Kahle Drive Complete Street Project
Contract Documents and Specifications

STATELINE, DOUGLAS COUNTY, NEVADA
EIP #03.02.01.0055

Federal Aid Project No. 22-DG-11051900-022

Community Project Funding Grant No: B-23-CP-NV-1075

Bid : January 23, 2025
PWP #DO-2025-122

Nevada Tahoe Conservation District
PO Box 915
Zephyr Cove, NV 89448
775-586-1610

Section 00 01 02 – Table of Contents

Division 00 – Procurement and Contracting

Section 00 11 01 – Advertisement for Bids

1. Sealed Bids for the construction of the Kahle Drive Complete Street Project will be received in person and via email to mkelly@ntcd.org by the Nevada Tahoe Conservation District at the office of Nevada Tahoe Conservation District, 400 Dorla Court, Zephyr Cove, Nevada 89448 (Issuing Office), until 3:00 pm local time on Thursday, January 23, 2025, at which time the Bids received will be publicly opened and read and broadcast online. A meeting link for the virtual bid opening will be posted on ntcd.org 24 hours prior to the bid opening. The Project consists of reconstructing an existing local road, pedestrian paths, and utility work along Kahle Drive located in Stateline, Nevada. The Nevada Tahoe Conservation District Board of Supervisors will consider award of the contract at a subsequently scheduled meeting in January 2025.

2. Bid Documents may be examined and obtained electronically at ntcd.org or obtained in person at no cost at the Nevada Tahoe Conservation District at 400 Dorla Court, Zephyr Cove, NV 89449, (775)586-1610 between the hours of 9 AM and 4 PM or by appointment.

3. An optional pre-bid conference will be held at 11:00 am local time on Wednesday, January 15, 2025 at Lam Watah Trailhead located at 193 Kahle Drive, Stateline, NV 89449. Attendance at the pre-bid conference is highly encouraged but is not mandatory.

4. The Engineers estimate for base bid is $3,800,000 to $4,400,000.

5. No proposal will be considered unless accompanied by a bid security in the form of a Bid Bond in an amount not less than five percent (5%) of the base bid.

6. Douglas County contact: Meghan Kelly, P.E.
   Phone: (775) 524-3481
   Email: mkelly@ntcd.org

7. Contracts to work under this proposal will obligate the contractors and subcontractors not to discriminate in employment practices pursuant to Title 24 Subtitle A Part 1 and 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. The State Labor Commissioner has assigned Public Works Project Number DO-2025-122 to this project. The Project involves federal funds; Bidder is therefore also directed to the federal minimum wage rate requirements. If there is a difference between the minimum wage rate predetermined by the Secretary of Labor and the prevailing wage rate determined by the Director of Industrial Relations for similar classifications of labor, the Bidder and its Subcontractor(s) shall pay not less than the higher applicable wage rate.

8. In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation

for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident. Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English. To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at How to File a Program Discrimination Complaint and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary or Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov. USDA is an equal opportunity provider, employer, and lender. Bidder must comply with Title VI requirements attached in Appendix A.

9. Federal funds are being utilized on this Project. In addition to any other applicable federal laws, statutes or regulations, Bidder acknowledges that it is familiar with, and shall strictly comply with, all laws, statutes, regulations, requirements, and obligations referenced in Title 7, Code of Federal Regulations, Section 3016.36(i).

10. NRS 338.147 provides for a five percent (5%) bidder preference to bidders who establish that they qualify for the preference.

11. The last date for submitting questions to the Owner to be addressed by Addendum is Tuesday, January 21, 2025. Question should be submitted in person or via phone or email to Meghan Kelly, mkelly@ntcd.org or (775)524-3481.

Dated December 23, 2024

Nevada Tahoe Conservation District
Meghan Kelly, P.E., Principal Engineer

Section 00 21 11 – Bidders Checklist

Bidders are instructed to complete and return the following forms as part of the bid package in order for their bids to be complete. If a contractor fails to submit the following forms the contractor's bid will be deemed not responsive.

A. _____ Section 00 31 01 – Bid Form

B. _____ Section 00 31 06 – Bid Schedule

C. _____ Section 00 31 14 – Bid Bond

D. _____ Section 00 31 16 – Bidder's Qualification Statement

E. _____ Section 00 31 19 – Bidder Certifications

F. _____ Section 00 31 22 – List of Proposed Subcontractors (Submitted with Bid)

G. _____ Section 00 31 24 – List of Major Equipment Manufacturers

H. _____ Evidence of authority to do business in the state of the Project (on bidder supplied form)

I. _____ If claiming Nevada Preferential Bidder Status, attach required affidavits and other appropriate information in accordance with the requirements of NRS 338

Within 2 hours after the completion of the opening of the bids, the Contractors who submitted the three lowest bids are instructed to complete and return the following forms to complete the bid package. If a contractor fails to submit the following forms within 2 hours of the bid closing the contractors bid will be deemed not responsive.

J. _____ Section 00 31 23 – List of Subcontractors (Submitted after Bid)

K. _____ If claiming Nevada Preferential Bidder Status, affidavits and other appropriate information in accordance with the requirements of NRS 338 (See NRS 338.1389(2)(a)(3))

00 21 02 INSTRUCTIONS TO BIDDERS

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ARTICLE 1 – DEFINED TERMS

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

A. *Issuing Office* – The office from which the Bidding Documents are to be issued.

Nevada Tahoe Conservation District
400 Dorla Court
Zephyr Cove, Nevada 89448
(775)586-1610

B. *Engineer* – The Engineer is defined as:

Meghan Kelly
Nevada Tahoe Conservation District
400 Dorla Court
Zephyr Cove, Nevada 89448
(775)524-3481
mkelly@ntcd.org

C. *Owner* – The Owner is defined as:

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

D. *Bidder* – further defined as one who is submitting a bid to complete the work as indicated in the plans and specifications.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

2.01 Complete sets of the Bidding Documents may be obtained as stated in the advertisement or invitation to bid.

2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

3.01 To demonstrate Bidder's qualifications to perform the Work, Bidder shall submit with its Bid: (a) the completed Bidder's Qualification Statement establishing its qualifications and including information such as general financial data, previous experience, principal personnel, performance history, and present commitments; and (b) the following additional information:

A. Evidence of Bidder's authority to do business in the State of Nevada.

B. If applicable, evidence of the Bidder's valid Contractor's license of a class corresponding to the Work required.

C. As requested, Subcontractor and Supplier qualification information. It is the Bidder's responsibility to provide information sufficient to establish that Bidder's selected subcontractors and suppliers are qualified.

D. Certification that the Bidder and his Subcontractors have not been suspended or debarred, 2 CFR 200.214.

E. Certification regarding lobbying related to Federal Regulations.

3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.

3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

3.04 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 – SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

4.01 *Site and Other Areas*

A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

4.02 *Existing Site Conditions*

A. Subsurface and Physical Conditions; Hazardous Environmental Conditions

1. The Supplementary Conditions identify:

a. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.

b. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

c. reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.

d. Technical Data contained in such reports and drawings.

2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.

4. Geotechnical Baseline Report: The Bidding Documents contain a Geotechnical Report. The Geotechnical Report describes certain select subsurface conditions that are

anticipated to be encountered by Contractor during construction in specified locations. The Geotechnical Report is not a Contract Document.

The conditions in the Geotechnical Report are intended to reduce uncertainty and the degree of contingency in submitted Bids. However, Bidders cannot rely solely on the Geotechnical Report. Bids should be based on a comprehensive approach that includes an independent review and analysis of the Geotechnical Report, all other Contract Documents, Technical Data, other available information, and observable surface conditions. Not all potential subsurface conditions are reported on.

Nothing in the Geotechnical Report is intended to relieve Bidders of the responsibility to make their own determinations regarding construction costs, bidding strategies, and Bid prices, nor of the responsibility to select and be responsible for the means, methods, techniques, sequences, and procedures of construction, and for safety precautions and programs incident thereto.

B. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or adjacent to the Site are set forth in the Contract Documents and are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

C. Adequacy of Data: Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 5.03, 5.04, and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

4.03 *Site Visit and Testing by Bidders*

A. Bidder shall may conduct a site visit at any time to the site assuming all local laws are adhered to.

B. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.

C. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site.

D. Bidder shall comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.

E. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

4.04 *Owner's Safety Program*

A. Site visits and work at the Site may be governed by an Owner safety program. As the General Conditions indicate, if an Owner safety program exists, it will be noted in the Supplementary Conditions.

4.05 *Other Work at the Site*

A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 5 – BIDDER'S REPRESENTATIONS

5.01 It is the responsibility of each Bidder before submitting a Bid to:

A. examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;

B. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

C. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work;

D. if included in the bidding documents, carefully study all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings;

E. consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and if applicable, the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;

F. certify, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;

G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;

H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;

I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and

J. understand and agree that all documents submitted, filed or deposited with Owner, unless designated as confidential by a specific statute of the State of Nevada and properly marked to that effect by Bidder, will be subject to Nevada's Public Records Laws (Chapter 239 of the Nevada Revised Statutes), and will be available for inspection and copying by any person or governmental entity at any time after Bid Opening.

K. certify that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required within the time required by the Bidding Documents.

ARTICLE 6 – PRE-BID CONFERENCE

6.01 A pre-Bid conference will be held at the time and location stated in the invitation or advertisement to bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Owner or Engineer in response to such questions will be issued by Addenda delivered to all parties recorded as having received the Bidding Documents. Questions received less than seven days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.02 Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents.

ARTICLE 8 – BID SECURITY

8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of 5% percent of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a Bid bond (on the form included in the Bidding Documents) issued by a surety meeting the requirements of Paragraphs 6.01 and 6.02 of the General Conditions.

8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract Documents, furnished the required contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released at the request of the Bidder. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults.

8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released at the request of the Bidders.

8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within seven days after the Bid opening at the request of the Bidders.

ARTICLE 9 – CONTRACT TIMES

9.01 The number of days within which, or the dates by which, Milestones are to be achieved, and the Work is to be substantially completed, and completed and ready for final payment, are set forth in the Agreement.

ARTICLE 10 – LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 11 – SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or "or-equal" items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or "or-equal" item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.

11.02 All prices that Bidder sets forth in its Bid shall be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of "or-equal" or substitution requests are made at Bidder's sole risk.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

12.01 A Bidder shall be prepared to retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of the Work if required by the Bidding Documents (most commonly in the Specifications) to do so. If a prospective Bidder objects to retaining any such Subcontractor, Supplier, or other individual or entity, and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.

12.02 Subsequent to the submittal of the Bid, Owner may not require the Successful Bidder or Contractor to retain any Subcontractor, Supplier, or other individual or entity against which Contractor has reasonable objection.

12.03 Each bidder must submit a completed List of Subcontractors on the Form furnished with the completed Bid Form. The apparent low bidder, and any other bidder so requested, shall within two (2) hours after Bid opening, submit to Owner a list of all such Subcontractors (including the bidder) proposed for those portions of the Work for which such identification is required per NRS 338.141.

If requested by Owner, such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each

such Subcontractor. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit a substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

12.04 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, or other individuals or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.06 of the General Conditions.

ARTICLE 13 – PREPARATION OF BID

13.01 The Bid Form is included with the Bidding Documents.

A. All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.

B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words "No Bid" or "Not Applicable."

13.02 A Bid by a corporation shall be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. If the corporation has a corporate seal, then the corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.

13.03 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The partnership's address for receiving notices shall be shown.

13.04 A Bid by a limited liability company shall be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the firm's address for receiving notices shall be shown.

13.05 A Bid by an individual shall be signed by the individual and show the Bidder's name and address for receiving notices.

13.06 A Bid by a joint venture shall be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture's address for receiving notices shall be shown.

13.07 All names shall be printed in ink below the signatures.

13.08 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.

13.09 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.

13.10 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located. The number, if any, of the license issued to the Contractor by the State Contractor's Board pursuant to chapter 624 of the NRS, shall also be shown on the Bid Form.

ARTICLE 14 – BASIS OF BID

14.01 *Unit Price*

A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Schedule (00 42 43). Items listed as "LS" shall be bid on a lump sum basis.

B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity" (which Owner or its representative has set forth in the Bid Schedule (00 42 43)) for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

14.02 *Base Bid with Alternates*

A. Bidders shall submit a Bid for the base Bid and include a separate price for each alternate described in the Bidding Documents and as provided for in the Bid Schedule (00 42 43). The price for each alternate will be the amount added to the base Bid if Owner selects the alternate.

B. In the comparison of Bids, the alternate total price will be considered in the total contract price if the owner elects to award the alternate (00 42 43).

14.03 *Allowances*

A. For cash allowances the Bid price shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 13.02.B of the General Conditions.

ARTICLE 15 – SUBMITTAL OF BID

15.01 Documentation required to constitute a complete bid is outlined in the Bidder's Checklist (00 21 11). This documentation shall be submitted under the terms of Article 7 of the Bid Form.

15.02 A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to the address indicated in the Advertisement for Bids.

15.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

16.01 A Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.

16.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 16.01 and submit a new Bid prior to the date and time for the opening of Bids.

16.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, based upon the nature of the mistake, that Bidder may be disqualified from further bidding on the Work.

ARTICLE 17 – OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security, at Bidders request, prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible. If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, then the Owner will reject the Bid as nonresponsive; provided that Owner also reserves the right to waive all minor informalities not involving price, time, or changes in the Work.

19.02 If Owner awards the contract for the Work, such award shall be to the responsible Bidder submitting the lowest responsive Base Bid.

19.03 Evaluation of Bids

A. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

B. The Base Bid will be used to determine the Bid prices for purposes of comparison. After determination of the Successful Bidder based on this comparative process and on the responsiveness, responsibility, and other factors set forth in these Instructions, the award

may be made to said Successful Bidder on its Base Bid. The Owner may then additionally award any bid alternates within the budget available at the time of award.

C. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.

19.04 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents or pursuant to NRS 338.141.

19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

19.06 If the Contract is to be awarded, Owner will award the contract to the Bidder whose Bid is in the best interests of the Project.

ARTICLE 20 – BONDS AND INSURANCE

20.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the Agreement (executed by Successful Bidder) to Owner, it shall be accompanied by required bonds and insurance documentation.

ARTICLE 21 – SIGNING OF AGREEMENT

21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder shall execute and deliver the required number of counterparts of the Agreement (and any bonds and insurance documentation required to be delivered by the Contract Documents) to Owner. Within ten days thereafter, Owner shall deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

ARTICLE 22 – PROTEST BY BIDDERS

22.01 Any bidder may protest a pending bid award prior to award by Owner. The appellant's protest must be in compliance with NRS 338.142.

22.02 The timelines set forth in NRS 338.142(1) will begin to run upon Nevada Tahoe Conservation District's issuance of a written Notice of Recommendation to Award the Contract. The written Notice will be posted on http://ntcd.org website. It is solely the protesting Bidder's responsibility to monitor the aforementioned website for such postings and to ensure that its protest is filed within five (5) business days of such posting.

22.03 At the time the notice of protest is filed, the appellant must post a bond with a good and solvent surety authorized to do business in this state to the Owner who shall hold the bond until a determination is made on the protest. A bond posted with a notice of protest must be in an amount equal to the lesser of:

A. Twenty-five percent of the total value of the bid submitted by the bidder filing the notice of protest; or

B. Two hundred fifty thousand dollars.

C. Not seek any type of judicial intervention until Owner has rendered its final decision on the protest and has awarded the contract.

22.04 If the protest is upheld, the full amount of the posted bond or security will be returned to the protestor. If the protest is rejected, a claim may be made against the bond for expenses suffered by the Owner because of the unsuccessful appeal.

22.05 Owner is not liable for any costs, expenses, attorney's fees, loss of income, or other damages sustained by the protestor in a bid process.

ARTICLE 23 – CONTRACTS TO BE ASSIGNED

None.

00 31 01 BID FORM
FOR CONSTRUCTION CONTRACTS

TABLE OF CONTENTS

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Nevada Tahoe Conservation District for the Kahle Drive Complete Street Project.

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

2.02 Bidder acknowledges the provisions of the Agreement as to the assignment of the procurement contract for procurement of goods and special services for Kahle Drive Complete Street Project.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

Addendum No.	**Addendum, Date**

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. If included in the bidding documents, Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related

reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.

J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the e execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the total price indicated in Section 00 42 43 – Bid Schedule. Where required, unit prices computed in accordance with Paragraph 13.03.B of the General Conditions.

Bidder acknowledges that (1) Bid includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit, and (2) when applicable, estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The documentation required to constitute a complete bid is outlined in the Bidder's Checklist (00 21 11). These documents are submitted with and made a condition of the bid.

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

_____

By:
[Signature] _____

[Printed name] _____
(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:
[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

_____

_____

_____

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail address: _____

_____

Bidder's License No.: _____
(where applicable)

Section 00 31 06 – Bid Schedule

Base Bid Schedule

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 Specifications but are necessary for completion of the project are incidentals to the listed Bid Items.

Item No.	Item Description	Unit	Quantity	Unit Cost	Total Cost
1	Mobilization/Demobilization	LS	1		
2	Traffic Control	LS	1		
3	Temporary Erosion Control	LS	1		
4	Dewatering / Diversion	LS	1		
5	Clearing and Grubbing	LS	1		
6	As-Directed Temporary Erosion Control - Sediment Log (Coir Log)	LF	500		
7	As-Directed Temporary Erosion Control - Soil Stabilization	SF	1500		
8	Abandon - (Storm Drain)(CMP)(15-Inch)	LF	75		
9	Abandoned - (Sanitary Sewer)(AC Pipe)(12-Inch)	LF	1833		
10	Abandoned - (Sanitary Sewer)(AC Pipe)(6-Inch)	LF	4079		
11	Abandoned - (Sanitary Sewer)(Manhole)(48-Inch)	EA	13		
12	Adjust - (Manhole Cover)(Sewer)-(Method B)	EA	14		
13	Adjust - (Manhole Cover)(Water)-(Method B)	EA	6		
14	Adjust - (Manhole Cover)(Water)-(Method C)	EA	3		
15	Adjust - (Meter Box)(Water)-(Method C)	EA	9		
16	Adjust - (Valve Box)(Gas)-(Method B)	EA	1		

Item No.	Item Description	Unit	Quantity	Unit Cost	Total Cost
17	Adjust - (Valve Box)(Water)-(Method B)	EA	16		
18	Adjust - (Valve Box)(Water)-(Method C)	EA	3		
19	Construct ACP Driveway	SF	2858		
20	Construct ACP Surface - Bike / Pedestrian Path	SF	1332		
21	Construct ACP Surface - Roadway ("K"10+00 to "K" 33+50)	SF	61846		
22	Construct ACP Surface - Roadway (Side Streets)	SF	5304		
23	Construct Concrete Curb - Type 2	LF	83		
24	Construct Concrete Curb and Gutter - Type 5	LF	216		
25	Construct Concrete Curb and Gutter - Type 6	LF	4319		
26	Construct Concrete Curb Ramp	SF	289		
27	Construct Concrete Driveway	SF	6410		
28	Construct Concrete Pipe Encasement - (15-Inch)	LF	37		
29	Construct Concrete Pipe Encasement - (18-Inch)	LF	62		
30	Construct Pipe Connection	EA	2		
31	Construct Type 2 Modified Drop Inlet	EA	1		
32	Construct Type 3 Drop Inlet	EA	13		
33	Furnish and Install Detectable Warning	SF	43		
34	Furnish and Install Basin Outfall - 1	EA	1		
35	Furnish and Install Basin Outfall - 2	EA	1		
36	Furnish and Install HDPE - (36-Inch)	LF	100		
37	Furnish and Install Loop Detector	EA	4		
38	Furnish and Install No.5 Pull Box	EA	4		

Item No.	Item Description	Unit	Quantity	Unit Cost	Total Cost
39	Furnish and Install No.7 Pull Box	EA	2		
40	Furnish and Install Permanent Signs (Ground Mounted) (Metal Supports) (Anchor and Post) - Roadway	SF	128.25		
41	Furnish and Install Reinforced Concrete Pipe - (15-Inch)(Class IV)	LF	122		
42	Furnish and Install Reinforced Concrete Pipe - (18-Inch)(Class IV)	LF	174		
43	Furnish and Install Reinforced Concrete Pipe - (42-Inch)(Class III)	LF	53		
44	Furnish and Install Reinforced Conctete Pipe - (18-Inch)(Class III)	LF	174		
45	Furnish and Install Subdrain Pipe - (8-Inch)	LF	2275		
46	Furnish and Install Subdrain Pipe Cleanout - (8-Inch)	EA	30		
47	Furnish and Install Metal Drive Gate - (14-Foot)	EA	2		
48	Furnish and Install Metal Drive Gate - (16-Foot)	EA	1		
49	Furnish and Install Survey Monument	EA	3		
50	Furnish and Install Type 1 Storm Drain Manhole - Modified	EA	3		
51	Furnish and Install Type 2 Storm Drain Manhole - Modified	EA	1		
52	Furnish and Install Type 3 Storm Drain Manhole - Modified	EA	1		
53	Remove and Reinstall Wood Fence	LF	460		
54	Place Revegetation - Grass Sod	SF	6660		
55	Place Revegetation - Seeding Mix	SF	52075		
56	Place Thermoplastic Paint - (24-INCH)(Solid White)	LF	589		
57	Place Traffic Paint - (4-INCH)(Double Solid Yellow)	LF	2056		

Item No.	Item Description	Unit	Quantity	Unit Cost	Total Cost
58	Place Traffic Paint - (4-INCH)(Solid White)	LF	4163		
59	Place Traffic Paint - (RED)(Curb Painting)	LF	272		
60	Removal of Bollard	EA	2		
61	Furnish and Install, including coordination, of Electrical Utility Facilities	LS	1		
62	Furnish and Install, including coordination, of Communication Utility Facilities	LS	1		
63	Removal of Existing Electrical and Dry Utility Poles	LS	1		
64	Removal of Existing Underground Conduit	LS	1		
65	Joint Trenching - (Secondary)	LF	500		
66	3-INCH Conduit - (Secondary)	LF	500		
67	Installation of new Meter / Main Pedestal	LS	1		
68	Furnish and Install Transformer Pad - (44-Inch x 48-Inch x 6-Inch)	EA	2		
69	Furnish and Install H-10 Secondary Box with Lid - (17-Inch x 30-Inch)	EA	2		
70	Furnish and Install 612 Cable Vaults - (72-Inch x 144-Inch x 84-Inch)	EA	5		
71	Construct Joint Trench	LF	3510		
72	3-Inch DB 120 Conduit	LF	385		
73	4-Inch DB 120 Conduit	LF	11875		
74	6-Inch DB 120 Conduit	LF	295		
75	3-Inch DB 120 Sweep 45	EA	15		
76	4-Inch DB 120 Sweep 45	EA	51		

Item No.	Item Description	Unit	Quantity	Unit Cost	Total Cost
77	6-Inch DB 120 Sweep 45	EA	4		
78	3-Inch PVC Schedule 80 Riser	LF	75		
79	4-Inch PVC Schedule 80 Riser	LF	250		
80	6-Inch PVC Schedule 80 Riser	LF	20		
81	Pull Line "Mule Tape"	LF	12555		
82	Flat Conduit Marker - 15-Inch (3M Model 1251)	EA	1		
83	Removal of Composite Surface - (AC Driveway)	SF	5236		
84	Removal of Composite Surface - (AC Roadway)	SF	65451		
85	Removal of Composite Surface - (Curb & Gutter)	CY	646		
86	Removal of Composite Surface - (Curb)	CY	68		
87	Removal of Composite Surface - (PCCP Driveway)	SF	1859		
88	Removal of Composite Surface - (Sidewalk)	CY	34		
89	Removal of Composite Surface - (Storm Drain Pipe)	CY	255		
90	Removal of Composite Surface - (Valley Gutter)	CY	7		
91	Removal of Metal Drive Gate	EA	3		
92	Removal of Permanent Sign and Pole (Ground Mounted)	EA	22		
93	Removal of Permanent Sign and Pole (Pole Mounted)	EA	1		
94	Removal of Storm Drain Drop Inlet - (24-Inch x 36-Inch)(Verify in Field)	EA	4		
95	Removal of Storm Drain Drop Inlet - (36-Inch x 36-Inch)(Verify in Field)	EA	2		

Item No.	Item Description	Unit	Quantity	Unit Cost	Total Cost
96	Removal of Storm Drain Drop Inlet - (36-Inch x 48-Inch)(Verify in Field)	EA	6		
97	Removal of Storm Drain Manhole - (48-Inch)(Verify in Field)	EA	5		
98	Removal of Storm Drain Manhole - (60-Inch)(Verify in Field)	EA	1		
99	Removal of Storm Drain Vault - (48-Inch x 48-Inch x 60-Inch)(Verify in Field)	EA	1		
100	Removal of Storm Drain Vault - (120-Inch x 48-Inch x 84-Inch)(Verify in Field)	EA	1		
101	Removal of Storm Drain Vault - (144-Inch x 60-Inch x 96-Inch)(Verify in Field)	EA	1		
102	Remove and Reset - Bollard	EA	1		
103	Remove and Reset - Permanent Signs - (Ground Mounted) (Metal Supports) (Anchor and Post) - New Post	EA	4		
104	Remove Trees - (13-Inch to 18-Inch)	EA	8		
105	Remove Trees - (19-Inch to 24-Inch)	EA	1		
106	Remove Trees - (6-Inch to 12-Inch)	EA	12		

Base Bid Schedule Price (Items 1 through 106): $_____.

Base Bid Schedule Price (in words): _____

_____

_____

<u>The amount of each of the above Bid line items must be filled in and completed.</u>

Bid prices shall include everything necessary for the completion of the Work stipulated in the Contract Documents, including but not limited to providing the materials, equipment, tools, plant and other facilities, and the management, superintendence, labor and services. Bid prices shall include all federal, state and local taxes.

The Bidder shall set forth for each unit basis item of work a unit price and a total for the item, and for each lump sum item total for the item, all in clearly legible figures in the respective spaces provided for that purpose. In the case of unit basis items, the amount set forth under the "Item

Total" column shall be the product of the "Unit Price" multiplied by the "Estimated Quantity" for the item.

In case of discrepancy between the unit price and the total set forth for a unit basis item, the unit price shall prevail, except that if the amount set forth as a unit price is unreadable or otherwise unclear, or is omitted, or is the same as the amount as the entry in the item total column, then the amount set forth in the item total column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price.

If both the unit price and the item total are unreadable or otherwise unclear, or are omitted, the Bid may be deemed irregular. Likewise, if the item total for a lump sum item is unreadable or otherwise unclear, or is omitted, the Bid may be deemed irregular unless the Project being bid has only a single item and a clear, readable total bid is provided.

In case of discrepancy between the "Base Bid Schedule Price" listed and the actual sum of all item total prices, the individual item totals will prevail and the "Base Bid Schedule Price" will be revised to reflect the appropriate total based on the unit prices.

Symbols such as commas and dollar signs will be ignored and have no mathematical significance in establishing any unit price or item total or lump sums. Written unit prices, item totals and lump sums will be interpreted according to the number of digits and, if applicable, decimal placement. Cents symbols also have no significance in establishing any unit price or item total since all figures are assumed to be expressed in dollars and/or decimal fractions of a dollar. Bids on lump sum items shall be item totals only; if any unit price for a lump sum item is included in a bid and it differs from the item total, the item total shall prevail.

The foregoing provisions for the resolution of specific irregularities cannot be so comprehensive as to cover every omission, inconsistency, error, or other irregularity which may occur in a Bid. Any situation not specifically provided for will be determined in the discretion of the City, and that discretion will be exercised in the manner deemed by the City to best protect the public interest in the prompt and economical completion of the Work. The decision of the Nevada Tahoe Conservation District respecting the amount of a Bid, or the existence or treatment of an irregularity in a Bid, shall be final.

Bid Alternate Schedule

Kahle Drive Complete Street Project construction per bid alternate 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 No.	Item Description	Unit	Quantity	Unit Cost	Total Cost
A1	Traffic Control	LS	1		
A2	Clearing and Grubbing	LS	1		
A3	Construct ACP Surface - Bike Path Extension	SF	6929		

Item No.	Item Description	Unit	Quantity	Unit Cost	Total Cost
A4	Construct Concrete Curb Ramp	SF	1501		
A5	Construct Concrete Sidewalk	SF	6060		
A6	Construct Cross Drain - (Bike Path)	SF	146		
A7	Furnish and Install Detectable Warning	SF	144		
A8	Furnish and Install Permanent Signs (Ground Mounted) (Metal Supports) (Anchor and Post) - Bike Path	SF	12.25		
A9	Furnish and Install Riprap - Class 150	CY	4		
A10	Furnish and Install Pole Mounted Street Lighting	EA	5		
A11	Furnish and Install Bollard Lighting	EA	20		
A12	Furnish and Install Convenience / Event Recepticals	EA	5		
A13	Furnish and Install HN1017 Handhole	EA	25		
A14	#8 AWG Conductors	LF	4600		
A15	#10 AWG Conductors	LF	11200		
A16	1-INCH PVC SCHEDULE 80	LF	2670		
A17	Removal of Composite Surface - (Bike Path Pavement)	SF	4545		
A18	Removal of Permanent Sign and Pole (Ground Mounted)	EA	4		

Bid Alternate Schedule Price (Items A1 through A19): $_____.

Bid Alternate Schedule Price (in words): _____

_____

_____

00 31 14 BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER *(Name and Address)*:

SURETY *(Name, and Address of Principal Place of Business)*:

OWNER *(Name and Address)*:

BID

Bid Due Date:
Description *(Project Name— Include Location)*:

BOND

Bond Number:
Date:
Penal sum _____ $ _____
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER	**SURETY**
_____ (Seal)	_____ (Seal)
Bidder's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	By: _____
Signature	Signature (Attach Power of Attorney)
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	Attest: _____
Signature	Signature
Title	Title

Note: Addresses are to be used for giving any required notice.
Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or

3.2 All Bids are rejected by Owner, or

3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

00 31 16 BIDDERS QUALIFICATION STATEMENT

QUALIFICATION OF BIDDER CERTIFICATE

The undersigned bidder, proposed contractor or subcontractor certifies, that they are qualified to do the Kahle Drive Complete Street Project as described in Section 102 CONTRACTOR QUALIFICATIONS of the Special Technical Provisions and submitted all qualification as stated in 102.01 Description together with the bid document.

