm under saturated conditions. This indicates a corrosive potential for ferrous metals in contact with these soils. Corrosion mitigation measures, such as protective coatings, wrappings, and cathodic protection are therefore recommended. If protective coatings are used, the type and quantity will depend on the kind of steel and specific construction application. Steel and wire concrete reinforcement cover of at least three (3) inches where cast against soil, unformed, is recommended.

UTILITY EXCAVATIONS

On-site soils are anticipated to be excavatable with conventional construction equipment. Groundwater was encountered in each boring and may effect trench excavations. Compliance with OSHA regulations should be enforced for Type C soils. Excavated clayey sands may be suitable for backfill of utility trenches after screening any oversize material and debris. However, on-site soils do not meet the minimum requirements for Class A bedding and should be imported, where required.

MOISTURE PROTECTION, EROSION AND DRAINAGE

The finish surfaces around all structures should slope away from the building and toward appropriate drop inlets or other surface drainage devices. It is recommended that within ten (10) feet of the buildings a minimum slope of five percent (5%) be used for soil subgrades and one percent (1%) be used for pavements. These grades should be maintained for the life of the structures.

Landscaping and downspouts should be planned to prevent discharge adjacent to buildings. Instead, water flow should be conveyed and re-routed to discharge areas away from any improvements.

Backfill adjacent to the proposed building perimeters should be properly compacted to minimize water infiltration into the foundation soils.

CONSTRUCTION SPECIFICATIONS

All work on-site shall be governed by the latest edition of the International Building Code (IBC) as accepted by Douglas County, except where modified herein.

All work off-site shall be governed by the Standard Specifications and Standard Details for Public Works Construction (SSPWC), as distributed by Douglas County, except as modified herein.

LIMITATIONS

This report has been prepared in accordance with the currently accepted engineering practices in Northern Nevada. The analysis and recommendations in this report are based upon exploration performed at the locations shown on the site plan, the proposed improvements as described in the Introduction section of this report and upon the property in its condition as of the date of this report. Lumos makes no guarantee as to the continuity of conditions as subsurface variations may occur between or beyond exploration points and over time. Any subsurface variations encountered during construction should be immediately reported to Lumos so that, if necessary, Lumos' recommendations may be modified.

This report has been prepared for and provided directly to the Nevada Tahoe Conservation District ("The Client"), and any and all use of this report is expressly limited to the exclusive use of the Client. The Client is responsible for determining who, if anyone, shall be provided this report, including any designers and subcontractors whose work is related to this project. Should the Client decide to provide this report to any other individual or entity, Lumos shall not be held liable for any use by those individuals or entities to whom this report is provided. The Client agrees to indemnify, defend and hold harmless Lumos, its agents and employees from any claims resulting from unauthorized users.

This report shall not be utilized to create a maximum cost estimate for the costs associated with construction as costs may vary depending upon any subsurface variations encountered. Further, this report is not intended for, nor should it be utilized for, bidding purposes. All additional plans and specifications should be submitted to Lumos for review, comment and approval, prior to submission of such plans or specifications to the building department or commencement of construction pursuant to such plans or specifications. A failure to submit to Lumos additional plans and specifications related to this report, thereafter relied upon by any person, shall be deemed an unauthorized use of this report. Any unauthorized use of this report, including bidding, releases Lumos from any and all liability related to the unauthorized

use. The Client agrees to indemnify, defend and hold harmless Lumos, its agents and employees from any and all claims, causes of action or liability arising from any claims resulting from an unauthorized use of this report.

As explained above, subsurface variations may exist and as such, beyond the express findings located in this report, no warranties express, or implied, are made by this report. No affirmation of fact, including but not limited to statements regarding suitability for use of performance shall be deemed to be a warranty or guaranty for any purpose.

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Geotechnical Intern
Lumos and Associates, Inc.

Mitch Burns, P.E.
Construction Services Engineer
Lumos and Associates, Inc.

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**PROJECT
SITE**



800 E. COLLEGE PARKWAY
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GLENBROOK CREEK

VICINITY MAP

Date: FEBRUARY 2012

Scale: N.T.S.

Job No: 8042.012

PLATE 1

GLENBROOK

NEVADA



LEGEND

BH- = APPROXIMATE EXPLORATORY BORING LOCATION



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GLENBROOK CREEK

SITE MAP

GLENBROOK NEVADA

Date: FEBRUARY 2012
 Scale: N.T.S.
 Job No: 8042.012
 PLATE **2**

MODIFIED MERCALLI INTENSITY SCALE

INTENSITY

EFFECTS

- I Not felt except by a very few under especially favorable circumstances.
- II Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing.
- III Felt quite noticeable indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibration like passing of truck. Duration estimated.
- IV During the day felt indoors by many, outdoors by few. At night some awaken. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building; standing motor cars rock noticeably.
- V Felt by nearly everyone; many awakened. Some dishes, windows, etc., broken; a few instances of cracked plaster; unstable objects overturned. Disturbance of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.
- VI Felt by all; many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight.
- VII Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motor cars.
- VIII Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Disturbs persons driving motor cars.
- IX Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.
- X Some well-built wooden structures destroyed; most masonry and frame structures with foundations destroyed; ground badly cracked. Rails bent. Landslides considerable from river banks and steep slopes. Shifted sand and mud. Water splashed (sloped) over banks.
- XI Few, if any (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipe lines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.
- XII Damage total. Waves seen on ground surfaces. Lines of sight and level distorted. Objects thrown upward into the air.

From Wood and Newman, 1931, by U.S. Geological Survey, 1974, Earthquake Information Bulletin, v. 6, no. 5, p. 28

| Richter Magnitude | Intensity (maximum expected Modified Mercalli) |
|-------------------|---|
| 3.0 - 3.9 | II - III |
| 4.0 - 4.9 | IV - V |
| 5.0 - 5.9 | VI - VII |
| 6.0 - 6.9 | VII - VIII |
| 7.0 - 7.9 | IX - X |
| 8.0 - 8.9 | XI - XII |



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GLENBROOK CREEK

MODIFIED MERCALLI SCALE

GLENBROOK

NEVADA

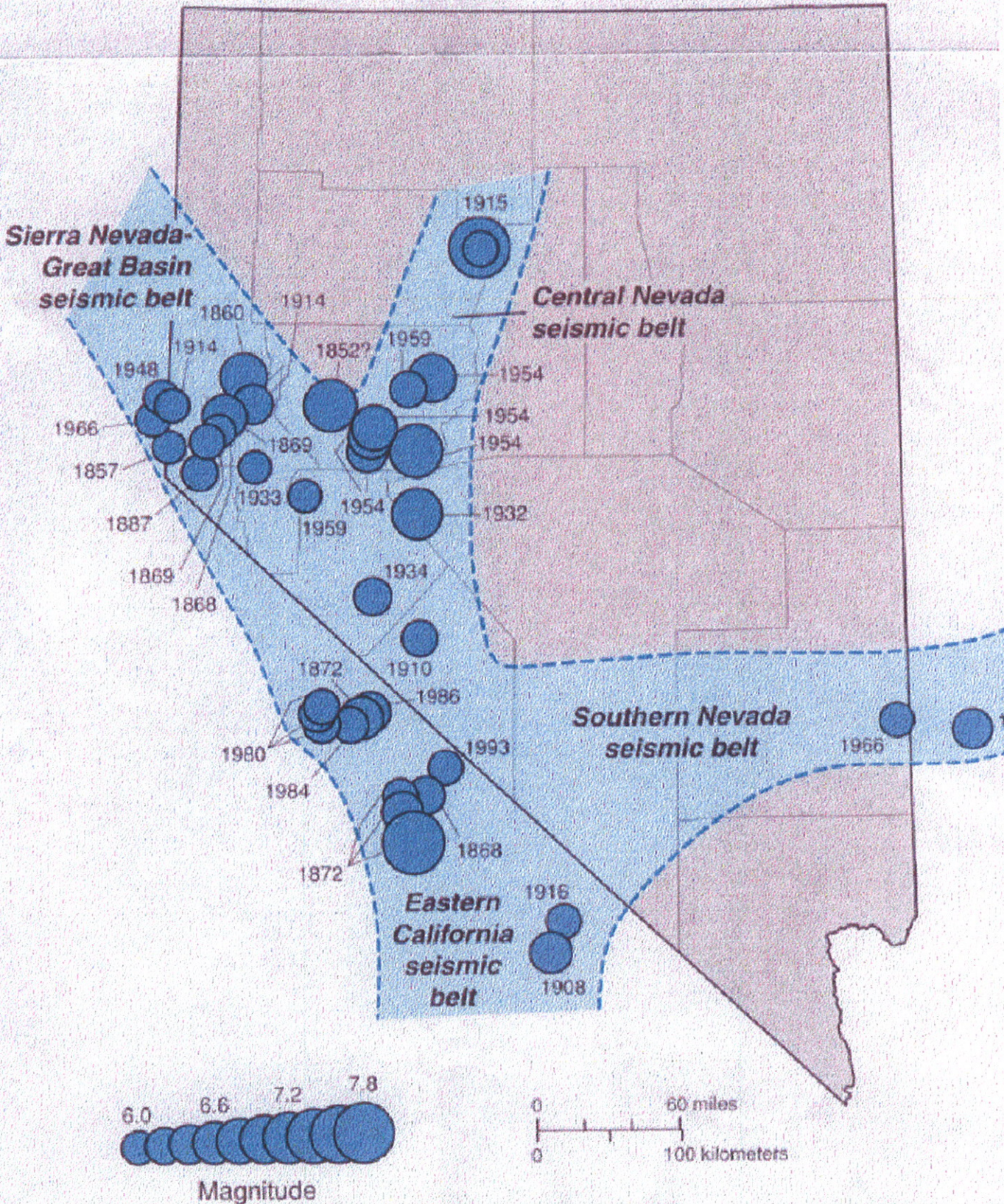
Date: FEBRUARY 2012

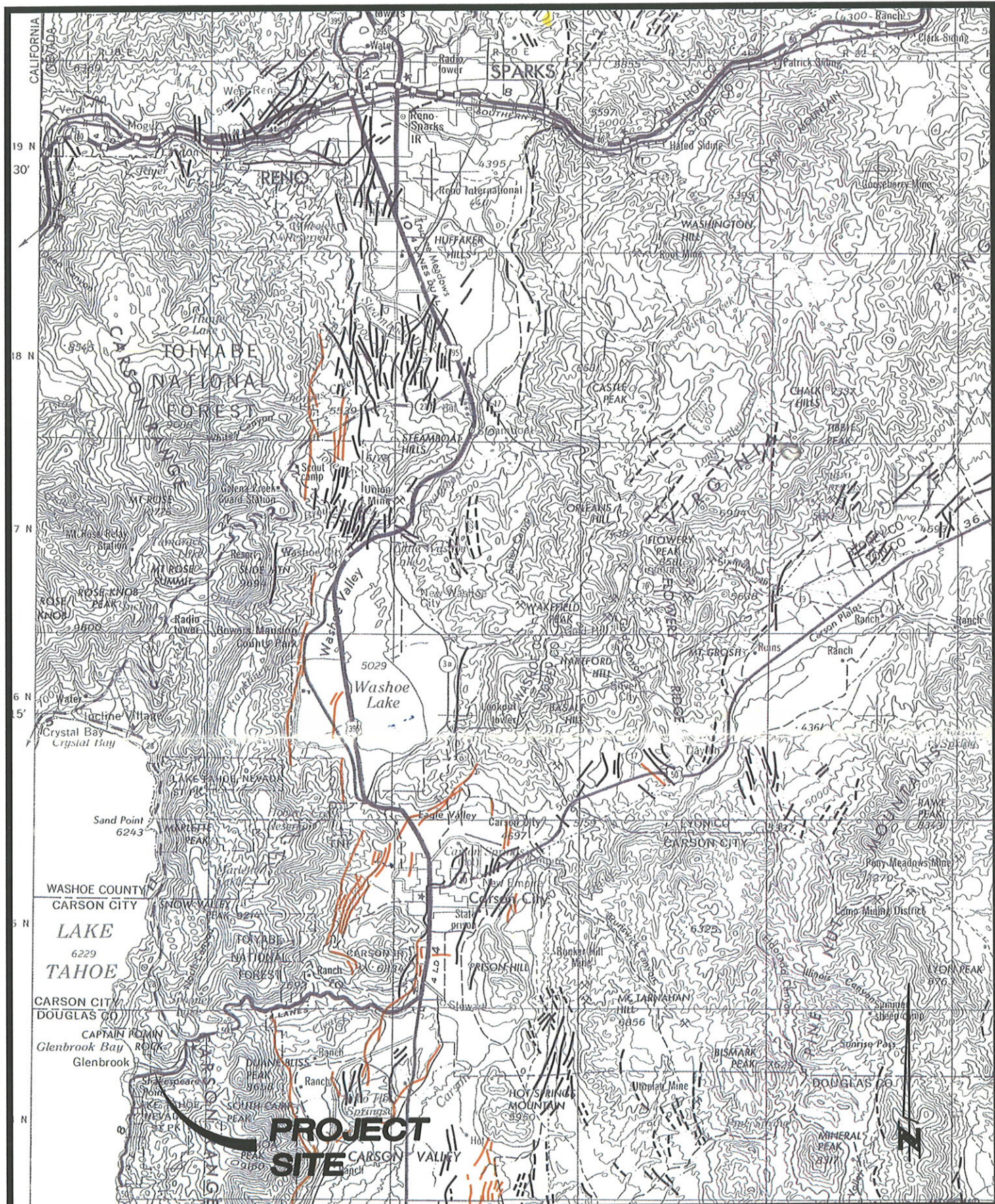
Scale: N.T.S.

Job No: 8042.012

PLATE 3

MAJOR EARTHQUAKES AND SEISMIC BELTS





**PROJECT
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GLENBROOK CREEK

FAULT MAP

GLENBROOK

NEVADA

Date: FEBRUARY 2012

Scale: N.T.S.

Job No: 8042.012

PLATE 5

APPENDIX A

Logged By: **B. Sexton**

Total Depth: **11.5 feet**

Date Logged: **1-18-2012**


Water Depth: **5 feet ±**

Drill Type: **Truck Mounted B-55 H.S.A.**

Ground Elev.: **E.G.S. feet ±**

| Depth in Feet | Graphic Log | Sample Type | Shelby Tube | Standard Split Spoon (SPT) | California Sampler | Blows/Foot | Moisture Content, % | Dry Unit Weight, pcf | Liquid Limit, % | Plasticity Index, % | Gravel, % (3" - #4 Sieve) | Sand, % (#4 - #200 Sieve) | Fines, % (< #200 Sieve) | R-Value | Direct Shear |
|--|-------------|-------------|--|---|--------------------|------------|---------------------|----------------------|-----------------|---------------------|---------------------------|---------------------------|-------------------------|---------|--------------|
| | | | Modified California | Bag Sample | Static Water Table | | | | | | | | | | |
| SOIL DESCRIPTION | | | | | | | | | | | | | | | |
| 1 | | | Medium to Dark Brown Clayey SAND (SC), Moist to Very Moist, Loose. | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 7.5 | | | | | | | | | | | | | | | |
| 8 | | | | Gray Brown Clayey SAND (SC), Very Moist, Loose, with Roots and Mottling. Estimated 70% Coarse to Fine Sand and 30% Clay. | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | with Gravel Below 10' | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| * Modified California Sampler Boring terminated at 11.5 feet. Boring Backfilled with Excavated Soils and Tamped at Surface | | | | | | | | | | | | | | | |

LUMOS LOG ST BORE 8042.012 GLENBROOK CREEK.GPJ US LAB.GDT 2/1/12

Lumos & Associates, Inc

 800 E. College Parkway
 Carson City, Nevada 89706
 775-883-7077
 Fax: 775-883-7114

Glenbrook Creek
LOG OF EXPLORATORY BORING
 Job Number: 8042.012
 Date: February 2012

PLATE
A-1

Logged By: **B. Sexton**

Total Depth: **11.5 feet**

Date Logged: **1-18-2012**

Water Depth: **9 feet ±**

Drill Type: **Truck Mounted B-55 H.S.A.**


Ground Elev.: **E.G.S. feet ±**

| Depth in Feet | Graphic Log | Sample Type | Shelby Tube | Standard Split Spoon (SPT) | California Sampler | Blows/Foot | Moisture Content, % | Dry Unit Weight, pcf | Liquid Limit, % | Plasticity Index, % | Gravel, % (3" - #4 Sieve) | Sand, % (#4 - #200 Sieve) | Fines, % (< #200 Sieve) | R-Value | Direct Shear | |
|------------------|-------------|-------------|---------------------|----------------------------|--------------------|------------|---------------------|----------------------|-----------------|---------------------|---------------------------|---------------------------|-------------------------|---------|--------------|--|
| | | | Modified California | Bag Sample | Static Water Table | | | | | | | | | | | |
| SOIL DESCRIPTION | | | | | | | | | | | | | | | | |
| 1 | | B | | ⊗ | ⊗ | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | |
| 2.5 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | |
| 5.0 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| 7.5 | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | |
| 11.5 | | | | | | | | | | | | | | | | |

* Modified California Sampler
 Boring terminated at 11.5 feet.
 Boring Backfilled with Excavated Soils and Tamped at Surface

LUMOS LOG ST BORE 8042.012 GLENBROOK CREEK.GPJ US LAB.GDT. 2/1/12

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Glenbrook Creek

LOG OF EXPLORATORY BORING

Job Number: 8042.012

Date: February 2012

PLATE

A-2

Logged By: **B. Sexton**

Total Depth: **21.5 feet**

Date Logged: **1-18-2012**

Water Depth: **17 feet ±**

Drill Type: **Truck Mounted B-55 H.S.A.**

Ground Elev.: **E.G.S. feet ±**

| Depth in Feet | Graphic Log | Sample Type | <input checked="" type="checkbox"/> Shelby Tube <input type="checkbox"/> Standard Split Spoon (SPT) <input checked="" type="checkbox"/> California Sampler | Blows/Foot | Moisture Content, % | Dry Unit Weight, pcf | Liquid Limit, % | Plasticity Index, % | Gravel, % (3" - #4 Sieve) | Sand, % (#4 - #200 Sieve) | Fines, % (< #200 Sieve) | R-Value | Direct Shear |
|------------------|-------------|-------------|--|------------|---------------------|----------------------|-----------------|---------------------|---------------------------|---------------------------|-------------------------|---------|--------------|
| | | | <input checked="" type="checkbox"/> Modified California <input type="checkbox"/> Bag Sample <input type="checkbox"/> Static Water Table | | | | | | | | | | |
| SOIL DESCRIPTION | | | | | | | | | | | | | |
| | | | <p>Orange Brown Clayey SAND (SC), Moist, Dense. <u>This Material is FILL Under Roadway</u></p> | 21 | | | 29 | 11 | 8 | 63 | 28.6 | | |
| 5 | | | | | | | | | | | | | |
| 10 | | | <p>Brown Clayey SAND (SC), Moist, Loose. Estimated 5% Fine Gravel, 60% Coarse to Fine Sand and 35% Clay. Some Mottling Noted. <u>This Material is Native and at the Interface Between Fill and Native there was Shards of Green Glass (10.7').</u></p> | 10.7 | | | | | | | | | |
| 15 | | | <p>Gray Brown Clayey SAND (SC), Very Moist, Loose. Estimated 70% Coarse to Fine Sand and 30% Clay.</p> <p>Groundwater Encountered at 17'</p> | 6 | | | | | | | | | |
| 20 | | | <p>Material Becomes Medium Dense Below 20.7'</p> | 21.5 | | | | | | | | | |
| | | | <p>* Modified California Sampler Boring terminated at 21.5 feet. Boring Backfilled with Excavated Soils and Tamped at Surface</p> | | | | | | | | | | |

LUMOS LOG ST BORE 8042.012 GLENBROOK CREEK.GPJ US LAB.GDT 2/1/12

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Glenbrook Creek

LOG OF EXPLORATORY BORING

Job Number: 8042.012

Date: February 2012

PLATE

A-3

SOIL CLASSIFICATION CHART

| MAJOR DIVISIONS | | | SYMBOLS | | TYPICAL DESCRIPTIONS |
|---|---|---|-----------|--|---|
| | | | GRAPH | LETTER | |
| COARSE GRAINED SOILS <small>MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE</small> | GRAVEL AND GRAVELLY SOILS <small>MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE</small> | CLEAN GRAVELS <small>(LITTLE OR NO FINES)</small> | | GW | WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES |
| | | GRAVELS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small> | | GP | POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES |
| | | GRAVELS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small> | | GM | SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES |
| | | GRAVELS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small> | | GC | CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES |
| | SAND AND SANDY SOILS <small>MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE</small> | CLEAN SANDS <small>(LITTLE OR NO FINES)</small> | | SW | WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES |
| | | CLEAN SANDS <small>(LITTLE OR NO FINES)</small> | | SP | POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES |
| | | SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small> | | SM | SILTY SANDS, SAND - SILT MIXTURES |
| | | SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small> | | SC | CLAYEY SANDS, SAND - CLAY MIXTURES |
| FINE GRAINED SOILS <small>MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE</small> | SILTS AND CLAYS <small>LIQUID LIMIT LESS THAN 50</small> | | ML | INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY | |
| | | | CL | INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS | |
| | | | OL | ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY | |
| | SILTS AND CLAYS <small>LIQUID LIMIT GREATER THAN 50</small> | | MH | INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS | |
| | | | CH | INORGANIC CLAYS OF HIGH PLASTICITY | |
| | | | OH | ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS | |
| HIGHLY ORGANIC SOILS | | | | PT | PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS |

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

| Other Tests | |
|-------------|--|
| AN | ANALYTICAL TEST (pH, Soluble Sulfate, and Resistivity) |
| C | CONSOLIDATION TEST |
| DS | DIRECT SHEAR TEST |
| MD | MOISTURE DENSITY CURVE |

LUMOS - LEGEND - 8042.012 GLENBROOK CREEK.GPJ - 10-23-06.GDT - 2/1/12



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Glenbrook Creek

LEGEND

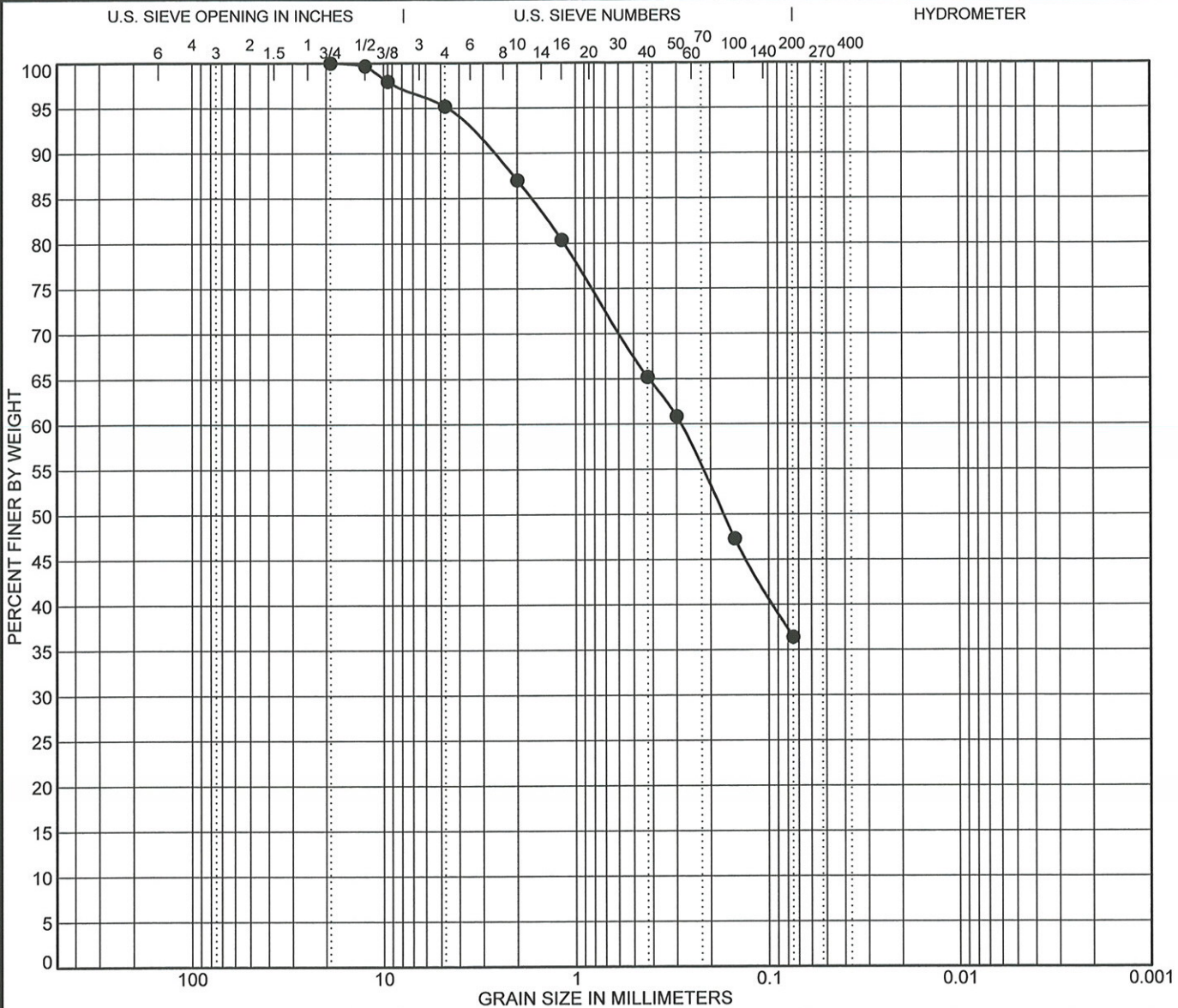
Job Number: 8042.012

Date: February 2012

PLATE

A-4

APPENDIX B



| | | | | | | |
|---------|--------|------|--------|--------|------|--------------|
| COBBLES | GRAVEL | | SAND | | | SILT OR CLAY |
| | coarse | fine | coarse | medium | fine | |

| | | | | | | | | | | | |
|------------------------------|--|----------------------------------|-------|------------------|-----|--------------|-------|-------|-------|----|----|
| Specimen Identification | | Date: 1-20-2012 | | | | | LL | PL | PI | Cc | Cu |
| B-1 | | Classification | | | | | 31 | 20 | 11 | | |
| Depth: 0 | | Brown Clayey SAND (SC) | | | | | | | | | |
| Sample Location | | Combined B-1 0'-5' & B-2 0'-2.5' | | | | | | | | | |
| USCS | | SC | | | | | | | | | |
| AASHTO | | | | | | | | | | | |
| Specimen Identification | | D100 | D60 | D30 | D10 | %Gravel | %Sand | %Silt | %Clay | | |
| B-1 | | 19 | 0.287 | | | 4.8 | 58.8 | 36.4 | | | |
| Depth: 0 | | | | | | | | | | | |
| Natural Moisture | | % | | S.E. | | Absorption % | | | | | |
| Expansion Index | | | | Durability Index | | Soundness | | | | | |
| Percentage of Wear (500 rev) | | % | | Specific Gravity | | Direct Shear | | 34 | | | |

LUMOS GRAIN SIZE 8042.012 GLENBROOK CREEK.GPJ US LAB.GDT 2/1/12



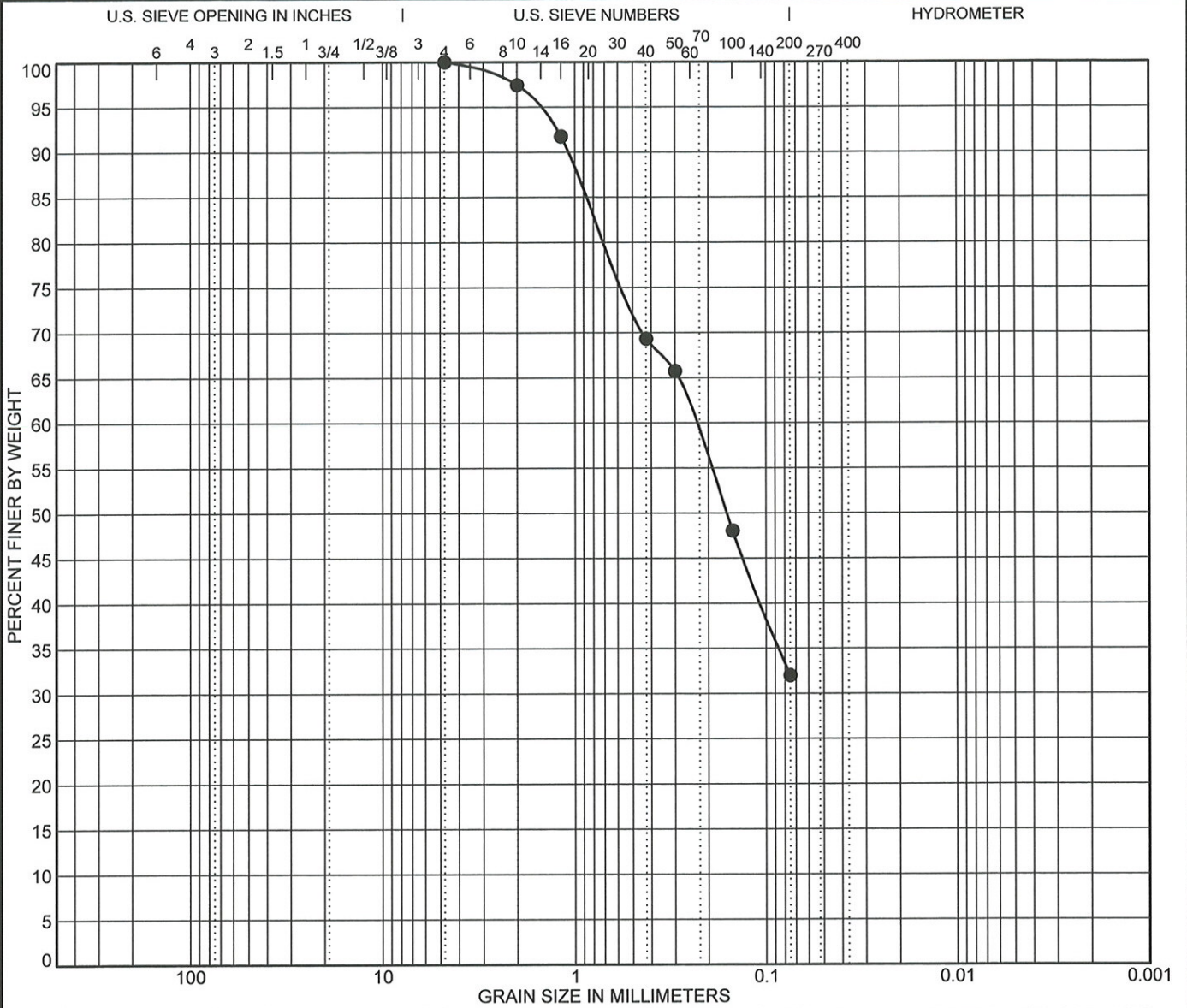
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Glenbrook Creek

GRAIN SIZE DISTRIBUTION

Job Number: 8042.012 Date: February 2012

PLATE
B-1.1



| | | | | | | |
|---------|--------|------|--------|--------|------|--------------|
| COBBLES | GRAVEL | | SAND | | | SILT OR CLAY |
| | coarse | fine | coarse | medium | fine | |

| | | | | | | | | | | | |
|-------------------------|------------------------------|-----------------------------|-------|------------------|--------------|---------|-------|-------|-------|----|----|
| Specimen Identification | | Date: 1-19-2012 | | | | | | | | | |
| ● | B-2 | Classification | | | | | LL | PL | PI | Cc | Cu |
| | Depth: 5 | Gray Brown Clayey SAND (SC) | | | | | 33 | 23 | 10 | | |
| | Sample Location | B-2 from 5' - 6.5' | | | | | | | | | |
| | USCS | SC | | | | | | | | | |
| | AASHTO | | | | | | | | | | |
| Specimen Identification | | | | | | | | | | | |
| ● | B-2 | D100 | D60 | D30 | D10 | %Gravel | %Sand | %Silt | %Clay | | |
| | Depth: 5 | 4.75 | 0.239 | | | 0.0 | 68.0 | 32.0 | | | |
| | Natural Moisture | % | | S.E. | Absorption % | | | | | | |
| | Expansion Index | | | Durability Index | Soundness | | | | | | |
| | Percentage of Wear (500 rev) | % | | Specific Gravity | Direct Shear | | | | | | |

LUMOS GRAIN SIZE 8042.012 GLENBROOK CREEK.GPJ US LAB.GDT 2/1/12



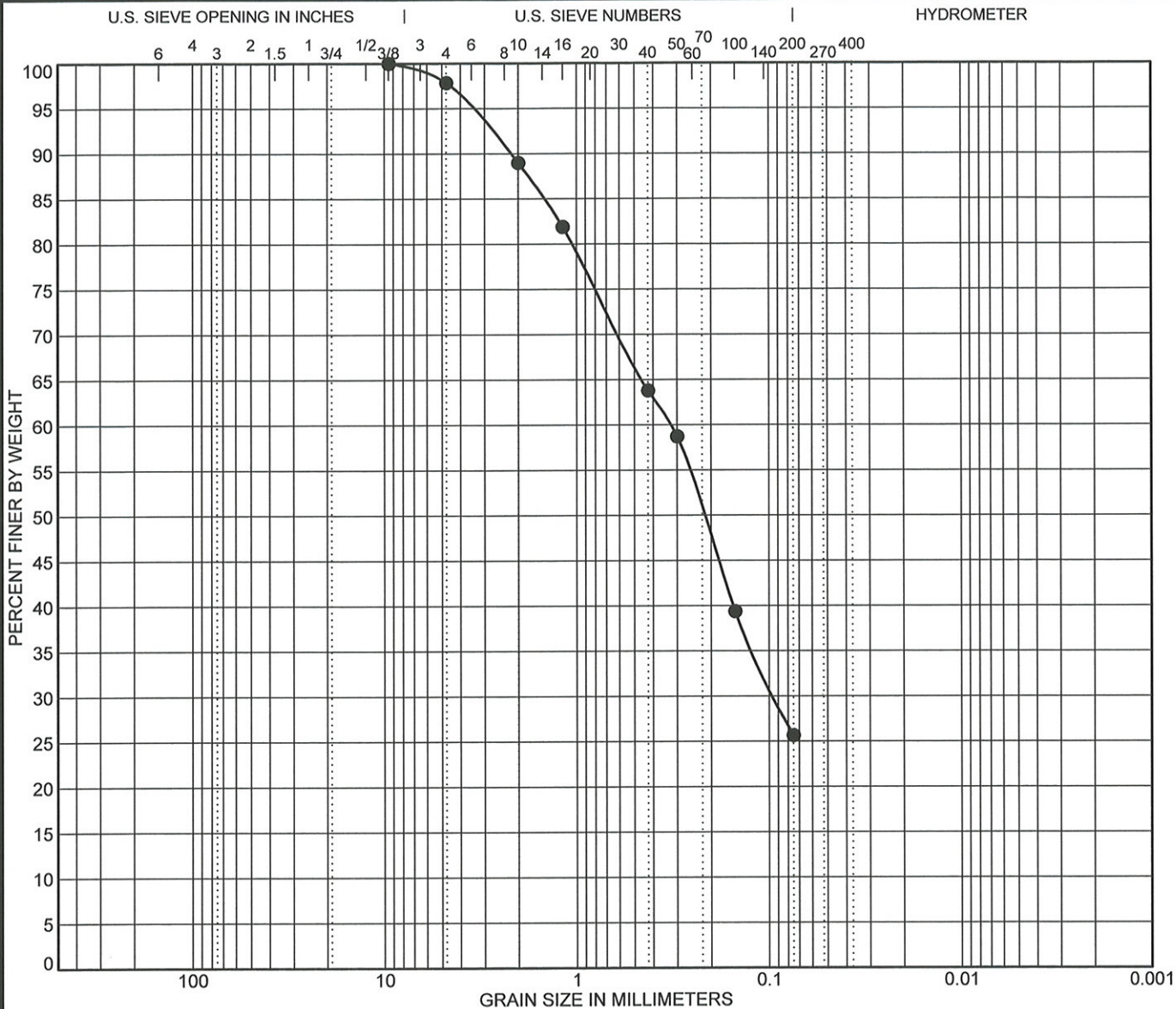
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Glenbrook Creek

GRAIN SIZE DISTRIBUTION

Job Number: 8042.012 Date: February 2012

PLATE
B-1.2

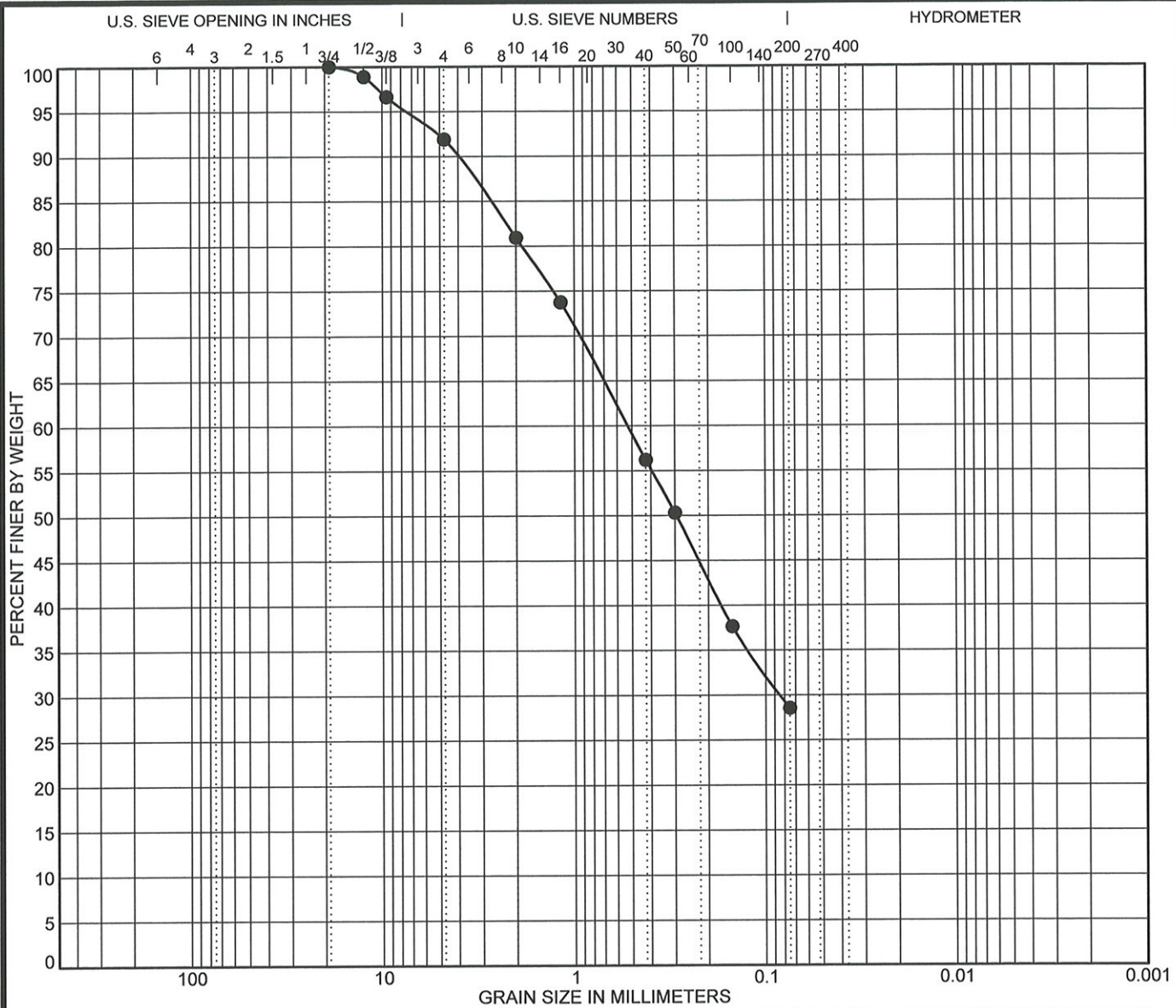


| | | | | | | |
|---------|--------|------|--------|--------|------|--------------|
| COBBLES | GRAVEL | | SAND | | | SILT OR CLAY |
| | coarse | fine | coarse | medium | fine | |

| | | | | | | | | | | | |
|-------------------------|------------------------------|-------------------------------|-------|------------------|-----|--------------|-------|-------|-------|----|----|
| Specimen Identification | | Date: 1-19-2012 | | | | | | | | | |
| ● | B-2 | Classification | | | | | LL | PL | PI | Cc | Cu |
| | Depth: 10 | Orange Brown Clayey SAND (SC) | | | | | 30 | 21 | 9 | | |
| | Sample Location | B-2 from 10' - 11.5' | | | | | | | | | |
| | USCS | SC | | | | | | | | | |
| | AASHTO | | | | | | | | | | |
| Specimen Identification | | | | | | | | | | | |
| ● | B-2 | D100 | D60 | D30 | D10 | %Gravel | %Sand | %Silt | %Clay | | |
| | Depth: 10 | 9.5 | 0.328 | 0.093 | | 2.2 | 72.2 | 25.7 | | | |
| | Natural Moisture | % | | S.E. | | Absorption % | | | | | |
| | Expansion Index | | | Durability Index | | Soundness | | | | | |
| | Percentage of Wear (500 rev) | % | | Specific Gravity | | Direct Shear | | | | | |

| | | | |
|--|---|--|--|
| <p>LUMOS & ASSOCIATES</p> | <p>Lumos & Associates, Inc 800 E. College Parkway Carson City, Nevada 89706 775-883-7077 Fax: 775-883-7114</p> | <p>Glenbrook Creek</p> <p>GRAIN SIZE DISTRIBUTION</p> <p>Job Number: 8042.012</p> | <p>PLATE</p> <p>B-1.3</p> <p>Date: February 2012</p> |
|--|---|--|--|