Contractor Qualifications _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Name of Bidder, Proposed Contractor or Subcontractor

_____

Name and Title of Authorized Representative

_____ _____

Signature Date

PREFERENTIAL BIDDER STATUS

NRS 338.147 and NRS 338.1389 provides that a contractor who has been found to be a responsible contractor and who provides proof to, and receives an Interim Certificate of Eligibility from, the Nevada State Contractor's Board that certifies the payment of:

(1) The sales and use taxes imposed pursuant to Chapter 372, 374 and 377 of NRS on materials used for construction in the State of Nevada of not less than $5,000 for each consecutive 12-month period for 60 months immediately preceding the submission of his bid;

(2) The motor vehicle privilege tax imposed pursuant to Chapter 371 of NRS on the vehicles used in the operation of the general contractor's business in the State of Nevada of not less than $5,000 for each consecutive 12-month period for 60 months immediately preceding the submission of his bid; or

(3) Any combination of such sales and use taxes and motor vehicle privilege tax, or

(4) Acquired, by inheritance, gift, or transfer through a stock option plan for employees, all the assets and liabilities of a viable, operating construction firm that possesses a:

a) License as a general contractor pursuant to the provisions of Chapter 624 of the NRS; and
b) Interim Certificate of Eligibility to receive a preference in bidding on public works

shall be deemed to have submitted a better bid than a competing contractor who has been certified to have made payment of those taxes if the amount of his bid is not more than 5% higher than the amount bid by the competing contractor.

Contractors who desire to claim this preference, must submit to NTCD with the bid, a copy of a valid Nevada State Contractor's Board Interim Certificate of Eligibility and the Preferential Bidder Status Affidavit provided on the following page.

PREFERENTIAL BIDDER STATUS
AFFIDAVIT

I, _____, on behalf of the Prime Contractor,_____ _____, swear and affirm that in order to be in compliance with NRS 338 and be eligible to receive a preference in bidding on **KAHLE DRIVE COMPLETE PROJECT, STATELINE, DOUGLAS COUNTY, NEVADA**, certify that the following requirement will be adhered to, documented and attained on completion of the contract. Upon submission of this affidavit on behalf of _____, I recognize and accept that failure to comply with any requirements is a material breach of the contract and entitles the Awarding Body to damages. In addition the Contractor may lose its certification for a preference in bidding for 5 years and/or its ability to bid on any contracts for public works for one year pursuant to NRS 338:

1. The Contractor shall ensure at least 50 percent of the workers possess a Nevada driver's license or identification card;
2. The Contractor shall ensure all of the non-apportioned vehicles primarily used on this project are registered in Nevada;
3. The Contractor shall ensure at least 25 percent of the materials used on this project are purchased in Nevada and;
4. The Contractor shall ensure payroll records related to this project are maintained and available within the State of Nevada.

By:_____

Title:_____

Signature:_____

Date:_____

Attest:_____

Title:_____

00 31 19 BIDDER CERTIFICATIONS

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

CERTIFICATION OF BIDDER REGARDING LOBBYING FOR CONTRACTS, GRANTS, LOANS, AND COOPERATIVE AGREEMENTS

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, or the extension, continuation, renewal, amendment, or modification of any Federal contract grant, loan, or cooperative agreement.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form - LLL, "Disclosure of Lobbying Activities" in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 21, U.S. Code. Any Person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Name of Organization_____

Address _____

City_____

State_____

Zip Code _____

_____ _____

Signature of Authorized Official Date

_____

Title

00 31 22 LIST OF PROPOSED SUBCONTRACTORS (SUBMITTED WITH BID)

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 (Attach additional sheets if necessary.)

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

00 31 22 LIST OF PROPOSED SUBCONTRACTORS (SUBMITTED WITHIN 2 HOURS OF BID)

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 (Attach additional sheets if necessary.)

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

00 31 24 LIST OF MAJOR EQUIPMENT MANUFACTURERS

List below the type of equipment, manufacturer, and year below.

Type of Equipment	Manufacturer	Year or Date Acquired

00 41 01 AGREEMENT

AGREEMENT FORM

THIS AGREEMENT, made and entered into this _____ day of _____, 2024, 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. Work.
The Contractor shall furnish all of the materials and perform all of the work described in the Plans and Specifications entitled **"KAHLE DRIVE COMPLETE STREET PROJECT, STATELINE, DOUGLAS COUNTY, NEVADA"**, prepared by the Nevada Tahoe Conservation District, and shall do everything required by this Agreement and the Specifications.

Article 2. The Project.
The Project, of which the Work under the Contract Documents is a part, is generally described as follows: **KAHLE DRIVE COMPLETE STREET PROJECT**.

Article 3. Contract Times.
All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

Contract Times: Day and Dates.
If both the base bid and bid alternate are awarded, then the following timing will apply. 1. The work required to complete the Base Bid will be substantially completed on or before October 15, 2025. 2. The work required to complete the bid alternate will be substantially completed on or before August 31, 2026. 3. All work will be completed and ready for final payment on or before September 30, 2026.
If only the base bid is awarded, then the work required to complete the project will be substantially completed on or before October 15, 2025 and completed and ready for final payment on or before November 30, 2025.

Liquidated Damages.
Contractor and NTCD recognize that time is of the essence and that NTCD will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by NTCD if the Work is not completed on time. Accordingly, instead of requiring any such proof, NTCD and Contractor agree that as liquidated damages for delay (but not as a penalty):

Substantial Completion: Contractor shall pay NTCD $1,000 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above, for Substantial Completion until the Work is substantially complete.

Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for

completion and readiness for final payment, Contractor shall pay NTCD $1,500 for each day that expires after such time until the Work is completed and ready for final payment.

Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently. Similarly, Liquidated damages for failing to attain Substantial Completion on the Base Bid and Bid Alternates are not additive and will not be imposed concurrently, however to the extent the damages overlap, the higher of the overlapping damages will apply.

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. Contract Price.
Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:
For all Work, a total sum not to exceed _____
($_____), at the prices stated in the Contractor's Bid.

All work for the base bid will be performed for a total sum not to exceed $_____.

All work for the bid alternate (if awarded) will be performed for a total sum not to exceed
$_____.
All specific cash allowances are included in the above price.

For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of unit price work times the actual quantity of that item.

The bid prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. Estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.
Work shall include the following items:
Base Bid
Bid Alternate (if awarded)

Article 5. Payment Procedures.
NTCD shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 25th day of each month during performance of the Work as provided in Paragraph 6.02.B below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
Progress payments will be made as follows:

1. Until fifty percent (50%) of the Work required by this Agreement has been performed, progress payments will be paid in an amount equal to ninety-five percent (95%) of each invoice. The remaining five percent (5%) will be withheld as retainage.
2. After fifty percent (50%) of the Work required by this Agreement has been performed, if requested by the Contractor, NTCD may pay to the Contractor any of the remaining progress payments without withholding additional retainage if, in the Engineer's opinion, satisfactory progress is being made on the Services in accordance with NRS 338.515.
3. If, after fifty percent (50%) of the Work required by this Agreement has been performed, the Engineer determines that satisfactory progress is being made, NTCD may pay any amount of retainage withheld from progress payments made during the Contractor's completion of the first fifty percent (50%) of Work required by this Agreement on the condition that if a subcontractor performed a portion of the Work, the Engineer determined that such Work was in compliance with this Agreement, the subcontractor submits to the Contractor a release of a mechanics lien for the portion of Work so completed, and a release of any applicable mechanics lien from each of the subcontractor's subcontractors and suppliers, and the amount of retainage NTCD pays is in proportion to the Work which the subcontractor performed. If the Contractor is paid for any retainage for Work completed by its subcontractors, the Contractor must pay to the subcontractor any retainage it held pursuant to NRS 338.555.
4. If the Engineer determines that satisfactory progress is being made on the Work and does not withhold any amount pursuant to NRS 338.525, NTCD may pay ninety-seven and one-half percent (97.5%) of the amount of each invoice after completion of the first fifty percent (50%) of the Work and will release to the Contractor fifty percent (50%) of the retainage withheld from invoices received for the first fifty percent (50%) of Work completed. If the Engineer determines that satisfactory progress is not being made on the Work and does withhold an amount pursuant to NRS 338.525, the Owner may pay ninety-five percent (95%) of the amount of each invoice after completion of the first fifty percent (50%) of the Services and will continue to withhold the retainage

withheld from invoices received for the first fifty percent (50%) of Services completed. The final audit shall be performed after the release of the retainage and may cause an adjustment of payments to NTCD or to the Contractor.

5. Except as otherwise provided in NRS 338.525, the NTCD will pay the Contractor the actual cost of the supplies, materials and equipment, that are identified in Contract; have been delivered and stored at the location; and in the time and manner specified in the Contract by the Contractor or subcontractor or supplier for use in the Work; and are in short supply or were specially made project.

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. Interest.

All amounts not paid when due shall bear interest, payable at the end of each quarter, at the rate equal to the rate quoted by at least three insured banks, credit unions or savings and loan associations in this State as the highest rate paid on a certificate of deposit whose duration is approximately 90 days on the first day of the quarter. If the amount due to the Contractor at the end of the quarter is less than $500, Owner may hold the interest in accordance with NRS 338.515.

Article 7. Contractor's Representations.

In order to induce NTCD to enter into this Contract, Contractor makes the following representations:

1. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
2. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
3. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
4. If applicable, Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

5. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and, if applicable, the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.
6. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
7. Contractor is aware of the general nature of work to be performed by NTCD and others at the Site that relates to the Work as indicated in the Contract Documents.
8. Contractor has given NTCD written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
9. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
10. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

Article 8. 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 9. 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:

- This Agreement
- Advertisement for Bids
- Instructions to Bidders
- Bid Form
- Bid Schedule
- Bid Summary
- Bid Bond
- Bidders Qualification Statement
- Certification of Bidder
- List of Proposed Subcontractors
- List of Major Equipment Manufacturers
- Labor & Material Payment Bond

- Performance and Completion Bond
- Project Plans for **Kahle Drive Complete Street Project**
- Special Technical Provisions for **Kahle Drive Complete Street Project**
- Standard Specifications for Road and Bridge Construction – NDOT "Silver Book", current edition
- Standard Specifications for Public Works Construction "Orange Book," current edition
- Appendix A – Federal Regulations
- Appendix B – Insurance Requirements
- Appendix C – Non-Discrimination Statutes and Authorities
- Appendix F – Project Permits
- Appendix G – Geotechnical Report
- 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) Special Technical Provisions
c) Standard Specifications
d) Project Plans
e) General Provisions

Article 10. Nondiscrimination.

1. In connection with the performance of work under this Contract, the Contractor agrees not to discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, sexual orientation, gender identity or expression, 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.
2. The Contractor further agrees to insert this provision in all subcontracts hereunder, except subcontracts for standard commercial supplies or raw materials.
3. Any violation of such provision by the Contractor constitutes a material breach of Contract.
4. If applicable, The Contractor further agrees to comply with the preferential employment requirements set forth in NRS 338.130. If the provisions of NRS 338.130 are not complied with, said non-compliance will render the Agreement void.

Article 11. 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 12. 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 13. 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. Appendix B, 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 14. 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 15. 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 16. Force Majeure. The Contractor shall be entitled to a reasonable extension of time from NTCD for the delays caused by damage to Contractor's and/or NTCD's property caused by fire, lightning, earthquakes, tornadoes, floods and other extreme weather conditions or acts of nature, power failures, riots, acts of civil or military authorities of competent jurisdiction, strikes, lockouts, and any other industrial, civil or public disturbances beyond the control of the Contractor and its subcontractors causing the inability to perform the requirements of this Contract. Any delay other than ones mentioned above shall constitute a breach of Contractor's contractual obligations.

Article 17. Non-Appropriation. All payments under this contract are contingent upon the availability to NTCD of the necessary funds. In accordance with NRS 354.626 and any other applicable provision of law, the financial obligations under this contract between the parties shall not exceed those monies appropriated and approved by NTCD for this contract for the then current fiscal year under the Local Government Budget Act. This contract shall terminate and NTCD's obligations under it shall be extinguished if NTCD fails to appropriate monies.

Nothing in this contract shall be construed to provide Contractor with a right of payment over any other entity. Any funds obligated by NTCD under this contract that are not paid to Contractor shall automatically revert to NTCD's discretionary control upon the completion, termination, or cancellation of the agreement. The NTCD shall not have any obligation to re-award or to provide, in any manner, the unexpended funds to Contractor. Contractor shall have no claim of any sort to the unexpended funds.

Article 18. 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. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

Article 19. Contractor's Certifications.
Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.
This Agreement will be effective on _____ (which is the Effective Date of the Contract).

OWNER:	CONTRACTOR:
_____	_____
By: _____	By: _____
Title: _____	Title: _____
Attest: _____	Attest: _____
Title: _____	Title: _____
Address for giving notices:	Address for giving notices:
Nevada Tahoe Conservation District	_____
PO Box 915	_____
Zephyr Cove, NV 89448	_____
	License No.: _____

00 42 01 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 **"KAHLE DRIVE COMPLETE STREET PROJECT, STATELINE, DOUGLAS COUNTY, NEVADA"** 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 Contact 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

00 41 04 LABOR AND MATERIALS BOND

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 **"KAHLE DRIVE COMPLETE STREET PROJECT, STATELINE, DOUGLAS COUNTY, NEVADA"** 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

APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations**: The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Non-discrimination**: The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment**: In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. **Information and Reports**: The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the Federal Highway Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the Federal Highway Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance**: In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

    a. withholding payments to the contractor under the contract until the contractor complies; and/or
    b. cancelling, terminating, or suspending a contract, in whole or in part.

6. **Incorporation of Provisions**: The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or

the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

APPENDIX B

CONSTRUCTION/INDEMNIFICATION AND INSURANCE SPECIFICATIONS FOR KAHLE DRIVE COMPLETE STREET PROJECT, STATELINE, DOUGLAS COUNTY, NEVADA

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 DOUGLAS COUNTY and NEVADA TAHOE CONSERVATION DISTRICT 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.

APPENDIX C

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

APPENDIX D

SPECIAL TECHNICAL PROVISIONS

SPECIAL TECHNICAL PROVISIONS

FOR

KAHLE COMPLETE STREET PROJECT

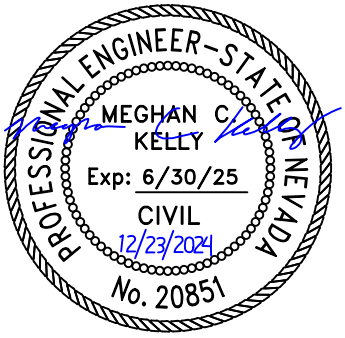
NEVADA TAHOE CONSERVATION DISTRICT

DOUGLAS COUNTY, NEVADA

FOR USE WITH:

Standard Specifications, as referred to in these Special Technical Provisions, are the Standard Specifications for Public Works Construction – Douglas County "Orange Book," current edition, and the Standard Specifications for Road and Bridge Construction – NDOT "Silver 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: December 2024

Contents

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 – Douglas County "Orange Book," current edition. These Special Technical Provisions are supplemental to the Standard Specifications. Where applicable in the Nevada Department of Transportation (NDOT) right of way, the NDOT Standard Specifications for Road and Bridge Construction, current edition (NDOT Standard Specifications) shall be used as 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 100 – CONTRACTOR QUALIFICATIONS

100.01 GENERAL.

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:
Project descriptions of similar projects to the Kahle Drive Complete Street Project

a. Location of projects

b. Dates project was initiated and completed by the Contractor

c. Description including road rehabilitation size and any sensitive lands within the project area

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 states of California or Nevada.

3. Contractor's license number, classification, & status.

The above items shall clearly demonstrate the Contractor's qualifications to perform the work associated with the Kahle Drive Complete Street 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 consisting of minimum project total costs of $1,500,000 and contract times exceeding 30 days.

B. All landscape and revegetation work required as part of this project shall be performed by a licensed Landscape Contractor (C-10 in Nevada). The licensed Landscape Contractor is required to have successfully performed and completed a minimum of one (1) project, within the past five (5) years, which included landscape and revegetation work components of a similar scope and nature as to that which is indicated herein.

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.

100.02 MEASUREMENT AND PAYMENT.

There will be no compensation for providing required bid documents and support materials for a complete bid package for this project. Incomplete bid packages or bid packages received after the submittal deadline will not be considered.

SECTION 105 – ORDER OF WORK

105.01 GENERAL.

Work under this Section shall conform to the Project Plans, Project Permits, Contract Documents, Standard Specifications, these Special Technical Provisions, and/or as directed by the Engineer, and other applicable Local, Regional, State, and Federal requirements during the life of the contract. 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 US Forest Service (USFS), the Nevada Department of Transportation (NDOT), the Nevada Tahoe Conservation District (NTCD), Nevada Division of Environmental Protection (NDEP), and the Tahoe Regional Planning Agency (TRPA)). The Contractor is responsible for 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 and project signage.
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 power and communications utility undergrounding vaults, pads, and conduits as shown on the project plans and as described in these Special Technical Provisions.
5. Coordination with NV Energy and Frontier to complete overhead to underground utility installation.
6. Removal of existing overhead utilities.
7. Construction of other subsurface utilities as shown on the project plans and as described in these Special Technical Provisions.

8. Construction of curb and gutter, road grade, and road as shown on the project plans and as described in these Special Technical Provisions.
9. Construction of surface utility improvements.
10. Construction of pedestrian improvements and lighting, if bid alternate awarded.
11. Installation of striping and signage.
12. Restoration of entire project site:
    a. Restoration/revegetation of all disturbed areas.
    b. Road sweeping.
    c. Cleaning of drop inlets and storm drains.
    d. Restoration of staging and access.
    e. Removal of temporary BMPs with approval of Engineer.
13. Pre-Final site walk with the Engineer, Contractor, Douglas County, US Forest Service, NDOT, and TRPA.
14. Development of project punch list (by Engineer).
15. Completion of punch list items.
16. Final site walk with Engineer and Contractor.

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, USFS, NDOT, 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.

105.02 MEASUREMENT AND PAYMENT.

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 110 – PROJECT PERMITS

110.01 GENERAL.

This project is located within Douglas County, Nevada and the Lake Tahoe Basin, which is regulated by Douglas County, the Tahoe Regional Planning Agency (TRPA), the Nevada Division of Environmental Protection (NDEP), and the Nevada Department of Transportation (NDOT). Additionally, the project is being funded by the US Forest Service (USFS) and occurs on portions of USFS land and requires the modification of an existing USFS Special Use Permit (SUP) as well as Resource Protection Measures

(RPMs) when working on USFS Lands. Finally, a portion of the work is within the NDOT right-of-way, which requires issuance of an encroachment permit by NDOT.

The contractor will be responsible for all permit requirements upon receipt of the permits for the project and no additional compensation shall be allowed for. The project permit(s) will have specific requirements covering work to be performed under this contract. The Contractor shall meet the permit(s) requirements for grading season restrictions, stormwater discharges, Best Management Practices (BMPs), selection of staging and storage areas, dewatering practices, revegetation and restoration requirements, and all other agency approval conditions. The Contractor shall note that the project is located near sensitive lands (TRPA Stream Environment Zone and US Army Corp of Engineers Wetlands) and thus special care is required during construction.

In addition to TRPA and NDEP stormwater discharge and temporary erosion control and BMP requirements, the Contractor shall be responsible for complying with all Douglas County and NDOT permits and other agency requirements and responsibilities as provided in the project permit(s), Contract Documents, Plans, Standard Specifications, these Special Technical Provisions, and the Stormwater Pollution Prevention Plan (SWPPP) (Example Provided in Appendix A) . **The Contractor is required to pick up the site improvement permit from Douglas County prior to initiating any work on the site. The Contractor is required to finalize the SWPPP and file an Notice of Intent with NDEP prior to initiating any work on the site.**

The Contractor shall maintain a copy of all permit(s) at the construction site and shall make the permit(s) available to operating personnel during construction activities; also, upon request these permit(s) must be made available for public inspection.

The Contractor shall maintain a set of stamped plans and special provisions at the construction site and shall make them available to operating personnel during construction activities; also, upon request, plans and special provisions must be made available for public inspection.

It shall be the Contractor's responsibility to completely inform him or herself of the conditions of all Project Permit(s) and conduct construction operations accordingly. Any requested change to an agency's permit conditions of approval, proposed by the Contractor, shall be submitted to the Engineer for transmittal to TRPA, NDEP, USFS or other pertinent agency 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 is responsible for coordinating the pre-grading meeting with TRPA** to allow for review of the project site and determination of the adequacy of temporary erosion control measures and BMPs deployed by the Contractor. The Contractor shall coordinate the meeting so that the Contractor, Engineer, TRPA, USFS, Douglas County, and NTCD staff are present. The Contractor shall follow the requests of the reviewing environmental agencies as necessary to bring the construction site temporary erosion control devices and BMPs into compliance with the permit(s) requirements, regulations, and other provisions of these Special Technical Provisions, and the SWPPP. The Contractor shall maintain all temporary erosion control devices and BMPs until all work is complete, and the project site is stabilized per acceptance of the Engineer and all relevant agencies in review of the project site at the "Final Walk Through". The Contractor can remove temporary erosion control devices and BMPs only upon approval

by the Engineer, TRPA, and USFS to do such. Attention is directed to the revegetation requirements found elsewhere in these Special Technical Provisions.

The Contractor shall comply with all noxious weed requirements per the United States Forest Service (USFS) and other regulatory agencies. These requirements include but are not limited to the following:

- All tools, equipment and vehicles used for project implementation are required to be weed-free.
- All tools, equipment and vehicles will be cleaned of all attached mud, dirt, and plant parts. This will be done at a vehicle washing station or steam cleaning facility (power or high-pressure cleaning) before the equipment and vehicles enter the project area, and before vehicles enter the Lake Tahoe Basin (if they originate from outside the Basin).
- All soil, fill, gravel, rock, mulch, seed, organic matter or other imported materials are required to be weed-free. Use onsite soils, gravel, rock, or organic matter when possible. Otherwise, obtain materials from pits, quarries, nurseries, and other sources that are certified or have been determined to be weed-free by the noxious weed coordinator of the USFS Lake Tahoe Basin Management Unit.
- Minimize the amount of ground and vegetation disturbance in the construction areas. Reestablish vegetation on all disturbed bare ground to minimize weed establishment and infestation.
- When working in known invasive plant infestations or designated weed units, equipment shall be cleaned before moving to other National Forest Service system lands. These areas will be identified in the field prior to the beginning of work.
- Use weed-free mulches, and seed sources. Salvage topsoil from project area for use in onsite revegetation, unless contaminated with noxious weeds. All activities that require seeding or planting must utilize locally collected native seed sources when possible. Plant and seed material should be collected from or near the project area, from within the same watershed, and at a similar elevation when possible. Persistent non-native such as Phleum pretense (cultivated timothy), Dactylis glomerata (orchard grass), or Lolium spp. (ryegrass) will not be used. This requirement is consistent with the USFS Region 5 policy that directs the use of native plant material for revegetation and restoration for maintaining “the overall national goal of conserving the biodiversity, health, productivity, and sustainable use of forest, rangeland, and aquatic ecosystems.” Seed mixes should be accepted by the Revegetation Specialist.
- Staging areas for equipment, materials, or crews shall not be sited in weed infested areas.

The project is located adjacent to a sensitive land capability class area (1b SEZ) as classified by the TRPA. Therefore, the Contractor will be required to use extreme caution in all activities associated with the project. The Contractor will be required to meet all of the requirements shown on the Plans, as described in the Project Permit(s), these Special Technical Provisions and as stated in the SWPPP. Refueling of equipment shall only be allowed on paved areas and not within the active project work area.

All trash created during construction must be properly contained (wildlife-proof containers) and removed from the site at the end of each day.

The Contractor shall meet all of the requirements of the SWPPP, and the project permit(s) as issued by the permitting agencies, and any provisions for rights-of-entries issued by landowners. The Contractor will be responsible for adhering to all requirements of the permit(s), and no additional compensation

will be allowed for. The following project permits may be found as appendices to the Contract Documents:

- Tahoe Regional Planning Agency
- US Forest Service – Special Use Permit
- Nevada Department of Environmental Protection – *Stormwater General Permit*
- Nevada Department of Transportation – Right-of way Occupancy
- Douglas County – *Site Improvement Permit*

110.02 Measurement and Payment

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 115 – STORM WATER POLLUTION PREVENTION COMPLIANCE

115.01 GENERAL.

The Contractor shall implement the requirements for erosion control due to storm water and construction related runoff from construction sites as established under Nevada Revised Statutes (NRS) and Nevada Administrative Code (NAC) 445A. It shall be the Contractor's responsibility to provide day-to-day operational control of activities and the implementation of Best Management Practices (BMPs) that are necessary to control and reduce the pollution of Waters of the US from stormwater discharges and other pollutants and runoff associated with construction activities, and to ensure compliance with the requirements of National Pollutant Discharge Elimination System (NPDES) permit coverage. Work shall include, but is not limited to:

- Complete and submit a Notice of Intent (NOI) including any permit and filing fees.
- Develop and Implement a Storm Water Pollution Prevention Plan (SWPPP) (Draft Provided in Appendix A)
- Furnishing all materials
- Implementing all practices and installing, constructing and maintaining all BMPs and temporary and/or permanent control measures for the duration of the project
- Submit a Notice of Termination (NOT) upon completion of the project.

For coverage under the NDEP stormwater general permit, an NOI must be submitted no later than fourteen (14) days prior to the start of construction. The Contractor shall complete the NOI form and electronically file it with NDEP on-line at the following website: https://genpermits.ndep.nv.gov/

After filing the NOI electronically the applicant must print, sign and submit the confirmation page, including any permit and filing fees, to NDEP by mail to the following address:

Stormwater Coordinator

Bureau of Water Pollution Control

Nevada Division of Environmental Protection

901 South Stewart Street, Suite 4001

Carson City, NV 89701

Phone: (775) 687-4670

In accordance with NAC 445A.269, NDEP may require a general stormwater permit holder to apply for and obtain an individual permit.

115.02 STORM WATER POLLUTION PREVENTION PLAN.

The Storm Water Pollution Prevention Plan (SWPPP) shall include, but is not limited to:

- Project Description
- Stormwater Controls
- Material Storage Areas
- Stabilization Practices
- Erosion and Sediment Controls
- Structural Practices
- Spill Contingency Plan
- Post Construction Stormwater Management
- Non-Storm Water Discharge Maintenance
- Maintenance and Inspection Requirements
- Dewatering and Diversion Requirements
- Watering/Dust Control Requirements
- Sampling and Analysis Plan

The SWPPP will describe and ensure the implementation of practices that will assure compliance with the terms and conditions of all of the project permits in accordance with good Engineering practices and cost effective approaches as outlined in Regional BMP Manuals, TRPA handbook, Nevada Contractors Field Guide for Construction Site BMPs and other related documents.

The Contractor, within ten (10) days after the effective date of the executed Contract, shall acknowledge and certify the project SWPPP. Any requested revisions to the draft SWPPP (i.e. amendments) shall be submitted to the Engineer for review and acceptance, including applicable permitting agencies prior to any modifications being implemented by the Contractor. Such requested modifications shall be noted in red on the original plan (or other suitable format that is clear). Subcontractors shall also sign (i.e. certify) the SWPPP and must comply with the requirements of all of the project permits under the supervision of the Contractor.

Attention is directed to Section 160, “TEMPORARY EROSION CONTROL,” of these Special

Technical Provisions and the applicable Project Plan sheets for Temporary Erosion Control and Dewatering and Diversion operations.

A copy of the Contractor's NOI, SWPPP, and applicable inspection and maintenance records shall be provided to the Engineer at least seven (7) calendar days prior to start of construction and shall be

posted at the construction site with other project records; upon request these records, NOI, and SWPPP must also be made available for public inspection.

115.03 MEASUREMENT AND PAYMENT.

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 120 – MOBILIZATION & DEMOBILIZATION

120.01 DESCRIPTION.

This Section consists of the mobilization, demobilization of the contractor's forces to the project site and the production of Record Drawings.

Work under this Section shall conform to the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, and/or as directed by the Engineer, and other applicable Local, Regional, State, and Federal requirements.

Work under this item shall consist of furnishing all labor, tools, equipment, materials, and incidentals as necessary to perform operations, including but not limited to, mobilization of the Contractor's forces in accordance with the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, Local, Regional, State, and Federal agency requirements, and/or as directed by the Engineer.

120.02 CONSTRUCTION.

120.02.01 MOBILIZATION.

This Section consists of the mobilization of the Contractor's forces which shall include obtaining all bonds, insurance, and permits; purchasing, transportation, setup, staging and storage of equipment and materials; establishing a field office at the project site; plus furnishing all labor, materials, tools, equipment, and incidentals required for performance and completion of the work as shown on the Project Plans, and specified in the Contract Documents, Project Permit(s), Standard Specifications, these Special Technical Provisions, the SWPPP, and as directed by the Engineer. Mobilization shall also include but not be limited to the following items:

• Provide on-site sanitary facilities.

• Post all Occupational Safety and Health Administration (OSHA) required notices.

• Post all prevailing wage requirements.

• Prepare and transmit all submittals as noted on the Plans, and as specified in the Contract

Documents, Standard Specifications, and these Special Technical Provisions.

• Wash and clean all tools and equipment prior bringing on site, as specified in the Project Permits,

Contract Documents, Standard Specifications, these Special Technical Provisions, and as required by TRPA.

120.02.01 DEMOBILIZATION.

This Section consists of the demobilization of the Contractor's forces which shall include the removal of all materials, equipment, signage, temporary pollution control materials, trash, debris, and all other items imported to or generated on-site as a result of the work completed by the Contractor and his/her operations. Furthermore, demobilization shall include cleaning the existing drainage inlets, sediment caps, pipes, and culverts within the project boundary. Furthermore, demobilization shall include repairing all pavements, walkways, infrastructure, signage, landscape, trails, or other public or private facilities damaged by construction activities to their pre-construction conditions using comparable materials as accepted and directed by the Engineer. All disturbed areas shall be returned, as nearly as possible, to the lines and grades which existed prior to construction except where modified as part of the work so designated on the Plans.