LUMOS GRAIN SIZE 8042.012 GLENBROOK CREEK.GPJ US LAB.GDT 2/1/12



| | | | | | | |
|---------|--------|------|--------|--------|------|--------------|
| COBBLES | GRAVEL | | SAND | | | SILT OR CLAY |
| | coarse | fine | coarse | medium | fine | |

| | | | | | | | | | | | |
|-------------------------|------------------------------|--------------------------------------|------|------------------|--------------|---------|-------|-------|-------|----|----|
| Specimen Identification | | Date: 1-19-2012 | | | | | LL | PL | PI | Cc | Cu |
| ● | B-3 | Classification | | | | | 29 | 18 | 11 | | |
| | Depth: 0 | Import Orange Brown Clayey SAND (SC) | | | | | | | | | |
| | Sample Location | B-3 form 0' - 5' | | | | | | | | | |
| | USCS | SC | | | | | | | | | |
| | AASHTO | | | | | | | | | | |
| Specimen Identification | | D100 | D60 | D30 | D10 | %Gravel | %Sand | %Silt | %Clay | | |
| ● | B-3 | 19 | 0.53 | 0.084 | | 8.1 | 63.3 | 28.6 | | | |
| | Depth: 0 | | | | | | | | | | |
| | Natural Moisture | % | | S.E. | Absorption % | | | | | | |
| | Expansion Index | | | Durability Index | Soundness | | | | | | |
| | Percentage of Wear (500 rev) | % | | Specific Gravity | Direct Shear | | | | | | |

LUMOS GRAIN SIZE 8042.012 GLENBROOK CREEK.GPJ US LAB.GDT 2/1/12

LUMOS & ASSOCIATES, Inc
 800 E. College Parkway
 Carson City, Nevada 89706
 775-883-7077
 Fax: 775-883-7114

Glenbrook Creek

GRAIN SIZE DISTRIBUTION

Job Number: 8042.012 Date: February 2012

PLATE
B-1.4

Date: 1-20-2012
 Sample ID: B-1
 Sample Location: Combined B-1 0'-5' & B-2 0'-2.5'
 Depth: 0
 Description of Material: Brown Clayey SAND (SC)
 Test Method: ASTM D 1557A

TEST RESULTS

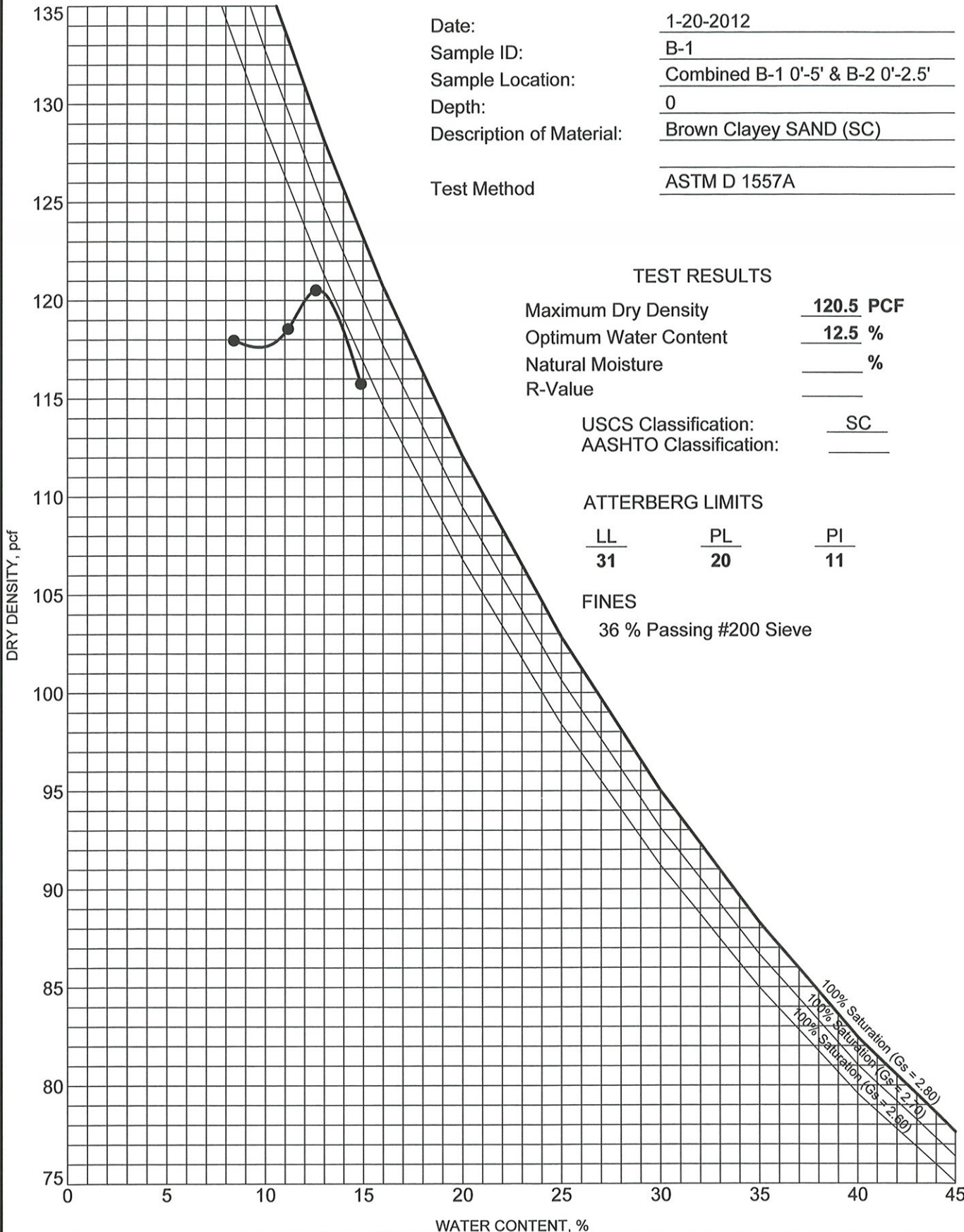
Maximum Dry Density: 120.5 PCF
 Optimum Water Content: 12.5 %
 Natural Moisture: _____ %
 R-Value: _____
 USCS Classification: SC
 AASHTO Classification: _____

ATTERBERG LIMITS

| LL | PL | PI |
|----|----|----|
| 31 | 20 | 11 |

FINES

36 % Passing #200 Sieve



LUMOS COMPACTION 8042.012 GLENBROOK CREEK.GPJ US LAB.GDT 2/1/12



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 800 E. College Parkway
 Carson City, Nevada 89706
 775-883-7077
 Fax: 775-883-7114

Glenbrook Creek

MOISTURE-DENSITY CURVE

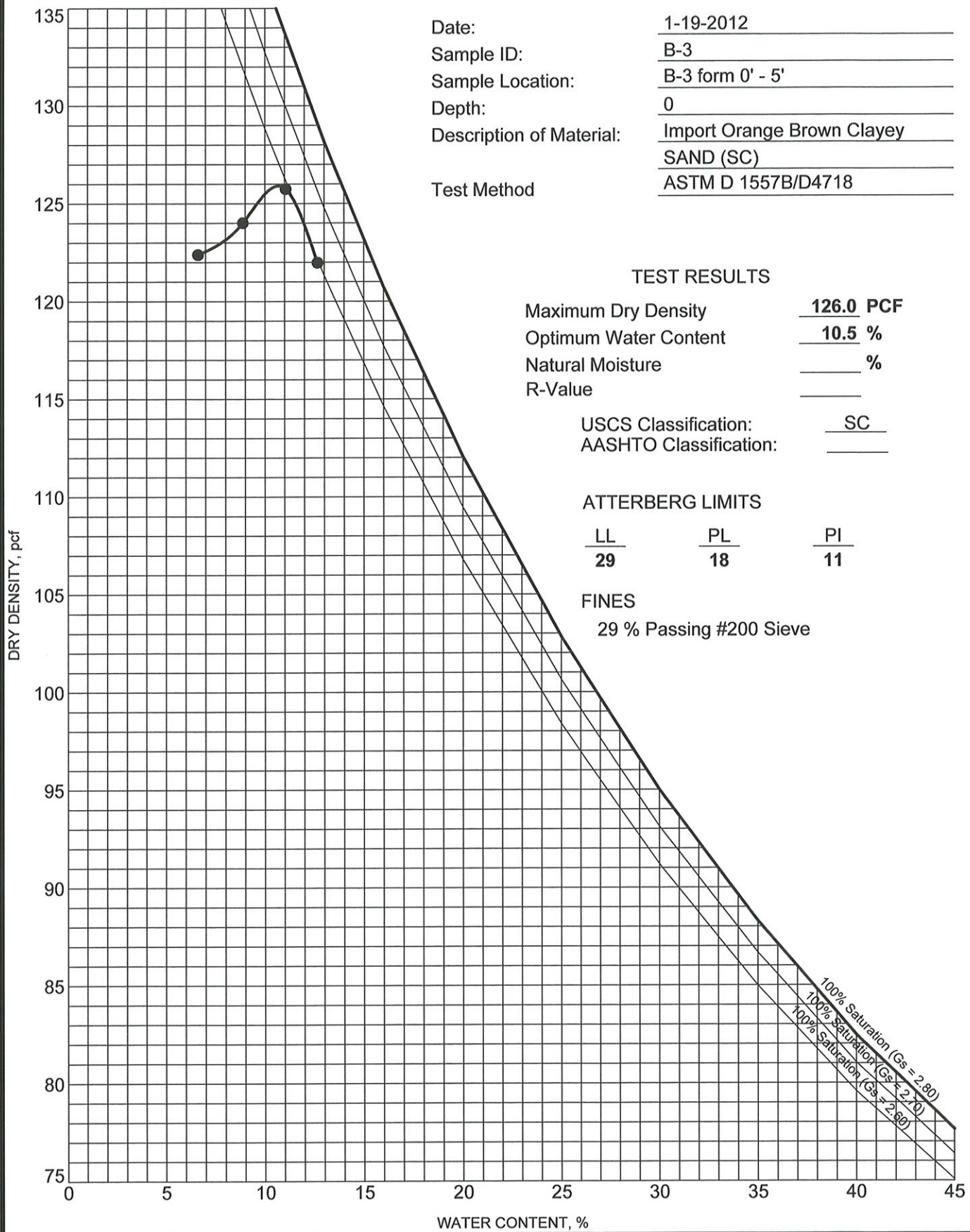
Job Number: 8042.012

Date: February 2012

PLATE

B-3.1

Date: 1-19-2012
 Sample ID: B-3
 Sample Location: B-3 form 0' - 5'
 Depth: 0
 Description of Material: Import Orange Brown Clayey SAND (SC)
 Test Method: ASTM D 1557B/D4718



TEST RESULTS

Maximum Dry Density: 126.0 PCF
 Optimum Water Content: 10.5 %
 Natural Moisture: _____ %
 R-Value: _____

USCS Classification: SC
 AASHTO Classification: _____

ATTERBERG LIMITS

LL: 29 PL: 18 PI: 11

FINES

29 % Passing #200 Sieve

LUMOS COMPACTION 8042.012 GLENBROOK CREEK.GPJ US LAB.GDT 2/1/12

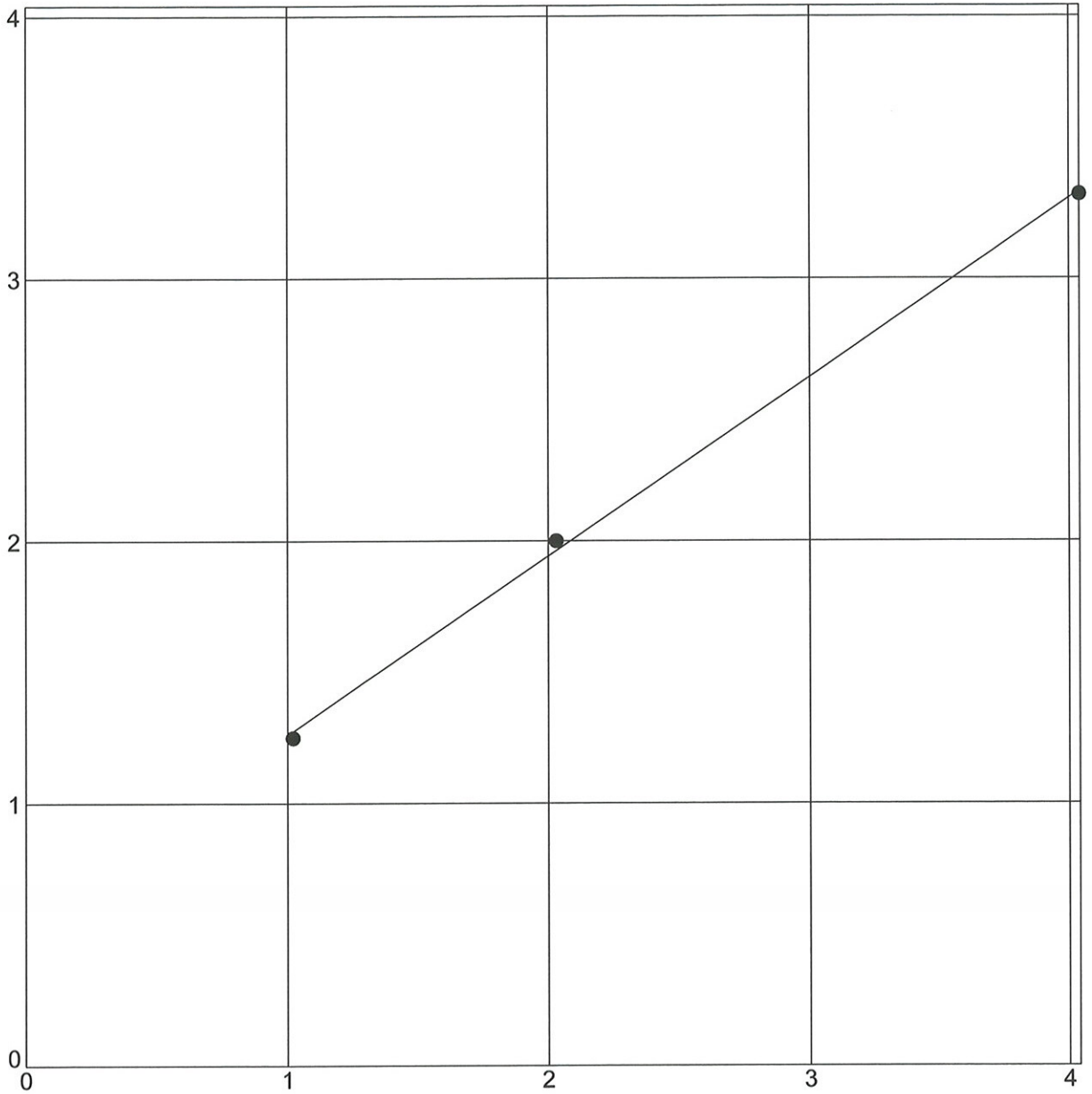


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 800 E. College Parkway
 Carson City, Nevada 89706
 775-883-7077
 Fax: 775-883-7114

Glenbrook Creek
MOISTURE-DENSITY CURVE
 Job Number: 8042.012 Date: February 2012

PLATE
B-3.2

SHEAR STRENGTH, ksf



NORMAL PRESSURE, ksf

LUMOS DIRECT SHEAR 8042.012 GLENBROOK CREEK.GPJ US LAB.GDT 2/1/12

| Specimen Identification | Classification | γ_d | MC% | c | ϕ |
|-------------------------|-------------------------------|--------------|-------------|-------------|-------------|
| ● B-1 0.0 | Brown Clayey SAND (SC) | 108.5 | 12.5 | 0.58 | 34.3 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |



Lumos & Associates, Inc
 800 E. College Parkway
 Carson City, Nevada 89706
 775-883-7077
 Fax: 775-883-7114

Glenbrook Creek
DIRECT SHEAR TEST

Job Number: 8042.012

Date: February 2012

PLATE
B-4

LABORATORY REPORT

| | |
|--|--------------------------------|
| DATE: January 23, 2012 | REPORT NUMBER: 12-0258 |
| CLIENT: Lumos and Associates 800 East College Parkway Carson City, NV 89706 | PAGE: 1 of 1 |
| CLIENT PROJECT: 8042.012 | PO# 8042.12/MTB |
| Sampled By: Mitch B. | Date Received: 01/20/12 |
| Date Sampled: -- | Time Received: 0925 |
| Time Sampled: -- | |

Sample ID: B-1@0-5'/B-2@0-2.5'

| Test | Result | Unit | Method |
|------------------------|--------|-------|-------------|
| Sodium | 0.00 | % | ASTMD2791 |
| Sulfate | 0.00 | % | SM4500E |
| Sodium Sulfate | 0.00 | % | Calculation |
| pH | 6.25 | S.U. | SM9045C |
| Soluble Soil Chlorides | 9.90 | mg/kg | SM4500C |
| Resistivity | 4430 | Ω-cm | AASHTOT288 |

Note: The results for each constituent denote the percentage (%) for that particular element which is soluble in a 1:5 (soil to water) extraction ratio and corrected for dilution.

REVIEWED BY:



 John Sloan
 Laboratory Director

3638 East Sunset Road, Suite 100 Las Vegas, NV 89120
 Tel: 702-873-4478 Fax: 702-873-7967 www.ssalabs.com

LUMOS SOLUBLE SULFATE / pH VALUE 8042.012 GLENBROOK CREEK GP.J US LAB.GDT 1/25/12



Lumos & Associates, Inc
 800 E. College Parkway
 Carson City, Nevada 89706
 775-883-7077
 Fax: 775-883-7114

Glenbrook Creek

SOLUBLE SULFATE / pH VALUE

Job Number: 8042.012

Date: January 2012

PLATE

B-5

APPENDIX C

Conterminous 48 States
2002 Data
Uniform Hazard Spectrum (UHS) for 2 % PE in 50 years

Latitude = 39.0884
Longitude = -119.9361
B/C Boundary
Data are based on a 0.05 deg grid spacing

| Period (sec) | Sa (g) | Sd (inches) |
|-----------------|-----------|----------------|
| 0.000 | 0.678 | 0.000 |
| 0.100 | 1.444 | 0.141 |
| 0.200 | 1.669 | 0.652 |
| 0.300 | 1.508 | 1.326 |
| 0.500 | 1.139 | 2.781 |
| 1.000 | 0.641 | 6.262 |
| 2.000 | 0.303 | 11.850 |

Conterminous 48 States
2002 Data
Uniform Hazard Spectrum (UHS) for 10 % PE in 50 years

Latitude = 39.0884
Longitude = -119.9361
B/C Boundary
Data are based on a 0.05 deg grid spacing

| Period (sec) | Sa (g) | Sd (inches) |
|-----------------|-----------|----------------|
| 0.000 | 0.381 | 0.000 |
| 0.100 | 0.787 | 0.077 |
| 0.200 | 0.922 | 0.360 |
| 0.300 | 0.813 | 0.715 |
| 0.500 | 0.585 | 1.428 |
| 1.000 | 0.322 | 3.142 |
| 2.000 | 0.154 | 6.006 |

LUMOS PROBABILISTIC UNIFORM HAZARD RESPONSE 8042.012 GLENBROOK CREEK.GPJ US LAB.GDT 1/25/12



Lumos & Associates, Inc
800 E. College Parkway
Carson City, Nevada 89706
775-883-7077
Fax: 775-883-7114

Glenbrook Creek

**PROBABILISTIC UNIFORM
HAZARD RESPONSE**

Job Number: 8042.012

Date: January 2012

**PLATE
C-1**

Conterminous 48 States
 2006 International Building Code
 Latitude = 39.0884
 Longitude = -119.9361
 Spectral Response Accelerations Ss and S1
 Ss and S1 = Mapped Spectral Acceleration Values
 Site Class B - Fa = 1.0 ,Fv = 1.0
 Data are based on a 0.01 deg grid spacing
 Period Sa
 (sec) (g)
 0.2 1.588 (Ss, Site Class B)
 1.0 0.600 (S1, Site Class B)

Conterminous 48 States
 2006 International Building Code
 Latitude = 39.0884
 Longitude = -119.9361
 Spectral Response Accelerations SMs and SM1
 SMs = Fa x Ss and SM1 = Fv x S1
 Site Class D - Fa = 1.0 ,Fv = 1.5

Period Sa
 (sec) (g)
 0.2 1.588 (SMs, Site Class D)
 1.0 0.900 (SM1, Site Class D)

Conterminous 48 States
 2006 International Building Code
 Latitude = 39.0884
 Longitude = -119.9361
 Design Spectral Response Accelerations SDs and SD1
 SDs = 2/3 x SMs and SD1 = 2/3 x SM1
 Site Class D - Fa = 1.0 ,Fv = 1.5

Period Sa
 (sec) (g)
 0.2 1.059 (SDs, Site Class D)
 1.0 0.600 (SD1, Site Class D)

LUMOS MAXIMUM CONSIDERED EARTHQUAKE GROUND MOTION 8042.012 GLENBROOK CREEK GP.J US LAB.GDT 1/25/12



Lumos & Associates, Inc
 800 E. College Parkway
 Carson City, Nevada 89706
 775-883-7077
 Fax: 775-883-7114

Glenbrook Creek

**MAXIMUM CONSIDERED
 EARTHQUAKE GROUND MOTION**

Job Number: 8042.012

Date: January 2012

PLATE

C-2

APPENDIX D

Job # 8042.012
Client: Nevada Tahoe Conservation District
Description: Pavement Calculations
By: B. Sexton

Assumed R-Value for existing fill material = 30
R-Value for Gravel (Type II, Class B) = 70
T.I. = 6
 $G_f = 2.32$
 $GE = 0.0032(TI)(100-R)$
 $t_{layer} = GE/G_f$

$GE_{AC} = 0.0032(6)(100-70) = 0.576'$
 $t_{AC} = .576/(2.32)*(12'') = 2.98'' \Rightarrow$ **use 3" asphalt**
 $t_{AC(actual)} = (3)(2.32)/12'' = .580'$
 $GE_{AB(45)} = 0.0032(6)(100-30) = 1.344'$
 $t_{AB} = (1.344-.580)(12'')/1.1 = 8.3'' \Rightarrow$ **use 9" aggregate base**

Therefore, use 3" of Asphalt Concrete (AC) underlain by a minimum of 9" of Aggregate Base over properly compacted fill material.

LUMOS PAVEMENT DESIGN 8042.012 GLENBROOK CREEK GPJ US LAB.GDT 1/25/12



Lumos & Associates, Inc
800 E. College Parkway
Carson City, Nevada 89706
775-883-7077
Fax: 775-883-7114

Glenbrook Creek

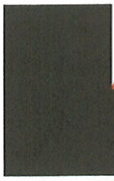
PAVEMENT DESIGN

Job Number: 8042.012

Date: January 2012

PLATE

D-1



LUMOS AND ASSOCIATES INC.

- CIVIL ENGINEERING
- GEOTECHNICAL ENGINEERING
- PLANNING
- LANDSCAPE ARCHITECTURE
- SURVEYING
- CONSTRUCTION SERVICES
- MATERIALS TESTING

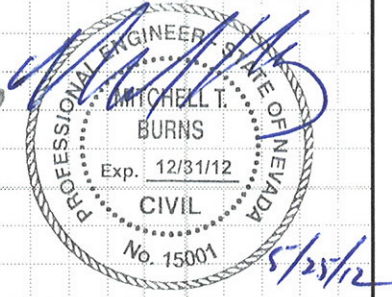
800 E. College Parkway
Carson City, NV 89706
(775) 883-7077

5401 Longley Lane, Ste. 5
Reno, NV 89511
(775) 827-6111

137 Keddie Street
Fallon, NV 89406
(775) 423-2188

Client: Nevada Tahoe Cons. Dist. Sheet 1 Of 1
 Description: 3,000psf bearing overex. requirements
 Job No. 5072012
 By: MPS Date 5/25/12
 Checked By: _____ Date _____

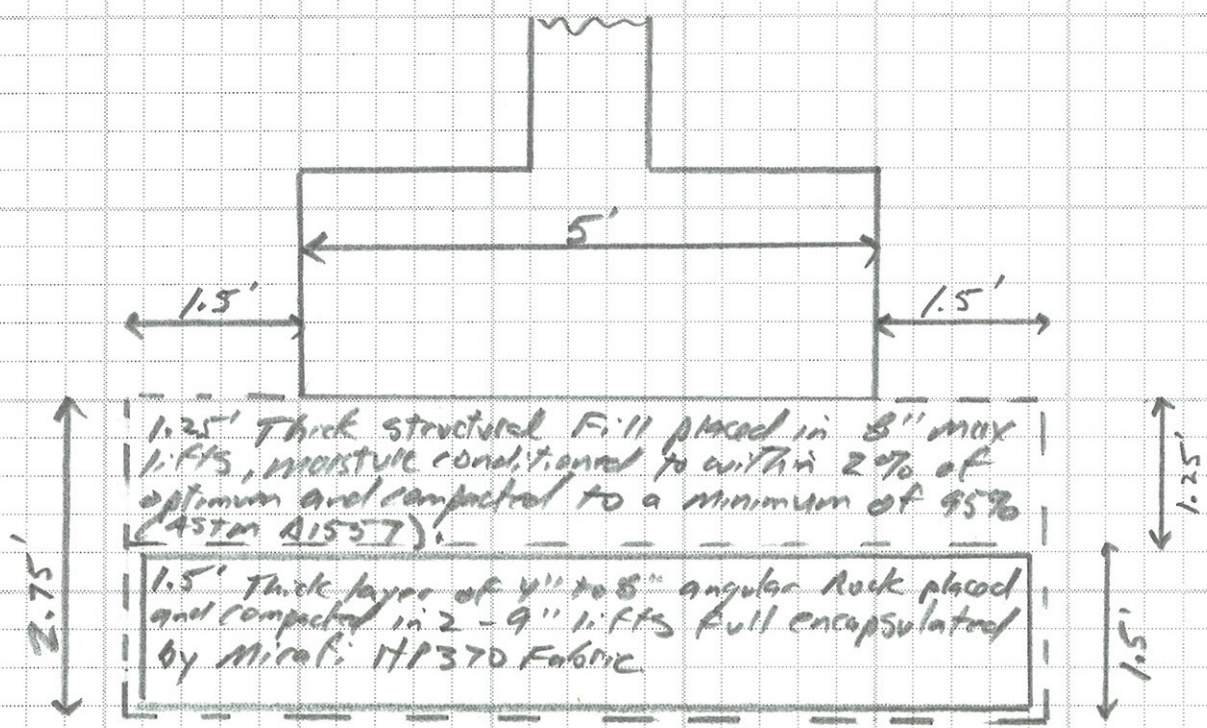
Based Bearing Capacity \Rightarrow 3,000psf
 Foundation Dimensions \Rightarrow 5' wide x 2' deep
 Maximum allowable differential settlement \Rightarrow 1"



Top 2.75' overexcavation and stabilization

$$\Delta H = \left[\frac{4qB^2}{K_v(B+1)^2} \right]_2 = \left[\frac{4(0.5(1.5 \text{ tcf}))(5' \cdot 2.75')^2}{45(5+2.75 \text{ ft})^2} \cdot 12''/\text{ft} \right]_2 = 2''$$

Differential settlement across foundation approximately 1/2 of Total settlement \Rightarrow 1/2 x 2" = 1"



Push 1 layer of 4" to 8" diameter angular rock into subgrade soils.



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- MATERIALS TESTING

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Reno, NV 89511
(775) 827-6111

137 Keddle Street
Fallon, NV 89406
(775) 423-2188

Client: Nevada Tahoe Cons. Dist. Sheet 1 Of 1
 Description: 4,000 pcf Baring over ex. requirements
 Job No. 8012.012
 By: MTB Date 5/25/12
 Checked By: _____ Date _____

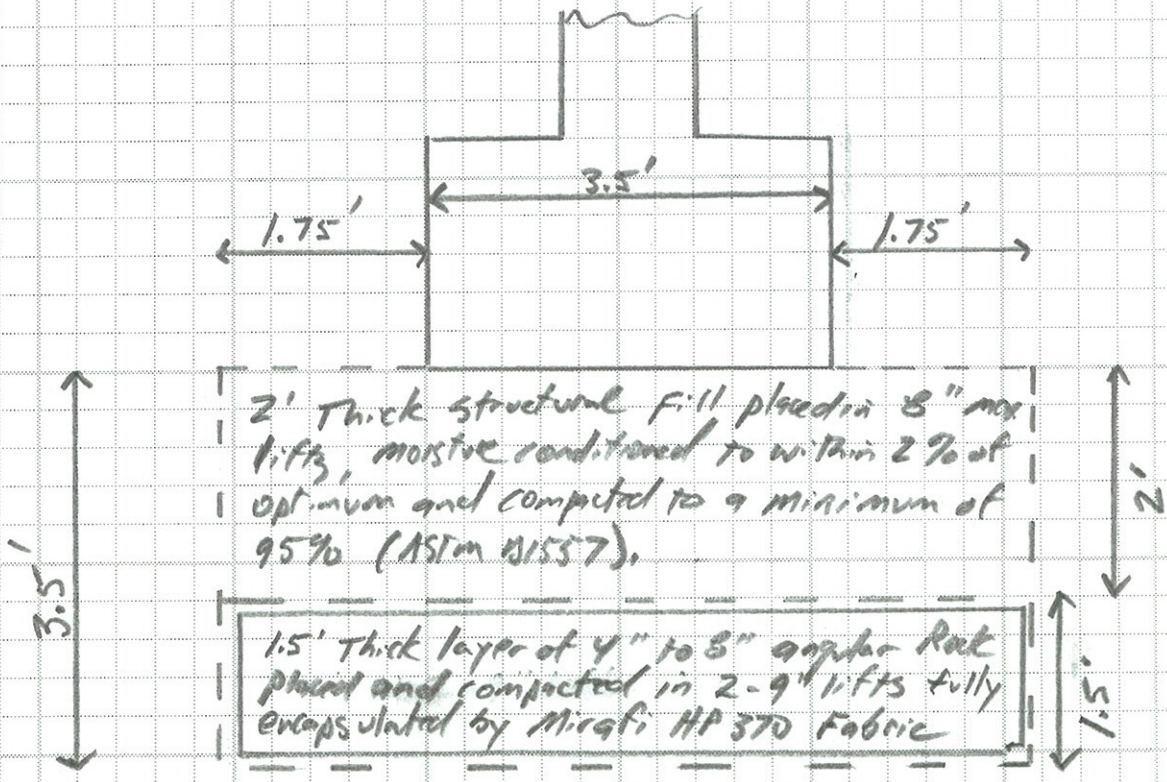


Desired Bearing Capacity \Rightarrow 4,000 pcf
 Foundation Dimensions \Rightarrow 3.5' wide x 2' deep
 Maximum allowable differential settlement \Rightarrow 1"

For 3.5' overexcavation w/ stabilization and

$$\Delta H = \left[\frac{4 q B^2}{K_v (B+1)^2} \right] z = \left[\frac{4 (0.6 (4000)) (3.5+3.5)^2}{45 (3.5+3.5+1)^2} \right] \times 12 \text{ in/ft} \times 2 = 2 \text{ inches}$$

Differential settlement across foundation approximately
 1/2 of total settlement \Rightarrow 1/2 x 2" \approx 1"



Push 1 layer of 4" to 6" diameter angular rock into subgrade soils

APPENDIX D

Job # 8042.012
Client: Nevada Tahoe Conservation District
Description: Pavement Calculations
By: B. Sexton

Assumed R-Value for existing fill material = 30
R-Value for Gravel (Type II, Class B) = 70
T.I. = 6
 $G_f = 2.32$
 $GE = 0.0032(TI)(100-R)$
 $t_{layer} = GE/G_f$

$GE_{AC} = 0.0032(6)(100-70) = 0.576'$
 $t_{AC} = .576/(2.32)*(12'') = 2.98'' \Rightarrow$ **use 3" asphalt**
 $t_{AC(actual)} = (3)(2.32)/12'' = .580'$
 $GE_{AB(45)} = 0.0032(6)(100-30) = 1.344'$
 $t_{AB} = (1.344-.580)(12'')/1.1 = 8.3'' \Rightarrow$ **use 9" aggregate base**

Therefore, use 3" of Asphalt Concrete (AC) underlain by a minimum of 9" of Aggregate Base over properly compacted fill material.

LUMOS PAVEMENT DESIGN 8042.012 GLENBROOK CREEK GPJ US LAB.GDT 1/25/12



Lumos & Associates, Inc
800 E. College Parkway
Carson City, Nevada 89706
775-883-7077
Fax: 775-883-7114

Glenbrook Creek

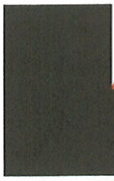
PAVEMENT DESIGN

Job Number: 8042.012

Date: January 2012

PLATE

D-1



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- GEOTECHNICAL ENGINEERING
- PLANNING
- LANDSCAPE ARCHITECTURE
- SURVEYING
- CONSTRUCTION SERVICES
- MATERIALS TESTING

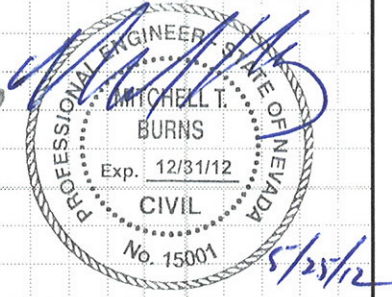
800 E. College Parkway
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Reno, NV 89511
(775) 827-6111

137 Keddie Street
Fallon, NV 89406
(775) 423-2188

Client: Nevada Tahoe Cons. Dist. Sheet 1 Of 1
 Description: 3,000psf bearing overex. requirements
 Job No. 5072012
 By: MPS Date 5/25/12
 Checked By: _____ Date _____

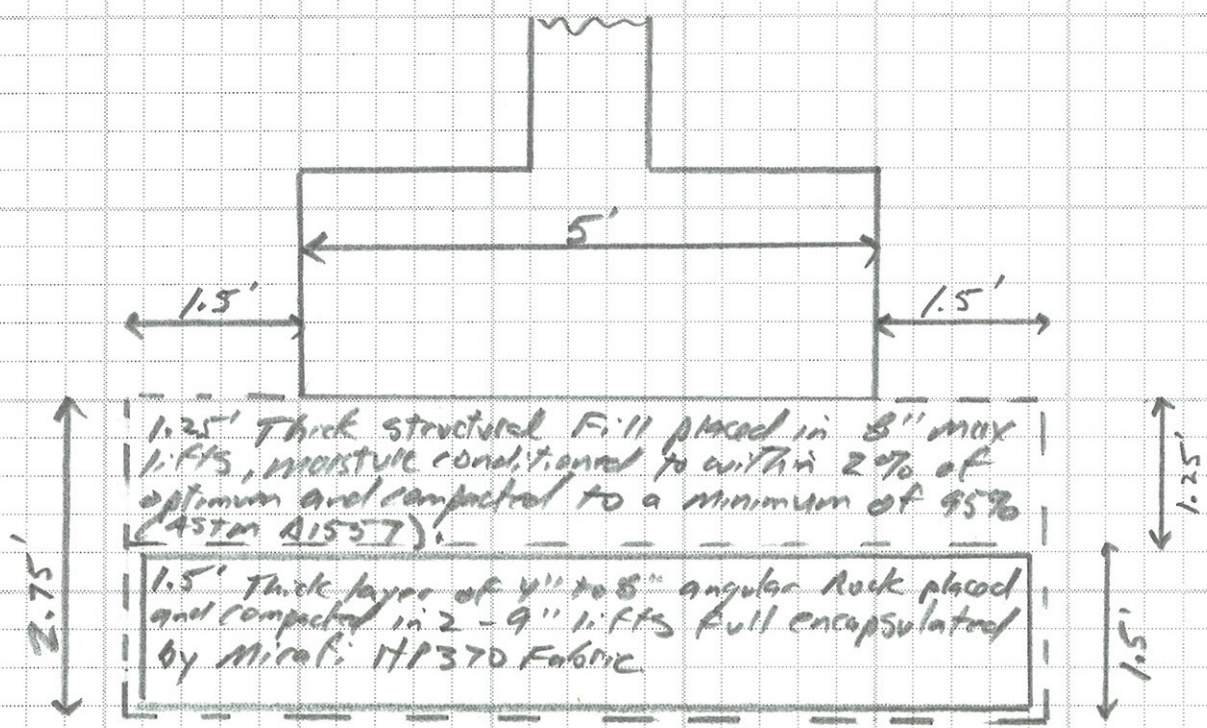
Based Bearing Capacity \Rightarrow 3,000psf
 Foundation Dimensions \Rightarrow 5' wide x 2' deep
 Maximum allowable differential settlement \Rightarrow 1"



Top 2.75' overexcavation and stabilization

$$\Delta H = \left[\frac{4qB^2}{K_v(B+1)^2} \right]^{1/2} = \left[\frac{4(0.5(1.5 \text{ tcf}))(5' \cdot 2.75')^2}{45(5+2.75 \text{ ft})^2} \cdot 12''/\text{ft} \right]^{1/2} = 2''$$

Differential settlement across foundation approximately 1/2 of Total settlement \Rightarrow 1/2 x 2" = 1"



Push 1 layer of 4" to 8" diameter angular rock into subgrade soils.



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Client: Nevada Tahoe Cons. Dist. Sheet 1 Of 1
 Description: 4,000 pcf Baring over ex. requirements
 Job No. 8012.012
 By: MTB Date 5/25/12
 Checked By: _____ Date _____

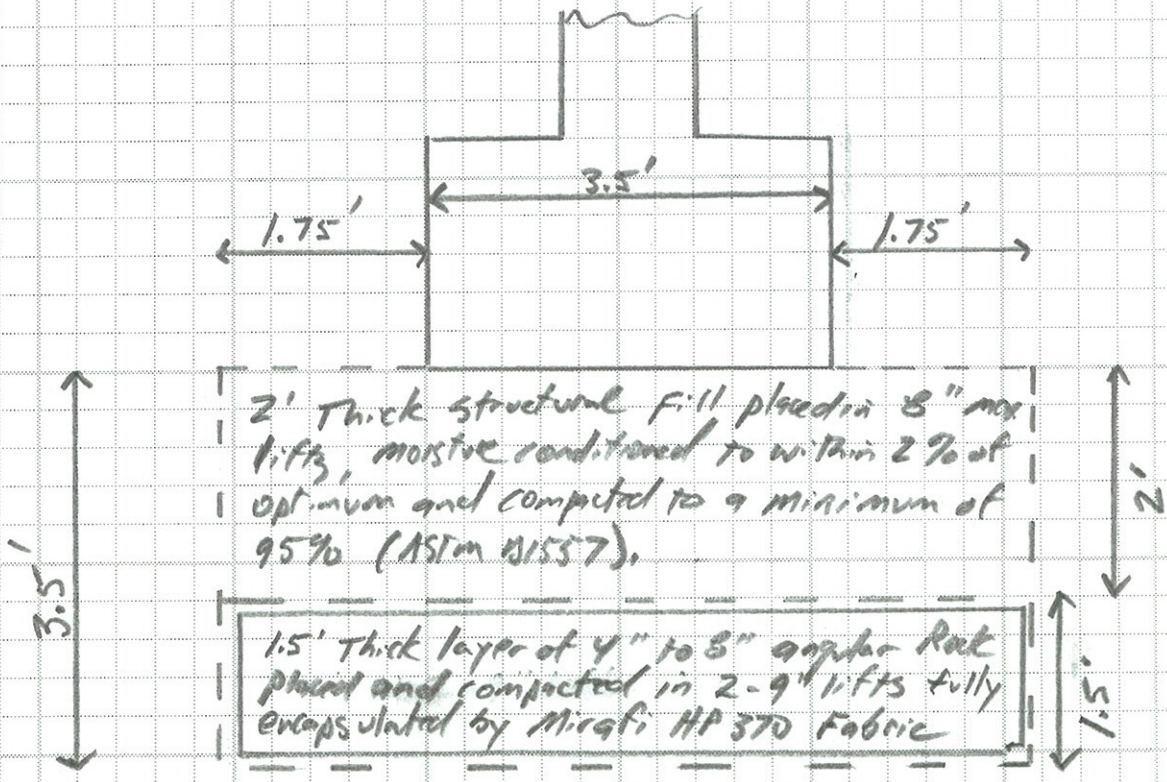


Desired Bearing Capacity \Rightarrow 4,000 pcf
 Foundation Dimensions \Rightarrow 3.5' wide x 2' deep
 Maximum allowable differential settlement \Rightarrow 1"

For 3.5' overexcavation w/ stabilization and

$$\Delta H = \left[\frac{4 q B^2}{K_v (B+1)^2} \right] z = \left[\frac{4 (0.6 (4000)) (3.5+3.5)^2}{45 (3.5+3.5+1)^2} \times 12 \text{ in/ft} \right] \times 2 = 2 \text{ inches}$$

Differential settlement across foundation approximately
 1/2 of total settlement \Rightarrow 1/2 x 2" \approx 1"



2' Thick structural fill placed in 8" max lifts, moisture conditioned to within 2% of optimum and compacted to a minimum of 95% (ASTM D1557).

1.5' Thick layer of 4" to 6" angular Rock placed and compacted in 2-9" lifts fully encapsulated by Mirafi HP 370 Fabric

Push 1 layer of 4" to 6" diameter angular rock into subgrade soils

Exhibit D

Tahoe Regional Planning Agency Permit



Mail
 PO Box 5310
 Stateline, NV 89449-5310

Location
 128 Market Street
 Stateline, NV 89449

Contact
 Phone: 775-588-4547
 Fax: 775-588-4527
 www.trpa.org



PERMIT

PROJECT DESCRIPTION: Glenbrook Creek Restoration Project

FILE #: EIPC2012-0015

TRPA PROJECT NUMBER: 1418-11-312-001

PERMITTEE(S): Nevada Tahoe Conservation District


COUNTY/LOCATION: Douglas/Glenbrook Creek from Old Highway 50 to approximately 300 feet downstream, Glenbrook, Nevada

Having made the findings required by Agency ordinances and rules, TRPA approved this permit on January 29, 2013, subject to the standard conditions of approval attached hereto (Attachment Q) and the special conditions found in this permit.

This permit shall expire on January 29, 2016 without further notice unless the construction has commenced prior to this date and diligently pursued thereafter. Diligent pursuit is defined as completion of the project within the approved construction schedule. The expiration date shall not be extended unless the project is determined by TRPA to be the subject of legal action which delayed or rendered impossible the diligent pursuit of the permit.