At the conclusion of work, final acceptance of the Project improvements must be in the form of a written "Notice of Completion."

120.02 RECORD DRAWINGS.

The Contractor shall keep accurate records on a set of project black line prints (22 inches x 34 inches) of all additions and deletions to the work and of all changes in location, elevation, and character of the work not otherwise shown or noted on the Project Plans. The AGENCY will furnish up to six (6) sets of full-size black line prints for use at no cost to the Contractor.

Record drawings plans shall be provided to the Engineer for acceptance within one (1) calendar month after project completion as defined by the Engineer. Release of retention monies will not occur prior to submittal and acceptance of the final record drawings, which shall be a comprehensive set of Record Drawings detailing all aspects of the Project. Two (2) sets of full sized (22x34) hard copy record drawings shall be provided with changes to the original Contract work shown in red color, including revision clouds. All redline changes and details to be shown on the record drawings shall include, but not be limited to, difference in quantities of the original plans vs. actual installation (as appropriate), modifications to the location and elevations of public utility and storm drainage facilities, any utility relocations, any signage or traffic control devices, and any other modifications, additions or adjustments to any other facilities not shown or as modified on the Project Plans.

Record drawings plans shall be signed and dated by the Contractor or the sub-contractor that actually constructed the facility. In addition, the company names of the Contractor and sub-contractors shall be added to the Title Sheet of the record drawings. Should the Contractor not provide this information to the Engineer in the time specified in this section, or to the acceptance of the Engineer (record drawings do not note all changes to the project) the Engineer will not accept the record drawings, retention shall not be released on the project, the record plans will be returned to the Contractor and the Contractor shall resubmit the record drawings to meet the requirements of this section to the acceptance of the Engineer.

120.04 MEASUREMENT AND PAYMENT

"Mobilization/Demobilization" shall be measured on a lump sum basis, completed and accepted by the Engineer as conforming to all the requirements in the complete work.

Partial payments paid for Mobilization and Demobilization shall be made as follows:

- When 5% of the total original contract amount is earned from other bid items, 50% of the amount bid for mobilization/demobilization will be paid.
- When 10% of the total original contract amount is earned from other bid items, 100% of the amount bid for mobilization will be paid.

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 125 – STAGING AND STORAGE

125.01 DESCRIPTION.

This Section consists of the set-up, use, and restoration of all staging and storage areas.

Work under this Section shall conform to the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, and/or as directed by the Engineer, and other applicable Local, Regional, State, and Federal requirements.

Work under this item shall consist of furnishing all labor, tools, equipment, materials, and incidentals as necessary to perform operations, including but not limited to, the staging of the Contractor's forces and/or storage of equipment and material in accordance with the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, Local, Regional, State, and Federal agency requirements, and/or as directed by the Engineer.

125.02 CONSTRUCTION.

125.02.01 STAGING AND STORAGE AREAS

Work under this Subsection shall consist of the placement, installation, furnishing, maintenance, field modifications, relocating, and/or removing of temporary Traffic Control devices, provisions, measures, and/or services including but not limited to the set-up, maintenance, and removal/restoration of all Staging and Storage areas.

All staging and storage areas shall be maintained at all times in a clean and safe environment. The Contractor's use of the designated staging and storage areas shall be limited to and/or controlled by the time allowances and other restrictions as noted on the Project Plans, and in Project Documents.

If the Contractor wishes to make use of additional areas, for staging and storage activities, not identified on the Plans, it will be the Contractor's sole responsibility to secure use of these areas with agreements with the individual property owners; and file a copy of said authorization with the Engineer and obtain Tahoe Regional Planning Agency approval. The Contractor shall further be responsible for establishing all necessary and required temporary erosion control protections and updating the Project SWPPP. The Contractor will be responsible for bearing all costs with securing these areas, and all efforts associated

with the approvals, setup, maintenance, decommissioning and restoration, with no additional compensation allowed for. No staging will be allowed in the NDOT right-of-way.

The Contractor shall be responsible for appropriate security and safety measures at all staging/storage areas to protect property and the public.

Set-up, use, and restoration of all staging/storage areas requires the Contractor to protect all existing facilities, equipment, vegetation, utilities (above and below ground/grade) and surface features (such as, but not limited to, pavement, fences, posts, signs, boulders, landscaping, slopes, etc.) in place. Should the Contractor's operations damage any of these items the Contractor shall replace, in kind, the damaged or destroyed item. The damage or destruction of any item will be determined by the Engineer during construction or at the final punch list development. In the event the Contractor needs to relocate any item (boulder, fence, etc.) the Contractor shall replace the item to its original location. If the relocated item is damaged, as determined by the Engineer, the Contractor will be required to replace the damaged item with an in-kind replacement. No additional compensation will be allowed for any relocation, or replacement of damaged items, this will be at the sole cost to the Contractor.

The Contractor shall not proceed with any construction until truck haul routes and temporary haul roads have been identified and accepted to the satisfaction of the Engineer, and TRPA. **The Contractor shall submit four (4) copies of a proposed truck haul route plan, along with the proposed project construction schedule and traffic control plan, to the Engineer for review and acceptance at least seven (7) calendar days prior to the scheduled Pre-Construction Meeting.** Any days lost due to the lack of an accepted truck haul plan will be charged against the Contractor's allowable workdays. The Contractor's truck haul route plan shall include, but not be limited to, the following:

- Proposed construction zone.
- Proposed storage areas.
- Location of flaggers (to control truck access, where applicable).
- Construction phasing (including phasing of intersection construction and detours, if any); and,
- Proposed truck route (including the location of other construction projects which impact, or may be impacted by, the proposed haul route.)

All staging/storage areas shall comply with the SWPPP and TRPA's requirements for BMPs while storing or stockpiling materials. The Contractor shall be responsible for locating staging/storage areas and will need to install all temporary erosion controls and BMPs and maintain them at all times during construction and until project closeout. The limits of the staging/storage areas shall be reviewed and accepted by the Engineer, Douglas County, NDEP, and TRPA prior to use. All necessary temporary BMPs shall be installed at the staging/storage areas prior to the TRPA Pre-Grade Meeting and will be inspected during said meeting to ensure proper installation and controls are in place.

At the completion of the work or when no longer required for use, all construction staging/storage areas shall be cleared of all equipment, tools, materials, trash, debris, etc. to produce a clean area and returned, as nearly as possible, to the lines and grades which existed prior to construction.

The restored staging/storage areas, if areas exist as an unpaved condition, shall be treated with the final Revegetation Treatment Type as shown on the Plans (if any areas for Staging/Storage are used and not shown on the Landscape and Revegetation Plans, the Contractor shall restore the area to the existing condition, prior to use) and as described in these Special Technical Provisions. For storage and staging

areas in paved areas, the areas shall be swept clean and returned to the existing condition, prior to use. The Engineer will inspect the paved areas, and if damage has occurred, whether by fault of the contractor's operations or not, the contractor will be required to make remedial action, including complete pavement restoration. No additional compensation shall be allowed for any remedial restoration work of paved areas, including complete replacement of the pavement areas.

The Contractor shall be responsible for appropriate security and safety measures at all staging/storage areas to protect property and the public.

125.03 MEASUREMENT AND PAYMENT.

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 130 – SUBMITTALS

130.01 DESCRIPTION.

Where required by the Contract Documents, project permit(s), Project Plans, SWPPP, Standard Specifications, elsewhere in these Special Technical Provisions, and/or as indicted herein, the Contractor shall provide submittals, and furnish shop drawings and material certifications to the Engineer for review and acceptance. The required number of submittals, shop drawings and certificates shall be delivered within the specified time frames, including a transmittal letter in conformance with the Contract Documents, Standard Specifications, and these Special Technical Provisions. The transmittal letter at a minimum shall include the following information:

A. Submittal number and item description

B. Scheduled date of submittal

C. Specification section/item number

D. Supplier and/or manufacturer, plus contact information

E. Contractor or sub-contractor name and point of contact information.

The number of copies to be submitted will be according to the following, unless specified elsewhere:

Construction Schedule, Traffic Control Plan, and Truck Haul Routes – 4 copies

Submittals & Shop Drawings – 4 copies

Certifications – 3 copies (conforming certifications will not be retuned)

130.02 Submittals Required

The following items require a submittal, shop drawing, and/or material certification for review and acceptance by the Engineer (this list may not be complete; it is the Contractors responsibility to review

and be knowledgeable with all portions of the project permits, SWPPP, Plans, Contract Documents, Standard Specifications, and these Special Technical Provisions for any additional requirements):

- Construction schedule
- Qualifications of the materials testing firm or personnel to be used
- Traffic Control Plan, and Truck Haul Routes
- SWPPP authorization, revisions, and dewatering plans
- NDEP, NOI, and NOT
- Equipment list for all equipment to be used, including the following minimum information:
    - Manufacturer and Model
    - Certification for washing/steam cleaning, including date.
- Filter fence, sediment coir logs, and other BMP materials
- Construction limit fence
- Engineered fabrics.
- Aggregates used in the work.
- Origin and properties of cobble, boulders, and gravel used in the work.
- Aggregate base (AB), imported fill, engineered fill, imported topsoil, and bedding materials.
- Material testing reports and other data necessary to provide the Engineer with established laboratory values for optimum moisture and maximum dry density, for use of any native soils, imported soils and aggregates requiring density testing.
- Storm drain pipe, valves, and fittings.
- Shop drawings and installation specifications for structures, including the outlet structure, cutoff walls, and manholes.
- Concrete mix design(s), admixtures, and curing agents.
- Testing and QA/QC certifications for any precast concrete structures
- Asphalt mix design and other bituminous materials used in the work.
- Utility boxes, manholes, grates, and other miscellaneous iron/steel products used in the work.
- Revegetation items as specified in Section 260 “Revegetation.”
- Record Drawings

130.03 Measurement and Payment

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 135 – TRAFFIC CONTROL

135.01 GENERAL.

This Section consists of the construction, placement, installation, furnishing, maintenance, field modifications, relocation, and/or removal of Traffic Control devices, provisions, measures, and/or services.

Work under this Section shall conform to the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, and/or as directed by the Engineer, and other applicable Local, Regional, State, and Federal requirements during the life of the

contract. All Traffic Control devices and plans shall conform to the latest editions of the Manual on Uniform Traffic Control Devices (MUTCD).

Work under this item shall consist of furnishing all labor, tools, equipment, materials, and incidentals as necessary to perform operations, including but not limited to the construction, installation, maintenance, relocation, and removal of Traffic Control devices, provisions, and/or measures in accordance with the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, Local, Regional, State, and Federal agency requirements, and/or as directed by the Engineer.

The Contractor shall coordinate with and secure approval from Jon Erb, P.E., with Douglas County Public Works [phone: (775) 782-6233, as appropriate for any use of or changes to operation of existing traffic signal equipment in the traffic control plans operation. The Contractor shall comply with jurisdictional requirements without additional cost to the AGENCY.

135.02 CONSTRUCTION.

135.02.01 TRAFFIC CONTROL PLAN.

Work under this Subsection shall consist of the placement, installation, furnishing, maintenance, field modifications, relocating, and/or removing of temporary Traffic Control devices, provisions, measures, and/or services including but not limited to temporary construction signs and traffic control devices, flagging, flasher units, barricades, lights, cones, electrical power, resetting of traffic signs and delineators and the preparation and submittal of a Traffic Control Plan.

135.02.01.01 TRAFFIC CONTROL GENERAL REQUIREMENTS.

The Contractor shall designate a construction site Traffic Control Supervisor (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 Project Plans, and/or the Contract Documents. The construction TCS shall be under the direct supervision of the construction site Superintendent. The construction TCS shall be available to be contacted by the Engineer's representative 24 hours a day, 7 days a week for the life of this contract and shall be available to be present on the work site within sixty (60) minutes after notification by the AGENCY Project Manager.

The Contractor shall submit the designated construction TCS's name, ATSSA certification number, and qualifications for the Engineer's acceptance at the preconstruction conference. The construction TCS shall:

- Understand the contract requirements.
- Understand the MUTCD requirements.
- During a workday, make at least 2 inspections of the condition and position of all traffic control devices in use each day.
- Correct all traffic control deficiencies.
- Report all corrective actions to maintain and protect traffic through the project.
- Review work areas, equipment operation and storage, and material and handling and storage relative to traffic safety.

- Furnish weekly written certification to the Engineer that inspections and reviews were conducted and that traffic control devices met or exceeded the contract requirements. Weekly certification shall include daily records of traffic control activities and reviews.

The Contractor shall not proceed with any construction until traffic control plans and the construction.

TCS have been accepted 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 a designated 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 accepted traffic control plan and perform work in a manner that assures the safety and convinces of the public and protect the people and property adjacent to the project site. 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.

Unless otherwise accepted 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 a shift.

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

135.02.02 SUBMITTALS.

The Contractor shall submit four (4) copies of a proposed traffic control plan, along with the proposed project construction schedule and truck haul route plan, to the Engineer for review and comments at least seven (5) calendar days prior to the scheduled Pre-Construction Meeting.

- The Contractor's traffic control plans shall include, but not be limited to, the following:
- Designated construction site Traffic Control Supervisor (TCS) name and contact information.
- Proposed construction zone and existing speed limits
- All construction signing.
- Location of flaggers
- Types and location of traffic control devices
- Construction phasing (including phasing of intersection construction and detours, if any)
- Lane crossovers between construction phases
- Special events scheduling
- Detours
- 8 5"x 11" individual access plans for multi-access properties
- Accommodations for pedestrians and bicycles
- Intersection Control Strategy

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 setting 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. The TCS shall submit to the Engineer a written inspection report on the traffic controls conformance with the accepted traffic control plans and contract requirements. If the TCS determines that the traffic controls are not in conformance with the accepted traffic control plans, contract requirements, or determines that the traffic controls are not functioning as intended, the report shall address such deficiencies and make recommendations for changes.

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 Douglas County 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.

Any request by the Contractor to change the traffic control plans shall be submitted in writing at least five (5) working days prior to implementation. Such requests must be accepted in writing by the Engineer prior to implementation. Traffic control plans shall be maintained and must be current with the applicable phase of the work.

135.02.03 TRAFFIC CONTROL NOTIFICATION

Upon acceptance 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 accepted 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. **Any closure of the Douglas County right-of-way requires a "Road Closure Permit" from Douglas County, and the contractor is responsible for obtaining this permit.**

135.02.04 EXISTING SIGNS

If existing traffic control device regulatory signage (i.e. stop, yield, speed limit, etc.) is removed or damaged due to the Contractor's operations, the Contractor shall notify the appropriate jurisdiction maintenance department and immediately install temporary signs of the same designation as close as possible to the original location.

All existing traffic control devices removed to facilitate construction of the project improvements shall be salvaged and replaced to their original condition as part of the work. Any materials that are damaged or lost shall be replaced in like kind. All traffic control devices require acceptance of the Engineer.

135.03 MEASUREMENT AND PAYMENT.

"Traffic Control" 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 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 for traffic control. Measurement of the percentage of work completed per each phase shall be based on the percentage of work billed by the Contractor based on the total dollar amount of the contract bid price. Increases in the total contract price for any reason do not justify an increase in the lump sum price paid for any of the traffic control bid items. The Engineer reserves the right to adjust the partial payment amounts of these said bid items based on any adjustments made to other pay items on the payment request by the Engineer.

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 140 – TEMPORARY EROSION CONTROL

140.01 General

This Section consists of the construction, placement, installation, maintenance, field modifications, and removal of Temporary Erosion Control measures, devices, and Best Management Practices (BMP's) measures within the project limits, including all staging and storage areas.

Work under this Section shall conform to the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, and/or as directed by the Engineer, and other applicable Local, Regional, State, and Federal requirements during the life of the contract. Temporary erosion control measures will also be required at staging/storage 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.

Work under this item shall consist of furnishing all labor, tools, equipment, materials, and incidentals as necessary to perform operations, including but not limited to the construction, installation, maintenance, and removal of Temporary Erosion Control measures, devices, and Best Management Practices (BMP's) measures in accordance with the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, Local, Regional, State, and Federal agency requirements, and/or as directed by the Engineer.

The Contractor's attention is directed to Section 125.02, "Storm Water Pollution Prevention Plan," of these Special Technical Provisions. As part of the SWPPP certification and submittal process, **the Contractor shall submit one (1) copy to the Engineer, NDEP, and TRPA, of any proposed revisions to the applicable Project Plan sheets for Temporary Erosion Control and the Dewatering and/or Diversion operations**. No work shall be started until the SWPPP, applicable plan sheets, schedules and methods of operation for temporary pollution control are reviewed and accepted by the Engineer, TRPA, and NDEP. The Contractor is reminded that the project is located within the Lake Tahoe Basin and all pollution control measures and clean-up procedures must satisfy the requirements of TRPA, NDEP and

the permit(s) issued for the project. During the course of project construction, the Contractor shall cooperate with the Engineer, TRPA, NDEP and other regulatory officials and take immediate action as directed to protect water bodies and sensitive areas and provide for erosion or other pollution control.

Installation, maintenance, and any required field modifications of temporary erosion control measures, devices and BMPs shall conform to the requirements as stated within this section, the SWPPP, and the Nevada Contractors Field Guide for Construction Site BMPs (free electronic copy "pdf" is available for download from the NDEP website https://ndep.nv.gov/water/rivers-streams-lakes/bmp-nv-bmp-handbook).

140.02 CONSTRUCTION.

140.02.01 AS DIRECTED PLACEMENT.

Due to the nature of the project and expected field direction from the Engineer, NTCD, and permitting agencies, the Contractor shall make provisions to furnish all labor, tools, materials, and equipment as necessary to furnish and place additional temporary erosion control devices in the work (i.e. beyond or in addition to what is designated on the Project Plans or in the Project SWPPP) as directed by the Engineer, in conformance with the Contract Documents, Project Permits, SWPPP, Standard Specifications, and these Special Technical Provisions. Installation, maintenance, removal, and disposal of any additional as directed temporary erosion control device shall be considered as included in the applicable "as directed" bid item unit price, and no additional compensation will be allowed. The installation and location of any as directed temporary erosion control device shall only occur as determined and marked in the field by the Engineer.

The intent of the as directed temporary erosion control device bid items, is to provide the Engineer and Contractor with a means and allowance for additional temporary erosion control devices to be incorporated in the work where modifications to the construction sequence, changing field conditions, temporary stockpiles, and other potential minor unknowns can be adequately addressed to maintain compliance with the SWPPP and Project permits.

The Contractor will not be compensated for the installation of any additional "As-Directed Temporary Erosion Control" devices, beyond the requirements specified in the Project Plans, and/or Project Documents, without prior direction and acceptance of the Engineer.

140.02.02 TEMPORARY SOIL STABILIZATION.

The Contractor shall install temporary soil stabilization materials for water pollution control in all disturbed work areas that are considered inactive (i.e. excess of 14 days) or before forecast storm events. Should any temporary erosion control of this nature be required elsewhere as directed by the Engineer and/or regulatory agencies, the Contractor shall install within 48 hours of notification. Where applicable and upon acceptance of the Engineer, the Contractor shall furnish and apply/install temporary mulch, temporary hydraulic mulch, temporary erosion control blankets, or temporary covers in conformance with the Standard Specifications and these Special Provisions. Materials and construction methods shall comply with the Standard Specifications and these Special Provisions.

The Contractor shall maintain a temporary cover on all stockpiles at all times. Whenever a temporary cover is removed to perform other work, the temporary cover shall be replaced and secured within one (1) hour of stopping work.

Compensation for the requirements of this section, not otherwise provided for in a specified bid item, shall be considered included in prices paid for the various contract items of work involved, and no additional compensation will be allowed.

140.02.03 GRAVEL CONSTRUCTION ENTRANCE/EXIT.

Work under this Section shall consist of clearing and grubbing, excavation, furnishing, construction, placement, installation, maintenance, and removal of this BMP Construction Entrance/Exit(s) as shown on the Project Plans, Construction Documents, and/or as directed by the Engineer. This includes furnishing reinforcement mat, furnishing and placing rock at each entrance/exit access road, maintenance (i.e. removal of large quantities of captured sediment, and/or placement of additional rock during course of construction), removal, disposal of excess materials, and restoration of disturbed area as depicted on the Project Plans, Project Documents, and/or as directed by the Engineer.

Fabric to be used for the reinforcement mat shall be manufactured from polyester, nylon, or polypropylene material, or any combination thereof. Fabric shall be manufactured from virgin, or recycled or a combination of virgin and recycled, polymer materials. No virgin or recycled materials shall contain biodegradable filler materials that can degrade the physical or chemical characteristics of the finished fabric. The fabric shall be a non-woven, needle-punched fabric. The fabric shall be permeable, not act as a wicking agent, and shall conform to the following:

Test	**Test Method**	**Requirement**
Weight, grams per square meter	D 3776	135 min.
Grab Tensile Strength, Newton, (25-millimeter grip, in each direction)	D 4623	0.40 min.
Elongation at Break, percent	D 4632	30 min.
Toughness, kilonewtons (percent elongation x grab tensile strength)		26 min.
Permittivity, 1/sec.	D 4491	0.5 min.
Ultraviolet Resistance, percent strength retention	D 4355	70 min.

Rocks shall be angular to sub-angular in shape and shall conform to the material quality requirements in Section 200.07, Riprap, of the Standard Specifications for resistance to wear, absorption, apparent specific gravity, and durability. Rocks used for the gravel construction entrance/exit shall conform to the following sizes:

Square Screen Size	Percent Passing
6 inches	100
3 inches	0-20

Each gravel construction entrance/exit shall be of adequate size to prevent the tracking of sediment and materials onto any paved public right-of-way. At a minimum the size of each gravel construction entrance/exit shall be as shown on the Project Plans.

While the gravel construction entrance/exit is in use, pavement shall be cleaned and sediment removed at least once a day and as often as necessary when directed by the Engineer. Soil and sediment or other extraneous material tracked onto existing pavement shall not be allowed to enter any existing or proposed drainage facilities.

In the event the Contractor's operations are causing excessive tracking of materials the Engineer may direct the Contractor to replace the gravel construction entrance/exit, expand the size (area – length and/or width) of the gravel construction entrance/exit, and/or expand the depth of the gravel construction entrance/exit. In the event this is required, the Contractor will not be entitled to any additional payment.

When no longer required as shown on the Project Plans or as determined by the Engineer, each gravel construction entrance/exit shall become the property of the Contractor and be removed and disposed of in conformance with the Contract Documents, Standard Specifications, Project SWPPP, and these Special Technical Provisions. Under no circumstance shall any of the materials used for gravel construction entrance/exit be re-used on the project. All areas disturbed by the placement and use of each gravel construction entrance/exit shall be graded and restored to its pre-existing condition, including any provisions for revegetation found elsewhere in these Special Technical Provisions.

Gravel construction entrance/exit is considered a temporary erosion control measure or BMP. A fine of

$100 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.

140.02.03 CONSTRUCTION LIMIT FENCE.

Work under this Section shall consist of clearing and grubbing, excavation, furnishing, construction, placement, installation, maintenance, and removal of this BMP Construction Limit Fence as shown on the Project Plans, Construction Documents, and/or as directed by the Engineer.

The Contractor shall perform all construction activities that are outside the road right-of-way within the construction limits (and/or grading limits) as shown on the Project Plans and staked by the Contractor's surveyor, and as 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 or groups of 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 conduct his/her construction operations will be the area within the limits of the construction limit fencing and/or grading limits as shown on the Project Plans. Where located within the immediate vicinity of any trees (or dripline), the width of the work area will be reduced to protect the trees. The Contractor shall review each such location to determine what

equipment can be used to install the improvements at these locations or if hand work will be necessary. The costs associated with working within these reduced widths shall be included in the unit price bid for the applicable item of work with no additional compensation, therefore.

The Contractor's attention is directed to the applicable bid item descriptions in these Special Technical Provisions regarding the type of equipment that can be used in construction on sensitive land areas.

Where tree protection fencing cannot be placed at the dripline of the tree, as determined by the Engineer in coordination with TRPA, wood batten (as shown on the Project Plans) with bottom set approximately 3 feet above ground surface shall be strapped to the tree trunk (space between wood batten shall be no more than 6"). The unit price bid for construction limit and tree protection fence shall also apply to this condition (i.e. linear foot measurement of tree circumference where wood batten is attached). Construction limit and tree protection fencing shall be inspected daily and repaired, secured, and/or replaced as necessary to maintain and preserve its intended purpose. All construction limit and tree protection fencing shall remain in place during any construction activities unless directed by the Engineer. Tree protection and construction limit fencing is considered a temporary erosion control measure or BMP.

A fine of $100 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.

140.02.04 FILTER (SILT) FENCE.

Work under this Section shall consist of clearing and grubbing, excavation, furnishing, construction, placement, installation, maintenance, and removal of this BMP Filter (Silt) Fence as shown on the Project Plans, Construction Documents, and/or as directed by the Engineer.

Filter (silt) 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 fence fabric shall be handled and placed in accordance with the manufacturer's recommendations. The fabric shall be aligned and placed in a wrinkle-free manner.

- When joints are necessary, filter fence fabric shall be spliced together only at a support post, with a minimum twelve (12) inches overlap and securely sealed or stitched. See manufacturer's recommendations. Should the filter fence fabric be damaged, the torn or punctured section shall be repaired by placing a piece of fabric that is large enough to cover the damaged area and to meet the overlap requirement.
- Posts shall be spaced a maximum of ten (10) feet apart at the barrier location or as recommended by the manufacturer if less than ten (10) feet and driven securely into the ground (minimum of 1 foot). The posts and fence shall be angled ten (10) degrees off vertical up-slope for stability.
- A trench shall be excavated approximately four (4) inches wide and six (6) inches deep along the line of posts and upslope from the barrier in accordance with manufacturer's recommendations.
- A wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least one (1) inch long, tie wires or hog rings. The wire mesh shall extend into the trench a minimum of two (2) inches and shall not extend more than three (3) feet above the original ground surface.
- The filter fence fabric shall be installed on the upslope side of the wire mesh fence and shall be stapled, wired, or tied to the wire fence and eight (8) inches of the fabric shall be extended into the trench. The fabric shall not extend more than three (3) feet above the original ground surface.
- Filter fence fabric shall not be stapled to existing trees.
- The trench shall be backfilled and the soil compacted over the filter fence fabric.
- For installations on slopes less than 20%, slope lengths of 200 feet or less and around drainage inlets, the Contractor has the option to use fiber rolls in lieu of filter fence.
- Should the filter fence fabric decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly.

Filter fence shall remain in place for the complete duration of the project (all Phases of work) as necessary to conform to the Project Permit(s) and SWPPP. All filter fence shall be routinely inspected and maintained at all times and on a continual basis for the duration of the Project and is expected to be in good condition at the time the Notice of Completion is issued. Repair and or replacement of any damaged filter fence, upon discovery or as directed by the Engineer, shall be considered as included in the prices paid for this bid item of work, and no additional compensation will be allowed. At the conclusion of the project or as directed by the Engineer, TRPA and NDEP, all filter fence shall become the property of the Contractor and be completely removed from the project site and disposed of in conformance with the Contract Documents, Standard Specifications, and these Special Technical Provisions.

Sediment log (fiber roll) shall not be used in place of filter fence without prior acceptance and written consent of the Engineer. Filter fencing is considered a temporary erosion control measure or BMP. A fine of $100 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.

140.02.05 SEDIMENT LOG (COIR LOG).

Work under this Section shall consist of clearing and grubbing, excavation, furnishing, construction, placement, installation, maintenance, and removal of this BMP Sediment Log (Coir Log) as shown on the

Project Plans, Construction Documents, and/or as directed by the Engineer. **The Contractor shall submit a material specification for the sediment log, for acceptance of the Engineer, prior to placement in the work.**

Sediment logs shall be provided in standard lengths of 10 or 20 feet long per the size diameter as shown on the Plans and shall be prefabricated fiber roll logs or wattles filled with a rice straw, wood excelsior fiber, coconut fiber or other similar filler material, and covered with a biodegradable jute, sisal, or coir fiber netting or open weave containment fabric secured tightly at each end. The use of plastic/photodegradable netting shall not be allowed. All materials shall be certified weed free.

Sediment logs with a diameter of 8 to 10 inches shall have a density of at least 1.1 lb/ft, and sediment logs with a diameter of 12-inches shall have a density of at least 3 lb/ft. Its basic purpose is to provide a flexible, lightweight, porous sediment control device demonstrating the ability to conform to terrain details, dissipate water velocity, and capture loose sediment. All fiber rolls shall be properly staked in place, except where its use is intended to be short term (daily operations) or reposition of the fiber roll will occur on a regular basis (i.e. active construction areas, trenching operations and windrows, temporary or active stockpiles, active areas for soil processing/screening operations, spill containment devices, etc.) as determined by the Engineer. In such instances where a fiber roll is not staked, it shall be weighted or secured in place using a sufficient number of gravel bags to control the flow of storm water and capture sediment.

The Contractor shall furnish, install, maintain, and remove when no longer required, all sediment logs per the Manufacturer's directions, as shown on the Project Plans and as directed by the Engineer (where applicable to each Phase of the work), including but not limited to the following general requirements:

- Prior to fiber roll installation, the Contractor shall excavate a concave trench along the contour line, three (3) inches to five (5) inches deep. Soil excavated from the trench shall be placed on the uphill or flow side of the roll to prevent water from undercutting the roll.
- The Contractor shall place the fiber roll in the trench and stake on both sides of the fiber roll within eight (8) inches of each end and then at a maximum spacing of four (4) feet, using one (1) by two (2) inch stakes.
- When more than one fiber roll is placed in a row or check dam, the fiber rolls shall be overlapped in a horizontal configuration to provide a tight joint.

Sediment log shall remain in place, where directed by the Engineer, for the complete duration of the project (all Phases of work) as necessary to conform to the Project Permit(s) and SWPPP. All sediment logs shall be routinely inspected and maintained at all times and on a continual basis for the duration of the Project. Repair and or replacement of any damaged sediment log, upon discovery or as directed by the Engineer, shall be considered as included in the prices paid for this bid item of work, and no additional compensation will be allowed. At the conclusion of the revegetation "maintenance and bonding period" or where accepted to occur at an earlier date as directed by the Engineer, TRPA and NDEP, all sediment log shall become the property of the Contractor and be completely removed from the project site and disposed of in conformance with the Contract Documents, Standard Specifications, and these Special Technical Provisions.

Any sediment logs required or used in the work on a short term basis that are not permanently staked in place or are anticipated to be moved on a daily or routine basis (such as areas immediately adjacent to trench excavations, temporary stockpiles, active areas for soil processing/screening operations, spill

containment devices, etc.) shall be considered as included in prices paid for the various contract items of work involved, and no additional compensation will be allowed.

Sediment logs are considered a temporary erosion control measure or BMP. A fine of $100 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.

140.02.06 DRAINAGE INLET PROTECTION.

Work under this Section shall consist of clearing and grubbing, excavation, furnishing, construction, placement, installation, maintenance, and removal of this BMP Drainage Inlet Protection as shown on the Project Plans, Construction Documents, and/or as directed by the Engineer.

The gravel bag material for drainage inlet protection should be woven polypropylene, polyethylene or polyamide geotextile fabric, with a minimum unit weight of 4 oz/sq/yd, Mullen burst strength exceeding 300 psi (ASTM D3786), and ultraviolet stability exceeding 70% (ASTM D4355). The gravel bag fill material should be 3/8 to 3/4 inch open graded, non-cohesive, porous gravel, and washed clean and free from clay, organic matter and other deleterious materials.

Gravel bags shall remain in place, where directed by the Engineer, as necessary to conform to the Project Permit(s) and SWPPP. All gravel bags shall be routinely inspected and maintained at all times and on a continual basis for the duration of the Project. Repair and or replacement of any damaged gravel bag, upon discovery or as directed by the Engineer, shall be considered as included in the prices paid for the applicable bid item of work, and no additional compensation will be allowed. At the conclusion of the project or where accepted to occur at an earlier date as directed by the Engineer, TRPA and NDEP, all gravel bags shall become the property of the Contractor and be completely removed from the project site and disposed of in conformance with the Contract Documents, Standard Specifications, and these Special Technical Provisions.

Drainage inlet protection is considered a temporary erosion control measure or BMP. A fine of $100 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.

140.02.07 TEMPORARY CONCRETE WASHOUT FACILITY.

Work under this Section shall consist of clearing and grubbing, excavation, furnishing, construction, placement, installation, maintenance, and removal of this BMP Temporary Concrete Washout Facility as shown on the Project Plans, Construction Documents, and/or as directed by the Engineer. This includes the removal waste materials in accordance with the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, Local, Regional, State, and Federal agency requirements, and/or as directed by the Engineer.

When a temporary concrete washout facility is no longer required for the work, as determined by the Engineer, all materials including the hardened concrete and liquid residue are considered the property

of the Contractor and shall be removed and disposed of in conformance with the provisions found elsewhere in these Special Technical Provisions, and the Standard Specifications.

Ground disturbance, including holes and depressions, caused by the installation and removal of the temporary concrete washout facility shall be backfilled and repaired in conformance with the provisions found elsewhere in these Special Technical Provisions, and the Standard Specifications. Details for an alternative temporary concrete washout facility shall be submitted to the Engineer for acceptance at least seven (7) days prior to installation.

140.02.07.01 MATERIALS.

A. Plastic Liner
   Plastic liner shall be single ply, new polyethylene sheeting, a minimum of ½ inch thick, and shall be free of holes, punctures, tears, or other defects that compromise the impermeability of the material. Plastic liner shall not have seams or overlapping joints.
B. Permeable Material
   Permeable material shall be as specified in Section 200.03.05, “Class D Backfill” of the Standard Specifications.
C. Sediment Log
   Sediment Log shall be as specified in Section 160 of these Special Technical Provisions.
D. Gravel Bags
   Gravel bags shall as specified in Section 160 of these Special Technical Provisions.
E. Stakes
   Stakes shall be wood or metal. Wood stakes shall be untreated fir, redwood, cedar, or pine; shall be cut from sound timber; and shall be straight and free from loose or unsound knots and other defects which would render them unfit for the purpose intended. Wood stakes shall be minimum one (1) inch x two (2) inches in size. Metal stakes may be used as an alternative and shall be a minimum of 1/2 inch in diameter. Stakes shall be a minimum four (4) feet in length. The tops of the metal stakes shall be bent at a 90-degree angle or capped with an orange or red plastic safety cap that fits snugly to the metal stake. The Contractor shall submit a sample of the metal stake and plastic cap, if used, for the Engineer's acceptance prior to installation.

140.02.07.02 INSTALLATION.

The temporary concrete washout facility shall be installed as shown in the Plans and as follows:

A. The temporary concrete washout facility shall be installed prior to beginning placement of concrete and located a minimum of 50 (fifty) feet away from storm drain inlets, open drainage facilities, and water courses unless determined infeasible by the Engineer. The facility shall be located away from construction traffic or direct access to the staging and storage area.
B. The temporary concrete washout facility shall be constructed in sufficient size to contain liquid and concrete waste generated by washout operations for concrete wastes. The facility shall be constructed to contain liquid and concrete waste without seepage, spillage, or overflow.
C. The depressed area or pit shall be covered with a plastic liner in order to protect the underlying soils from contamination.
D. The plastic liner may be held in place using sediment logs, gravel bags, or berms constructed from compacted native materials.

140.02.07.03 MAINTENANCE.

The temporary concrete washout facility shall be maintained to provide adequate holding capacity with a minimum freeboard of twelve (12) inches. Maintaining the temporary concrete washout facility shall include removing and disposing of hardened concrete and returning the facilities to a functional condition. Hardened concrete materials shall be removed and disposed of in conformance with the provisions found elsewhere in these Special Technical Provisions, and the Standard Specifications. Holes, rips, and voids in the plastic liner shall be patched and repaired by taping, or the plastic liner shall be replaced. Plastic liner shall be replaced when patches or repairs compromise the impermeability of the material as determined by the Engineer.

The temporary concrete washout facility shall be repaired or replaced on the same day when the damage occurs. Damage to the temporary concrete washout facility resulting from the Contractor's vehicles, equipment, or operations shall be repaired at the Contractor's expense.

140.02.08 WATERING/DUST CONTROL.

Work under this Section shall consist of furnishing, and placement of materials necessary to provide construction water for the control of dust generated by the Contractors activities as required by the Project Plans, Construction Documents, and/or as directed by the Engineer.

The Contractor shall be responsible for dust control throughout all phases of construction. All federal, state, regional and local ordinances regarding dust control shall be complied with. The responsibility of obtaining the regulations and requirements and full compliance with such ordinances is solely that of the Contractor.

No chemical additives shall be permitted for any watering/dust controls operations.

If the Contractor desires to use water from fire hydrant(s) during construction, permission for the use of hydrant(s) shall be obtained from the proper agency (Kingsbury General Improvement District, KGID). The Contractor shall use said hydrant(s) in accordance with any rules, regulations, and procedures as established by the agency.

140.02.09 SWEEPING.

Work under this Section shall consist of furnishing, and placement of materials necessary to sweep all paved areas within the project site, and streets adjacent to the project site, and dispose of the swept materials in accordance with the Project Plans, Construction Documents, and/or as directed by the Engineer. Tracking of sediment onto public streets shall be minimized by a combination of road sweeping and use of gravel construction entrance/exit areas designated on the Plans during soil hauling operations, during equipment transporting from one work area to another, and as necessary to keep the streets and other paved areas clear of soil and debris. Tracking control applies to streets within the project area as well as streets adjacent to the project area that have the potential to be impacted by tracking from the Contractor’s operations.

The Contractor shall provide sweeping equipment that conforms to the following minimum requirements: **The sweeper, provided by the Contractor, shall be a chassis-mounted vehicle capable of vacuuming the roadways such that the swept material is placed into a hopper, from which the swept material can be removed and disposed of. Broom sweepers that are attachments to other equipment are not acceptable sweepers.**

Affected streets shall be swept a minimum of two times daily (e.g. mid-afternoon and at the end of the day) during soil hauling operations, during equipment transporting from one work area to another, and as necessary to keep the streets clear of soil and debris. The swept material shall be disposed of in accordance with the standard specifications, project permits and these Special Technical Provisions.

Sweeping is considered a temporary erosion control measure or BMP. A fine of $100 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.

140.10 MAINTENANCE.

The Contractor shall maintain all Temporary Erosion Control measures, devices, and/or BMPs placed in the work, for the duration of the project. Maintenance includes all Manufacture's recommendations, and includes but is not limited to the following:

- Damage to any temporary erosion control devices and/or BMPs during the project shall be repaired by the Contractor immediately upon discovery and at his expense.
- Temporary erosion control devices and/or BMPs shall be inspected routinely and immediately after each rainfall event and at least daily during prolonged rainfall events. Any required repairs shall be made immediately.
- Construction limit and tree protection fencing shall be inspected daily and repaired, secured, and/or replaced as necessary to maintain and preserve its intended purpose.
- All signage as required for the project shall be routinely inspected and repaired or replaced upon discovery of damage, vandalism, and/or missing parts.
- Should the filter fence fabric decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly.
- Should a sediment log decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the sediment log shall be replaced promptly.
- Any single or group of gravel bag(s) shall be replaced when the bag material is ruptured or when the yarn has failed, allowing the bag contents to spill out.
- Any stakes and/or rope used to secure a sediment log in place shall be routinely inspected and repaired as necessary if found to be loose or ineffective.
- Sediment deposits and other debris shall be removed when they reach approximately one-half the height of the sediment barrier (or as recommended by the Manufacture) and disposed of in a manner acceptable to the Engineer, NDEP, TRPA, and in conformance with the SWPPP.
- Any sediment deposits remaining in place after the temporary erosion control measure and/or BMPs is no longer required shall be removed and disposed of in a manner acceptable to the Engineer, NDEP, TRPA, and in conformance with the SWPPP.

140.11 MEASUREMENT AND PAYMENT.

"Temporary Erosion Control" shall be measured on a lump sum basis, completed and accepted by the Engineer as conforming to all the requirements in the complete work.

"As-Directed Temporary Erosion Control – (Item)" shall be measured on a linear foot, and/or square foot basis, completed and accepted by the Engineer as conforming to all the requirements in the complete work.

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 145 – DEWATERING AND/OR DIVERSION

145.01 DESCRIPTION.

This Section consists of the construction, placement, installation, furnishing, maintenance, field modifications, relocation, and/or removal of 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, including revegetation/restoration activities.

Work under this Section shall conform to the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, and/or as directed by the Engineer, and other applicable Local, Regional, State, and Federal requirements.

Work under this item shall consist of furnishing all labor, tools, equipment, materials, and incidentals as necessary to perform operations, including but not limited to, dewatering, diverting, and/or bypassing and groundwater or surface water in accordance with the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, Local, Regional, State, and Federal agency requirements, and/or as directed by the Engineer.

145.02 CONSTRUCTION.

145.02.01 DEWATERING AND/OR DIVERSION GENERAL REQUIREMENTS.

Dewatering and/or Diversion operations as stated herein, or as directed by the Engineer, are required to be performed at any time and on a continual basis, for the duration of the project and any ensuing maintenance period, as necessary to install, construct, complete and maintain all project improvements.

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 in an area adjacent to a Stream Environment Zone. Additionally, groundwater investigations have shown a seasonally high groundwater depth of 6-24" below the surface north of Kahle Drive.

The Contractor shall be responsible for the design, installation, operation, maintenance and removal of any dewatering and/or diversion systems as required for completion of the contract work. **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 and Diversion 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 manufacture'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.
- Other requirements as stated in the SWPPP.

The Contractor is allowed to utilize existing stormwater treatment basins within the immediate vicinity of Kahle Drive owned by Douglas County with appropriate filtration and controls. If the Contractor plans to conduct any dewatering and/or diversion operations, he/she shall contact the Engineer for authorization, prior to starting the work at a given location. In the event the Contractor initiates dewatering and/or diversion operations without prior authorization of the Engineer, no payment for that work will be made.

145.02.02 DEWATERING AND/OR DIVERSION CONSTRUCTION.

Dewatering and/or diversion operations as necessary for, including but not limited to, the removal and/or abandonment of sanitary sewer pipe/structures, the removal and/or abandonment of storm drain pipe/structures, construction of the proposed conveyance pipe and subdrain, construction of storm drain structures, and/or and associated utility relocations and manholes shall be as shown on the accepted Contractor's Dewatering and Diversion Plan, and in conformance with the SWPPP, Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, Local, Regional, State, and Federal agency requirements. Discharge of all captured and/or diverted waters shall be in conformance with the SWPPP and all project permit regulations.

The excavation and general work area shall be sufficiently dry to allow for the proper removal, abandonment, and/or construction and inspection of all pipes and structures. 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.

In the event there is a storm event which increases the flow to the site, the Contractor shall make provisions for and have equipment (i.e. pumps, piping, gravel bags, plastic sheeting, temporary dams, etc.) on standby; to provide adequate protection of the work area, avoid flooding and inundation of the excavation, prevent erosion and discharge of sediment or other pollutants, and divert the increase in flows to stabilized downstream areas, away from any active work site(s).

145.02.03 DIRT BAG DEVICE.

Use of any 'Dirtbag' or other similar sediment control filter bag device used in coordination with pumping of sediment laden waters for discharge shall be as shown on the Project Plans and details and conform to the provisions of the Project Permits and SWPPP. The 'Dirtbag' shall be a commercially

manufactured nonwoven geotextile fabric bag (polypropylene or equivalent) intended for such use, with a minimum grab tensile strength of 200 psi in any principal direction (ASTM D4632), and permittivity of 0.05 sec (ASTM D4491). For project area soils (source of sediment in waters) with more than 15% by weight passing a No. 200 sieve the fabric shall have an apparent opening size between 50 and 140, and for project area soils (source of sediment in waters) with less than 15% by weight passing a No. 200 sieve the fabric shall have an apparent opening size between 20 and 50. The geotextile fabric material shall contain ultraviolet ray inhibitors and stabilizers to provide an expected usable life comparable to the anticipated construction period; ultraviolet stability shall exceed 70% after 500 hours of exposure (ASTM D4355). The 'Dirtbag' device shall have a fill spout large enough to accommodate a pump four (4) inch discharge hose and attachment straps to secure the hose in place. The Dirtbag' device shall be sized to accommodate the applicable flow rates and prohibit release of the target effluent. The location of any 'Dirtbag' device requires acceptance of the Engineer, equipment access for removal and off-site disposal, and the area shall be stable to prevent erosion. Placement of drain rock, fabric, or other suitable substance to create a stable discharge site is the responsibility of the Contractor. Any 'Dirtbag' device shall be fitted with straps strong enough for lifting and the device removed from the Project site and properly disposed of; **cutting open the device and leaving the captured sediment/fines in place is prohibited**. Removal and off-site disposal may be facilitated by placing the 'Dirtbag' device on pallets, crates, trailer, or some other small mobile device to dismiss the need for lifting the 'Dirtbag' device by straps. **The Contractor shall submit a material specification for the 'Dirtbag' device, for acceptance of the Engineer, prior to placement in the work.**

145.03 MEASUREMENT AND PAYMENT.

"Dewatering/Diversion" shall be measured on a lump sum basis, completed and accepted by the Engineer as conforming to all the requirements in the complete work. No additional compensation will be allowed for if excess ground water or higher than expected runoff is encountered and dewatering operations beyond what was anticipated by the Contractor is required for proper construction of the project improvements.

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 300 – SITE PREPARATION

300.01 DESCRIPTION.

This Section consists of urban and rural clearing and grubbing, tree removal, and disposal operations of all vegetation, trash, natural or manmade objects within the project construction limits, except such objects designated to remain or be removed according to other sections of these Special Technical Provisions.

Work under this Section shall conform to the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, and/or as directed by the Engineer, and other applicable Local, Regional, State, and Federal requirements.

Work under this item shall consist of furnishing all labor, tools, equipment, materials, and incidentals as necessary to perform operations, including but not limited to, clearing and grubbing, topsoil salvage, tree removal, stump removal, and disposal of waste and other miscellaneous debris in accordance with

the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, Local, Regional, State, and Federal agency requirements, and/or as directed by the Engineer.

The Contractor's attention is directed to Section 300, "SITE PREPARATION", of the Standard Specifications.

300.02 CONSTRUCTION.

300.02.01 CLEARING AND GRUBBING.

The existing ground surface shall be cleared of all man-made improvements as shown on the Plans and all organic materials, including, but not limited to, sod, brush, grass, weeds, logs, trees and stumps (less than 6-inches diameter at breast height (DBH) – DBH will be measured at 4.5-ft above the existing ground surface on uphill side of tree), roots which are 1-1/2 inches in diameter or larger, organic growth, willow, alder and aspen clumps, man-made deposits, and all other deleterious materials within the limits of construction. Man-made improvements determined by the Engineer as not interfering with Construction Activities may, with the written approval of the Engineer, be abandoned in place. Existing structures, to be preserved, shall be protected and restored upon completion of the work. Unless otherwise directed or approved by the Engineer, materials shall be cleared to a depth of 36 inches below the existing ground surface or to subgrade, whichever is deeper.

Clearing shall extend to the outside excavation and fill slope lines, except that, where slopes are to be rounded, clearing shall extend to the outside limits of slope rounding.

All existing vegetation, outside the areas to be cleared and grubbed, shall be protected from injury or damage resulting from the Contractor's operations.

Where any pipes, fittings, valves, drainage inlets, frames and covers, or other devices are removed from any manhole, structure, junction box, joint, valve, fitting, pipe, 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.

In removing of existing man-made improvements, where portions of the existing structures are to be left in the surface of the finished work, remove the structure to an existing joint, or sawcut the existing man-made improvement in accordance with the Project Documents.

The Contractor shall not, and no payment will be made to the Contractor, for clearing outside the stated limits as shown on the Project Plans, or as described in these Special Technical Provisions, unless such work is authorized by the Engineer.

All materials scheduled or specified for removal and or disposal shall be removed and hauled from the site at the Contractor's expense, unless otherwise specified, and disposed of outside of the Lake Tahoe Basin in accordance with TRPA ordinances and NAC 444.8565. The construction area shall be left with a neat and finished appearance.

No live trees or downed logs or wood (equal to or greater than 6-inches diameter) shall be removed from the project site that are not identified and marked by the Engineer. In the event the Contractor removes any live trees or downed logs or wood (equal to or greater than 6-inches diameter) not marked by the Engineer, the Contractor shall be solely responsible for all fines and/or penalties levied to the Contractor, Engineer, NTCD, NDSL, or applicable property owners in association with the removal.

300.02.01.01 TOPSOIL AND ORGANIC MATERIALS.

During clearing and grubbing, the Contractor shall salvage and stockpile topsoil for reuse in the project area in accordance with Section 340, "Revegetation", of these Special Technical Provisions. Topsoil shall not be stockpiled for a period greater than two (2) weeks or greater than three (3) feet in height unless accepted by the Engineer. Topsoil shall be re-applied within the project area in accordance with Section 340, "Revegetation", of these Special Technical Provisions.

All suitable organic materials removed during the clearing and grubbing operation including, but not limited to, pine needles, leaves, duff, trees smaller than six (6) inches DBH, stumps, and suitable roots shall be stockpiled and used for revegetation/restoration treatments. The Contractor shall make allowances for chipping larger organic materials such as trees, suitable roots, branches, and stumps so that these materials can be used for project revegetation/restoration efforts.

The Contractor shall not stockpile any vegetation or other debris generated because of the clearing and grubbing or tree removal operations that are not suitable for use in revegetation efforts. All unsuitable vegetation or other debris shall be removed from the job site by the end of each working day.

Compensation for the removal of trees and stumps less than six (6) inch diameter and stumps greater than six (6) inch diameter, as necessary for construction of the various items of work as staked by the Engineer, shall be included in the clearing and grubbing bid item and no additional compensation shall be made, therefore.

300.02.01.02 TREES, TREE BRANCHES AND TREE ROOTS.

Trees and tree branches shall be removed in such a manner as not to injure surrounding trees, plants, and improvements which are not shown on the Plans to be removed. The Contractor shall remove tree branches and tree roots under the direction of a Certified Arborist, in such a manner that the health of the tree will be preserved, and the remaining branches of the tree will present a balanced appearance. Tree branches shall be cut off close to the Bole. Scars resulting from the removal of branches shall be treated with an approved tree sealant, applied as directed by the Certified Arborist.

No live trees or downed logs or wood (equal to or greater than 6-inches diameter) shall be removed from the project site that are not identified and marked by the Engineer. In the event the Contractor removes any live trees or downed logs or wood (equal to or greater than 6-inches diameter) not marked by the Engineer, the Contractor shall be solely responsible for all fines and/or penalties levied to the Contractor, Engineer, or NTCD or applicable property owners in association with the removal.

300.02.01.02.01 TREE REMOVAL.

Work under this Subsection shall consist of the removal of trees equal to or larger than 6-inches in diameter, measured at an elevation of 4.5-feet above the prevailing existing ground surface on uphill side of tree (a.k.a diameter at breast height - DBH). Trees equal to or larger than 6-inches DBH to be

removed are schematically shown on the Project Plans and will be conspicuously marked in the field by the Engineer and TRPA forester (no tree equal or larger than 6-inches DBH, shall be removed unless marked in the field). Tree removal shall include the removal of associated stumps and roots necessary for a complete removal of the tree and its appurtenances, and backfilling the remaining hole with native material, as directed by the Engineer.

The quantity (contract value) of trees to be removed, as shown on the Project Plans, may be more or less than the contract amount, as determined by the Engineer. Final quantities may fluctuate based on field conditions and actual construction staking, layout, and grading limits at the time of construction. All trees necessary for removal, as determined by the Engineer and TRPA staff forester, will be identified and conspicuously marked in the field for removal.

Prior to timber removal operations all associated temporary erosion control measures and BMPs, and traffic control must be in place, in accordance with the SWPPP, Project Permit(s), Standard Specifications and these Special Technical Provisions.

Trees shall be felled to minimize disturbance to surrounding facilities, structures, vegetation and traffic flow on roadways. The Contractor shall make all efforts to minimize any damage to trees and/or root systems that are to remain in place. The Contractor shall be liable for damage to utility service lines, fences or other structures.

The Contractor shall set aside specific materials (trees, stumps, slash, etc.) onsite for use and placement in the work and/or revegetation treatments. All such materials, and quantities, will be clearly identified and marked by the Engineer prior to the start of clearing and grubbing, and tree removal operations. Any applicable trees marked for this application will be included for payment as part of the tree removal bid item(s). The contractor is responsible for complete site cleanup, including slash disposal. No slash may be stored or burned on site. All wood products must be removed from the site prior to resale.

No trees (equal to or greater than 6-inches in diameter) shall be removed from the project site that are not identified and marked by the Engineer. In the event the Contractor removes any trees (equal to or greater than 6-inches diameter) not marked by the Engineer and TRPA staff forester, the Contractor shall be solely responsible for all fines and/or penalties levied to the Contractor, Engineer, NTCD, or applicable property owners in association with the removal.

300.02.01.02.02 STUMP REMOVAL.

Work under this Subsection shall be considered part of the clearing and grubbing work and shall consist of the removal and disposal of stumps depicted on the Project Plans, Project Documents, and/or as directed by the Engineer. Stump removal as described herein will only consist of stumps to be removed that are not directly associated with the removal of a tree (as defined herein - tree removal bid items and prices include the cost of removing the associated stump).

Trees and stumps designated for removal shall be removed to at least three (3) feet below finished grade. Ground trees and stumps intended for use as wood chip mulch shall conform to the requirements of these Special Technical Provisions. Trees and stumps not suited as wood chip mulch or for use in project improvements shall be removed and appropriately disposed of outside the project limits. The Engineer and Revegetation Specialist will determine which trees and stumps are suited for use as wood chip mulch and for use in project improvements. The Contractor shall schedule an inspection of stumps

and trees with the Engineer, at least 10 days prior to the Contractor scheduling wood chipping operations, for a determination of what can be used as mulch.

300.02.02 PROTECTION OF PLANTS.

Trees and plants that are not to be removed shall be fully protected from injury by the Contractor at his/her 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 tree branches under the direction of the Engineer and Revegetation Specialist, 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 tree sealant accepted by the Engineer and Revegetation Specialist. Construction limit fence shall be installed around all trees to be protected near excavation limits at the dripline of the tree as shown on the Project Plans. If large roots of protected trees are encountered during excavation activities, work shall cease in this area and the Engineer shall be notified. Work shall commence as directed by the Engineer, Revegetation Specialist, and TRPA.

300.02.03 LIMITS OF WORK.

The Contractor shall not, and 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 by the Engineer.

300.02.04 REMOVAL AND DISPOSAL OF MATERIALS.

All materials scheduled or specified for removal and disposal, in conformance with this Section, unless otherwise specified, shall become the property 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 material shall be removed and hauled from the site at the Contractor's expense, unless otherwise specified, and disposed of outside of the Lake Tahoe Basin in accordance with TRPA ordinances and NAC 444.8565. The construction area shall be left with a neat and finished appearance.

300.03 MEASUREMENT AND PAYMENT

"Clearing and Grubbing" (including trees under 6-inch DBH) shall be measured on a lump sum basis, completed and accepted by the Engineer as conforming to all the requirements in the complete work.

"Remove Trees - (Size)" shall be measured by the each, completed and accepted by the Engineer as conforming to all the requirements in the complete work.

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 305 – REMOVAL OF EXISTING IMPROVEMENTS

305.01 DESCRIPTION.

This Section consists of the removal, wholly or in part, and satisfactory disposal of existing improvements, obstructions, and/or facilities including fences, pavements, curbs, gutters, sidewalks, sidewalk ramps, driveways, pipes, signs, poles, gates, foundations, and any other obstructions which are not designated or permitted to remain, except such items designated to remain or be removed according to other sections of these Special Technical Provisions.

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.

Work under this Section shall conform to the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, and/or as directed by the Engineer, and other applicable Local, Regional, State, and Federal requirements.

Work under this item shall consist of furnishing all labor, tools, equipment, materials, and incidentals as necessary to perform operations, including but not limited to, clearing and grubbing, topsoil salvage, tree removal, stump removal, and disposal of waste and other miscellaneous debris in accordance with the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, Local, Regional, State, and Federal agency requirements, and/or as directed by the Engineer.

The Contractor's attention is directed to Section 300, "SITE PREPARATION" of the Standard Specifications.

305.02 CONSTRUCTION.

305.02.01 GENERAL REQUIREMENTS.

All areas disturbed as part of this Section shall be backfilled to subgrade. **Any native, local borrow, or imported borrow soils used for backfill shall be accepted by the Engineer prior to placement**. **No broken concrete, asphalt concrete, or other debris shall be left in excavated trenches or be included as part of the backfill.**

The Contractor shall verify the exact location of all conduits, ducts, cables, pipe systems, valves, meters, cleanouts, 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 above or 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 all work required to repair or replace damaged utility facilities with no additional compensation allowed for.

Restoration of an area and/or replacement of all 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.

Any materials removed in conformance with this Section 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 Provisions. Bituminous pavement removed from the work area may NOT be ground up and re-used as base material for roadway reconstruction.

305.02.02 EXISTING SIGNS.

Work under this Subsection shall consist of the removal, salvage, and/or reinstallation of existing signs, snow markers, and the like, within the construction limits, as depicted on the Project Plans, Project Documents, and/or as directed by the Engineer.

This work includes the removal and disposal of signs, poles, and foundations.

If existing traffic control regulatory signs are removed (i.e. stop, yield signs, etc.) the Contractor shall install temporary signs of the same designation as close as possible to the original position immediately. Existing mailboxes within the construction limits, which interfere with the work, shall be removed, salvaged and reinstalled as close to the original position as possible after construction in the area is completed. Mail service shall not be interrupted at any time due to construction activities. Any materials that are damaged or lost shall be replaced in like kind of equal or better quality.

305.02.03 COMPOSITE SURFACE.

Work under this Subsection shall consist of the removal and disposal of all materials including bituminous or concrete surfaces, curbs, gutters, sidewalks, sidewalk ramps, driveways, and pipe material as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

This work includes the removal and disposal of all base and subbase materials to the proposed subgrade elevation.

Where no joint exists in the bituminous or concrete surface on the line at which the material 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 removal of bituminous or concrete material. If the saw cut is damaged prior to reconstruction, it shall be the Contractor's responsibility to re-cut any damaged, broken, or uneven portion prior to reconstruction at his own expense. Under no circumstance shall the Contractor be allowed to "jack-hammer" the existing bituminous or concrete surface instead of cutting with a power driven saw. Sawcutting shall be included in the costs of various other items of work and no additional compensation shall be allowed for. Do not remove pipe until modifications have been made to accommodate existing flows.

305.02.04 FENCE.

Work under this Subsection shall consist of the removal, salvage, reinstallation, and/or disposal of existing fences, within the construction limits, as depicted on the Project Plans, Project Documents, and/or as directed by the Engineer.

This work includes removal and disposal of all fencing materials including fence, fence posts, foundations, fencing cloth, hardware, and/or gates.

305.02.04 BOLLARDS.

Work under this Subsection shall consist of the removal, salvage, reinstallation, and/or disposal of existing bollards, within the construction limits, as depicted on the Project Plans, Project Documents, and/or as directed by the Engineer.

This work includes removal and disposal of all bollard materials including posts, foundations, and/or hardware.

305.02.05 STRUCTURES.

Work under this Subsection shall consist of the removal, and disposal of existing inlets, manholes, and/or vaults, within the construction limits, as depicted on the Project Plans, Project Documents, and/or as directed by the Engineer.

This work includes removal and disposal of all materials including bituminous or concrete surfaces, concrete collars, curbs, gutters, grates, lids, reinforcing steel, foundations, aggregate base, subgrade, and pipe material as required to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

Under no circumstances shall any segment of storm drainage pipe designated for removal be abandoned in place, unless otherwise noted on the plans and/or acceptance of the Engineer.

305.02.05.01 LIMITS OF WORK.

The limits of work under this Subsection shall be the footprint of the drainage structure.