NO CONSTRUCTION OR GRADING SHALL COMMENCE UNTIL:

- (1) TRPA RECEIVES A COPY OF THIS PERMIT UPON WHICH THE PERMITTEE(S) HAS ACKNOWLEDGED RECEIPT OF THE PERMIT AND ACCEPTANCE OF THE CONTENTS OF THE PERMIT;
- (2) ALL PRE-CONSTRUCTION CONDITIONS OF APPROVAL ARE SATISFIED AS EVIDENCED BY TRPA'S ACKNOWLEDGEMENT OF THIS PERMIT; AND,
- (3) A TRPA PREGRADING INSPECTION HAS BEEN CONDUCTED WITH THE PROPERTY OWNER AND/OR THE CONTRACTOR, AND A CONSTRUCTION SCHEDULE SUBMITTED.


 TRPA Executive Director/Designee _____ Date 1-29-13

PERMITTEE'S ACCEPTANCE: I have read the permit and the conditions of approval and understand and accept them. I also understand that I am responsible for compliance with all the conditions of the permit and am responsible for my agents' and employees' compliance with the permit conditions. I also understand that if the property is sold, I remain liable for the permit conditions until or unless the new owner acknowledges the transfer of the permit and notifies TRPA in writing of such acceptance. I also understand that certain mitigation fees associated with this permit are non-refundable once paid to TRPA. I understand that it is my sole responsibility to obtain any and all required approvals from any other state, local or federal agencies that may have jurisdiction over this project whether or not they are listed in this permit.

Signature of Permittee(s)  _____ Date 1/31/13
 /bj

**TRPA PROJECT NUMBER 1418-11-312-001
FILE NO. EIPC2012-0015**

Security Posted: N/A

Required plans determined to be in conformance with approval: Date: _____

TRPA ACKNOWLEDGEMENT: The permittee has complied with all pre-construction conditions of approval as of this date:

TRPA Executive Director/Designee

Date

SPECIAL CONDITIONS

1. This permit specifically authorizes the Nevada Tahoe Conservation District to construct the Glenbrook Creek Restoration Project. The purpose of the project is to improve channel morphology and function as well as fish and wildlife habitat for portions of Glenbrook Creek. The project includes replacement of the culvert under Old Highway 50 and removal of a culvert approximately 300 feet downstream. The project area includes parcels 1418-11-312-001, 1418-11-411-001, and 1418-11-412-028.
2. Associated documents providing guidance, requirements, and conditions are included in the *TRPA Standard Conditions of Approval (Attachment Q); the final TRPA stamped Approved Plans; and the Special Technical Provisions*
3. The Standard Conditions of Approval listed in Attachment Q shall apply to this permit.
4. Prior to permit acknowledgement, the permittee shall submit 3 sets of final plans for TRPA for review and approval.
5. An onsite inspection by TRPA staff is required prior to any construction or grading activity. TRPA staff shall determine if the temporary BMPs required by Attachment Q (Standard Conditions of Approval) have been properly installed. No grading or construction shall commence until TRPA pre-grade conditions of approval are met.
6. The permittee shall submit a detailed construction schedule prior to commencement of construction.
7. The permittee shall not access private property without prior approval from the land owner.
8. All boulder, cobble, and gravel material shall be approved for color, size, shape, and type by TRPA prior to installation.

PERMIT CONTINUED ON NEXT PAGE

TRPA PROJECT NUMBER 1418-11-312-001
FILE NO. EIPC2012-0015

9. The permittee shall be responsible for ensuring that all temporary BMPs are constructed as directed by the TRPA Project Manager or Environmental Compliance Inspector.
10. All trees within areas of construction not shown to be removed shall be protected from damage during construction. The TRPA Project Manager reserves the right to inspect proposed tree removal. In no case shall any additional trees be removed without approval of the TRPA.
11. All construction equipment working in or near Stream Environment Zones (SEZ) areas must be cleaned prior to mobilization at the project site and maintained in clean and good working order.
12. Vegetation shall not be disturbed, injured, or removed except in accordance with the TRPA Code or the conditions of project approval. All trees, major roots, and other vegetation, not specifically designated or approved for removal shall be protected according to methods approved by TRPA. All vegetation outside the construction site/project area boundary shall not be disturbed.
13. Any modifications to the TRPA approved plans shall be submitted to TRPA for review and approval.
14. This site shall be winterized in accordance with the provisions of Attachment Q by **October 15th** of each construction season. All disturbed areas shall be stabilized with approved temporary BMPs.
15. This approval is based on the permittee's representation that all plans and information contained in the subject application are true and correct. Should any information or representation submitted in connection with the project application be incorrect or untrue, TRPA may rescind this approval, or take other appropriate action.

END OF PERMIT



**TAHOE
REGIONAL
PLANNING
AGENCY**

Mail
PO Box 5310
Stateline, NV 89449-5310

Location
128 Market Street
Stateline, NV 89449

Contact
Phone: 775-588-4547
Fax: 775-588-4527
www.trpa.org



MITIGATED FINDING OF NO SIGNIFICANT EFFECT

PROJECT DESCRIPTION: Glenbrook Creek Restoration Project

TRPA PROJECT NUMBER: 1418-11-312-001

FILE #: EIPC2012-0015

PERMITTEE(S): Nevada Tahoe Conservation District

COUNTY/LOCATION: Douglas/Glenbrook Creek from Old Highway 50 to approximately 300 feet downstream, Glenbrook, Nevada

Staff Analysis: In accordance with Article IV of the Tahoe Regional Planning Compact, as amended, and Section 6.3 of the TRPA Rules and Regulations of Practice and Procedure, the TRPA staff has reviewed the information submitted with the subject project. On the basis of this initial environmental evaluation, Agency staff has found that the subject project will not have a significant effect on the environment.

Determination: Based on the above-stated finding, the subject project is conditionally exempt from the requirement to prepare an Environmental Impact Statement. The conditions of this exemption are the conditions of permit approval.



TRPA Chairman or Executive Director

1-29-13

Date



OFFICE
128 Market St.
Stateline, NV
Phone: (775) 588-4547
Fax: (775) 588-4527

MAIL
PO Box 5310
Stateline, NV 89449-5310
trpa@trpa.org
www.trpa.org

HOURS
Mon, Wed, Thurs, Fri
9 am-12 pm/1 pm-4 pm
Closed Tuesday
New Applications (only) 8:00 pm

ATTACHMENT Q STANDARD CONDITIONS OF APPROVAL FOR GRADING PROJECTS

This handout on the standard conditions that must be met in all projects involving grading is divided into the following three sections:

- I. Pre-Grading Conditions (Pre-activity, where applicable)
- II. Construction/Grading Conditions
- III. General Conditions/Design Standards

Please read all of the conditions carefully to avoid any delays in construction of your project.

NOTE: Your plans have been reviewed and approved as required under Tahoe Regional Planning Agency (TRPA) Rules, Regulations and Ordinances only. TRPA has not reviewed and shall not be responsible for any elements contained in your plans, i.e., structural, electrical, mechanical, etc., which are not required for review under said Rules, Regulations and Ordinances.

I. PRE-GRADING/PRE-ACTIVITY CONDITIONS:

The following conditions must be completely complied with prior to any site disturbance or commencement of activity.

A. Final Construction Plans:

Final construction plans must be submitted to and reviewed by TRPA to determine conformance with the approval. Said plans shall clearly depict the following:

1. Slope stabilization methods to stabilize all existing and proposed cut and fill slopes.
2. Areas to be revegetated, including complete specifications for such revegetation.
3. Fencing for vegetation protection.
4. Temporary and permanent erosion control devices.
5. Utility trenches.
6. Dust control measures.
6. All water quality improvements (BMPs) required in the conditional approval. Drainage facilities shall be designed to be capable of retaining runoff water for a two (2) year, six (6) hour storm.
8. The final plans shall contain equipment specifications necessary to establish compliance with Standard Conditions III. A-F.

B. Securities:

A security shall be posted with the TRPA to insure compliance with all permit conditions. The security shall include an amount equal to 110 percent of the cost of the BMPs and other erosion control and water quality improvements required. For further information on the acceptable types of securities, see Attachment J.

C. Mitigation Fees:

All required air quality, water quality, and excess coverage and offsite coverage mitigation fees shall be paid to TRPA.

D. Temporary BMPs:

The following temporary BMPs are required to be installed onsite prior to any grading activity occurring:

1. Installation of temporary erosion controls.
2. Installation of vegetation protection measures.
3. Installation of construction site boundary fencing.

E. Required Inspection:

An onsite inspection by TRPA staff is required prior to any construction or grading activity occurring. TRPA staff shall determine if the onsite improvements required by Condition II (1), above, have been properly installed. No grading or construction shall be undertaken by the permittee until receipt of TRPA notification that the pre-grading/pre-activity conditions of approval have been satisfied.

F. Required Notices:

The following notices to the TRPA are required prior to any grading or construction occurring on the project site:

1. Notice for Pre-Grading Inspection: The permittee shall notify the TRPA when all onsite improvements required under Condition II(1), above, have been installed so that the required pre-grading inspection may be scheduled.
2. Notice of Commencement of Construction: The permittee shall notify the TRPA at least 48 hours prior to commencement of construction or grading on the project site. Said notice shall include the date when construction will commence.

II. CONSTRUCTION/GRADING CONDITIONS:

The following conditions shall be complied with during the grading and construction phase of the project.

- A. All construction shall be accomplished in strict compliance with the plans approved by TRPA.
- B. The TRPA permit and the final construction drawings bearing the TRPA stamp of approval shall be present on the construction site from the time construction commences to final TRPA site inspection. The permit and plans shall be available for inspection upon request by any TRPA employee. Failure to present the TRPA permit and approved plans may result in the issuance of a Cease and Desist Order by the TRPA.
- C. Whenever possible, utilities shall occupy common trenches to minimize site disturbance.
- D. There shall be no grading or land disturbance performed with respect to the project between October 15 and May 1, except as follows:
 1. The grading or land disturbance is for excavation and backfilling for a volume not in excess of three cubic yards.
 2. The activity is completed within a 48-hour period.
 3. The excavation site is stabilized to prevent erosion.
 4. The pregrade inspection is performed by TRPA staff, and the activity passes the inspection.

5. The grading/project does not represent or involve a series of excavations, which, when viewed as a whole, would exceed the provisions of this Standard Condition of Approval, and Subsection 2.3 of the TRPA Code of Ordinances.

Grading is prohibited any time of the year during periods of precipitation and for the resulting period of time when the site is covered with snow, or is in a saturated, muddy, or instable condition (pursuant to Subsection 33.3.1.A of the TRPA Code of Ordinances.)

- E. All material obtained from any excavation work that is not contained within foundations, retaining walls, or by other methods approved by TRPA shall be removed from the subject parcel and disposed of at a site approved by TRPA.
- F. Replanting of all exposed surfaces, in accordance with the revegetation and slope stabilization plan, shall be accomplished within the first growing season following disturbance, unless an approved construction/inspection schedule establishes otherwise.
- G. All trees and natural vegetation to remain on the site shall be fenced for protection. Scarring of trees shall be avoided and, if scarred, damaged areas shall be repaired with tree seal.
 1. Fencing specified shall be at least 48 inches high and shall be constructed of metal posts and either orange construction fencing or metal mesh fencing also at least 48 inches high (Section 33.6.1). Job sites with violations of the fencing standards will be required to re-fence the job site with a high gauge metal fencing.
 2. No material or equipment shall enter or be placed in the areas protected by fencing or outside the construction areas without prior approval from TRPA. Fences shall not be moved without prior approval (Section 33.6).
 3. To reduce soil disturbance and damage to vegetation, the area of disturbance during the construction of a structure shall be limited to the area between the footprint of the building and the public road. For the remainder of the site the disturbance areas shall not exceed 12 feet from the footprint of the structure, parking area or cut/fill slope. The approved plans should show the fencing and approved exceptions (Section 36.2).
- H. Soil and construction material shall not be tracked off the construction site. Grading operations shall cease in the event that a danger of violating this condition exists. The site shall be cleaned up and road right-of-way swept clean when necessary.
- I. During grading and construction, environmental protection devices such as erosion control devices, dust control, and vegetation protection barriers shall be maintained.
- J. Loose soil mounds or surfaces shall be protected from wind or water erosion by being appropriately covered when construction is not in active progress or when required by TRPA.
- K. Excavated material shall be stored upgrate from the excavated areas to the extent possible. No material shall be stored in any stream zone or wet areas.
- L. Only equipment of a size and type that, under prevailing site conditions, and considering the nature of the work to be performed, will do the least amount of damage to the environment shall be used.
- M. No washing of vehicles or construction equipment, including cement mixers, shall be permitted anywhere on the subject property unless authorized by TRPA in writing.
- N. No vehicles or heavy equipment shall be allowed in any stream environment zone or wet areas, except as authorized by TRPA.
- O. All construction sites shall be winterized by October 15 to reduce the water quality impacts associated with winter weather as follows:
 1. For the sites that will be inactive between October 15 and May 1:

- (a) Temporary erosion controls shall be installed;
 - (b) Temporary vegetation protection fencing shall be installed;
 - (c) Disturbed areas shall be stabilized;
 - (d) Onsite construction slash and debris shall be cleaned up and removed;
 - (e) Where feasible, mechanical stabilization and drainage improvements shall be installed; and
 - (f) Spoil piles shall be removed from the site.
2. For sites that will be active between October 15 and May 1, in addition to the above requirements:
- (a) Permanent mechanical erosion control devices shall be installed, including paving of driveway and parking areas; and
 - (b) Parking of vehicles and storage of building materials shall be restricted to paved areas.

III. GENERAL CONDITIONS/DESIGN STANDARDS:

- A. Projects approved by TRPA shall be subject to inspections by TRPA at any reasonable time. The permittee shall be responsible for making the project area accessible for inspection purposes. TRPA shall not be liable for any expense incurred by the permittee as a result of TRPA inspections.
- B. Construction shall be completed in accordance with an approved construction schedule. An extension of a completion schedule for a project may be granted provided the request is made in writing prior to the expiration of the completion schedule, a security is posted to ensure completion or abatement of the project, and TRPA makes either of the following findings:
 - 1. The project was diligently pursued, as defined in Subparagraph 2.2.4.C of the Code of Ordinances, during each building season (May 1 - October 15) since commencement of construction.
 - 2. That events beyond the control of the permittee, which may include engineering problems, labor disputes, natural disasters, or weather problems, have prevented diligent pursuit of the project.
- C. Water conservation appliances and fixtures shall be installed in all new facilities or, when replaced, in existing facilities: low flow flush toilets; low flow showerheads (3 gpm rated maximum flow); faucet aerators; and water-efficient appliances (e.g., washing machines and dishwashers).
- D. Water heaters shall not emit nitrogen oxides greater than 40 nanograms of nitrogen oxide (NO₂) per joule of heat output.
- E. Space heaters shall not emit greater than 40 nanograms of nitrogen oxides (as NO₂) per joule of useful heat delivered to the heated space.
- F. Wood heaters to be installed in the Region shall meet the safety regulations established by applicable city, county, and state codes. Coal shall not be used as a fuel source.
 - 1. Emission Standards: Wood heaters installed in the Region shall not cause emissions of more than 7.5 grams of particulates per hour for noncatalytic wood heaters or 4.1 grams per hour for catalytically equipped wood heaters.

2. Limitations: Wood heaters shall be sized appropriately for the space they are designed to serve. Multi-residential projects of five or more units, tourist accommodations, commercial, recreation and public service projects shall be limited to one wood heater per project area.
 3. List of Approved Heaters: TRPA shall maintain a list of wood heaters which may be installed in the Region. The list shall include the brand names, model number, description of the model and the name and address of the manufacturer. Wood heaters certified for use in either Colorado or Oregon shall be considered in compliance with 6(a), above.
- G. Construction materials shall be secured to prevent them from rolling, washing, or blowing off the project site. Rehabilitation and clean-up of the site following construction must include removal of all construction waste and debris.
- H. Plant species on the TRPA Recommended Native and Adapted Plant List shall be used for lawns and landscaping.
- I. The following sizes and spacing shall be required for woody plant materials at time of planting:
1. Trees shall be a minimum six feet tall or 1-1/2 inch caliper size or diameter at breast height;
 2. Shrubs shall be a minimum three gallon pot size where upright shrubs have a minimum height of 18 inches and a minimum spread of 18 inches; and spreading shrubs have a minimum spread of 18-24 inches.
 3. Groundcovers shall be a minimum four inch pot size or one gallon container and shall be maximum 24 inches on center spacing.
- J. Plant species not found on the TRPA Recommended Native and Adapted Plant List may be used for landscaping as accent plantings but shall be limited to borders, entryways, flower-beds, and other similar locations to provide accent to the overall native or adapted landscape design.
- K. The following exterior lighting standards shall apply:
1. Exterior lights shall not blink, flash or change intensity. String lights, building or roofline tube lighting, reflective or luminescent wall surfaces are prohibited.
 2. Exterior lighting shall not be attached to trees except for Christmas season.
 3. Parking lot, walkway, and building lights shall be directed downward.
 4. Fixture mounting height shall be appropriate to the purpose. The height shall not exceed the limitations set forth in Chapter 37 of the Code.
 5. Outdoor lighting shall be used for purposes of illumination only, and shall not be designed for, or used as, an advertising display. Illumination for aesthetic or dramatic purposes of any building or surrounding landscape utilizing exterior light fixtures projected above the horizontal is prohibited.
 6. The commercial operation of searchlights for advertising or any other purpose is prohibited. Seasonal lighting displays and lighting for special events which conflict with other provisions of this section may be permitted on a temporary basis.
- L. Any normal construction activities creating noise in excess of the TRPA noise standards shall be considered exempt from said standards provided all such work is conducted between the hours of 8:00 a.m. and 6:30 p.m.
- M. Fertilizer use on this property shall be managed to include the appropriate type of fertilizer, rate, and frequency of application to avoid release of excess nutrients and minimize use of fertilizer.
- N. No trees shall be removed or trimmed without prior TRPA written approval unless otherwise specifically exempted under Chapter 2 of the Code of Ordinances.

- O. The architectural design of this project shall include elements that screen from public view all external mechanical equipment, including refuse enclosures, satellite receiving disks, communication equipment, and utility hardware on roofs, buildings or the ground. Roofs, including mechanical equipment and skylights, shall be constructed of nonglare finishes that minimize reflectivity.
- P. The permittee is responsible for insuring that the project, as built, does not exceed the approved land coverage figures shown on the site plan. The approved land coverage figures shall supersede scaled drawings when discrepancies occur.
- Q. The adequacy of all required BMPs as shown on the final construction plans shall be confirmed at the time of the TRPA pre-grading inspection. Any required modifications, as determined by TPRA, shall be incorporated into the project permit at that time.
- R. It is the permittee's obligation to locate all subsurface facilities and/or utilities prior to any grading, dredging or other subsurface activity. The permittee is responsible for contacting the Northern Underground Service Alert (USA, usually known as USA DIGS 1-800-227-2600) prior to commencement of any activity on the site.
- S. This approval is based on the permittee's representation that all plans and information contained in the subject application are true and correct. Should any information or representation submitted in connection with the project application be incorrect or untrue, TRPA may rescind this approval or take other appropriate action.

Exhibit E

Other Permits



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

September 12, 2012

Regulatory Division (SPK-2012-00562)

Douglas Martin, District Manager
Nevada Tahoe Conservation District
Post Office Box 915
Zephyr Cove, Nevada 89448

Dear Mr. Martin:

We are responding to your July 31, 2012, request for a Department of the Army permit for the Glenbrook Creek Restoration project. This project involves activities, including discharges of dredged or fill material, in waters of the United States to place up to 76 cubic yards of river rock, 169 cubic yards of native fill, and 2 cubic yards of root wads (for a total of 247 cubic yards) in 0.134 acres of waters of the United States to replace one existing culvert and remove one existing culvert. This project includes the restoration of approximately 300 linear feet of stream channel for the purpose of improved fish passage, increased floodplain connectivity, stabilized banks, and enhanced wildlife habitat. The project is located in Glenbrook Creek, Section 11, Township 14 North, Range 18 East, Mount Diablo Meridian, Latitude 39.0867°, Longitude -119.9319°, Glenbrook, Douglas County, Nevada.

Based on the information you provided and the figures dated August 2012, the proposed activity, resulting in permanent impacts to approximately 0.134 acres of waters of the United States and temporary impacts to approximately 0.01 acres of waters of the United States, is authorized by Nationwide Permit Number 3, *Maintenance*. Your work must comply with the general terms and conditions listed on the enclosed Nationwide Permit information sheets and regional conditions, and the following special conditions:

Special Conditions

1. You shall comply with all terms and condition of the September 6, 2012, Section 401 Water Quality Certification.

2. The permittee shall provide copies of all appropriate State and local approvals (permits and leases) to the U.S. Army Corps of Engineers, Sacramento District, Reno Regulatory Field Office prior to commencement of construction.

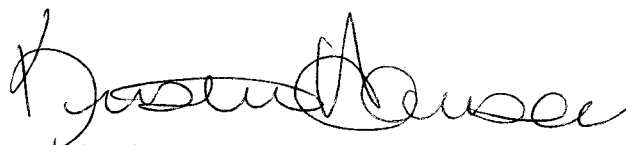
You must sign the enclosed Compliance Certification and return it to this office within 30 days after completion of the authorized work.

This verification is valid for two years from the date of this letter or until the Nationwide Permit is modified, reissued, or revoked, whichever comes first. Failure to comply with the General and Regional Conditions of this Nationwide Permit, or the project-specific Special Conditions of this authorization, may result in the suspension or revocation of your authorization.