305.02.06 ABANDONMENT.

Work under this Subsection shall consist of the abandonment in place of existing pipes, inlets, manholes, and/or vaults, within the construction limits, as depicted on the Project Plans, Project Documents, and/or as directed by the Engineer.

This work shall consist of completely filling the abandoned pipe and or structure with slurry backfill. The slurry backfill shall be Type A (excavatable) in conformance with the Standard Specifications.

The Engineer will only accept the work where the designated portion of the existing pipe has been properly abandoned in place; the Contractor is required to completely fill the remnant pipe section 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 drainage pipe to abandon the remnant portion of the existing pipe in place.

305.03 MEASUREMENT AND PAYMENT.

"Remove (Item)", or "Removal of (Item)" shall be measured on an each, linear foot, square foot, square yard, cubic foot, and cubic yard basis.

"Removal of Composite Surface – (Type)" shall be measured on a square foot, square yard, cubic foot, and cubic yard basis.

"Remove and Reset – Item - (Type)" shall be measured by the each.

"Abandon – (Type)(Size)" shall be measured on an each, and linear foot basis.

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 310 – EXISTING UTILITIES AND UNDERGROUND FACILITIES

310.01 DESCRIPTION.

This Section consists of the identification, protection, and/or adjustment existing above ground and/or underground utilities or facilities which are designated to remain or be removed according to other Sections of these Special Technical Provisions.

Work under this Section shall conform to the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, and/or as directed by the Engineer, and other applicable Local, Regional, State, and Federal requirements.

Work under this item shall consist of furnishing all labor, tools, equipment, materials, and incidentals as necessary to perform operations, including but not limited to, clearing and grubbing, topsoil salvage, tree removal, stump removal, and disposal of waste and other miscellaneous debris in accordance with the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, Local, Regional, State, and Federal agency requirements, and/or as directed by the Engineer.

310.02. EXISTING UTILITIES GENERAL REQUIREMENTS.

The Contractor shall verify the exact location of all conduits, ducts, cables, pipe systems, valves, meters, cleanouts, 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 above or 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.

The Contractor shall not begin excavation work within the immediate vicinity of any known sanitary sewer force main or potable water main prior to contacting TDSD (sewer) and Douglas County (water) at least ten (10) working days in advance.

310.02.01 POTHOLING OF EXISTING UTILITIES.

The Contractor shall verify the location of all existing underground facilities within the project area, which may have potential to conflict with the location of proposed improvements, as shown on the Project Plans and as indicated by USA markings. Actual field conditions and locations can vary considerably from those shown on the Project Plans; therefore the Engineer and/or Owner cannot, and does not, assume responsibility for the existence or location of any underground structures such as, but not limited to, pipes, pipelines, laterals, conduits, valves, meters, vaults, manholes, junction boxes, and other components of a typical utility, drainage, or irrigation system. The Contractor shall be responsible for contacting all utilities, agencies and/or public and private owners to verify such information prior to and during construction of any of the proposed improvements.

The Contractor shall notify the Engineer in advance of all potholing activities. Any delays that may result from failure of the Contractor to locate and/or pothole a potential utility conflict shall be at the Contractor's expense. Any costs incurred due to relocations, shutoff, startup, or any other costs related to utility relocations due to the construction of the project, not otherwise provided for in a specific Contract item, shall be the responsibility of the Contractor.

As part of the Contract work the Contractor will be installing improvements in the vicinity of existing utility systems and other various public improvements. Where conflicts are known to and appear to exist with underground utilities (locations indicated on Project Plans) the Contractor is hereby advised that he/she will be required to pothole each location prior to any work in the vicinity of the subject utility, in order to properly identify and locate its position. The Contractor is responsible for scheduling the Contractor's surveyor to be onsite during potholing of conflicts for utility elevation verification (surveying of the horizontal and vertical location of the top of the pipe is required). Upon verification such utilities will require relocation by the Contractor or utility agency or its agents in accordance with these Special Technical Provisions, Project Plans, Standard Specifications, and associated utility standards. **Any potholing shall be completed where conflicts are known to and appear to exist with underground utilities a minimum of five (5) working days before beginning construction on the proposed improvements which appear to cause conflict.**

All potholing, as identified in the paragraph above, shall be performed by the Contractor and considered as included in prices paid for the various Contract items of work involved and no additional compensation will be allowed for.

If any existing utilities that are not shown by USA or on the Project Plans as indicated to be relocated or relocated by others are found to be in conflict with the proposed location of the improvements shown on the Project Plans, the Contractor shall contact the Engineer and the identified Utility. The Engineer will either provide the Contractor with new grades/elevations to eliminate such conflicts or shall contact the utility agency to arrange for relocation of the conflicting utility. The Contractor shall coordinate all necessary activities with the utility agency in order to complete or facilitate the subject relocation(s). Such work shall be considered change order work.

310.03 PROTECT IN PLACE EXISTING UTILITIES.

All utilities that are not to be relocated or removed shall be protected in place from injury or damage. The existing power poles may need to be braced prior to trenching for the proposed storm drain pipe. Any damage 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 purveyor. Unless cleared by the utility purveyor, the Contractor shall be responsible for reimbursing said utility for any and all work required to repair or replace damaged facilities.

Compensation for the requirements of this Section, not otherwise provided for in a specified bid item, shall be considered included in prices paid for the various contract items of work involved, and no additional compensation will be allowed.

310.03.01 PROTECT IN PLACE SANITARY SEWER.

Work under this Subsection shall consist of inspection and protection of existing asbestos concrete (AC) sewer pipe owned and operated by Douglas County Lake Tahoe Sewer Authority (DCLTSA) as required to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

Compensation for the requirements of this Section, not otherwise provided for in a specified bid item, shall be considered included in prices paid for the various contract items of work involved, and no additional compensation will be allowed.

310.03.01.02 DAMAGE AND REPAIR.

In the event of a pipe failure during construction, the contractor shall be responsible for all resulting costs including but not limited to emergency containment, environmental cleanup, bypass pumping, repair, fines, and fees. DCSID shall be notified immediately of any damage to or issues with their infrastructure. The contractor shall repair any damage to DCSID infrastructure to the satisfaction of DCSID and in accordance with DCSID approved methodology.

310.03.02.01 PROTECT IN PLACE WATERLINE.

Work under this Subsection shall consist of inspection and protection of existing waterlines as required to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

Compensation for the requirements of this Section, not otherwise provided for in a specified bid item, shall be considered included in prices paid for the various contract items of work involved, and no additional compensation will be allowed.

310.03.02.02 DAMAGE AND REPAIR.

In the event of a pipe failure during construction, the contractor shall be responsible for all resulting costs including but not limited to emergency containment, environmental cleanup, bypass pumping, repair, fines, and fees. KGID shall be notified immediately of any damage to or issues with their infrastructure. The contractor shall repair any damage to DCSID infrastructure to the satisfaction of KGID and in accordance with KGID approved methodology.

310.04 MEASUREMENT AND PAYMENT

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 315 – AC PAVEMENT

315.01 DESCRIPTION.

This Section consists of the preparation, application, installation, and construction of the project pavement sections.

Work under this Section shall conform to the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, as directed by the Engineer, and/or other applicable Local, Regional, State, and Federal agency requirements.

Work under this Section shall consist of furnishing all labor, tools, equipment, materials, and incidentals as necessary for construction and/or to perform operations, including but not limited to the preparation, application, construction, placement, and installation of the AC Pavement sections in accordance with the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, as directed by the Engineer, and/or other Local, Regional, State, and Federal agency requirements.

315.02 CONSTRUCTION.

315.02.01 AC PAVEMENT.

Work under this Subsection shall consist of constructing AC Pavement sections.

This work includes the removal and disposal of all material required to properly construct this item, not otherwise provided for in the Special Provisions or these Special Technical Provisions.

Work shall also include the preparation, application, construction, placement, and installation, complete in place, of subgrade, bedding material, backfill material, drainage backfill material, filter fabric, geogrid, geotextile, aggregate base, and concrete within the footprint of this item as required to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

The Contractor shall make transitions from proposed work to existing work uniform.

All asphalt concrete pavement mic shall be Type 2 and/or Type 3. Where the roadway section design is 4 inches, then top pavement lift shall be 2 inches of Type 3 mix over 2 inches of Type 2 mix. Performance Grade 64-28 NV asphalt cement shall be used for all pavement mixes.

315.02.01.01 LIMITS OF WORK.

The limits of work under this Subsection shall be the footprint of the AC Pavement item as required to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

315.02.01.02 PAVEMENT SECTIONS.

Aggregate base shall be produced from commercial quality aggregates and be Type 2, Class B conforming to Standard Specifications. Drain Rock Backfill shall be produced from commercial quality aggregates and be ¾" or 1-1/2" per the Project Geotechnical Report. The geogrid material shall be

Tensar BX1200 or approved equivalent per the Project Geotechnical Report. The non-woven filter fabric shall be 4 ounce or approved equivalent per the Project Geotechnical Report.

Asphalt and Additives shall conform to the applicable Sections of the Standard Specifications and these Special Technical Provisions. Asphalt cement 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 64-28 NV conforming to section 201 "Bituminous Materials", of the Standard Specifications.
B. Aggregate shall be Type 3 conforming to Section 201, of the Standard Specifications.
C. A mix design shall be completed and submitted by the Contractor prior to incorporation in the work.

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.

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

315.03 MEASUREMENT AND PAYMENT.

"Construct ACP Surface – (Item)" shall be measured on a square foot basis, completed and accepted by the Engineer as conforming to all the requirements in the complete work.

"Construct ACP Driveway" shall be measured on a square foot basis, completed and accepted by the Engineer as conforming to all the requirements in the complete work.

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 320 – CONCRETE CURBS, GUTTERS, AND SIDEWALKS

320.01 DESCRIPTION.

This Section consists of the preparation, construction, placement, and installation of curbs, gutters, sidewalks, ramps, valley gutters, driveways, and detectable warnings.

Work under this Section shall conform to the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, as directed by the Engineer, and/or other applicable Local, Regional, State, and Federal agency requirements.

Work under this Section shall consist of furnishing all labor, tools, equipment, materials, and incidentals as necessary for construction and/or to perform operations, including but not limited to the preparation, construction, placement, and installation of curbs, gutters, sidewalks, ramps, valley gutters, driveways, and detectable warnings in accordance with the Project Plans, Project Permits, Contract

Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, as directed by the Engineer, and/or other Local, Regional, State, and Federal agency requirements.

Contractor shall make transitions from proposed work to existing work uniform.

320.02 CONSTRUCTION.

320.02.01 CONCRETE CURBS, GUTTERS, AND SIDEWALKS GENERAL REQUIREMENTS.

Where no joint exists in the bituminous or concrete surface on the line at which the material 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 removal of bituminous or concrete material. If the saw cut is damaged prior to reconstruction, it shall be the Contractor's responsibility to re-cut any damaged, broken, or uneven portion prior to reconstruction at his own expense. Under no circumstance shall the Contractor be allowed to "jack-hammer" the existing bituminous or concrete surface instead of cutting with a power driven saw. Sawcutting shall be included in costs of various other items of work and no additional compensation shall be allowed for. Do not remove pipe until modifications have been made to accommodate existing flows.

Aggregate base shall be produced from commercial quality aggregates and be Type 2, Class B conforming to Standard Specifications. Drain Rock Backfill shall be produced from commercial quality aggregates and be ¾" or 1-1/2" per the Project Geotechnical Report. The geogrid material shall be Tensar BX1200 or approved equivalent per the Project Geotechnical Report. The non-woven filter fabric shall be 4 ounce or approved equivalent per the Project Geotechnical Report.

320.02.02 CONCRETE CURB

Work under this Subsection shall consist of constructing curbs.

This work includes the removal and disposal of all material required to properly construct this item, not otherwise provided for in the Special Provisions or these Special Technical Provisions.

Work shall also include the preparation, construction, placement, and installation, complete in place, of subgrade, bedding material, backfill material, drainage backfill material, filter fabric, geogrid, geotextile, aggregate base, and concrete within the footprint of this item. If the back of curb is adjacent to a graded shoulder, this item shall also include all materials, and slope grading as required to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

320.02.02.01 LIMITS OF WORK

The limits of work under this Subsection shall be the footprint of the curb. Where adjacent to a graded shoulder, the limits of work shall extend to the limits of slope grading along the length of this item as required to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

320.02.03 CONCRETE CURB AND GUTTER

Work under this Subsection shall consist of constructing curb and gutters.

This work includes the removal and disposal of all material required to properly construct this item, not otherwise provided for in the Special Provisions or these Special Technical Provisions.

Work shall also include the preparation, construction, placement, and installation, complete in place, of subgrade, bedding material, backfill material, drainage backfill material, filter fabric, geogrid, geotextile, aggregate base, and concrete within the footprint of this item. If the back of curb is adjacent to a graded shoulder, this item shall also include all materials, and slope grading as required to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

320.02.03.01 LIMITS OF WORK

The limits of work under this Subsection shall be the footprint of the curb and gutter. Where adjacent to a graded shoulder, the limits of work shall extend to the limits of slope grading along the length of this item as required to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

320.02.04 CONCRETE SIDEWALK

Work under this Subsection shall consist of constructing sidewalks.

This work includes the removal and disposal of all material required to properly construct this item, not otherwise provided for in the Special Provisions or these Special Technical Provisions.

Work shall also include the preparation, construction, placement, and installation, complete in place, of subgrade, bedding material, backfill material, drainage backfill material, filter fabric, geogrid, geotextile, aggregate base, and concrete within the footprint of this item. If the back of sidewalk is adjacent to a graded shoulder, this item shall also include all materials, and slope grading as required to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

320.02.03.01 LIMITS OF WORK

The limits of work under this Subsection shall be the footprint of the sidewalk. Where adjacent to a graded shoulder, the limits of work shall extend to the limits of slope grading along the length of this item as required to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

320.02.05 CONCRETE CURB RAMP

Work under this Subsection shall consist of constructing curb ramps.

This work includes the removal and disposal of all material required to properly construct this item, not otherwise provided for in the Special Provisions or these Special Technical Provisions.

Work shall also include the preparation, construction, placement, and installation, complete in place, of subgrade, bedding material, backfill material, drainage backfill material, filter fabric, geogrid, geotextile, aggregate base, and concrete within the footprint of this item to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

320.02.03.01 LIMITS OF WORK

The limits of work under this Subsection shall be the footprint of the curb ramp, including the adjacent curb, and/or curb and gutter. Where adjacent to a graded shoulder, the limits of work shall extend to the limits of slope grading along the length of this item as required to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

320.02.06 DETECTIBLE WARNINGS

Work under this Subsection shall consist of the placement of detectible warnings to properly construct the project, as shown on the Project Plans, Project Documents, according to the manufacturer's recommendations, and/or as directed by the Engineer.

320.02.07 CONCRETE DRIVEWAY

Work under this Subsection shall consist of constructing driveways.

This work includes the removal and disposal of all material required to properly construct this item, not otherwise provided for in the Special Provisions or these Special Technical Provisions.

Work shall also include the preparation, construction, placement, and installation, complete in place, of subgrade, bedding material, backfill material, drainage backfill material, filter fabric, geogrid, geotextile, aggregate base, and concrete within the footprint of this item to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

320.02.03.01 LIMITS OF WORK

The limits of work under this Subsection shall be the footprint of the driveway, including the area for adjacent curbs, gutters, curb and gutters, valley gutters, driveway conform aprons and slope grading. Where adjacent to a graded shoulder, the limits of work shall extend to the limits of slope grading along the length of this item as required to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

320.04 MEASUREMENT AND PAYMENT

"Concrete Curb – (Type)" shall be measured on a linear foot basis along the flow line of the gutter. Curb measurements will not be continuous and will break at driveway and curb ramp openings. Slope grading at the back of the curb shall be considered as included in the price paid for this bid item, and no additional compensation will be allowed.

"Concrete Curb and Gutter – (Type)" shall be measured on a linear foot basis along the flow line of the gutter. Curb measurements will not be continuous and will break at driveway and curb ramp openings. Slope grading at the back of the curb shall be considered as included in the price paid for this bid item, and no additional compensation will be allowed.

"Concrete Sidewalk" shall be measured on a square foot basis, including the area for adjacent slope grading as hereinafter specified. Slope grading at the edge of the sidewalk shall be considered as included in the price paid for this bid item, and no additional compensation will be allowed.

"Concrete Curb Ramp" shall be measured on a square foot basis, including the area for adjacent curbs, curb and gutters, and slope grading as hereinafter specified. The curb constructed as part of the curb ramp will be measured to the front face of curb as the curb ramp bid item. The curb and gutter constructed at the ramp edge will be measured to the lip of gutter as part of the curb ramp bid item. Slope grading at the edge of the curb ramp shall be considered as included in the price paid for this bid item, and no additional compensation will be allowed.

"Detectable Warning" shall be measured on a square foot basis.

"Concrete Driveway" shall be measured on a square foot basis, including the area for adjacent curbs, gutters, curb and gutters, valley gutters, driveway conform aprons, and slope grading as hereinafter specified. The curb, and curb and gutter constructed at the sidewalk or ramp edge of the driveways will be measured to the back face of curb as part of the driveway bid item. The gutter, curb and gutter, and valley gutter constructed at the sidewalk, ramp edge, or across the driveway will be measured to the lip of gutter as part of the driveway bid item. The conform apron will be measured to the edge of pavement as part of the driveway bid item. Slope grading at the edge of the driveway shall be considered as included in the price paid for this bid item, 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 325 – STORM DRAIN AND UTILITY STRUCTURES

325.01 DESCRIPTION.

This Section consists of the furnishing, preparation, adjustment, construction, placement, and installation of storm drain structures including manholes, drop inlets, pipe encasements, manhole cover adjustments, utility box adjustments, cross drainage, reinforced concrete pipe end sections.

Work under this Section shall conform to the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, as directed by the Engineer, and/or other applicable Local, Regional, State, and Federal agency requirements.

Work under this Section shall consist of furnishing all labor, tools, equipment, materials, and incidentals as necessary for construction and/or to perform operations, including but not limited to the preparation, construction, placement, and installation of manholes, drop inlets, pipe encasements, manhole cover adjustments, utility box adjustments, cross drainage, and/or reinforced concrete pipe end sections in accordance with the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, as directed by the Engineer, and/or other Local, Regional, State, and Federal agency requirements

325.02 CONSTRUCTION.

325.02.01 GENERAL REQUIREMENTS.

Under no circumstances shall any segment of storm drainage pipe designated for removal be abandoned in place, unless otherwise noted on the plans and/or acceptance of the Engineer.

PCC used for utility restorations shall conform to Subsection 337.10.01.01 – "PCC Exposed to Freeze-Thaw Cycles" and shall be protected until a minimum compressive strength of 3,000 PSI is attained.

All connections and joints shall be watertight.

The Contractor shall submit a material specification for all materials and watertight joints, for acceptance of the Engineer, prior to placement in the work.

325.02.02 MANHOLES.

Work under this Subsection shall consist of constructing manhole structures.

This work includes the removal and disposal of all material required to properly construct this item, not otherwise provided for in the Special Provisions or these Special Technical Provisions.

Work shall include the furnishing., preparation, construction, placement, and installation, complete in place, of any required excavation, subgrade, bedding material, backfill material, drainage backfill material, pipe, gaskets, concrete collar, reinforcing material, geotextile, and filter fabric to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

The Contractor shall confirm all pipe connections and pipe invert elevations with the Engineer prior to installation. A minimum difference of 0.1' shall be provided between the inlet and outlet pipe invert elevations in a manhole or drop inlet. A minimum of six inches separation between pipe penetrations in manholes, measured on the interior of the structure, shall be provided. Manholes should be installed to be watertight using "Conseal" or equivalent at each joint and to ensure a proper seating of each riser component. Joints shall also be wrapped with joint wrap, MH-860 or equivalent. Pipe connections shall use A-lok 490 gasket or equivalent.

Non-skid manhole covers shall be use at locations where manholes are located within sidewalks or driveways.

325.02.03 DROP INLETS.

Work under this Subsection shall consist of constructing drop inlet structures.

This work includes the removal and disposal of all material required to properly construct this item, not otherwise provided for in the Special Provisions or these Special Technical Provisions.

Work shall include the furnishing., preparation, construction, placement, and installation, complete in place, of any required excavation, subgrade, bedding material, backfill material, drainage backfill material, pipe, gaskets, concrete collar, reinforcing material, geotextile, and filter fabric to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

The Contractor shall confirm all pipe connections and pipe invert elevations with the Engineer prior to installation. A minimum difference of 0.1' shall be provided between the inlet and outlet pipe invert elevations in a manhole or drop inlet. A minimum of six inches separation between pipe penetrations in manholes, measured on the interior of the structure, shall be provided. Drop Inlets should be installed to be watertight using "Conseal" or equivalent at each joint and to ensure a proper seating of each riser component. Joints shall also be wrapped with joint wrap, MH-860 or equivalent. Pipe connections shall use A-lok 490 gasket or equivalent.

All drainage grates shall be bicycle compatible.

325.02.04 PIPE ENCASEMENT.

Work under this Subsection shall consist of constructing concrete encasement of reinforced concrete pipe.

Work shall include the furnishing., preparation, construction, placement, and installation, complete in place, of any required excavation, backfill material, and concrete encasement to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

All pipes crossing above a water line or when storm drainpipe is less than 18 Inches below a water line shall be encased in concrete and the concrete encasement shall extent a minimum of 10 feet beyond the water line, in each direction, as shown on the Project Plans.

Concrete encasement shall be Type A (Excavatable) slurry backfill.

325.02.05 ADJUSTMENTS.

Work under this Subsection shall consist of the adjustment of manhole and valve covers.

All manhole cover, valve, meter, shall meet the specifications outlined in Section 609 of the 2014 NDOT Standard Specifications for Road and Bridge Construction.

Sanitary Sewer grade rings and frame shall not exceed 18 inches in total height.

Where required Sanitary Sewer adjustment to frame, collar and cover exceeds 12 inched of adjusting rings, Contractor shall remove existing adjusting rings and cone, and add a new barrel section(s) as needed to so that height of adjusting rings does not exceed 12 inches.

325.02.06 BASIN OUTFALLS.

Work under this Subsection shall consist of furnishing, installing, and constructing pipe outfalls into the existing drainage basins.

Work shall include the furnishing, preparation, construction, placement, and installation, complete in place, of any required excavation, subgrade, bedding material, backfill material, drainage backfill material, pipe, gaskets, concrete, reinforcing material, flared end sections, riprap, riprap bedding, geotextile, and filter fabric to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

All reinforced concrete pipe flared end sections used for stormwater conveyance shall be jointed bell and spigot with water-tight joints.

All Riprap and Bedding Class Material shall be Class 150.

325.02.07 BIKE PATH CROSS DRAIN.

Work under this Subsection shall consist of furnishing and installing bike path cross drain system.

This work includes the removal and disposal of all material required to properly construct this item, not otherwise provided for in the Special Provisions or these Special Technical Provisions.

Work shall also include the preparation, construction, placement, and installation, complete in place, of subgrade, bedding material, backfill material, drainage backfill material, riprap bedding, filter fabric, geogrid, geotextile, aggregate base, and riprap within the footprint of this item. This item shall also include all materials, and slope grading as required to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

325.03 Measurement and Payment

"(Type) Storm Drain Manhole" shall be measured by the each basis.

"(Type) Drop Inlet" shall be measured by the each basis.

"Concrete Pipe Encasement – (Size)" shall be on a linear foot basis along the centerline of pipe.

"Adjust- (Type)(Utility) – (Method)" shall be measured by the each basis.

"Basin Outfall – (Location)" shall be measured by the each basis.

"Cross Drain – (Location)" shall be measured on a square foot basis.

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 330 – PIPE

330.01 DESCRIPTION.

This Section consists of the furnishing, preparation, construction, placement, and installation of reinforced concrete pipe, end sections, HDPE pipe, and plastic pipe.

Work under this Section shall conform to the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, as directed by the Engineer, and/or other applicable Local, Regional, State, and Federal agency requirements.

Work under this Section shall consist of furnishing all labor, tools, equipment, materials, and incidentals as necessary for construction and/or to perform operations, including but not limited to the preparation, construction, placement, and installation of storm drain pipe, subdrain pipe, pipe outlets,

cleanouts, existing pipe extensions, and/or pipe connections in accordance with the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, as directed by the Engineer, and/or other Local, Regional, State, and Federal agency requirements.

330.02 CONSTRUCTION.

330.02.01 PIPE GENERAL REQUIREMENTS.

All pipe shall have watertight joints.

The Contractor shall submit a material specification for all pipe and watertight joints, for acceptance of the Engineer, prior to placement in the work.

330.02.02 REINFORCED CONCRETE PIPE.

Work under this Subsection shall consist of furnishing and installing reinforced concrete pipe.

This work includes the removal and disposal of all material required to properly construct this item, not otherwise provided for in the Special Provisions or these Special Technical Provisions.

Work shall include the furnishing., preparation, construction, placement, and installation, complete in place, of any required excavation, subgrade, bedding material, backfill material, drainage backfill material, pipe, gaskets, concrete collar, geotextile, and filter fabric to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

All reinforced concrete pipe used for stormwater conveyance shall be jointed bell and spigot with water-tight joints. All RCP pipes having a 15-inch interior diameter shall be class IV pipe. All RCP pipes having interior dimensions greater than 15-inch shall be class III pipe.

330.02.03 SUBDRAIN PIPE.

Work under this Subsection shall consist of furnishing and installing perforated subdrain pipe.

This work includes the removal and disposal of all material required to properly construct this item, not otherwise provided for in the Special Provisions or these Special Technical Provisions.

Work shall include the furnishing, preparation, construction, placement, and installation, complete in place, of any required excavation, subgrade, bedding material, backfill material, drainage backfill material, pipe, pipe bends, pipe wyes, pipe tees, pipe connections, pipe branches, geotextile, and filter fabric to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

All subdrain pipe shall be perforated and be SDR35 PVC or equivalent. Pipe perforations shall consist of two rows of holes, 120^{o} apart, parallel to the axis of the pipe. Holes shall be ½" in diameter and 5" on center. Pipes shall conform to ASTM D1784. Pipe connections shall be made according to the manufacturer's recommendations.

330.02.04 SUBDRAIN PIPE CLEANOUT.

Work under this Subsection shall consist of furnishing and installing subdrain pipe cleanout assemblies.

This work includes the removal and disposal of all material required to properly construct this item, not otherwise provided for in the Special Provisions or these Special Technical Provisions.

Work shall include the furnishing., preparation, construction, placement, and installation, complete in place, of any required excavation, subgrade, bedding material, backfill material, drainage backfill material, pipe, pipe bends, pipe wyes, pipe tees, pipe connections, pipe branches, castings, concrete collar, geotextile, and filter fabric to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

All subdrain pipe cleanouts smooth walled pipe without perforations and shall be SDR35 PVC or equivalent. Pipe connections shall be made according to the manufacturer's recommendations.

330.02.05 SOLID WALL HDPE PIPE

Work under this Subsection shall consist of furnishing and installing HDPE pipe.

This work includes the removal and disposal of all material required to properly construct this item, not otherwise provided for in the Special Provisions or these Special Technical Provisions.

Work shall include the furnishing., preparation, construction, placement, and installation, complete in place, of any required excavation, subgrade, bedding material, backfill material, drainage backfill material, pipe, gaskets, concrete collar, geotextile, and filter fabric to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

All HDPE pipe used for stormwater conveyance shall be jointed bell and spigot with water-tight joints. All HDPE pipe shall meet the specifications outlined in Section 708 of the 2014 NDOT Standard Specifications for Road and Bridge Construction and conform with AASHTO M294 specifications. Installation and connections shall follow the manufacturer's guidelines.

330.02.06 PIPE EXTENSIONS AND CONNECTIONS.

Work under this Subsection shall consist of furnishing, installing, and constructing pipe extensions, connections, or otherwise incorporation of existing pipe into the new network.

This work includes the removal and disposal of all material required to properly construct this item, not otherwise provided for in the Special Provisions or these Special Technical Provisions.

Work shall include the furnishing., preparation, construction, placement, and installation, complete in place, of any required excavation, subgrade, bedding material, backfill material, drainage backfill material, pipe, gaskets, concrete collar, reinforcing material, geotextile, and filter fabric to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

The Contractor shall remove only such parts or parts of the existing structure as is necessary to provide a proper connection to the new work. Cut, shape, and trim the connecting edges to the required grades without weakening or damaging the part of the structure to be retained. Do not damage reinforcing bars which are to be left in place so as to project into the new work as dowels or ties.

330.03 MEASUREMENT AND PAYMENT.

"Subdrain Pipe – (Size)" shall be measured on a linear foot basis along the centerline of pipe.

"Subdrain Pipe Cleanout – (Size)" shall be measured on a linear foot basis along the centerline of pipe.

"Reinforced Concrete Pipe – (Size)(Class)" shall be measured on a linear foot basis along the centerline of pipe.

"HDPE – (Size)" shall be measured on a linear foot basis along the centerline of pipe.

"Pipe Connection" shall be measured by the each basis.

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 335 – REVEGETATION

335.01 DESCRIPTION.

This Section consists of the site preparation, construction, placement, installation, maintenance, field modifications, salvage, storage, replating, mulching, and record keeping of revegetation treatments, devices, and measures.

Work under this Section shall conform to the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, and/or as directed by the Engineer, and other applicable Local, Regional, State, and Federal requirements during the life of the contract.

Work under this item shall consist of furnishing all labor, tools, equipment, materials, and incidentals as necessary to perform operations, including but not limited to the site preparation, construction, placement, maintenance, field modification, salvage, storage, replanting, mulching, and record keeping of revegetation treatments, devices, and measures in accordance with the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, Local, Regional, State, and Federal agency requirements, and/or as directed by the Engineer.

335.02 MATERIALS.

335.02.01 SEED.

All Seed Mix shall be supplied by the NTCD to the Contractor 3 days prior to seeding. NTCD will supply the contractor with enough seed for applying to disturbed areas plus an additional 10%. The contractor will supply at their expense any additional seed necessary to adequately seed the revegetation areas.

Seed mix will include the following shallow rooted annual grasses and wildflowers.

Seed Mix 1		
Species (Common Name)	Species (Botanical Name)	LBS per Acre
California Sierra Brome	*Bromus carinatus*	4.00
Sandberg Bluegrass 'Sherman'	*Poa secunda*	1.00
Slender Wheatgrass 'Revenue', or 'Pryor'	*Elymus trachycaulus*	4.00
Squirrel tail	*Elymus elymoides*	2.00
Total PLS LBS/ACRE RATE		**11.00**

335.02.02 MULCH.

Mulch shall be wood chips produced on-site, tub grindings or pine needles. Mulch shall contain no more than 5% impurities by volume such as pinecones, twigs, rocks or other material. Garbage shall represent no more than 0.5% of the total volume. Mulch shall contain no more than 2% by volume mineral soil and no more than 10% by volume decomposed organic matter.

335.02.03 EROSION CONTROL BLANKET AND STAKES.

Blankets shall be North American Green SC150 BN 70% straw and 30% coconut fiber, 9.66 ounces per square yard, sewn between 2 biodegradable natural fiber nets, or equivalent as approved by the Engineer. Each roll of fabric shall be identified with a tag or label securely affixed to the outside of the roll on one end. The label shall include the manufacturer or supplier, the style number, and the roll and lot numbers. Stakes shall be 12 inches in length, manufactured from a wood (North American Green Eco-STAKE or equivalent), or as approved by the Engineer.

335.02.04 TEMPORARY IRRIGATION SYSTEM.

An irrigation connection plan (Point of Connection) must be submitted to and approved by KGID or Douglas County prior to beginning irrigation work. Alternate irrigation methods proposed by the Contractor shall be submitted to the Engineer for review and acceptance prior to commencement of irrigation activities.

A suitable timer/controller device shall be part of the temporary irrigation system in order to program an irrigation schedule and apply water to the revegetation treatments areas as specified herein.

The temporary irrigation system shall consist of above-ground piping that is flexible, highly burst resistant and suitable for use in a pressure piping system (Certa-Lok Yelomine ™ or accepted equal), and the piping shall be capable of connecting to full circle heads (low precipitation rate, < 2.5 gallons per minute [gpm]) each with a radius of 20 feet stream rotor or equivalent spray heads capable of delivering water to the areas where the applicable revegetation treatments are applied as shown on the Plans.

Previously used piping and spray heads may be used in the project work as long as the materials are in good working condition and meet the standards noted herein. Above-ground irrigation shall be constructed in a manner that the reach of sprinklers shall overlap thirty (30) percent in order to cover the entire surface of the revegetated area. The Contractor shall be responsible to provide for any underground crossings and pipe sleeves as may be necessary to avoid surface conflicts with roads, trails, and other public use areas. Restoration of any paved/concrete surface shall be considered included with this item of work, and no additional compensation will be allowed. No irrigation application or overspray to concrete or asphalt surfaces will be allowed.

The Contractor is further responsible for the connection to an existing system, disconnection of the existing system, usage metering, and the necessary repairs to the existing system to assure a properly functioning system during and after the Contractor's irrigation period. The Contractor is responsible for all costs associated with connecting to the system (including paperwork and permitting), water usage, disconnection from the system, and system repairs.

335.03 CONSTRUCTION.

335.03.01 REVEGETATION GENERAL REQUIREMENTS.

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 as shown on the Project Plans, Construction Documents, and/or as directed by the Engineer.

The revegetation work shall consist of all site preparations associated with the revegetation treatments and shall include temporary erosion control, plant salvage, organic matter salvage, storage, replanting, seedbed preparation, seeding, mulching, installation of erosion control blankets, installation and management of the irrigation system, maintenance and record keeping.

Areas to receive revegetation treatments shall include <u>all</u> areas disturbed during construction and all areas indicated on the 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.

All revegetated areas shall be maintained for one year following completion of work to ensure proper establishment of vegetation. Supplemental treatments may be required if revegetation efforts are unsatisfactory following completion of work as determined by the Engineer. This re-treatment may include re-application of the seed mix, mulch and other items as necessary to achieve the performance measures below. The cost of this maintenance shall be included in the Revegetation bid items. The Contractor must achieve 70% vegetative cover for areas receiving seed mix application and 80% survival of sod plantings.

The Contractor shall notify the Engineer 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. The Contractor shall request that treatment types and boundaries are located by the Engineer prior to progressing with the work.

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

335.03.02 SOIL DISTURBANCE.

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 the 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.

335.03.03 REVEGETATION TREATMENT TYPES.

335.03.03.01 TREATMENT TYPE 1 (TT1):

Place local topsoil and incorporate aged wood chips. Rake smooth. Apply Seed Mix 1 and rake to incorporate. Place 1 inch layer of mulch on seeded areas. Irrigate to establish seeded areas.

335.03.03.01.01 PREPARING SEED BEDS.

All soils in the project area, and those in areas outside the project area that were disturbed by the Contractor, shall be loosened as needed to a depth of 6 inches unless otherwise specified on the plans or directed by the Engineer. Soils shall be loosened with hand tools, an agricultural disc, rippers, or other equipment approved by the Engineer and RS. Soils shall be loosened so that no soil clods are larger than an average of 1 inch in diameter. Care must be taken around existing trees and shrubs to prevent root damage during soil conditioning, grading and excavation activities. No mechanical loosening of soil shall take place within the dripline of mature trees or shrubs. 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.

335.03.03.01.02 TOPSOIL PLACEMENT.

Topsoil shall be applied to all locations receiving Treatment Types 1 as shown on the Landscape and Revegetation sheets of the Project Plans. A depth of two (2) inches of topsoil shall be applied after seedbed preparation as directed by Engineer. Topsoil placed in revegetation treatment areas shall not be compacted.

Placing and spreading of topsoil shall not be done when the ground is frozen, excessively wet or otherwise in a condition detrimental to the work. Surfaces designated to be covered shall be lightly scarified just prior to the spreading operation. Compaction of topsoil will not be allowed.

335.03.03.01.03 SEEDING.

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

335.03.03.01.04 MULCHING.

Material shall be evenly applied to a depth of approximately one (1) inch, for 90 percent cover over revegetation areas (except for areas to receive the erosion control blanket—which shall not receive mulch).

335.03.03.01.05 INSTALLING EROSION CONTROL BLANKETS.

Install on slopes greater than 3:1 or within stormwater basin. Carefully key in blankets (6" keyed) and overlap blankets twelve (12) inches working up the channel. Stake with stakes installed three (3) feet on center. Key fabric into a six (6) inch deep toe trench at the base of the berm. Anchor blankets in trenches with the stakes on one-foot centers, backfill the trench and compact loose soil. The final result should achieve 100% cover over basin and berm as well as any steep slopes.

335.03.03.01.06 HYDRAULIC SEEDING.

The Contractor may install revegetation treatments using a hydroseeder. The hydraulic application of the seed, mulch and tackifier slurry shall be accomplished using a hydroseeding unit that must be capable of providing a uniform application using water as the carrying agent. Use of a hydroseeding unit equipped with gear driven pumps will not be permitted as it may result in damage to the seed. The hydroseeding unit must be equipped with a centrifugal pump with a minimum discharge capacity of 275 GPM, 105 PSI, with 3/4-inch solid clearance. Tanks shall be equipped with a paddle type agitator designed for maximum mixing extending the full length of the tank and supported on each end. The agitator should be variable from 10 to 120 RPM, reversible, and should provide a valved bypass back to the tank to allow for liquid recirculation to implement mixing and allow for remote valve operation. The Contractor shall notify the Engineer at least 10 days in advance if they plan to use hydraulic application. Tackifier must be approved by Engineer prior to installation.

335.03.03.01.07 TEMPORARY IRRIGATION.

Temporary irrigation shall be used to encourage rapid plant establishment. Irrigation is intended solely as an initial assistance for germination and establishment and is not intended to continue past the initial vegetation establishment period. Right-of-way revegetation areas shall receive temporary irrigation as directed by the Engineer.

Temporary irrigation shall be performed with a low-pressure impact system in order to establish vegetation to conditions described in these Special Provisions. Irrigation shall be performed such that water is applied evenly throughout all revegetation treatment areas and shall penetrate to at least six (6) inches below the ground surface within twelve (12) hours of irrigation and allows the surface soil to dry out while maintaining adequate moisture levels at depth. Exact irrigation scheduling for all areas shall depend on air and soil temperatures and will require adjusting during the course of the growing season. Irrigation schedules shall be as described in these Special Technical Provisions and submitted to the Engineer for acceptance to ensure proper timing, frequency and duration. Above-ground irrigation shall take place early in the morning or late in the evening whenever possible in order to minimize water

loss due to high air temperatures and wind. A suitable timer/controller device shall be part of the temporary irrigation system in order to program an irrigation schedule and apply water to the revegetation treatments areas as specified herein.

The temporary irrigation system shall consist of above-ground piping that is flexible, highly burst resistant and suitable for use in a pressure piping system (Certa-Lok Yelomine ™ or accepted equal), and the piping shall be capable of connecting to full circle heads (low precipitation rate, < 2.5 gallons per minute [gpm]) each with a radius of 20 feet stream rotor or equivalent spray heads capable of delivering water to the areas where the applicable revegetation treatments are applied as shown on the Plans. Irrigation to the landscape island area may be low flow drip emitter type system that meets the water application criteria above. Previously used piping and spray heads may be used in the project work as long as the materials are in good working condition and meet the standards as noted herein. Above-ground irrigation shall be constructed in a manner that the reach of sprinklers shall overlap thirty (30) percent in order to cover the entire surface of the revegetated area. The Contractor shall be responsible to provide for any underground crossings and pipe sleeves as may be necessary to avoid surface conflicts with roads, trails, and other public use areas. Restoration of any paved/concrete surface shall be considered included with this item of work, and no additional compensation will be allowed. No irrigation application or overspray to concrete or asphalt surfaces will be allowed.

The Contractor is responsible for locating a potable water source for irrigation. The Contractor is further responsible for the connection to the existing system, disconnection of the existing system, usage metering, and the necessary repairs to the existing system to assure a properly functioning system during and after the Contractor's irrigation period. The Contractor is responsible for all costs associated with connecting to the system (including paperwork and permitting), water usage, disconnection from the system, and system repairs. An irrigation connection plan must be submitted to and approved by KGID prior to beginning irrigation work. Alternate irrigation methods proposed by the Contractor shall be submitted to the Engineer for review and acceptance prior to commencement of irrigation activities.

335.03.03.02 TREATMENT TYPE 2 (TT2):

Treatment Type 2 (TT2): Grass Sod Areas

Work under this Subsection shall consist of furnishing and placement of Grass Sod and reconstruction of irrigation system.

This work includes the removal and disposal of all material required to properly construct this item, not otherwise provided for in the Special Provisions or these Special Technical Provisions.

Work shall include the furnishing, preparation, construction, placement, and installation, complete in place, of any required excavation, subgrade, bedding material, backfill material, soil nutrient amendment, and irrigation system to properly construct the project, as shown on the Project Plans, Project Documents, and/or as directed by the Engineer.

All Grass Sod shall be Emerald Blue type or equivalent as approved by the engineer.

335.04 SUBMITTALS.

Within ten (10) calendar days following the Notice to Proceed for the contract, the Contractor shall submit to the Engineer the following items:

Revegetation Schedule and Order of Work

Irrigation Plan and Schedule

Mulch plan

Proposed substitutions must be submitted in writing for approval by the Engineer.

335.05 PERFORMANCE STANDARD AND ACCEPTANCE.

The Contractor shall guarantee revegetation in accordance with these Special Technical Provisions. Revegetated areas will be inspected by the Engineer at completion of installation and accepted subject to compliance with specified materials and installation requirements.

The Performance and Payment bond shall remain in effect until maintenance and survival guarantee criteria have been met as defined herein and accepted in writing by the Engineer. The acceptance for releasing this bond will occur following the end of the first growing season if the success criteria is met. This guarantee period constitutes the warranty period strictly associated with the revegetation work described herein.

Acceptance of other work and/or filing of a Notice of Completion shall not constitute acceptance, waiver and/or modification of the revegetation, revegetation maintenance, and survival guarantee portion of the project.

335.06 MEASUREMENT AND PAYMENT.

"Revegetation – (Seeding Mix)" shall be measured on a square foot basis, completed and accepted by the Engineer as conforming to all the requirements in the complete work.

"Revegetation – (Grass Sod)" shall be measured on a square foot basis, completed and accepted by the Engineer as conforming to all the requirements in the complete work.

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 340 – PAINT.

340.01 DESCRIPTION.

This Section consists of the preparation, furnishing, and application of Paint, Traffic Paint, Pavement Marking File, and Thermoplastic Paint.

Work under this Section shall conform to the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, as directed by the Engineer, and/or other applicable Local, Regional, State, and Federal agency requirements.

Work under this Section shall consist of furnishing all labor, tools, equipment, materials, and incidentals as necessary for application of and/or to perform operations, including but not limited to the preparation, furnishing, and application of Traffic Paint, Thermoplastic Paint, placement, and

installation of curbs, gutters, sidewalks, ramps, valley gutters, driveways, and detectable warnings in accordance with the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, as directed by the Engineer, and/or other Local, Regional, State, and Federal agency requirements.

340.02 MEASUREMENT AND PAYMENT

"Traffic Paint – (Size)(Style)" shall be measured on a linear foot basis along the centerline of the painted stripe.

"Thermoplastic Paint – (Size)(Style)" shall be measured on a linear foot basis along the centerline of the painted stripe. flow line of the gutter.

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 345 – SIGNS.

345.01 DESCRIPTION.

This Section consists of the furnishing, erecting, constructing, and installing signs, sign supports, and other materials required for roadway signs.

Work under this Section shall conform to the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, as directed by the Engineer, and/or other applicable Local, Regional, State, and Federal agency requirements.

Work under this Section shall consist of furnishing all labor, tools, equipment, materials, and incidentals as necessary for installation of and/or to perform operations, including but not limited to the preparation, furnishing, erecting, constructing, and installing or signs, sign supports, and other materials required for roadway signs in accordance with the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, as directed by the Engineer, and/or other Local, Regional, State, and Federal agency requirements.

345.02 CONSTRUCTION.

345.02.01 GENERAL REQUIREMENTS.

All signs, sign supports, and other materials required for roadway signs shall meet the specifications outlined in Section 627 of the 2014 NDOT Standard Specifications for Road and Bridge Construction.

Excavation, backfill, and foundation will be considered subsidiary to the pay item listed below.

345.02 MEASUREMENT AND PAYMENT

"Permanent Sign and Pole (Ground Mounted)" shall be measured on a square foot of sign panel basis.

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 350 – SIGNAL TRAFFIC SYSTEMS.

350.01 DESCRIPTION.

This Section consists of the furnishing, constructing, modifying, and installing of vehicle detection systems.

Work under this Section shall conform to the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, as directed by the Engineer, and/or other applicable Local, Regional, State, and Federal agency requirements.

Work under this Section shall consist of furnishing all labor, tools, equipment, materials, and incidentals as necessary for installation of and/or to perform operations, including but not limited to the installation of vehicle detection system loop vehicle detectors, conduit, conductors and other materials required for vehicle loop detectors in accordance with the Project Plans, Project Permits, Contract Documents, Standard Specifications, Special Provisions, these Special Technical Provisions, as directed by the Engineer, and/or other Local, Regional, State, and Federal agency requirements.

350.02 CONSTRUCTION.

350.02.01 GENERAL REQUIREMENTS.

All vehicle detection system loop vehicle detectors, and other materials required shall meet the specifications outlined in Section 623 of the 2014 NDOT Standard Specifications for Road and Bridge Construction.

Excavation, backfill, and foundation will be considered subsidiary to the pay item listed below.

350.03 MEASUREMENT AND PAYMENT

“Loop Detector” shall be measured on the each basis.

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.

Appendix A: Example Stormwater Pollution Prevention Plan

Stormwater Pollution Prevention Plan (SWPPP)

Table of Contents

Site / Owner / Operator

Provide site, owner, and operator information.

Site	
ID Number	CSW-
Name	Kahle Drive Complete Street Project
Address Line 1	Kahle Drive between US-50 and 1 Beach Club Drive
Address Line 2	
City	Stateline
State	NV
Zip Code	89449
Contact Name	
Phone Number	
Email Address	

Owner	
Name	Nevada Tahoe Conservation District (NTCD)
Address Line 1	400 Dorla Ct
Address Line 2	PO Box 915
City	Zephyr Cove
State	NV
Zip Code	89449-0915
Contact Name	Meghan Kelly
Phone Number	775-524-3481
Email Address	mkelly@ntcd.org

Operator 1	
Name	
Address Line 1	
Address Line 2	
City	
State	
Zip Code	
Contact Name	
Title	
Phone Number	
Email Address	
If there is more than one operator, identify the areas and phases over which Operator 1 has control.	

Operator 2	
Name	
Address Line 1	
Address Line 2	
City	
State	
Zip Code	
Contact Name	
Title	
Phone Number	
Email Address	
Identify the areas and phases over which Operator 2 has control.	

Operator 3	
Name	
Address Line 1	
Address Line 2	
City	
State	
Zip Code	
Contact Name	
Title	
Phone Number	
Email Address	
Identify the areas and phases over which Operator 3 has control.	

Stormwater Team

List the name, title, and individual responsibilities for each member of the stormwater team. The stormwater team is responsible for overseeing the development of the SWPPP, any modifications to the SWPPP, and compliance with the requirements of the *Construction Stormwater General Permit NVR100000* (hereinafter referred to as the "Permit"). The team may include members who are not employed by the operator (such as third party consultants).

Stormwater Team Member 1	
Name	Meghan Kelly
Title	Resident Engineer
Responsibilities	Daily inspection of BMPs, monitoring of weather forcast, monitoring of dewatering and diversion actions, water quality monitoring

Stormwater Team Member 2	
Name	Mark Jewell
Title	Design Engineer
Responsibilities	Daily inspection of BMPs, monitoring of weather forcast, monitoring of dewatering and diversion actions, water quality monitoring

Stormwater Team Member 3	
Name	
Title	
Responsibilities	

Stormwater Team Member 4	
Name	
Title	
Responsibilities	

Stormwater Team Member 5	
Name	
Title	
Responsibilities	

Nature of Construction Activities

Describe the nature of the construction activities, including the size of the property and the total area expected to be disturbed by construction activities, construction support activity areas covered by the Permit, and the maximum area expected to be disturbed at any one time.

Nature of Construction Activities		
What is the size of the property?	2.7	acres
What is the total area expected to be disturbed by construction activities?	2.7	acres
What is the maximum area expected to be disturbed at any one time?	1.3	acres

Describe the construction support activity areas covered by the Permit. Construction support activities covered by the Permit are described in Permit section *1.2.1.2* and defined on page 40 of the Permit.

The project proposes to transform Kahle Drive into a “complete street” by improving stormwater drainage and treatment, repairing wastewater infrastructure, adding sidewalks, bike lanes, crosswalks, and intersection safety improvements, and undergrounding overhead utilities and improving broadband quality in a census block group with one of the lowest median household incomes in Douglas County.

The Kahle Drive Complete Street Project improvements include:

• Undergrounding of 2400 LF of overhead power and communication line
• Subsurface utility and drainage work, including the construction of 2400 linear feet of groundwater subdrain.
• Reconstruction of the road base and road surface for a 2400 LF road
• Installation of curb and gutter
• Installation of sidewalks, bike lanes, and bike paths
• Installation of pedestrian lighting
• Construction storm drain to connect to an existing stormwater treatment basin at the end of Kahle Drive

Construction activities and support activities include staging and storage, grading, demolition of existing improvements, clearing and grubbing, tree removal, trenching, grading and offhaul of material, utility relocation, paving & concrete, dewatering, and revegetation.

Emergency-Related Construction Activities

For earth-disturbing activities in response to a public emergency, document the cause of the public emergency, provide information substantiating its occurrence, and describe the construction necessary to reestablish affected public services.

Cause of the Public Emergency
Describe the cause of the public emergency (e.g., natural disaster, extreme flooding conditions, etc.).
N/A

Substantiating Information
Provide information substantiating the occurrence of the public emergency (such as a state disaster declaration or similar state or local declaration). Attach supporting documentation to the end of the SWPPP.
N/A

Necessary Construction
Describe the construction necessary to reestablish affected public services.
N/A

Sequence and Estimated Dates of Construction Activities

Provide a schedule of the estimated start dates and the duration of the activity for installation of stormwater control measures, construction activities, cessation of construction activities, and stabilization of areas of exposed soil.

Installation of Stormwater Control Measures	
What is the estimated start date for the installation of stormwater control measures?	5 / 1 / 2025
What is the estimated duration of the installation of stormwater control measures?	as necessary for the duration of construction activities approximately 75 calendar days
When will the stormwater control measures be made operational? Prior to the start of construction activities	
Explain the sequence and schedule for installation of stormwater control measures. No construction activities will occur without adequate storm water control measures in place.	

Construction Activities	
What is the estimated start date of construction activities?	5 / 1 / 2025
What is the estimated duration of construction activities?	106 calendar days
Describe the intended sequence of construction activities. Construction activities include clearing and grubbing, grading, site preparation (i.e., excavating, cutting, and filling), final grading, and creation of soil and vegetation stockpiles requiring stabilization.	

1. temporary erosion control measures and traffic control
2. clearing and grubbing and site preparation
3. trenching for underground utilities
4. removal of overhead utilities
5. construction of underground utilities including drainage
6. grading for surface improvements
7. construction of surface improvements
8. restoration of entire project site including revegetation.

Cessation of Construction Activities		
What is the estimated start date for the cessation of construction activities?	10 / 15 / 2025	
Will the cessation of construction activities be temporary or permanent?	○ Temporary	◉ Permanent
If the cessation of construction activities will be temporary, provide the estimated duration of the cessation of construction activities.	N/A	
Will the cessation of construction activities occur on the entire site (100%) or in designated portions of the site?	○ 100%	◉ Designated Portions
If the cessation of construction activities will occur in designated portions of the site, identify the designated portions of the site where the cessation of construction activities will occur. It is estimated that all grading will cease October 15th, 2025. However, some construction activities such as revegetation and project site restoration may occur throughout the site and as indicated on the project plans.		

Stabilization of Areas of Exposed Soil	
What is the estimated start date for the *temporary* stabilization of areas of exposed soil?	6 / 1 / 2025
What is the estimated duration of the *temporary* stabilization of areas of exposed soil?	14 days for various areas throughout the duration of construction
What is the estimated start date for the *final* stabilization of areas of exposed soil?	10 / 5 / 2025
What is the estimated duration of the *final* stabilization of areas of exposed soil?	10 days
Note: The dates for stabilization shall reflect the applicable deadlines in Permit section *3.6 Site Stabilization Requirements, Schedules, and Deadlines*.	

Departures from Initial Projections
If departures from initial projections for any of the activities on pages 6 and 7 of this SWPPP are necessary, identify and describe such departures. Alternatively, documentation describing such departures may be attached to the end of the SWPPP.

Site Description

Provide the following construction site information.

Site Description	
Project Name	Kahle Drive Complete Street
Project Address	Kahle Drive between US-50 and 1 Beach Club Drive
Project City	Stateline
Project County	Douglas
Project APN	APNs 1318-22-001-009, 1318-22-002-017, Kahle Drive R.O.W.

Describe the site and its intended use after the Notice of Termination is filed (e.g., low density residential, shopping mall, highway, etc.)

Local road and will remain a local road

What is the total area of the site?	2.7	acres
What is the estimated total area of the site expected to be disturbed by construction activities, including off-site supporting activities, borrow and fill areas, and staging and equipment storage areas?	2.7	acres
What percentage of the site is impervious before and after construction?	Before: 30	%
	After: 30	%

Describe the soils at the site, including the potential for erosion.

Soils in the Burke Creek watershed range from very well-drained, gravelly soils along the rim of the Tahoe Basin to poorly-drained, silty-loamy soils near Lake Tahoe. Granodiorite is the parent material for most soils in the Burke Creek system. The highest portions of the watershed (roughly 7,800 feet and above) are dominated by the Dagget complex. These soils are very well-drained (hydrologic soil group A), and are composed of a gravel-sand-loam mixture. From US 50 (approximately 6,300 feet) up to 7,800 feet the soils are of the Cassenai-Cagwin complex. These soils are well-drained (hydrologic soil groups A or B) and are composed of a coarse sand-loam mixture. Cassenai soils tend to form on north aspects and are deeper due to dense vegetation cover, whereas Cagwin soils tend to form on south aspects and are shallower due to mostly shrub vegetation. In the meadow downsteam of US 50, soils are mostly of the Tahoe complex. These soils are poorly-drained (hydrologic soil groups C and D) and are composed of a sand-loam-silt mixture (USGS and NRCS, 2007). The Tahoe complex (as well as the Cassenai-Cagwin complex) is listed in the NRCS database as a potentially hydric soil, however, none have been field-verified as such. Soils are erosive and so protective measures will be taken throughout the project.

For areas where it is infeasible to maintain a 50-foot buffer in accordance with Permit section *3.5.1*, provide the reasons why the 50-foot buffer cannot be maintained, identify and describe the alternative additional erosion and sediment controls that were selected for the site, document the natural buffer width retained on the property, and attach any relevant documentation to the end of the SWPPP.

A 50' buffer from Burke Creek will be maintained.

Identify and describe all on-site and off-site material storage areas, including overburden, stockpiles of dirt, borrow areas, etc.

One off site storage area has bee identified on within a parking lot on Douglas County parcel 1318-23-401-047. On-site staging will occur at the Lam Watah Trailhead Parking Lot, the Kahle Wet Basin and within the disturbance area.

Attach a general location map to the end of the SWPPP. The map should contain enough detail to identify the following items:

Fig. 1

- the location of the construction site and one-mile radius
- the waters of the State of Nevada, including tributaries, within a one-mile radius of the site

Site Map(s)

Attach a site map or series of maps to the end of the SWPPP. Figures 1 and 2 attached

Site Map(s)	
Attach, to the end of the SWPPP, a legible site map or series of maps completed to scale. The map(s) should show the entire site and identify all of the items listed below. Check the box next to each item to confirm that the item is identified on the map(s).	
✔	Topography of the site, existing types of cover (e.g., forest, pasture, pavement, structures), and drainage pattern(s) of flow onto, over, and from the site both before and after major grading activities Fig. 2
✔	Areas of soil disturbance and areas that will not be disturbed Fig. 2
✔	Boundaries of the property Fig. 2
✔	Locations where construction activities will occur, noting any phasing Civil Sheets
✔	Locations where sediment or soil will be stockpiled Civil Sheets
✔	Locations of any crossings of surface waters NA
✔	Designated points on the site where vehicles will exit onto paved road Civil Sheets
✔	Locations of construction support activity areas covered by the Permit Civil Sheets
✔	Locations of temporary and permanent stormwater control measure SWPPP Civil Sheets
✔	Locations where stabilization control measures are expected to occur Civil Sheets
✔	Areas protected by buffers (i.e., either the 50-foot buffer or other buffer areas retained on site when within 50 feet of perennial water) consistent with Permit section *3.5.1*, as well as the boundary line of all such buffers n/a
✔	Locations of on-site material, waste, borrow areas or equipment storage areas, and other supporting activities (per Permit section 1.2.1.2) Fig 2 and Civil Sheets
✔	Locations of all potential pollutant-generating activities identified on pages 14-15 of this SWPPP Fig 2 and Civil Sheets
✔	Locations of all surface waters and any impaired waters within ¼ mile of the site Fig 2
✔	Stormwater discharge locations, using arrows to indicate discharge directions, including: • locations where stormwater and/or allowable non-stormwater discharges are discharged to a Water of the U.S. • locations of any discharges to municipal separate storm sewer systems (MS4s) from the construction site Fig 2
✔	Areas where final stabilization has been accomplished and no further construction permit requirements apply n/a
✔	Location of trees and boundaries of environmentally sensitive areas and buffer zones to be preserved Civil Sheets

Receiving Waters

Identify the receiving waters.

Receiving Waters
Identify the name of the receiving water(s) and the areal extent and description of wetland or other special aquatic sites at or near the site which will be disturbed or which will receive discharges from disturbed areas of the construction site.
The receiving water for the project area is Burke Creek, a tributary of Lake Tahoe.

Impaired Water		
Is any discharge point from the construction site within ¼ mile of impaired water?	○ Yes	◉ No
If any discharge point from the construction site is within ¼ mile of impaired water, identify any common construction-related pollutants, such as sediment, sediment-related parameters, and nutrients (including nitrogen and phosphorous), listed on the 303(d) list that may potentially be discharged from the construction site and describe additional or enhanced control measures to minimize discharges of these pollutants. The 303(d) list can be found on the Nevada Division of Environmental Protection (NDEP), Bureau of Water Quality Planning (BWQP) website (http://ndep.nv.gov/bwqp/303dlist2012.htm).		
N/A		

Stormwater Control Measures

Describe the stormwater control measures that will be used during construction activity.

Stormwater Control Measures
Identify and describe all control measures as required by Permit section *3.0* that will be implemented and maintained as part of the construction project to reduce and control pollutants in stormwater discharges from the construction site. Include control measures used at support activity areas.
Control Measure 1
Erosion and Sediment Control- will include drainage inlet protection, filter fence, sediment rolls, perimeter control through construction limit fencing, temporary gravel construction entrances, daily sweeping, dust control via watering truck, and properly stored spoil piles.
Control Measure 2
Site Stabilization- Temporary stabilization will be achieved by above described erosion and sediment control measures, activity sequencing, and utilizing site topography. Permanent stabilization will include revegetation using seed and sod as well as pavement and concrete. The project site will be considered stabilized upon the completion of construction activities
Control Measure 3
Pollution Prevention- The staging and storage area will be the only designated area for any hazardous waste, fueling, a concrete washout facility, and materials storage. All materials shall be stored in accordance with local, state, and federal regulations as well as the NDEP 2015 Construction Stormwater General Permit
Control Measure 4
Dewatering shall occur into existing stormwater treatment facilities.
Control Measure 5
Control Measure 6

Stormwater Control Measures for Major Construction Activities
For each major construction activity at the site, describe the appropriate control measures and the general timing (or sequence) during the construction process that the measure will be implemented and identify the operator responsible for implementation of the control measures. Fill out one table for each major construction activity.