We would appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

Please refer to identification number SPK-2012-00562 in any correspondence concerning this project. If you have any questions, please contact Ms. Jordon Blackford at our Reno Regulatory Field Office, 300 Booth Street, Room 3050, Reno, Nevada 89509, email Jordon.R.Blackford@usace.army.mil, or telephone 775-784-5305. For more information regarding our program, please visit our website at www.spk.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,



Kristine S. Hansen
Senior Project Manager, Reno Field Office
Sacramento District

Enclosures

Copies furnished without enclosures

Meghan Kelly, Nevada Tahoe Conservation District, Post Office Box 915, Zephyr Cove, Nevada 89448

Ms. Jean Stone, Nevada Division of Environmental Protection, Bureau of Water Quality and Planning, 901 South Stewart Street, Suite 4001, Carson City, Nevada 89701-5249

Mr. Jeryl Gardner, Nevada Division of Environmental Protection, Bureau of Water Quality and Planning, 901 South Stewart Street, Suite 4001, Carson City, Nevada 89701-5249

Ms. Elyse Randles, Nevada State Lands Commission, 901 South Stewart Street, Suite 5003, Carson City, Nevada 89701-5249

Tahoe Regional Planning Agency, Post Office Box 5310, Stateline, Nevada 89449-5310



U S Army Corps of
Engineers
Sacramento District

Nationwide Permit Summary

33 CFR Part 330; Issuance of Nationwide
Permits – March 19, 2012

3. Maintenance.

(a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure, or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, requirements of other regulatory agencies, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized. Any stream channel modification is limited to the minimum necessary for the repair, rehabilitation, or replacement of the structure or fill; such modifications, including the removal of material from the stream channel, must be immediately adjacent to the project or within the boundaries of the structure or fill. This NWP also authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the district engineer, provided the permittee can demonstrate funding, contract, or other similar delays.

(b) This NWP also authorizes the removal of accumulated sediments and debris in the vicinity of existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.) and/or the placement of new or additional riprap to protect the structure. The removal of sediment is limited to the minimum necessary to restore the waterway in the vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend farther than 200 feet in any direction from the structure. This 200 foot limit does not apply to maintenance dredging to remove accumulated sediments blocking or restricting outfall and intake structures or to maintenance dredging to remove accumulated sediments from canals associated with outfall and intake structures. All dredged or excavated materials must be deposited and

retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer under separate authorization. The placement of new or additional riprap must be the minimum necessary to protect the structure or to ensure the safety of the structure. Any bank stabilization measures not directly associated with the structure will require a separate authorization from the district engineer.

(c) This NWP also authorizes temporary structures, fills, and work necessary to conduct the maintenance activity. 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.

(d) This NWP does not authorize maintenance dredging for the primary purpose of navigation. This NWP does not authorize beach restoration. This NWP does not authorize new stream channelization or stream relocation projects.

Notification: For activities authorized by paragraph (b) of this NWP, the permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 31). The pre-construction notification must include information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals. (Sections 10 and 404)

Note: This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure or fill that does not qualify for the Clean Water Act Section 404(f) exemption for maintenance.

A. Regional Conditions

1. Regional Conditions for California, excluding the Tahoe Basin

<http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/nwp/2012-nwps/2012-NWP-RC-CA.pdf>

2. Regional Conditions for Nevada, including the Tahoe Basin

<http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/nwp/2012-nwps/2012-NWP-RC-NV.pdf>

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U.S. ARMY CORPS OF ENGINEERS – SACRAMENTO DISTRICT

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3. Regional Conditions for Utah

<http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/nwp/2012-nwps/2012-NWP-RC-UT.pdf>

4. Regional Conditions for Colorado.

<http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/nwp/2012-nwps/2012-NWP-RC-CO.pdf>

B. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, 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. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR §§ 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR § 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

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. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.

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, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

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 and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.
- 15. 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.
- 16. 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 responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).
- 17. 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.
- 18. Endangered Species.**
- (a) No activity is authorized under any NWP which is likely to directly or indirectly 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 directly or indirectly 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. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary.
- (c) Non-federal permittees must submit a pre-construction notification to 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 might be affected by the proposed work or that utilize the designated critical habitat that might 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. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.
- (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, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.
- (f) 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/> or <http://www.fws.gov/ipac> and <http://www.noaa.gov/fisheries.html> respectively.
- 19. Migratory Birds and Bald and Golden Eagles.** The permittee is responsible for obtaining any "take" permits required under the U.S. Fish and Wildlife Service's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the U.S. Fish and Wildlife Service to determine if such "take" permits are required for a particular activity.
- 20. 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. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary.

(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 on, 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)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. 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 on 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. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(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, 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.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 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 31, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. 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 for resource losses) 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 either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, 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.

Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment.

(2) 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.

(3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) – (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as

compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, 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 NWPs. 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 restoration or 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. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. 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 programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and

performance of the compensatory mitigation project, and, if required, its long-term management.

(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.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. 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.

26. 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.

27. 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.

28. 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.

29. 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)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the work and mitigation.

31. 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, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers 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) 45 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 18 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 20 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 there 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)) has been 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 may not 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, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; 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 results in a quicker decision. Sketches should contain

sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, 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 on the project site, 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, as 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, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. 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: he 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 and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete 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 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. The comments must explain why the agency believes the adverse effects will be more than minimal. 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 concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer 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 with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

C. District Engineer's Decision

1. 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. For a linear project, this determination will include an evaluation of the individual crossings to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to intermittent or ephemeral streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51 or 52, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in minimal adverse effects. When making minimal effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

2. 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 activity 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 activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. 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 proposed compensatory mitigation 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, including any activity-specific conditions added to the NWP authorization by the district engineer.

3. 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: (a) 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; (b) 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 (c) 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, with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed 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 or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

D. 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.

E. 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 (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting 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.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

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.

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

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 non-linear 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.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

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 NWPs, 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 and functions.

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 coarse 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 riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

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 linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term "single and complete project" is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes 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 or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. 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.

Single and complete non-linear project: For non-linear projects, 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 non-linear project must have independent utility (see definition of "independent utility"). Single and complete non-linear projects may not be "piecemealed" to avoid the limits in an NWP authorization.

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 NWPs, a waterbody is a jurisdictional water of the United States. If a jurisdictional wetland is adjacent – meaning bordering, contiguous, or neighboring – to a waterbody determined to be a water of the United States under 33 CFR 328.3(a)(1)-(6), 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.

Final Sacramento District Nationwide Permit
Regional Conditions for Nevada and the Lake Tahoe Basin in California
(Effective March 19, 2012 until March 18, 2017)

1.* When pre-construction notification (PCN) is required, the permittee shall notify the U.S. Army Corps of Engineers, Sacramento District (Corps) in accordance with General Condition 31 using either the South Pacific Division Preconstruction Notification (PCN) Checklist or a signed application form (ENG Form 4345) with an attachment providing information on compliance with all of the General and Regional Conditions. In addition, the PCN shall include:

a. A written statement describing 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, as well as the location of delineated waters of the U.S. on the site. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and area (in acres) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the mean high water mark and high tide line, should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation. All drawings for activities located within the boundaries of the Los Angeles District shall comply with the September 15, 2010 Special Public Notice: *Map and Drawing Standards for the Los Angeles District Regulatory Division*, (available on the Los Angeles District Regulatory Division website at: www.spl.usace.army.mil/regulatory/); and

c. Numbered and dated pre-project color photographs showing a representative sample of waters proposed to be impacted on the site, and all waters of the U.S. proposed to be avoided on and immediately adjacent to the project site. The compass angle and position of each photograph shall be identified on the plan-view drawing(s) required in subpart b of this Regional Condition.

2. For all Nationwide Permits (NWP), the permittee shall submit a PCN in accordance with General Condition 31 and Regional Condition 1, in the following circumstances:

a. For all activities that would result in the discharge of fill material into any vernal pool;

b. For all crossings of perennial waters and intermittent waters; and

c. For all activities proposed within 100 feet of the point of discharge of a known natural spring source, which is any location where ground water emanates from a point in the ground excluding seeps or other discharges which lack a defined channel.

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 for areas (1) designated to be preserved as part of compensatory mitigation for authorized impacts, including any associated covenants or restrictions, or (2) where boat ramps or docks, marinas, piers, and permanently moored vessels will be constructed or placed in or adjacent to navigable waters. The recordation shall also include a map showing the surveyed location of the preserved area or authorized structure.

4. For all waters of the U.S. proposed to be avoided on a site, unless determined to be impracticable by the Corps, the permittee shall:

a. Establish and maintain, in perpetuity, a preserve containing all avoided waters of the U.S. to ensure that the functions of the aquatic environment are protected;

* Regional Condition developed jointly between Sacramento District, Los Angeles District, and San Francisco District.

b. Place all avoided waters of the U.S. and any upland buffers into a separate parcel prior to discharging dredge or fill material into waters of the U.S., and

c. Establish permanent legal protection for all preserve parcels, following Corps approval of the legal instrument;

If the Corps determines that it is impracticable to require permanent preservation of the avoided waters, additional mitigation may be required in order to compensate for indirect impacts to the waters of the U.S.

5. For all temporary fills, the PCN shall include a description of the proposed temporary fill, including the type and amount of material to be placed, the area proposed to be impacted, and the proposed plan for restoration of the temporary fill area to pre-project contours and conditions, including a plan for the re-vegetation of the temporary fill area, if necessary. In addition, the PCN shall include the reason(s) why avoidance of temporary impacts is not practicable.

In addition, for all activities resulting in temporary fill within waters of the U.S., the permittee shall:

a. Utilize material consisting of clean and washed gravel. For temporary fills within waters of the U.S. supporting anadromous fisheries, spawning quality gravel shall be used, where practicable, as determined by the Corps, after consultation with appropriate Federal and state fish and wildlife agencies;

b. Place a horizontal marker (e.g. fabric, certified weed free straw, etc.) to delineate the existing ground elevation of the waters temporarily filled during construction; and

c. Remove all temporary fill within 30 days following completion of construction activities.

6. Unless determined to be impracticable by the Corps, in addition to the requirements of General Condition 2, the following criteria shall apply to all road crossings:

a.* For all activities in waters of the U.S. that are suitable habitat for Federally-listed fish species, the permittee shall design all road crossings to ensure that the passage and/or spawning of fish is not hindered. In these areas, the permittee shall employ bridge designs that span the stream or river, including pier- or pile-supported spans, or designs that use a bottomless arch culvert with a natural stream bed;

b. Road crossings shall be designed to ensure that no more than minor impacts would occur to fish and wildlife passage or expected high flows, following the criteria listed in Regional Condition 6(a). Culverted crossings that do not utilize a bottomless arch culvert with a natural stream bed may be authorized for waters that do not contain suitable habitat for Federally listed fish species, if it can be demonstrated and is specifically determined by the Corps, that such crossing will result in no more than minor impacts to fish and wildlife passage or expected high flows;

c. No construction activities shall occur within standing or flowing waters. For ephemeral or intermittent streams, this may be accomplished through construction during the dry season. In perennial streams, this may be accomplished through dewatering of the work area. Any proposed dewatering plans must be approved, in writing, by the Corps prior to commencement of construction activities; and

d. All bank stabilization activities associated with a road crossing shall comply with Regional Condition 12.

In no case shall stream crossings result in a reduction in the pre-construction bankfull width or depth of perennial streams or negatively alter the flood control capacity of perennial streams.

* Regional Condition developed jointly between Sacramento District, Los Angeles District, and San Francisco District.

7.* For activities in which the Corps designates another Federal agency as the lead for compliance with Section 7 of the Endangered Species Act (ESA) of 1973 as amended, pursuant to 50 CFR Part 402.07, Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act (EFH), pursuant to 50 CFR 600.920(b) and/or Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, pursuant to 36 CFR 800.2(a)(2), the lead Federal agency shall provide all relevant documentation to the Corps demonstrating any previous consultation efforts, as it pertains to the Corps Regulatory permit area (for Section 7 and EFH compliance) and the Corps Regulatory area of potential effect (APE) (for Section 106 compliance). For activities requiring a PCN, this information shall be submitted with the PCN. If the Corps does not designate another Federal agency as the lead for ESA, EFH and/or NHPA, the Corps will initiate consultation for compliance, as appropriate.

8. For all NWP's which require a PCN, the permittee shall submit the following additional information with the compliance certificate required under General Condition 30:

a. As-built drawings of the work conducted on the project site and any on-site and/or off-site compensatory mitigation, preservation, and/or avoidance area(s). The as-builts shall include a plan-view drawing of the location of the authorized work footprint (as shown on the permit drawings), with an overlay of the work as constructed in the same scale as the permit drawings. The drawing shall show all areas of ground disturbance, wetland impacts, structures, and the boundaries of any on-site and/or off-site mitigation or avoidance areas. Please note that any deviations from the work as authorized, which result in additional impacts to waters of the U.S., must be coordinated with the appropriate Corps office prior to impacts; and

b. Numbered and dated post-construction color photographs of the work conducted within a representative sample of the impacted waters of the U.S., and within all avoided waters of the U.S. on and immediately adjacent to the proposed project area. The compass angle and position of all photographs shall be similar to the pre-construction color photographs required in Regional Condition 1(c) and shall be identified on the plan-view drawing(s) required in subpart a of this Regional Condition.

9. For all activities requiring permittee responsible mitigation, the permittee shall develop and submit to the Corps for review and approval, a final comprehensive mitigation and monitoring plan for all permittee responsible mitigation prior to commencement of construction activities within waters of the U.S. The plan shall include the mitigation location and design drawings, vegetation plans, including target species to be planted, and final success criteria, presented in the format of the *Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines*, dated December 30, 2004, and in compliance with the requirements of 33 CFR 332.

10.* The permittee shall complete the construction of any compensatory mitigation required by special condition(s) of the NWP verification before or concurrent with commencement of construction of the authorized activity, except when specifically determined to be impracticable by the Corps. When mitigation involves use of a mitigation bank or in-lieu fee program, the permittee shall submit proof of payment to the Corps prior to commencement of construction of the authorized activity.

11. The permittee is responsible for all authorized work and ensuring that all contractors and workers are made aware and adhere to the terms and conditions of the permit authorization. The permittee shall ensure that a copy of the permit authorization and associated drawings are available and visible for quick reference at the site until all construction activities are completed.

12. The permittee shall clearly identify the limits of disturbance in the field with highly visible markers (e.g. construction fencing, flagging, silt barriers, etc.) prior to commencement of construction activities within waters of the U.S. The permittee shall maintain such identification properly until construction is completed and the soils have been stabilized. The permittee is prohibited from any activity (e.g. equipment

usage or materials storage) that impacts waters of the U.S. outside of the permit limits (as shown on the permit drawings).

13. For all activities in which a PCN is required, the permittee shall notify the appropriate district office of the start date for the authorized work within 10 days prior to initiation of construction activities.

14. 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.

15. No in-stream grouted outfall structures or grouting of stream bottoms shall be authorized under any NWP, unless the Corps determines that such structures are necessary and the permittee demonstrates, and the Corps concurs, that such structures would result in only minor impacts to waters of the U.S.

16. For NWP 12: Permittees shall ensure the construction of utility lines does not result in the draining of any water of the U.S., including wetlands. This may be accomplished through the use of clay blocks, bentonite, or other suitable material (as approved by the Corps) to seal the trench. For utility line trenches, during construction, the permittee shall remove and stockpile, separately, the top 6 – 12 inches of topsoil. Following installation of the utility line(s), the permittee shall replace the stockpiled topsoil on top and seed the area with native vegetation. The permittee shall submit a PCN for utility line activities in the following circumstances:

a. The utility line crossing would result in a discharge of dredged and/or fill material into perennial waters, intermittent waters, wetlands, mudflats, vegetated shallows, riffle and pool complexes, sanctuaries and refuges or coral reefs;

b. The utility line activity would result in a discharge of dredged and/or fill material into greater than 100 linear feet of ephemeral waters of the U.S.;

c. The utility line installation would include the construction of a temporary or permanent access road, substation or foundation within waters of the U.S.; or

d. The proposed activity would not involve the restoration of all utility line trenches to pre-project contours and conditions within 30 days following completion of construction activities.

17. For NWP 13 and 14: All bank stabilization activities shall involve either the sole use of native vegetation or other bioengineered design techniques (e.g. willow plantings, root wads, large woody debris, etc.), or a combination of hard-armoring (e.g. rip-rap) and native vegetation or bioengineered design techniques, unless specifically determined to be impracticable by the Corps. The permittee shall submit a PCN for any bank stabilization activity that involves hard-armoring or the placement of any non-vegetated or non-bioengineered technique below the ordinary high water mark or, if tidal waters, the high tide line of waters of the U.S. The request to utilize non-vegetated techniques must include information on why the sole use of vegetated techniques is not practicable.

18. For NWP 23: The permittee shall submit a PCN for all activities proposed for this NWP, in accordance with General Condition 31 and Regional Condition 1. The PCN shall include a copy of the signed Categorical Exclusion document and final agency determinations regarding compliance with ESA, EFH and NHPA, in accordance with General Conditions 18 and 20 and Regional Condition 7.

19. For NWP 27: The following applies:

a. Facilities for controlling stormwater runoff, construction of water parks such as kayak courses, and the use of grout or concrete to construct in-stream structures are not authorized;

b. 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; and

c. Structures shall allow the passage of aquatic organisms, recreational water craft or other navigational activities unless specifically waived in writing by the Corps.

The permittee shall submit a PCN for aquatic habitat restoration, establishment, and enhancement activities in the following circumstances:

a. The restoration, establishment or enhancement activity would result in a discharge of dredged and/or fill material into perennial waters, intermittent waters, wetlands, mudflats, vegetated shallows, riffle and pool complexes, sanctuaries and refuges or coral reefs);

b. The restoration, establishment or enhancement activity would result in a discharge of dredged and/or fill material into greater than 100 linear feet of ephemeral waters of the U.S; or

c. The activity would involve the use of in-stream structures exceeding 50 cubic yards per structure and/or incorporating grade control structures exceeding 1-foot vertical drop.

20. For NWP 29 and 39: The channelization or relocation of intermittent or perennial drainages is not authorized, except when, as determined by the Corps, the relocation would result in a net increase in functions of the aquatic ecosystem within the watershed.

21.* Any requests to waive the 300 linear foot limitation for intermittent and ephemeral streams for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51 and 52, or to waive the 500 linear foot limitation along the bank for NWP 13, must include the following:

a. A narrative description of the stream. This should include known information on: volume and duration of flow; the approximate length, width, and depth of the waterbody and characteristics observed associated with an Ordinary High Water Mark (e.g. bed and bank, wrack line or scour marks); a description of the adjacent vegetation community and a statement regarding the wetland status of the adjacent areas (i.e. wetland, non-wetland); surrounding land use; water quality; issues related to cumulative impacts in the watershed, and; any other relevant information;

b. An analysis of the proposed impacts to the waterbody, in accordance with General Condition 31 and Regional Condition 1;

c. Measures taken to avoid and minimize losses to waters of the U.S., including other methods of constructing the proposed activity(s); and

d. A compensatory mitigation plan describing how the unavoidable losses are proposed to be offset, in accordance with 33 CFR 332.

22. For NWP 29, 39, 40, 42, and 43: The permittee shall establish and maintain upland vegetated buffers in perpetuity, unless specifically determined to be impracticable by the Corps, next to all preserved open waters, streams and wetlands including created, restored, enhanced or preserved waters of the U.S., consistent with General Condition 23(f). Except in unusual circumstances, as determined by the Corps, vegetated buffers shall be at least 50 feet in width.

23. 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 specifically waived in writing by the Corps.

24. All NWPs except 3, 6, 20, 27, 32, and 38 are revoked for activities in histosols, fens, bogs and peatlands 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, the permittee shall submit a PCN to the Corps in accordance with General Condition 31 and Regional Condition 1. This condition does not apply to NWPs 1, 2, 8, 9, 10, 11, 24, 28, 35 or 36, as these NWPs either apply to Section 10 only activities or do not authorize impacts to special aquatic sites.

COMPLIANCE CERTIFICATION

Permit File Number: SPK-2012-00562

Nationwide Permit Number: 3, *Maintenance*

Permittee: Douglas Martin, District Manager
Nevada Tahoe Conservation District
Post Office Box 915
Zephyr Cove, Nevada 89448

County: Douglas

Date of Verification: September 12, 2012

Within 30 days after completion of the activity authorized by this permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers
Sacramento District
Reno Regulatory Field Office
300 Booth Street, Room 3050
Reno, Nevada 89509
DLL-CESPK-RD-Compliance@usace.army.mil

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of the permit your authorization may be suspended, modified, or revoked. If you have any questions about this certification, please contact the U.S. Army Corps of Engineers.

I hereby certify that the work authorized by the above-referenced permit, including all the required mitigation, was completed in accordance with the terms and conditions of the permit verification.

Signature of Permittee

Date



**DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922**

REPLY TO
ATTENTION OF

August 24, 2012

Regulatory Division SPK-2012-00562

Douglas Martin, District Manager
Nevada Tahoe Conservation District
Post Office Box 915
Zephyr Cove, Nevada 89448

Dear Mr. Martin:

We are responding to your August 2, 2012, request for an approved jurisdictional determination for the Glenbrook Creek Restoration project. The approximately 2.71-acre site is located in Glenbrook Creek, two tributaries, and two abutting wetlands, Section 11, Township 14 North, Range 18 East, Mount Diablo Meridian, Latitude 39.0867°, Longitude -119.9319°, Glenbrook, Douglas County, Nevada.