Construction Activity 1
Identify the type of construction activity. Staging and Storage
Describe the control measure(s) used for this activity. The staging and storage area will be the only designated area for any fueling, a concrete washout facility, and materials storage. All materials shall be stored in accordance with local, state, and federal regulations as well as the NDEP 2015 Construction Stormwater General Permit. access to staging area will be via Kahle drive only. BMPs such as perimeter fencing and DI protection will be installed in staging area as shown in figures to prevent run-off.
Describe the general timing/sequence during the construction process that the measure(s) will be implemented. Throughout construction activities
Which operator is responsible for implementation of this control measure? NTCD

Construction Activity 2
Identify the type of construction activity. Grading
Describe the control measure(s) used for this activity. Grading will be off-line from the existing creek. Erosion control measures such as filter fence will be used for temporary controls to protect the existing meadow. Permanent measures include revegetation with seed and sod.
Describe the general timing/sequence during the construction process that the measure(s) will be implemented. BMPs will be installed prior to any grading and remain in place for duration of earth moving activities
Which operator is responsible for implementation of this control measure? NTCD

Construction Activity 3
Identify the type of construction activity. Paving and concrete installation
Describe the control measure(s) used for this activity. Pollution Prevention- The staging and storage area will be the only designated area for any waste, fueling, a concrete washout facility, and materials storage. All materials shall be stored in accordance with local, state, and federal regulations as well as the NDEP 2015 Construction Stormwater General Permit
Describe the general timing/sequence during the construction process that the measure(s) will be implemented. measures will be implemented during pavement and concrete installation. Installation will not occur during storm events or inclement weather.
Which operator is responsible for implementation of this control measure? NTCD

Construction Activity 4
Identify the type of construction activity. utility installation and removal
Describe the control measure(s) used for this activity. Trenching for utility removals will utilize trenching where possible to minimize excavation.
Describe the general timing/sequence during the construction process that the measure(s) will be implemented. BMPs will be installed prior to trenching. Trenching will proceed as quickly as possible to minimize both safety and environmental hazards.
Which operator is responsible for implementation of this control measure?

Construction Activity 5
Identify the type of construction activity. Dewatering
Describe the control measure(s) used for this activity. utilizing existing stormwater basins in the vicinity of Kahle Drive and constructing during dry weather patterns.
Describe the general timing/sequence during the construction process that the measure(s) will be implemented. As necessary during grading activities
Which operator is responsible for implementation of this control measure? NTCD

Construction Activity 6
Identify the type of construction activity.
Describe the control measure(s) used for this activity.
Describe the general timing/sequence during the construction process that the measure(s) will be implemented.
Which operator is responsible for implementation of this control measure?

Potential Pollutant Sources

Identify and describe any pollutant sources expected to be associated with the projec

Potential Pollutant Sources
Identify all potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges from the construction site. Also identify the location of and describe any pollutant sources, including any non-stormwater discharges expected to be associated with the project, from areas other than construction (i.e., support activities including stormwater discharges from dedicated asphalt or concrete plants and any other non-construction pollutant sources such as fueling and maintenance operations, materials stored on-site, waste piles, equipment staging yards, etc.).

Potential Pollutant Source 1
What is the location of the potential pollutant source?
Stormwater discharges from grading areas as show on the plans.
Describe the potential pollutant source.
Sediment could run off in stormwater discharges from temporarily unstable grading areas. Dust could be propagated and sediment could be tracked from temporarily unstable grading areas

Potential Pollutant Source 2
What is the location of the potential pollutant source?
Staging and storage area in Douglas County parking lot, the Lam Watah Trailhead and at the Kahle Wet Basin
Describe the potential pollutant source.
stormwater and non-stormwater discharges from materials storage, fuel, concrete and paving materials

Potential Pollutant Source 3
What is the location of the potential pollutant source?
.Kahle Drive reconstruction
Describe the potential pollutant source.
tracking of sediment offsite by drivers

Potential Pollutant Source 4
What is the location of the potential pollutant source?
Describe the potential pollutant source.

Potential Pollutant Source 5
What is the location of the potential pollutant source?
Describe the potential pollutant source.

Potential Pollutant Source 6
What is the location of the potential pollutant source?
Describe the potential pollutant source.

Potential Pollutant Source 7
What is the location of the potential pollutant source?
Describe the potential pollutant source.

Spill Prevention & Response

Describe procedures to prevent and respond to spills, leaks, and other releases. Other existing spill prevention plans, such as the Spill Prevention Control and Countermeasure (SPCC) plans developed for the construction activity under Part 311 of the Clean Water Act (CWA), or spill control programs otherwise required by NDEP permits for the construction activity, may be referenced provided that a copy of that other plan is kept onsite with the SWPPP. Attach a copy of any referenced plan(s) to the end of the SWPPP.

Container Labeling

Describe procedures for plainly labeling containers (e.g., "Used Oil", "Pesticides", etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response as spills or leaks occur.

Containers will be clearly labeled before arriving on site. Temporary containers will be labeled before use. Material safety data sheets (MSDS) will be kept on site for all necessary materials.

Preventive Measures

Describe preventive measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling.

Construction equipment shall be stored at the designated staging area at the end of each work day. The Contractor will divert concentrated stormwater runoff around equipment, vehicles, and materials staging areas. Tracking control devices will be maintained to and from all work areas to paved areas (e.g. stabilized gravel entrance and rumble strips). All vehicular access from work areas to paved areas will utilize the tracking controls. A concrete washout facility will be maintained within the staging area. All fueling will occur in the designated staging area. The Contractor shall maintain all construction equipment, to prevent oil and fluid leaks. The Contractor shall regularly inspect all equipment and vehicles for fluid leaks. Pallets and secondary containment areas shall be provided for chemicals, drums, or bagged materials that require special controls.

Spill/Leak Stoppage, Containment, and Cleaning

Describe procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases.

All staging areas must a have an appropriate spill response and cleanup kit available and visible at these locations. Should materials spills occur; materials and/or contaminants will be promptly cleaned from the Project site and recycled or disposed of to the satisfaction of NDEP. All on-site construction personnel shall be trained in spill prevention practices and provided visibly available spill containment kits at all staging areas. All Contractors are responsible for instructing their personnel on how to effectively deploy and properly use the spill containment kits.

The Contractor shall store an adequate amount of extra BMP materials such as silt fence, fiber rolls, and gravel bags on site for use during major storm events or accidental water and sewer line utility breaks. In the event of any accidental water and sewer line utility breaks the Contractor shall immediately contact NTCD, who will provide immediate notice to TRPA, NDEP, Douglas County, USFS, and the appropriate utility provider

Identify the name or position of the employee(s) responsible for detecting and responding to spills or leaks.

Meghan Kelly, Nevada Tahoe Conservation District

Spill/Leak Notification

Describe procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under 40 Code of Federal Regulations (CFR) Part 110, 40 CFR Part 117, or 40 CFR Part 302, occurs during a 24-hour period. Contact information shall be in locations that are readily accessible and available.

Facility Personnel

Meghan Kelly, Nevada Tahoe Conservation District 775-524-3481

Emergency Response Agencies

NDEP (775) 687-9485
Tahoe Douglas Fire Protection District 775.588.3591
911

Regulatory Agencies

Tahoe Regional Planning Agency 775-588-4547
Nevada Division of Environmental Protection (775) 687-9485

Waste Management

Describe procedures for handling and disposing of all wastes generated at the sit

Waste Management Procedures

Describe procedures for handling and disposing of all wastes generated at the site, including, but not limited to, clearing and demolition debris, sediment removed from the site, construction and domestic waste, hazardous or toxic waste, and sanitary waste.

The amount of construction materials stored on site shall be minimized. Soil materials shall not be stockpiled on site over a weekend (Saturday, Sunday and Holidays) unless they are completely covered (in accordance with TRPA and NDEP standards, regulations and permits) and tacked down or secured with a 12 inch diameter fiber roll installed around the entire perimeter.

Solid waste dumpsters, if used, shall be covered during storm events and locked at the end of each work day. The dumpster cover will be carefully secured to withstand weather conditions and animal intrusion. The Contractor shall separate wastes and recycle or dispose of them off-site n compliance with local, regional and/or state regulation.

The Project requires the use of heavy mechanical equipment, machinery and materials which have the potential to generate solid and liquid wastes that requires proper disposal. All construction related material waste such as, excess sediment/soil, aggregate, decomposed granite, excess pipe, etc., will be disposed of at a site approved by NTCD, NDEP and TRPA.

The Contractor shall place liquid wastes (i.e. grease, oil, oil filters, antifreeze, cleaning solutions, batteries, hydraulic fluids, transmission fluids, etc.) in proper sealed containers, store the containers in designated storage areas, and ultimately properly dispose or recycle the materials off-site.

Documentation Requirements

Provide the following information.

Notice of Intent (NOI)
Attach, to the end of the SWPPP, a copy of the signed electronic NOI certification page submitted to the NDEP.

Approval Letter
Attach, to the end of the SWPPP, a copy of the approval letter received from the NDEP.

Permit
Attach a copy of the Permit to the end of the SWPPP.

Significant Spills/Leaks/Releases
Describe any incidences of significant spills, leaks, or other releases that resulted in discharges of pollutants in stormwater to a regulated MS4 or waters of the State of Nevada that meet the definition of Waters of the U.S. Include the date of occurrence, the circumstances leading to the release, actions taken in response to the release, and measures taken to prevent recurrence of such releases.

Structural Control Measure Repairs
Attach, to the end of the SWPPP, documentation of repairs made to structural control measures. Such documentation shall include the date(s) of discovery of areas in need of repair/replacement, date(s) that the structural control measure(s) returned to full function, and the justification for any extended repair schedules.

Inspection Reports
Attach, to the end of the SWPPP, all inspection reports including post-storm event inspections.

Corrective Action
Describe any corrective action taken at the site. Include events and dates when problems were discovered and modification occurred.

Buffer Documentation
If the site's disturbance area is located within 50 feet of perennial water, attach buffer documentation to the end of the SWPPP.

Employee Training Records
Attach records of employee training to the end of the SWPPP. Records should include the date training was received.

Plans Required By Other Agencies
The SWPPP may incorporate by reference the appropriate elements of plans required by other agencies. Attach, to the end of the SWPPP, a copy of the requirements incorporated by reference.

DeMinimis Discharges
For DeMinimis discharges, describe the discharge, provide the beginning and end dates of the discharge, and attach a copy of the sampling analysis report to the end of the SWPPP.

DeMinimis Discharge 1	
Start Date	**Description**
_____/_____/_____	
End Date	
_____/_____/_____	

DeMinimis Discharge 2	
Start Date	**Description**
_____/_____/_____	
End Date	
_____/_____/_____	

DeMinimis Discharge 3	
Start Date	**Description**
_____/_____/_____	
End Date	
_____/_____/_____	

Post-Construction Stormwater Management
Describe the stormwater management control measures that will be installed during the construction process to control pollutants in stormwater discharges after construction has been completed.
The project will install new drop inlets and drain pipes along Kahle Drive connecting to existing stormwater basins. The project will crown the road so drainage is more efficient. The project will stabilize any loose soils with vegetation. The project will correct poor quality pavement with a new road surface to reduce pollution.

Inspection, Maintenance, and Corrective Action

Describe the procedures operators will follow for maintaining their stormwater control measures, conducting site inspections, and, where necessary, taking corrective actions, in accordance with Permit sections *3.0 Effluent Limitations Applicable to All Discharges from Construction Sites*, *4.0 Effluent Limitations Applicable to Sites Using Constructed Stormwater Conveyance Channels or Sediment Basins* , and *5.0 Inspections*.

Inspection Procedures

Describe the procedures operators will follow for conducting site inspections.

All areas of disturbed and bare soil, areas used for storage of materials and equipment that are exposed to precipitation, on-site vehicle entrance and exit locations and all on-site erosion and sediment control BMPs shall be routinely inspected. Dewatering equipment shall be inspected daily at a minimum or as necessary to ensure functioning. Inspectors shall keep record daily construction activities and BMP conditions. Inspection of the entire project area will occur prior to storm events and the engineer or NTCD inspector will direct the Contractor to take the appropriate corrective actions.

Identify the personnel responsible for conducting inspections.

Meghan Kelly

Provide the inspection schedule that will be followed based on whether the site is subject to Permit section *5.2 Routine Site Inspection Procedures*, or whether the site qualifies for the reduced inspection frequency in Permit section *5.3 Reduced Inspection Schedule*. If the site qualifies for a reduced inspection schedule in accordance with Permit section *5.3 Reduced Inspection Schedule*, include the beginning and ending dates of the reduced inspection period.

Inspection shall comply with section 5.2 Routine Site Inspection Procedures for the duration of construction activities.

Routine Facility Inspection Documentation

Attach all documented findings of each routine site inspection to the end of the SWPPP. Routine facility inspection documentation requirements are outlined in Permit section *5.4 Routine Facility Inspection Documentation*.

Inspection Results

Attach, to the end of the SWPPP, records of actions taken based on inspection results in accordance with Permit section *5.5 Inspection Results*.

Inspection or Maintenance Checklists
Attach any inspection or maintenance checklists or other forms that will be used to the end of the SWPPP.

Maintenance Procedures
Describe the procedures operators will follow for maintaining their stormwater control measures.
Daily checks of fencing and DI protection. hourly inspections of any pumping outlets, end of week covering of any bare soil piles.

Corrective Action Procedures
Describe the procedures operators will follow for taking any necessary corrective actions.
inform foreman who will direct Contractor's staff to immediately correct.

Additional Information

Provide the following additional information.

Discharges To Water Quality Impaired Waters		
Does the facility discharge to a surface water contained in the current 303(d) *Impaired Water Body* listing issued by the NDEP BWQP that is impaired for (1) sediment or a sediment-related parameter, such as total suspended solids (TSS) or turbidity, and/or (2) nutrients, including impairments for nitrogen and/or phosphorous?	○ Yes	◉ No

If yes, make one of the following demonstrations (check the appropriate box to indicate which one has been selected) and attach such data and technical information to the end of the SWPPP:

☐	That the site will employ measures to prevent the discharge of stormwater pollutant(s) for which the waterbody is impaired; or
☐	That the discharge from the site has no potential to contain the pollutants causing impairment; or
☐	That the discharge is not expected to cause or contribute to an exceedance of an applicable water quality standard.

Control Measure Addition/Repair/Modification

If it is determined, based on an inspection of control measures performed in accordance with the inspection requirements of Permit section *5.0 Inspections*, that installation of additional control measures, or significant repair or modification of existing control measures, is necessary, and implementation before the next storm event is impracticable, document the reason(s) for the delay in the area below.

Identify and describe the modifications made to control measures.

Permit Requirement Waiver
If the project is waived from complying with a specific requirement in Permit section *3.0 Effluent Limitations Applicable to All Discharges from Construction Sites* in accordance with Permit section 3.1.1, document this fact in the area below.

Departures from Design Specifications
Explain any departures from design specifications for the installation of all stormwater control measures.

Culvert Stabilization
If culverts are present on the site, describe the measures implemented to sufficiently minimize the threat of erosion at culvert locations to prevent the formation of rills and gullies during construction.
no culverts present

Unique Construction Disturbances
If the project involves construction approved under a CWA Section 404 permit or construction of a water-dependent structure or water access area (e.g., pier, boat ramp, trail), document this fact in the area below and on the site map.

Linear Construction Projects
For linear construction projects where it is infeasible to comply with the requirements of Permit section *3.5.1.2*, document the rationale for why it is infeasible to do so, and describe any buffer width retained and/or supplemental erosion and sediment controls installed.
For linear projects with rights-of-way that restrict or prevent the use of perimeter controls required by Permit section *3.5.2 Install Perimeter Controls*, identify the areas where it is impracticable to maximize the use of perimeter controls and explain why it is impracticable to do so.

Track-Out
If site conditions make it infeasible to install structural controls to prevent track-out (e.g., linear project along a paved right-of-way), explain why such controls cannot be installed and describe the alternative measures that will be used to prevent, monitor, and remove track-out sediment from paved roadways.

Sediment or Soil Stockpiles
If it is infeasible to place sediment or soil stockpiles away from stormwater conveyances, such as curb and gutter systems, and streets leading to such conveyances, explain why it is infeasible to do so.

Non-Vegetative Stabilization Methods
Describe all non-vegetative methods of stabilization employed at the site.
wood chips and erosion control blanket will all be used as non-vegetative methods of soil stabilization

Discharges to Impaired Waterbodies Without Established Total Maximum Daily Loads
If the site discharges to a water quality-impaired water (contained in the current 303(d) impaired water body listing) for which a Total Maximum Daily Load has not been established, describe the condition for which the water has been listed and include a demonstration that the Best Management Practices that are selected for implementation will be sufficient to ensure that the discharges will not cause or contribute to an exceedance of an applicable State water quality standard.

Sediment Basin Discharges
If the use of outlet structures that withdraw water from the surface of the sediment basin in order to minimize the discharge of pollutants is determined to be infeasible, explain why it is infeasible and attach any supporting documentation to the end of the SWPPP.

Additional Discharge Requirements
Where NDEP determines it is necessary to impose additional requirements on the discharge, attach a copy of any correspondence describing such requirements to the end of the SWPPP, and describe the stormwater control measures that will be used to meet such requirements.

Signature Requirements

Print out the completed SWPPP and sign and date below in accordance with Permit section *7.23 Signature Requirements*. All operators shall also sign and certify the SWPPP in accordance with the Permit signature requirements. Digital signatures are not accepted.

Adherence Statement	
"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."	
Name (print)	**Title**
Signature	**Date**
	_____/_____/_____

Operator 1	
Name (print)	**Title**
Signature	**Date**
	_____/_____/_____

Operator 2	
Name (print)	**Title**
Signature	**Date**
	_____/_____/_____

Operator 3	
Name (print)	**Title**
Signature	**Date**
	_____/_____/_____

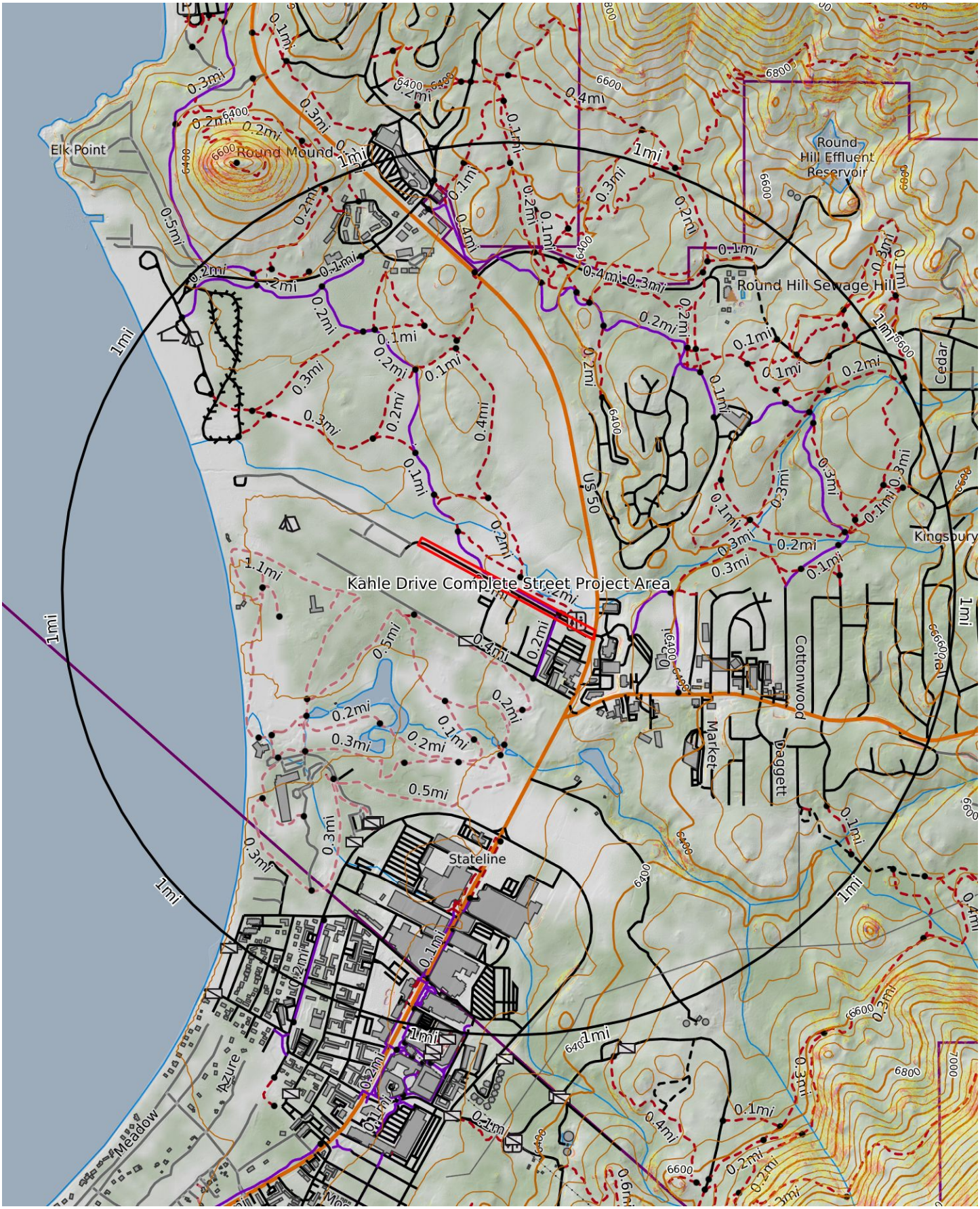


Figure 1: Location Map
WGS84
UTM Zone 11S

CALTOPO

0.5 1.0 1.5 2.0 km

0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 mi

Scale **1:18464** 1 inch = 1539 feet

MN
12.8º

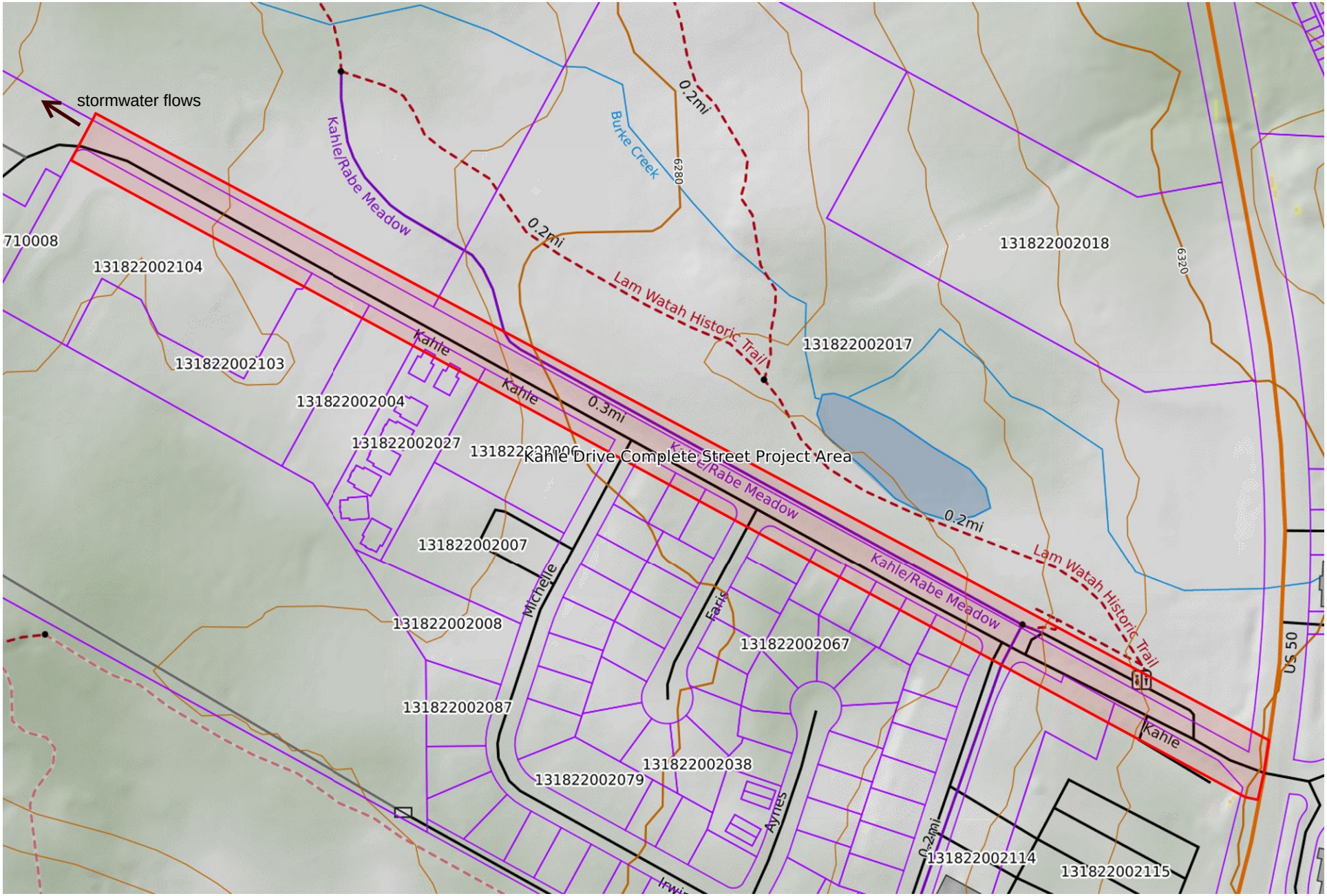


Figure 2: Detail Map
WGS84
UTM Zone 11S

CALTOPO

0.1 0.2 0.3 0.4 0.5 km

0.1 0.2 0.3 mi

Parcels (c) LandGrid

Scale **1:2773** 1 inch = 231 feet

MN
12.8º

APPENDIX A:

EXAMPLE DEWATERING AND DIVERSION DAILY INSPECTION FORM

SWPPP INSPECTION REPORT	Approx. Temperature: _____	Storm Start: _____ (date)
Project: _____	PPT: Y / N	Storm Duration: _____
Inspector: _____	PPT Amount at time of inspection: _____ in.	Time since last storm: _____

DATE: _____ TIME: _____	DAY:	M	T	W	TH	F	SA	SU

Construction Stage: _____

Area of site exposed to storm water runoff: _____

Construction Activities: _____

_____

Inspection Type

Daily ☐ Prior to Predicted Rain ☐ Following Rain Event ☐

Weekly ☐ During Rain Event ☐

Blank=No Inspection NC=Needs Correction, See Observations OK or Check Mark=Meets Standards NA=Not Applicable

1)	Damage to containment dikes or erosion control fencing?	
2)	Improperly installed or ineffective erosion control fencing?	
3)	Unauthorized vehicle access, vehicles accessing designated non-construction areas not subject to disturbance?	
4)	Boundary fence damage or removal?	
5)	Disturbed areas with inadequate erosion prevention and sediment control protection?	
6)	Evidence of any sediment leakage through erosion control fencing or containment dikes?	
7)	Soil piles and other earthen materials which are unprotected or located in a drainage way?	
8)	Spilled and improperly stored chemicals, paint, fuel, oil, solvents, sealants, etc.?	
9)	Upstream runoff diversion structures (are in place and operational)?	
10)	Any evidence of sediment tracking from construction equipment?	
11)	Any signs of soil erosion or deposition down gradient from runoff discharges?	
12)	Sediment accumulation within onsite storm water drainage control facilities, and facilities in need of maintenance?	
13)	Any evidence of non-storm water discharges from the project site? Authorized, illicit, BMP condition?	
14)	Does SWPPP or WPCP require revisions?	
15)	Notable observation at relevant discharge points and downstream locations of the receiving water?	
16)	Observed impacts to the receiving water?	
17)	Photographs taken?	

Date = Defeciency to be addressed O = Observation

Date added	Observation/Inspection	WPCD #	Photo	Date Completed

SIGNATURE: _____ **TITLE:** _____

APPENDIX E

PROJECT PLANS

APPENDIX F

PROJECT PERMITS

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.gov

ATTACHMENT Q
STANDARD CONDITIONS OF APPROVAL FOR GRADING PROJECTS

For any questions regarding information within this packet, please call 775-589-5333 or email TRPA@trpa.gov to speak with a permitting technician.

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. 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 AND 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.

7. 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 ensure compliance with all permit conditions. The security shall include an amount equal to 110% 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 AND 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 unstable 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 form 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 upgrade 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. Limit idling time for diesel powered vehicles exceeding 10,000 GVW and self-propelled equipment exceeding 25 hp to no more than 15 minutes in Nevada and 5 minutes in California, or as otherwise required by state or local permits.

N. Utilize existing power sources (e.g. power poles) or clean-fuel generators rather than temporary diesel power generators wherever feasible.

O. No washing of vehicles or construction equipment, including cement mixers, shall be permitted anywhere on the subject property unless authorized by TRPA in writing.

P. No vehicles or heavy equipment shall be allowed in any stream environment zone or wet areas, except as authorized by TRPA.

Q. Locate construction staging areas as far as feasible from sensitive air pollution receptors (e.g. schools or hospitals).

R. 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 AND 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 dishwaters).

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. Engine doors shall remain closed during periods of operation except during necessary engine maintenance.

N. Stationary equipment (e.g. generators or pumps) shall be located as far as feasible from noise sensitive receptors and residential areas. Stationary equipment near sensitive noise receptors or residential areas shall be equipped with temporary sound barriers.

O. Sonic pile driving shall be utilized instead of impact pile driving, wherever feasible. Pile driving holes shall be predrilled to the extent feasible subject to design engineer's approval.

P. 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.

Q. No trees shall be removed or trimmed without prior TRPA written approval unless otherwise specifically exempted under Chapter 2 of the Code of Ordinances.

R. 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.

S. 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.

T. 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.

U. 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.

V. 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.

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

June 6, 2024

Regulatory Division (SPK-2022-00075)

US Forest Service LTBMU
Attn: Mr. Erick Walker
35 College Drive
South Lake Tahoe, CA 96150-4500
erick.walker@usda.gov

Dear Mr. Erick Walker:

We are responding to your April 4, 2024, pre-construction notification for a Department of the Army (DA) permit for the Burke Creek Rabe Meadow Riparian Restoration project. The approximately 270-acre project site is located in Rabe Meadow, Latitude: 38.97748, Longitude: -119.94365, Round Hill Village, Douglas County, Nevada (Enclosure 1).