Based on available information, we concur with the estimate of waters of the United States, as depicted on the enclosed July 30, 2012 "Figure 1: Project Location" and "Appendix B1 and B2: Preliminary Delineation of Section 404 Jurisdiction" drawings prepared by Hauge Brueck Associates. Approximately 0.425 acres of waters of the United States, including wetlands, are present within the survey area. These waters are regulated under Section 404 of the Clean Water Act, because Glenbrook Creek, its tributaries, and the wetlands directly abutting these streams have a direct surface connection to Lake Tahoe. Lake Tahoe is a Section 10, Traditional Navigable Water of the United States.

This verification is valid for five years from the date of this letter, unless new information warrants revision of the determination before the expiration date. This letter contains an approved jurisdictional determination for your subject site. If you object to this determination, you may request an administrative appeal under U.S. Army Corps of Engineers (Corps) regulations at 33 CFR Part 331.

A Notification of Appeal Process (NAP) and Request for Appeal (RFA) form is enclosed. If you request to appeal this determination you must submit a completed RFA form to the South Pacific Division Office at the following address: Administrative Appeal Review Officer, Army Corps of Engineers, South Pacific Division, CESPDPDO, 1455 Market Street, 2052B, San Francisco, California 94103-1399, Telephone: 415-503-6574, FAX: 415-503-6646.

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within 60 days of the NAP. Should you decide to submit an RFA form, it must be received at the above address by 60 days from the date of this letter. It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this letter.

You should provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

This determination has been conducted to identify the limits of Corps' Clean Water Act jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are U.S. Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

Please refer to identification number SPK-2012-00562 in any correspondence concerning this project. If you have any questions, please contact Ms. Jordon Blackford at our Reno Regulatory Field Office, 300 Booth Street, Room 3050, Reno, Nevada 89509, email Jordon.R.Blackford@usace.army.mil, or telephone 775-784-5305. For more information regarding our program, please visit our website at www.spk.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,

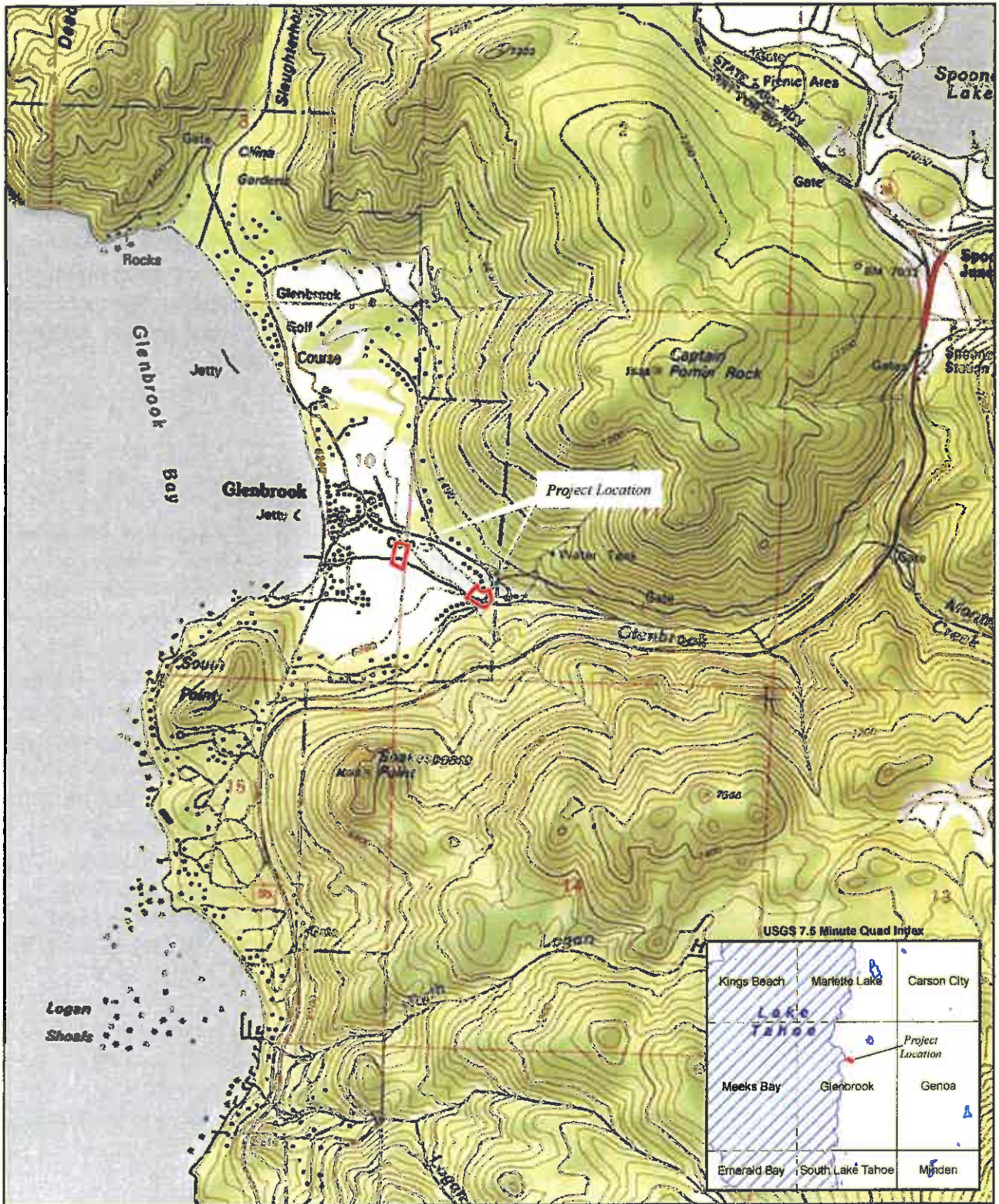


Kristine S. Hansen
Senior Project Manager, Reno Field Office
Sacramento District

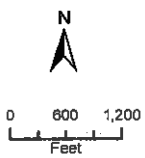
Enclosures

Copy furnished without enclosures

Meghan Kelly, Nevada Tahoe Conservation District, Post Office Box 915, Zephyr Cove, Nevada
89448



ProGIS Online World Topo Map Service. Map date: July 7, 2012.



1:24,000

**Nevada Tahoe Conservation District
Glenbrook Creek Restoration Project**

**Figure 1: Project Location
Glenbrook Quadrangle**

**HAUGE BRUECK
ASSOCIATES**

NEVADA TAHOE
CONSERVATION DISTRICT
GLENBROOK CREEK
RESTORATION PROJECT

Appendix B1.
Preliminary Delineation of
Section 404 Jurisdiction

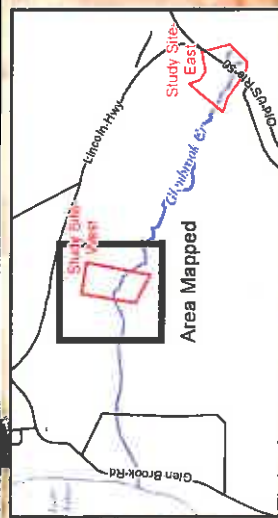
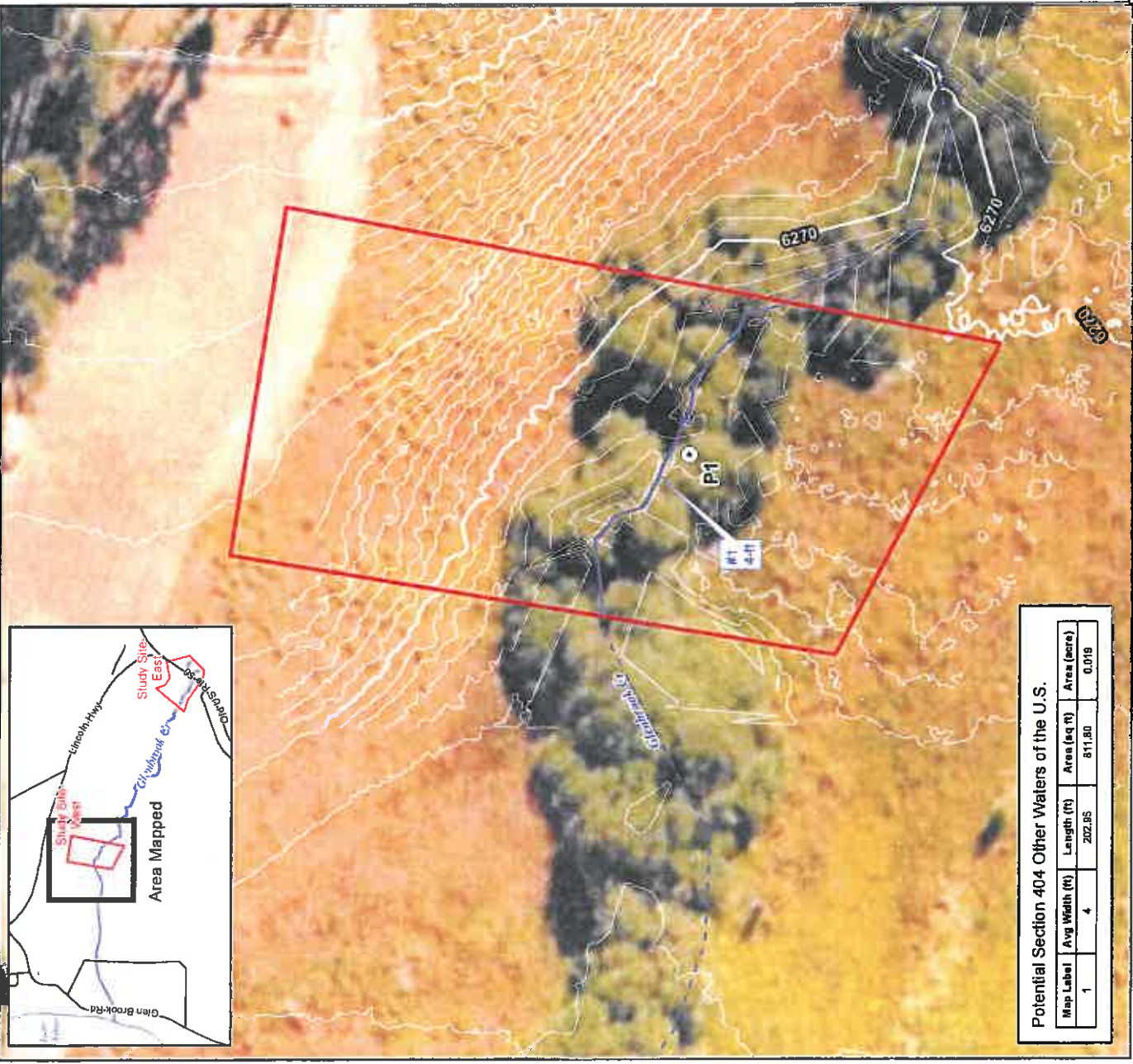
Study Area - West

- Sample Points
- Potential Section 404 Other Waters of the U.S. (Glenbrook Creek)
- - - Offsite Other Waters of the U.S.
- Study Area (1.31 ac)



1:900
1 inch = 75 feet

Map date: July 30, 2012
HAUGE BRUECK
ASSOCIATES



Potential Section 404 Other Waters of the U.S.

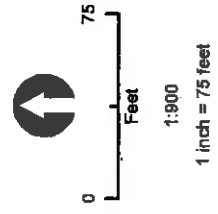
| Map Label | Avg Width (ft) | Length (ft) | Area (sq ft) | Area (acre) |
|-----------|----------------|-------------|--------------|-------------|
| 1 | 4 | 202.85 | 811.80 | 0.018 |

NEVADA TAHOE
CONSERVATION DISTRICT
GLENBROOK CREEK
RESTORATION PROJECT

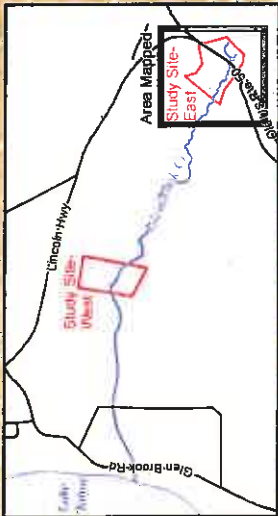
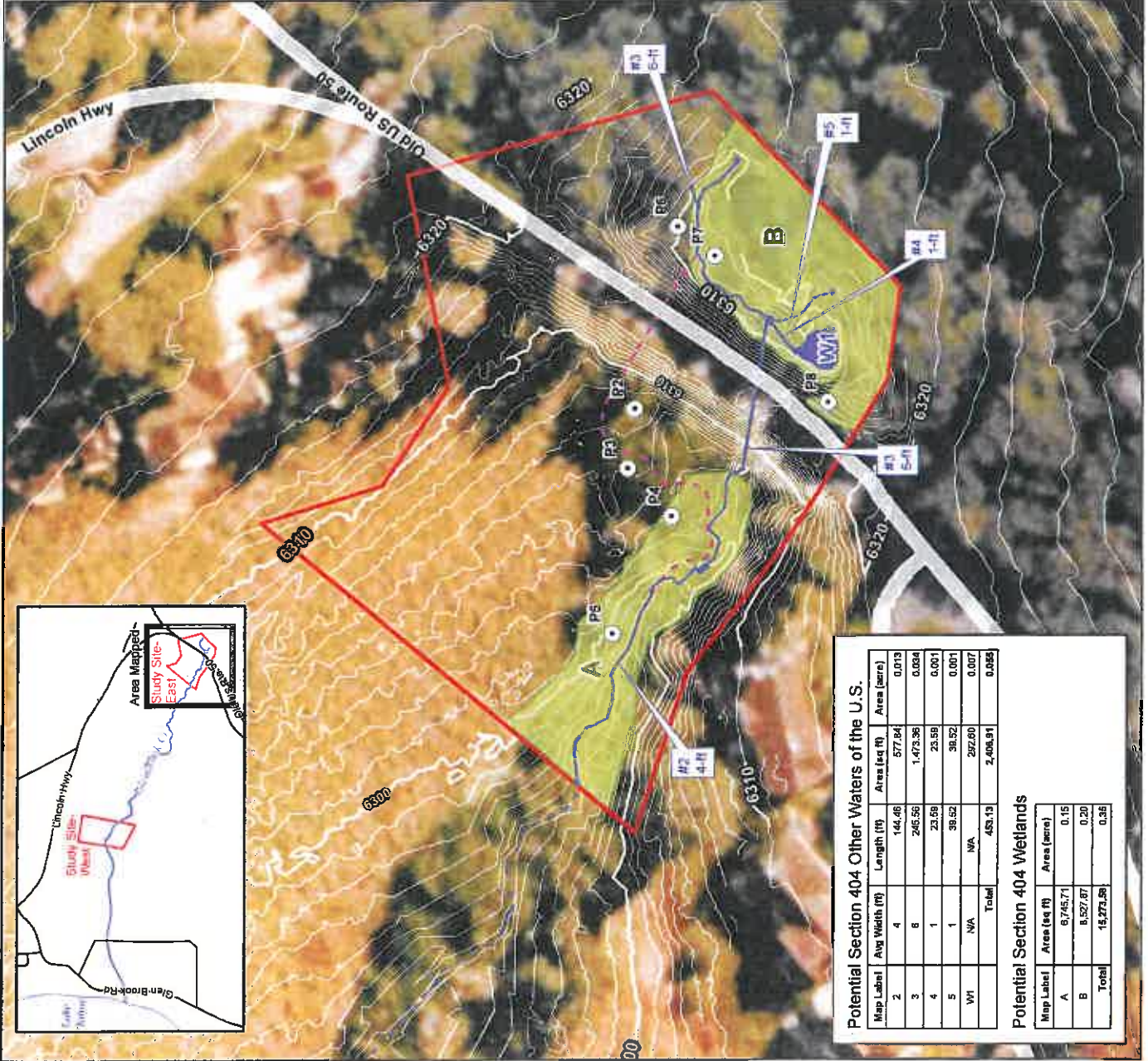
Appendix B2.
Preliminary Delineation of
Section 404 Jurisdiction

Study Area - East

- Sample Points
- Potential Section 404 Other Waters of the U.S. (Glenbrook Creek)
- - - Offsite Other Waters of the U.S.
- Open Waters of the U.S. (0.006 ac)
- Potential Section 404 Wetland
- - - Proposed Creek Alignment
- Study Area (1.40 ac)



Map date: July 30, 2012
HAUGE BRUECK
ASSOCIATES

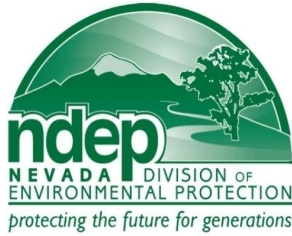


Potential Section 404 Other Waters of the U.S.

| Map Label | Avg Width (ft) | Length (ft) | Area (sq ft) | Area (acre) |
|--------------|----------------|---------------|-----------------|--------------|
| 2 | 4 | 144.46 | 577.84 | 0.013 |
| 3 | 8 | 246.56 | 1,473.36 | 0.034 |
| 4 | 1 | 23.89 | 23.89 | 0.001 |
| 5 | 1 | 39.52 | 39.52 | 0.001 |
| W1 | NA | NA | 292.00 | 0.007 |
| Total | | 483.13 | 2,406.61 | 0.055 |

Potential Section 404 Wetlands

| Map Label | Area (sq ft) | Area (acre) |
|--------------|-------------------|-------------|
| A | 8,745,711 | 0.15 |
| B | 8,527,871 | 0.20 |
| Total | 15,273,582 | 0.35 |



STATE OF NEVADA

Department of Conservation & Natural Resources

Brian Sandoval, Governor

Leo M. Drozdoff, P.E., Director

DIVISION OF ENVIRONMENTAL PROTECTION

Colleen Cripps, Ph.D., Administrator

September 6, 2012

Ms. Kristine Hansen
U.S. Army Corps of Engineers
Sacramento District – Reno Office
300 Booth Street Rm 3060
Reno, NV 89509

Dear Ms. Hansen,

The Nevada Division of Environmental Protection (NDEP) grants 401 Water Quality Certification (NV401-12-046) for the Glenbrook Creek Restoration Project located in Douglas County, Nevada. The project will include activities at two separate sites to improve channel function and wildlife habitat along approximately 300 feet of the creek. At the eastern site crossing Old Hwy 50, Glenbrook Creek will be realigned and the old culvert will be replaced with an arch structure to allow fish passage. At the western site in the meadow a culvert will be removed and the channel banks will be stabilized.

Photographs which document conditions before, during and after construction should be submitted to the Bureau of Water Quality Planning (BWQP) 30 days following project completion and must include BMPs used to prevent erosion, control sediment and protect water quality. 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 questions, please contact me via email or at (775) 687-9456.

Sincerely yours,

Jeanmarie Stone
Environmental Scientist III
Bureau of Water Quality Planning

cc: Doug Martin, NTCD
Meghan Kelly, NTCD
Jeryl Gardner, NDEP (TNEV2013332)



STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

Brian Sandoval, Governor

Lec. M. Drozdoff, P.E., Director

Colleen Cripps, Ph.D., Administrator

January 24, 2013

Meghan Kelly, P.E.
Project Engineer
Nevada Tahoe Conservation District
P.O. Box 915
Zephyr Cove, NV 89448

Subject: Time Reallocation -Temporary Permit TNEV2013332 –NTCD –Glenbrook Creek Restoration Project

Dear Ms. Kelly:

Enclosed please find a copy of the revised temporary permit for the above-cited project. The time frame for the temporary permit has been adjusted to reflect actual period of work. The original permit timeframe of September 6, 2012 through March 5, 2013 has been revised, per request received January 24, 2013. The revised permit will be in effect from **April 16, 2013** through **October 15, 2013**. The permit authorizes the work in waters of the State as described in the application, and revised engineering design plans; any significant changes would require a new permit.

The permit requires daily monitoring and monthly reporting via Discharge Monitoring Reports (DMRs); the first DMR is due **May 28, 2013**. The final DMR and narrative report with documentary photos is due at latest by **November 28, 2013**, or by the 28th day of the month following project completion, whichever comes first.

Please give me a call at 775-687-9423 if you have any questions.

Sincerely,



Jeryl R. Gardner, P.E.
Bureau of Water Pollution Control

Enclosure: Temporary Permit TNEV2013332TR
Discharge Monitoring Report Form

cc: Compliance Coordinator, BWPC (hand-delivered)
Jean Stone, BWQP (electronic)
Brian Judge, TRPA, PO Box 5310, Stateline, NV 89449 (w/permit)
Kristine Hansen, USACE –Reno Field Office, 300 Booth St., Rm 3060, Reno, NV 89509 (w/permit)

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

**TEMPORARY
AUTHORIZATION TO DISCHARGE**

In compliance with the provisions Chapter 445A of the Nevada Revised Statutes (NRS), the Permittee,

**Nevada Tahoe Conservation District
PO Box 915
Zephyr Cove, NV 89448**

is authorized to operate heavy equipment (rolling stock) and to work in waters of the State, in Douglas County, Nevada for the restoration of stream habitat and water quality functions to the stream environment zone of Glenbrook Creek. The restoration project will require approximately 6 weeks to complete, with work commencing in April, 2013. The project work is located along and in Glenbrook Creek, between Old US Highway 50 and Lake Tahoe, in Glenbrook, Nevada. The permit is issued in accordance with the plans and information submitted to NDEP for the project located approximately at:

**Glenbrook Creek
Section 11, T16N R18E MDB&M
Latitude 39° 05' 12.12" N Longitude 119° 55' 54.80" W
Douglas County, Nevada**

in receiving waters named:


Glenbrook Creek

in accordance with the discharge limitations, monitoring requirements, and other conditions set forth in Parts I, II, and III hereof.

This permit shall become effective on April 16, 2013.

This permit shall expire at midnight October 15, 2013.

Signed this 24th day of January, 2013.


Jeryl R. Gardner, P.E.

Bureau of Water Pollution Control



PART I

I.A. DISCHARGE LIMITATIONS, MONITORING, AND CONDITIONS

Introduction: Glenbrook Creek, a perennial creek tributary to Lake Tahoe, has sections of destabilized banks, is detached from its floodplain, and contains 2 culverts that are impediments to fish passage. The Permittee, Nevada Tahoe Conservation District, is proposing to conduct a Creek and Stream Environment Zone (SEZ) restoration project in the spring of 2013. The Glenbrook Creek Restoration Project is intended to restore approximately 300 linear feet of stream by removing 2 culverts, replacing one with an arch culvert at an abandoned meadow creek crossing, restore riparian health by naturalizing flood flows to channel downstream of a culvert at Old US Highway 50, reduce the input of fine sediment to Lake Tahoe by improving floodplain connectivity, restore riparian health by diversifying the age of the vegetation, and improve fish access. The overall project purpose is to reduce sediment loads to Lake Tahoe.

Best Management Practices (BMPs) may include diversion of active flows, cofferdam, silt barriers, hay bales, construction limit fencing, vegetation protection, sediment logs, storm drain protection, and other BMPs as needed; daily BMP inspections will occur during construction.

I.A.1. Discharge Limitations: During the period beginning on the effective date of this permit and lasting until the permit expires, the Permittee is authorized to operate equipment (rolling stock) and to work within the waters of the State in Glenbrook Creek and its associated floodplain in Glenbrook, Douglas County, Nevada. BMPs shall be implemented to prevent water quality degradation, and minimize erosion and sediment transport, in accordance with plans and information submitted to the Division.

The water quality shall be limited and monitored by the Permittee as specified below:

Table I.A.1 Discharge Limits, Sampling and Monitoring Requirements

| Parameters and Units | | Discharge Limits | Monitoring Requirements | | |
|--------------------------|-----|-----------------------------|-------------------------|-----------|-------------------------|
| | | | Location | Frequency | Sample Type |
| Diversion Discharge Rate | gpm | M&R | 001, 002 | Daily* | Flow meter, calculation |
| Turbidity –S.V. | NTU | 002 ≤ 10 > 001 ¹ | 001, 002 | Daily* | Field Measurement |

001 = Glenbrook Creek background monitoring location, located approximately 100 feet upstream of the active project work area.

002 = Glenbrook Creek compliance sampling point, located approximately 100 feet downstream of the active project work area.

* Monitor daily during dewatering, or flow diversion discharge to the Creek.

1. Monitor turbidity in Glenbrook Creek at 001 and 002; if 002 turbidity readings exceed 001 by greater than 10 NTU, then additional BMPs are to be implemented prior to work resuming.

gpm: gallons per minute
NTU: Nephelometric Turbidity Units

M&R: Monitor and Report
S.V.: Single Value

I.A.2. **Monitoring and Sampling Requirements:** The project monitoring shall be conducted in two ways: 1) by means of water quality sampling and analysis, and 2) by means of a final concise narrative report describing the project, with a series of photos documenting the project activities as presented to NDEP, including the implementation of water quality, sediment and erosion management BMPs. The "before, during and after" photos, shall document the construction activities as well as the diversion, discharge, BMPs, and other project activities. The photos shall be taken from established photo points. The photos, along with the narrative report of the project activities and work completed at the project sites shall be submitted to NDEP by the 28th day of the month following expiration of the permit or conclusion of the project whichever is less; the first DMR is due **May 28, 2013**. Water quality sampling and analytical data shall be submitted to NDEP monthly on DMR forms. If no diversion or dewatering occurs during a monthly monitoring period, then no sampling is required; the DMR is still required to be submitted, with the notation that no discharge occurred.

Specific Sampling Requirements: Water quality monitoring conducted in compliance with the monitoring requirements specified in I.A.1. shall be taken in Glenbrook Creek, one upstream of the active work area (001) and one downstream of the active work area (002). Water quality samples taken in compliance with the monitoring requirements specified in I.A.1 shall be taken daily at 001, and 002, and downstream concentrations at 002 compared with background concentrations at 001. Turbidity results shall be compared between the two monitoring locations. Daily measurements in the Creek shall be recorded in a log, with copies included with the monthly DMRs.

Sampling is not required when the equipment is not in or near the Creek or floodplain, and no project work or de-watering discharge is active.

Sampling by qualified personnel knowledgeable in sample collection will only be required daily during actual work in the waterbodies and adjacent areas, including diversion discharges. Analytical work, if required, shall be conducted by a Nevada Certified Laboratory.

Sampling results shall be submitted monthly as per Part I.B.2.

I.A.3. **Specific Conditions:** For or any heavy equipment used in the Creek and adjacent SEZ areas in Glenbrook, Nevada, the operations shall be conducted in accordance with the plans information, the specifications submitted to the Division, and the following terms and conditions:

- a. Any heavy equipment (excavator, backhoe, trackhoe, front-end loader, bulldozer, etc.) to be used in the Creek and adjacent SEZ areas must be steam cleaned at least once before work in the water bodies commences. All equipment shall be inspected for leaks daily prior to use. All leaks shall be repaired immediately. All equipment fueling and storage of fuels shall be

conducted off-site and at least 200 feet away from the Creek.

- b. Precautions must be taken to minimize damage to any aquatic habitat in the project area during operation of equipment on the project. Disturbed areas shall be restored as much as practicable in conformance with approved plans.
- c. Best Management Practices (BMPs) shall be applied and precautions shall be taken: to prevent and control releases of: debris, sediment, any transport of sediments, and to prevent and control turbidity in the Creeks during the construction activities. Prior to project construction diversion structures such as cofferdam, sandbags and filter fabric fences shall be installed upstream and downstream to divert flows away from active project areas. Other BMPs may include but will not be limited to construction fences, track-out devices, vegetation protection, sediment logs, storm drain protection, erosion blankets and other BMPs as consistent with all applicable BMP manuals and handbooks. If at any time, the current BMPs are not effective, consultation with permitting agencies is required prior to work resuming.
- d. If a visible sediment plume results from project work, the work shall cease and the current BMPs shall be re-evaluated, and an additional set of more restrictive BMPs shall be instituted before work resumes. In addition, NDEP-BWPC must be notified as soon as practicable of any release.
- e. The pumped water shall be prefiltered with sand/gravel pack around sumps, and hay bales, silt fencing, and sediment basins, as needed. Where water to be discharged into the Creek will create excessive turbidity, the water shall be routed through a sediment interceptor or other facilities until turbidity measurements at 002 do not exceed turbidity measurements at 001 by more than 10 NTU.
- f. A record shall be kept of each day's use of heavy equipment in the Creek and adjacent project areas.
- g. The Permittee shall provide a Spill Prevention Plan for the use of any hazardous materials or equipment used during the project activities.
- h. Every precaution must be taken in site stabilization of the area by the replacement of vegetation as applicable and practicable. Native vegetation and mulch shall be applied. Where appropriate, native plants, rock, wood and soils salvaged from project excavation shall be used in revegetation of areas disturbed for construction access.
- i. The Permittee, **Nevada Tahoe Conservation District**, and engineer and contractors, bear the responsibility to ensure that the requirements of this temporary permit are fully satisfied.
- j. To the extent needed, material excavated shall be used in the construction of required permanent earthfill.

- I.A.4. **Documentation:** Documentation, in addition to sampling, must be submitted as specified in Part I.A.2.
- I.A.5. **Final Report:** The final narrative report with photos describing and documenting the results of the project's activities shall be submitted after the end of the permit. Water quality monitoring results shall also be received monthly and with the final report. The final report shall be received, at the address given below, by the 28th day of the month following project completion or permit expiration, whichever comes first, at latest by **November 28, 2013:**

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

- I.A.6. There shall be no discharge of substances that would cause a violation of water quality standards of the State of Nevada.
- I.A.7. There shall be no objectionable odors generated in the conduct of this project.
- I.A.8. There shall be no construction activities undertaken in the water bodies in relation to this project except those as authorized by this permit.
- I.A.9. The project elements/components/activities shall be constructed and or conducted in accordance with the plans submitted to and approved by the Division. The plans must be approved by the Division prior to the start of construction. **All changes to the approved plans must be approved by the Division.**
- I.A.10. **Presumption of Possession and Compliance:** Copies of this permit, any subsequent modifications shall be maintained at the permitted project site at all times.
- I.A.11. **Schedule of Compliance:** The Permittee shall achieve compliance with the permit limitations upon issuance of the permit.

I.B. MONITORING AND REPORTING

I.B.1. Monitoring

- a. **Representative Samples:** Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.
- b. **Test Procedures:** Analyses shall be conducted by a "certified laboratory" using an "approved method of testing", as defined in NAC 445A.0564 and NAC 445A.0562, respectively.
- c. **Recording the Results:** For each measurement or sample taken pursuant to the requirements of this permit, the Permittee shall record the following

information:

- i. The exact place, date, and time of sampling;
 - ii. The dates the analyses were performed;
 - iii. The person(s) who performed the analyses;
 - iv. The analytical techniques or methods used; and
 - v. The results of all required analyses, including reporting limits.
- d. **Additional Monitoring by Permittee:** If the Permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in any calculation and/or reported value required by this permit. Such increased frequency shall also be indicated in required reports.
- e. **Records Retention:** All records and information resulting from monitoring activities; the permit application; reporting required by this permit, including all records of analyses performed, calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation shall be retained for a minimum of five (5) years or longer if required by the Administrator.
- f. **Reporting Limits:** Unless otherwise allowed by the Division, the approved method of testing selected for analyses shall have a reporting limit which is:
- i. Half or less of the discharge limit; or, if there is no discharge limit;
 - ii. Half of less of the applicable water quality criteria; or, if there is no limit or criteria
 - iii. The lowest reasonably obtainable limit using an approved test method.
- g. **Modification of Monitoring Frequency and Sample Type:** After considering monitoring data, discharge flow, discharge frequency, and receiving water conditions, the Division and/or Administrator may, for just cause, modify the monitoring frequency and/or sample type by issuing an order to the Permittee.
- h. **Definitions**
- i. **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.
 - ii. **Daily maximum:** is the highest measurement obtained during the monitoring period.
 - iii. **30-day average concentration:** means the arithmetic mean of measurements made during a month.
 - iv. **"Discrete" sample:** means any individual sample collected in less

than 15 minutes.

- v. **Composite sample:** flow rate composite 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. For other than flow rate a composite sample means a combination of no fewer than six individual flow-weighted samples obtained at equal time intervals for 24 hours, or for the duration of the discharge, whichever is shorter. Flow-weighted sample means that the volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling.

- I.B.2. **Reporting:** Analytical data and monitoring results shall be summarized and/or tabulated for presentation in Discharge Monitoring Reports (DMRs). Laboratory reports for quantitative analyses conducted by State of Nevada certified laboratories must accompany DMR submittals.

Monthly DMRs shall be received by the 28th day of the month following the effective date of the permit and the 28th day of each month for the duration of the permit. If no discharge occurs during the reporting period, summarize the project status and report “no discharge” on the submitted DMR.

DMRs must be signed by the authorized representative that is responsible for the facility. The first DMR submitted under this permit must include the written designation of the authorized representative elected to sign DMRs. The designated representative responsible for facility operations must sign each subsequent DMR submitted to the Division. If the authorized representative changes, a new designation letter must be submitted.

- a. **Monthly Reporting:** Monitoring results for the discharge monitoring requirements described in Part I.A.2.a. shall be summarized and tabulated for each month. The Permittee is considered in compliance if the reported results are less than the established permit limits.
- b. **Other Information:** Where the Permittee becomes aware of failure to submit any relevant facts in a permit application or has submitted incorrect information in a permit application or in any report to the Division, the Permittee shall promptly submit such facts or information.
- c. **Planned Changes:** The Permittee shall give notice to the Division as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition to a permitted facility:
- i. Could significantly change the nature or increase the quantity of pollutants discharged; or
 - ii. Results in a significant change to the Permittee’s sludge management practice or disposal sites.
- d. **Anticipated Noncompliance:** The Permittee shall give advance notice to the

Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

- e. **Submittal:** An original signed copy of these, and all other reports required herein, shall be submitted to the Division at the following address:

**Nevada Division of Environmental Protection
Bureau of Water Pollution Control
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701-5249**

I.B.3. Signatory Certification Required on Application and Reporting Forms:

- a. All applications, reports, or information submitted to the Administrator shall be signed and certified by making the following 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. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering 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 fine and imprisonment for knowing violations.”

- b. All applications, reports, or other information submitted to the Division shall be signed by one of the following:
- i. A principal executive officer of the corporation (of at least the level of vice president) or his authorized representative who is responsible for the overall operation of the facility from which the discharge described in the application or reporting form originates;
 - ii. A general partner of the partnership;
 - iii. The proprietor of the sole proprietorship; or
 - iv. A principal executive officer, ranking elected official, or other authorized employee of the municipal, state, or other public facility.
- c. **Changes to Authorization:** If an authorization under Part I.B.3. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part I.B.3. must be submitted to the Administrator prior to or together with any reports, information, or applications to be signed by an authorized representative.

PART II

II.A. MANAGEMENT REQUIREMENTS

- II.A.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 that 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 facility must comply with 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.

- II.A.2. **Facilities Operation-Proper Operation and Maintenance:** The Permittee shall, at all times, maintain in good working order and operate as efficiently as possible all control facilities, collection systems, or pump stations installed or used by the Permittee to achieve compliance with the terms and conditions of this permit.

- II.A.3. **Adverse Impact-Duty to Mitigate:** The Permittee shall take all reasonable steps to minimize releases to the environment 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. The Permittee shall carry out such measures, as reasonable, to prevent significant adverse impacts on human health or the environment.

- II.A.4. **Noncompliance, Unauthorized Discharge, Bypassing, and Upset:**

- a. Any diversion, bypass, spill, overflow, or discharge of wastewater from evaporation or conveyance facilities 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 immediately notify the NDEP Spill Hotline at 1-888-331-6337.
- b. The Permittee shall notify the Administrator by calling the NDEP Spill Hotline at 1-888-331-6337 within twenty-four (24) hours of any diversion, bypass, spill, upset, overflow, or release of discharge other than that which is authorized by the permit. The following shall be included as information which must be reported within 24 hours:
 - i. Any unanticipated bypass which exceeds any effluent limitation in the permit;
 - ii. Any upset which exceeds any effluent limitation in the permit; and
 - iii. Any violation of a limitation for any toxic pollutant or any pollutant identified as the method to control a toxic pollutant.
- c. A written report shall be submitted to the Division within five (5) days of

diversion, bypass, spill, overflow, upset, or discharge detailing the entire incident including:

- i. Time and date of discharge;
 - ii. Exact location and estimated amount of discharge;
 - iii. Flow path and any bodies of water which the discharge contacts;
 - iv. The specific cause of the discharge; and
 - v. The preventive and/or corrective actions taken.
- d. The Permittee shall report all instances of noncompliance not reported under Part II.A.4.c. at the time monitoring reports are submitted. The reports shall contain the information listed in Part II.A.4.c.
- e. A "bypass" means the intentional diversion of waste streams from any portion of a facility.
- i. Bypass not exceeding limitations: The Permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts II.A.4.a. and II.A.4.b.
 - ii. Anticipated bypass: If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least ten (10) days before the date of bypass.
- f. Bypass is prohibited, and the Division may take enforcement action against a Permittee for bypass, unless:
- i. The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - ii. There were no feasible alternatives to the bypass, such as the use of auxiliary evaporation facilities or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurs during normal periods of equipment downtime or preventative maintenance; and
 - iii. The Permittee submitted notices as required under Part II.A.4.e.
- g. The Division may approve an anticipated bypass, after considering its adverse effects, if the Division determines that it will meet the three conditions listed in Part II.A.4.f.
- h. An "upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based 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 facilities, lack of preventive maintenance, or careless or

improper operation.

- i. A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - i. An upset occurred and the Permittee can identify the cause(s) of the upset;
 - ii. The permitted facility was at the time being properly operated;
 - iii. The Permittee submitted notice of the upset as required under Part II.A.4.b. and c.; and
 - iv. The Permittee complied with any remedial measures required under II.A.3.
- j. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Part II.A.4.i. are met.
- k. In selecting the appropriate enforcement option, the Administrator shall consider whether or not the noncompliance was the result of an upset. The burden of proof is on the Permittee to establish that an upset occurred.

II.A.5. Removed Substances: Solids, sludges, filter backwash, or other pollutants removed in the course of control of process wastewaters shall be disposed of in a manner such as to prevent any pollution from such materials from entering any navigable waters.

II.A.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; or
- b. Halt or reduce all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

II.B. RESPONSIBILITIES

II.B.1. Right of Entry and Inspection: The Permittee shall allow the Administrator and/or his authorized representatives, upon the presentation of credentials, to:

- a. Enter, at reasonable times, 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;
- b. Have access to and copy any records required to be kept under the terms and conditions of this permit;
- c. Inspect, at reasonable times, any facilities, equipment (including monitoring

and control equipment), practices, or operations required in this permit; and

- d. Perform any necessary sampling or monitoring to determine compliance with this permit at any location for any parameter.

II.B.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. The Administrator may require modification or revocation and re-issuance of the permit to change the name of the Permittee and incorporate such other requirements as may be necessary. The Division shall approve all transfer of permits.

II.B.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 Administrator. 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.

II.B.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.

II.B.5. **Penalty for Violation of Permit Conditions:** 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.

II.B.6. **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.

II.B.7. **Toxic Pollutants:** Notwithstanding Part II.B.6., if a toxic effluent standard or

prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act 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.

- II.B.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.
- II.B.9. **Property Rights:** The issuance of this permit does not convey any property rights, in either real or personal property, or any exclusive privileges, rights, or rights of access or easement; nor does it authorize any injury to private property, any invasion of personal rights, or any infringement of Federal, State, or local laws or regulations.
- II.B.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.
- II.B.11. **Need to Halt or Reduce Activity Not a Defense:** The need to halt or reduce permitted activities in order to maintain compliance with the conditions of this permit shall not be a defense for a Permittee in an enforcement action.
- II.B.12. **Duty to Provide Information:** The Permittee shall furnish to the Administrator, within a reasonable time, any relevant information which the Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Administrator, upon request, copies of records required to be kept by this permit.

PART III

III.A. OTHER REQUIREMENTS

III.A.1. Signatures, certification required on application and reporting forms:

- a. All applications, reports, or information submitted to the Administrator shall be signed and certified by making the following 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. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering 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 fine and imprisonment for knowing violations.”

- b. All applications, reports or other information submitted to the Administrator shall be signed by one of the following:
 - i. A principal executive officer of the corporation (of at least the level of vice president) or his authorized representative who is responsible for the overall operation of the facility from which the discharge described in the application or reporting form originates; or
 - ii. A general partner of the partnership; or
 - iii. The proprietor of the sole proprietorship; or
 - iv. A principal executive officer, ranking elected official or other authorized employee of the municipal, state or other public facility.
- c. **Duly Authorized Representative:** All Discharge Monitoring Reports and any other information required by this permit or requested by the Administrator shall be signed by a person described in paragraph (b) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - i. The authorization is made in writing by a person described in paragraph (a) of this section
 - ii. The authorization specifies either an individual or a position having responsibility for environmental matters for the company, and
 - iii. The authorization is submitted to the Division.
- d. **Changes to Authorization:** If an authorization under paragraph c. of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph b. of this section must be submitted to the Administrator prior to or together with any reports, information, or applications to be signed by an authorized representative.

III.A.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 25-year 24-hour storm at said location;
- b. Withstand with no discharge the 100-year flood of said location; and
- c. Prevent escape of wastewater by leakage other than as authorized by this permit.

III.A.3. **Flow Rate Notification:** For Publicly Owned Treatment Works the Permittee shall notify the Administrator, by letter, not later than ninety (90) days after the 30-day average daily influent flow rate first equals or exceeds 85% of the design treatment capacity of the Permittee's facility given in Part I.A above. The letter shall include:

- a. The 30-day average daily influent flow rate;

- b. The maximum 24-hour flow rate during the 30-day period reported above, and the date the maximum flow occurred;
- c. The Permittee's estimate of when the 30-day average influent flow rate will equal or exceed the design treatment capacity of the Permittee's facility;
- d. A status report on the treatment works which will outline but not be limited to past performance, remaining capacity of the limiting treatment and disposal units or sites, past operational problems and improvements instituted, modifications to the treatment works which are needed to attain the permitted flow rate due to changing site specific conditions or design criteria; and
- e. The Permittee's schedule of compliance to provide additional treatment capacity before the 30-day average daily influent flow rate equals the present design treatment capacity of the Permittee's facility.