Based on the information you provided to this office, the Burke Creek Rabe Meadow Riparian Restoration project involves the discharge of dredged and fill material into 4.15 acres of waters of the U.S. for the construction of restoration of aquatic resources in Burke Creek Rabe Meadow, subject to Section 404 of the Clean Water Act. The specific activities that require DA authorization are the discharge of dredged and fill material to realign Burke Creek into a new high-sinuosity channel with a restored floodplain; and restoration of several manmade features including the Kahle Ditch, Jennings Pond, and remnant ditches. These activities will result in permanent effects to 4.15 acres of riverine, freshwater pond, freshwater forested wetlands, and freshwater emergent wetland aquatic resources. The proposed activities would be conducted in accordance with the “Impact Summary” plans dated May 2, 2024 (Enclosure 2).

We have determined that activities in waters of the U.S. associated with the project are authorized by Nationwide Permit Number (NWP) 27, *Aquatic Habitat Restoration, Enhancement, and Establishment Activities*. You must comply with all terms and conditions of the NWP and applicable regional conditions. Enclosed is information about the NWP terms and conditions (Enclosure 3). You should pay particular attention to General Conditions 11 and 21. In addition, your work must comply with the following special conditions:

1. You shall conduct all work when the project area is dewatered in accordance with the December 2023, Preliminary Dewatering and Diversion Plan, prepared by Nevada Tahoe Conservation District. No work shall be conducted in flowing water (Enclosure 4).

2. You shall comply with all terms and conditions of the enclosed May 25, 2023, Section 401 Water Quality Certification (Enclosure 5).

3. At least 7 days prior to initiation of construction activities in waters of the U.S. authorized by this verification, you shall notify this office in writing of the anticipated start date for the work. No later than 30 calendar days following completion of construction activities in waters of the U.S. authorized by this verification, you shall notify this office in writing that construction activities have been completed.

4. You and your authorized contractor shall allow representatives from this office to inspect the activity authorized by this verification at any time deemed necessary to ensure that work is being or has been accomplished in accordance with the terms and conditions of this verification.

5. You are responsible for all work authorized herein and ensuring that all contractors and workers are made aware and adhere to the terms and conditions of this verification. You shall ensure that a copy of the verification and associated drawings are available for quick reference at the project site until all construction activities in waters of the U.S. authorized by this verification are completed.

6. Prior to commencement of construction activities in waters of the U.S. authorized by this verification, you shall clearly identify the limits of disturbance in the field with highly visible markers (e.g. construction fencing, flagging, silt barriers, etc.). You shall maintain such identification properly until construction is completed and the soils have been stabilized. You are prohibited from any activity (e.g. materials storage) that impacts waters of the U.S. outside of the “net fill” limits as shown on “Impact Summary”, dated May 2, 2024, prepared by Nevada Tahoe Conservation District (Enclosure 2).

7. You are responsible for following the measures listed in the enclosed Programmatic Biological Opinion for Sierra Nevada yellow-legged frog (Enclosure 6).

Within 30 days after completion of the authorized work, you must sign the enclosed Compliance Certification and return it to this office (Enclosure 7).

This verification is valid until March 14, 2026, when the existing NWPs are scheduled to be modified, reissued, or revoked. Furthermore, if you commence or are under contract to commence this activity before the date the NWP is modified, reissued, or revoked, you will have 12 months from the date of the modification, reissuance or revocation to complete the activity under the present terms and conditions. Failure to comply with the general and regional conditions of this NWP, or the project-specific special conditions of this authorization, may result in the suspension or revocation of your authorization.

We would appreciate your feedback on this permit action including your interaction with our staff and processes. For more information about our program or to complete

our Regulatory Program national customer service survey, visit our website at www.spk.usace.army.mil/Missions/Regulatory.aspx.

Please refer to identification number SPK-2022-00075 in any correspondence concerning this project. If you have any questions, please contact Ethan Schindler at the Reno Regulatory Field Office, 300 Booth Street, Room 3050, Reno, Nevada 89509-1328, by email at ethan.w.schindler@usace.army.mil, or by telephone at (775) 799-8235.

Sincerely,

Ethan Schindler
Project Manager
Nevada Section

Enclosures

cc:
Mr. Garth Alling, Sierra Ecotone Solutions, LLC., galling@sierraecotonesolutions.com
Mr. Zachary Carter, Nevada Division of Environmental Protection, zcarter@ndep.nv.gov
Mr. Patrick Smorra, Nevada Division of State Lands, psmorra@lands.nv.gov
Tahoe Regional Planning Agency, planning@washoecounty.gov

COMPLIANCE CERTIFICATION

Permit File Name: Burke Creek Rabe Meadow Riparian Restoration Project

Action ID: SPK-2022-00075

Nationwide Permit Number: 27

Permittee: US Forest Service LTBMU
Attn: Mr. Erick Walker
35 College Drive
South Lake Tahoe, CA 96150-4500

County: Douglas County

Date of Verification: June 6, 2024

Within 30 days after completion of the activity authorized by this permit, sign this certification and return it to the following address:

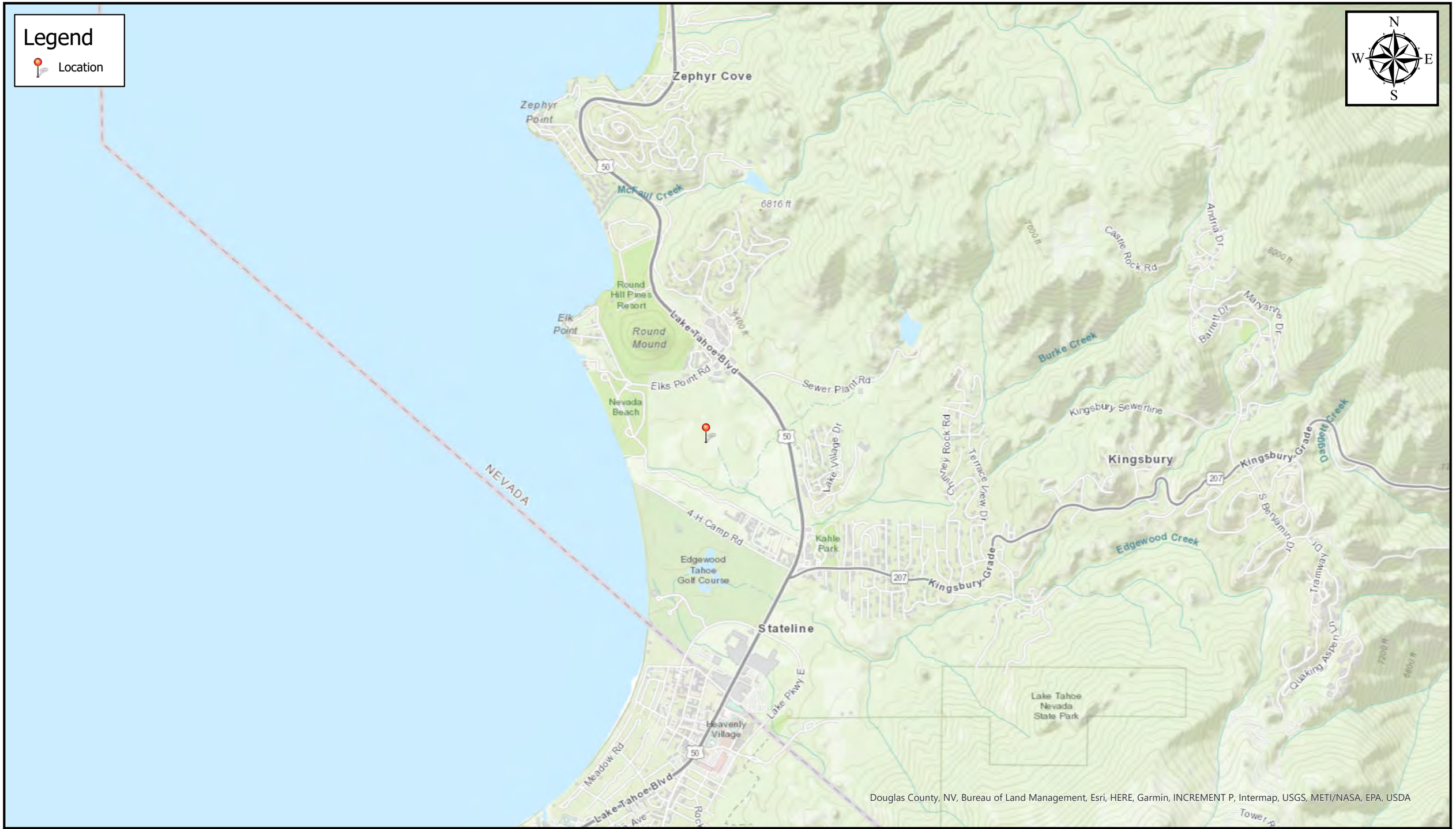
U.S. Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, CA 95814-2922
SPKRegulatoryMailbox@usace.army.mil

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.

Permittee Signature _____ Date _____



SPK-2022-00075

0 0.5 1 2
mi

Map Center: 119.942068°W 38.979581°N

Map Created by: Ethan Schindler

Date: 6/3/2024

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Projection: Mercator Auxiliary Sphere

Enclosure 1

NEVADA BEACH CAMPGROUND

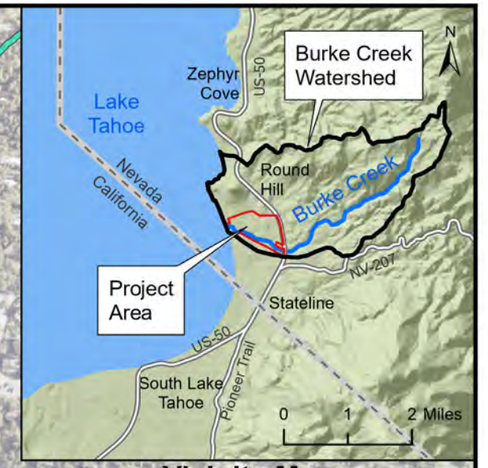
LAKE TAHOE

U.S. HIGHWAY 50

KAHLE DRIVE

38.976
-119.95

38.971
-119.936



Vicinity Map

Map ID	Code	Area (sqft.)	Length (LF)	Total Permanent Fill (CY)
8	PEM1B	401,721	1,082	8
9	PUBHx	37,558	323	2400
10	R4SBC	10,948	811	7
11	PEM1B	17,631	332	17
12	R4SBC	49,875	2,079	2
14	R4SBA	52,121	2,013	410
17	R4SBC	94,428	5,099	253
18	R4SBA	20,614	1,061	401
19	PSS1B	10,201	362	431
23	R4SBA	12,124	779	1
24	R4SBCx	12,179	1,545	350
36	PEM1C	234,458	2,034	20
38	PEM1C	701,036	2,396	106
39	PSS1B	124,947	1,467	20
42	PSS1B	39,193	1,544	12
43	PSS1B	46,895	2,304	325
44	PSS1B	13,071	249	80
47	PSS1B	19,667	778	185
51	PSS1B	24,204	514	12
54	PEM1B	2,391	125	30
56	PSS1B	9,361	447	107
57	PSS1B	5,278	466	22
58	R4SBC	7,369	589	371

Impacts Summary

Burke Creek Rabe Meadow Riparian Restoration Project

Douglas County, Nevada

Legend

- APE (224 ac.)
- Control Point
- Proposed Creation of Aquatic Resources (2.3 ac.)
- Proposed Removal of Aquatic Resources (0.35 ac.)

Earthwork in Ex. Wetlands

- Net Fill (4.15 ac.)
- Net Cut (1.1 ac.)
- BDA/Wood Structure Placement Areas

Ex. Wetland Classification

- Freshwater Emergent Wetland (74.2 ac.)
- Freshwater Forested/Shrub Wetland (13.9 ac.)
- Freshwater Pond (1.6 ac.)
- Riverine (6.9 ac.)
- Lake (1.0 ac.)
- Proposed Box Culvert
- Ex. Culvert (to remain)
- Remove Ex. Culvert

0 500 1,000 1,500 2,000 Feet

N

Scale: 1:6,000 1"=500'
Coordinate System: NAD83 State Plane Nevada West Feet
Aerial Imagery Source: EagleView, 4/17/2022
Preparation Date: 5/2/2024
Prepared By: Patrick Johnson, Nevada Tahoe Conservation District

Nevada Tahoe Conservation District

Enclosure 2

U S Army Corps of Engineers
Sacramento District

2021 Nationwide Permit Summary

33 CFR Part 330; Issuance of Nationwide Permits – February 25, 2022

27. Aquatic Habitat Restoration, Enhancement, and Establishment Activities. Activities in waters of the United States associated with the restoration, enhancement, and establishment of tidal and non-tidal wetlands and riparian areas, the restoration and enhancement of nontidal streams and other non-tidal open waters, and the rehabilitation or enhancement of tidal streams, tidal wetlands, and tidal open waters, provided those activities result in net increases in aquatic resource functions and services.

To be authorized by this NWP, the aquatic habitat restoration, enhancement, or establishment activity must be planned, designed, and implemented so that it results in aquatic habitat that resembles an ecological reference. An ecological reference may be based on the characteristics of one or more intact aquatic habitats or riparian areas of the same type that exist in the region. An ecological reference may be based on a conceptual model developed from regional ecological knowledge of the target aquatic habitat type or riparian area.

To the extent that a Corps permit is required, activities authorized by this NWP include, but are not limited to the removal of accumulated sediments; releases of sediment from reservoirs to maintain sediment transport continuity to restore downstream habitats; the installation, removal, and maintenance of small water control structures, dikes, and berms, as well as discharges of dredged or fill material to restore appropriate stream channel configurations after small water control structures, dikes, and berms are removed; the installation of current deflectors; the enhancement, rehabilitation, or re-establishment of riffle and pool stream structure; the placement of in-stream habitat structures; modifications of the stream bed and/or banks to enhance, rehabilitate, or re-establish stream meanders; the removal of stream barriers, such as undersized culverts, fords, and grade control structures; the backfilling of artificial channels; the removal of existing drainage structures, such as drain tiles, and the filling, blocking, or reshaping of drainage ditches to restore wetland hydrology; the installation of structures or fills necessary to restore or enhance wetland or stream hydrology; the construction of small nesting islands; the construction of open water areas; the construction of oyster habitat over unvegetated bottom in tidal waters; coral restoration or relocation activities; shellfish seeding; activities needed to reestablish vegetation, including plowing or discing for seed bed preparation and the planting of appropriate wetland species; re-establishment of submerged aquatic vegetation in areas where those plant communities previously existed; reestablishment of tidal wetlands in tidal waters where those wetlands previously existed; mechanized land clearing to remove non-native invasive, exotic, or nuisance vegetation; and other related activities. Only native plant species should be planted at the site.

This NWP authorizes the relocation of non-tidal waters, including non-tidal wetlands and streams, on the project site provided there are net increases in aquatic resource functions and services. Except for the relocation of non-tidal waters on the project site, this NWP does not authorize the conversion of a stream or natural wetlands to another aquatic habitat type (e.g., the conversion of a stream to wetland or vice versa) or uplands. Changes in wetland plant communities that occur when wetland hydrology is more fully restored during wetland rehabilitation activities are not considered a conversion to another aquatic habitat type. This NWP does not authorize stream channelization. This NWP does not authorize the relocation of tidal waters or the conversion of tidal waters, including tidal wetlands, to other aquatic uses, such as the conversion of tidal wetlands into open water impoundments.

Compensatory mitigation is not required for activities authorized by this NWP since these activities must result in net increases in aquatic resource functions and services.

Reversion. For enhancement, restoration, and establishment activities conducted:

(1) In accordance with the terms and conditions of a binding stream or wetland enhancement or restoration agreement, or a wetland establishment agreement, between the landowner and the U.S. Fish and Wildlife Service (FWS), the Natural Resources Conservation Service (NRCS), the Farm Service Agency (FSA), the National Marine Fisheries Service (NMFS), the National Ocean Service (NOS), U.S. Forest Service (USFS), or their designated state cooperating agencies;

(2) as voluntary wetland restoration, enhancement, and establishment actions documented by the NRCS or USDA Technical Service Provider pursuant to NRCS Field Office Technical Guide standards; or

(3) on reclaimed surface coal mine lands, in accordance with a Surface Mining Control and Reclamation Act permit issued by the Office of Surface Mining Reclamation and Enforcement (OSMRE) or the applicable state agency, this NWP also authorizes any future discharge of dredged or fill material associated with the reversion of the area to its documented prior condition and use (i.e., prior to the restoration, enhancement, or establishment activities).

The reversion must occur within five years after expiration of a limited term wetland restoration or establishment agreement or permit, and is authorized in these circumstances even if the

discharge of dredged or fill material occurs after this NWP expires. The five-year reversion limit does not apply to agreements without time limits reached between the landowner and the FWS, NRCS, FSA, NMFS, NOS, USFS, or an appropriate state cooperating agency. This NWP also authorizes discharges of dredged or fill material in waters of the United States for the reversion of wetlands that were restored, enhanced, or established on prior-converted cropland or on uplands, in accordance with a binding agreement between the landowner and NRCS, FSA, FWS, or their designated state cooperating agencies (even though the restoration, enhancement, or establishment activity did not require a section 404 permit). The prior condition will be documented in the original agreement or permit, and the determination of return to prior conditions will be made by the Federal agency or appropriate state agency executing the agreement or permit. Before conducting any reversion activity, the permittee or the appropriate Federal or state agency must notify the district engineer and include the documentation of the prior condition. Once an area has reverted to its prior physical condition, it will be subject to whatever the Corps Regulatory requirements are applicable to that type of land at the time. The requirement that the activity results in a net increase in aquatic resource functions and services does not apply to reversion activities meeting the above conditions. Except for the activities described above, this NWP does not authorize any future discharge of dredged or fill material associated with the reversion of the area to its prior condition. In such cases a separate permit would be required for any reversion.

Reporting. For those activities that do not require pre-construction notification, the permittee must submit to the district engineer a copy of:

(1) The binding stream enhancement or restoration agreement or wetland enhancement, restoration, or establishment agreement, or a project description, including project plans and location map;

(2) the NRCS or USDA Technical Service Provider documentation for the voluntary stream enhancement or restoration action or wetland restoration, enhancement, or establishment action; or

(3) the SMCRA permit issued by OSMRE or the applicable state agency.

The report must also include information on baseline ecological conditions on the project site, such as a delineation of wetlands, streams, and/or other aquatic habitats. These documents must be submitted to the district engineer at least 30 days prior to commencing activities in waters of the United States authorized by this NWP.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing any activity (see general condition 32), except for the following activities:

(1) Activities conducted on non-Federal public lands and private lands, in accordance with the terms and conditions of a binding stream enhancement or restoration agreement or wetland enhancement, restoration, or establishment agreement between the landowner and the FWS, NRCS, FSA, NMFS, NOS, USFS or their designated state cooperating agencies;

(2) Activities conducted in accordance with the terms and conditions of a binding coral restoration or relocation agreement between the project proponent and the NMFS or any of its designated state cooperating agencies;

(3) Voluntary stream or wetland restoration or enhancement action, or wetland establishment action, documented by the NRCS or USDA Technical Service Provider pursuant to NRCS Field Office Technical Guide standards; or

(4) The reclamation of surface coal mine lands, in accordance with an SMCRA permit issued by the OSMRE or the applicable state agency.

However, the permittee must submit a copy of the appropriate documentation to the district engineer to fulfill the reporting requirement. (Authorities: Sections 10 and 404).

Note: This NWP can be used to authorize compensatory mitigation projects, including mitigation banks and in-lieu fee projects. However, this NWP does not authorize the reversion of an area used for a compensatory mitigation project to its prior condition, since compensatory mitigation is generally intended to be permanent.

A. Regional Conditions

1. **Regional Conditions for California**
2. **Regional Conditions for Nevada and Utah**

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 or her 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. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

☐ 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, storm water management activities, and temporary and permanent road crossings, 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, or during low tides.

☐ 13. **Removal of Temporary Fills**. Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. 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**.

☐ (a) No NWP 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.

☐ (b) If a proposed NWP activity will 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, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

☐ (c) 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). Information on these rivers is also available at: https://www.rivers.gov/.

☐ 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 designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of "effects of the action" for the purposes of ESA section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA section 7 regarding "activities that are reasonably certain to occur" and "consequences caused by the proposed action."

☐ (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

☐ (c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, 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 species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. 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. For activities where the non-Federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA section 7 consultation or conference 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 or conference with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

☐ (e) Authorization of an activity by an 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 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) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7

consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

☐ (g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at https://www.fws.gov/ or https://www.fws.gov/ipac/ and https://www.fisheries.noaa.gov/topic/endangered-species-conservation respectively.

☐ 19. **Migratory Birds and Bald and Golden Eagles**. The permittee is responsible for ensuring that an action authorized by an NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

☐ 20. **Historic Properties**.

☐ (a) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places 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 (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

☐ (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might 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 might have the potential to be affected by the proposed NWP activity 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 properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, 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 commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

☐ (d) Where the non-Federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and has 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 to historic properties or that NHPA section 106 consultation has been completed. For non-federal permittees, 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. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity 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 110(k) of the NHPA (54 U.S.C. 306113) 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**. Permittees that discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by an NWP, they must immediately notify the district engineer of what they 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, 52, 57 and 58 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, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines 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 the individual and cumulative adverse environmental effects are no more than 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 individual and cumulative adverse environmental effects are no more than 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 environmental effects of the proposed activity are no more than minimal, and provides an activity-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 only minimal adverse environmental effects.

☐ (d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-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 environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-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 only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

☐ (e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. 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 restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting 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 minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

☐ (f) 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 no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

☐ (2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

☐ (3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

☐ (4) 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) through (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)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

☐ (5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

☐ (6) 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 (see 33 CFR 332.4(c)(1)(ii)).

☐ (g) 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 NWP activity 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 an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

☐ (h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible 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.

☐ (i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert 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 environmental effects of the activity to the no more than 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 or federal, 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**.

☐ (a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA section 401, a CWA section 401 water quality certification for the proposed discharge must

be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed discharge in order for the activity to be authorized by an NWP.

☐ (b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA section 401, the proposed discharge is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge, the permittee must submit a copy of the certification to the district engineer. The discharge is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been satisfied by the issuance of a water quality certification or a waiver.

☐ (c) The district engineer or certifying authority 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)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an NWP. 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 CWA 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 authorized, subject to the following restrictions:

☐ (a) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States cannot 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.

☐ (b) If one or more of the NWPs used to authorize the single and complete project has specified acreage limits, the acreage loss of waters of the United States authorized by those NWPs cannot exceed their respective specified acreage limits. For example, if a commercial development is constructed under NWP 39, and the single and complete project includes the filling of an upland ditch authorized by NWP 46, the maximum acreage loss of waters of the United States for the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States due to the NWP 39 and 46 activities cannot exceed 1 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 implementation of 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 activity 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 activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

☐ 31. **Activities Affecting Structures or Works Built by the United States**. If an NWP activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission and/or review is not authorized by an NWP until the appropriate Corps office issues the section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

☐ 32. **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 are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might 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 Act (see 33 CFR 330.4(g)) has been completed. 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 activity;

☐ (3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

☐ (4)

☐ (i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and 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, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures.

☐ (ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project, and does not change those non-PCN NWP activities into NWP PCNs.

☐ (iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity 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);

☐ (5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial and intermittent 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 wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

☐ (6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed 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 environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

☐ (7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

☐ (8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

☐ (9) For an activity that will 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, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and

☐ (10) For an NWP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

☐ (c) Form of Pre-Construction Notification: The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

☐ (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 NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

☐ (2) Agency coordination is required for: (i) 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; (ii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iii) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

☐ (3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, 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 notify the district engineer via telephone, facsimile

transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental 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 that the net adverse environmental effects of the proposed activity are no more than 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.

☐ (4) 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.

☐ (5) 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. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the single and complete crossings of waters of the United States that require PCNs 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 of waters of the United States authorized by an NWP. If an applicant requests a waiver of an applicable limit, as provided for in NWPs 13, 36, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects.

☐ 2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by an NWP and whether those cumulative adverse environmental effects are no more than minimal. 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 or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

☐ 3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters. The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than 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 environmental effects are no more than 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 that the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the

district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

☐ 4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity 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 activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity 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 environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory 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 (see general condition 31).

E. Nationwide Permit 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 into waters of the United States.

Ecological reference: A model used to plan and design an aquatic habitat and riparian area restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on the structure, functions, and dynamics of an aquatic habitat type or a riparian area type that currently exists in the region where the proposed NWP 27 activity is located. Alternatively, an ecological reference may be based on a conceptual model for the aquatic habitat type or riparian area type to be restored, enhanced, or established as a result of the proposed NWP 27 activity. An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

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.

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.

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. The loss of stream bed includes the acres of stream bed that are permanently adversely affected by filling or excavation 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 or wetlands 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. 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 that do not require Department of the Army authorization, such as 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.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. 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 flowing or standing 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: The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has surface water flowing continuously year-round during a typical year.

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 course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next 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 jurisdictional 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 jurisdictional wetland that is inundated by tidal waters. 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 channel ward of the high tide line.

Tribal lands: Any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

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 "water of the United States." If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)).

Final 2021 Nationwide Permit (NWP) Regional Conditions for the States of Nevada and Utah

(Effective February 25, 2022 until March 14, 2026)

A. Regional Conditions for the States of Nevada and Utah:

1. The permittee shall submit a pre-construction notification (PCN), in accordance with General Condition 32, in the following circumstances:

a. Activities involving new bank stabilization that do not incorporate bioengineering techniques. Bioengineering techniques include using live plants alone or in combination with dead or inorganic materials, including rock, sand, or gravel;

b. Activities resulting in a discharge of dredged or fill material in waters of the U.S. on Tribal Lands; and,

c. Activities involving the permanent channelization, realignment, or relocation of streams.

2. The use of NWPs 4, 5, 7, 12 - 15, 17, 18, 21 - 23, 25, 29 – 31, 33, 34, 39 - 51, 57, or 58, authorizing the discharge of dredged and/or fill material is prohibited:

a. in peatlands[1] containing histosols, including bogs and fens; and,

b. below the ordinary high-water mark of the Great Salt Lake containing bioherms (microbialites).

B. 401 Water Quality Certification (401 WQC) Regional Conditions for Nevada:

1. For NWPs 3, 5 – 7, 13, 14, 18 – 20, 23, 25, 27, 31 – 33, 36 – 38, 41, 45, 46 and 59, on **tribal lands within U.S. Environmental Protection Agency (EPA) Region 9[2] boundaries in the State of Nevada**, the permittee shall comply with all terms and conditions of the attached October 12, 2021, 401 WQC granted by the U.S. EPA, Region 9.

[1]A peatland is defined as a wetland with saturated organic soil (greater than or equal to 16 inches in thickness) that is classified as a histosol in the Natural Resources Conservation Service (NRCS) Field Indicators of Hydric Soils in the United States (Version 8.0, 2016). A copy of the document can be obtained from the NRCS at: http://www.nrcs.usda.gov/Internet/_DOCUMENTS/nrcs142p2_053171.pdf

[2]EPA, Region 9 401 WQC does not apply to activities proceeding in the territories of the 25 tribes in Region 9 that have been approved as Section 401 certifying authorities – the Navajo Nation, Paiute-Shoshone of the Bishop Community, Big Pine Paiute-Shoshone Tribe, Twenty-Nine Palms Band of Mission Indians, Hoopa Valley Tribe, Hopi Tribe, Pyramid Lake Paiute Tribe, Dry Creek Rancheria of Pomo Indians, Pala Band of Mission Indians, Cortina Band of Wintun Indians, Walker River Paiute Tribe, Yerington Paiute, Duck Valley, Confederated Tribes of the Goshute Reservation, Gila River Indian Community, San Carlos Apache, Morongo Band of Mission Indians, Big Pine Paiute Tribe of Owen Valley, Rincon Band of Luiseno Indians, Cabazon, Quartz Valley, Karuk, White Mountain Apache Tribe, Table Mountain Rancheria, Resighini Rancheria, La Posta Band of Diegueno Mission Indians. In limited circumstances some lands within tribal boundaries fall outside a tribe's Section 401 certifying authority and are subject to this certification.

2. For NWP 43, on **tribal lands within U.S. Environmental Protection Agency (EPA) Region 9[2] boundaries in the State of Nevada**, the permittee shall comply with all terms and conditions of the attached December 11, 2020, 401 WQC granted by the U.S. EPA, Region 9.

C. 401 Water Quality Certification (401 WQC) Regional Conditions for Utah:

1. For all NWPs, except those that involve dam maintenance/rehabilitation or reservoir dewatering, on **non-tribal lands within the State of Utah**, the permittee shall comply with all terms and conditions of the attached December 8, 2020, 401 WQC granted by the State of Utah, Department of Environmental Quality.

2. For NWPs 3, 5 – 7, 13 – 15, 18 – 20, 23, 25, 27, 30 – 33, 36 – 38, 41, 45, 46, and 59, on **Indian country[3] in the State of Utah (except Indian country lands of the Navajo Nation and the Confederated Tribes of the Goshute Reservation)** the permittee shall comply with all terms and conditions of the attached October 12, 2021, 401 WQC granted by the U.S. EPA, Region 8.

3. For NWPs 3, 5 – 7, 13 – 15, 18 – 20, 23, 25, 27, 30 – 33, 36, 38, 41, 43, 45, 46, 57, and 59, except NWPs applied "after-the-fact" (i.e., after the discharge has occurred) or to NWPs where a waiver on limits has been granted by the District or Division Engineer, on the **Ute Mountain Ute Reservation in the State of Utah**, the permittee shall comply with all terms and conditions of the attached December 14, 2020, 401 WQC granted by Ute Mountain Ute Tribe.

[3]Indian country in Utah generally includes: (1) lands within the exterior boundaries of the following Indian reservations located within Utah, in part or in full: the Goshute Reservation, the Navajo Indian Reservation, the reservation lands of the Paiute Indian Tribe of Utah (Cedar Band of Paiutes, Kanosh Band of Paiutes, Koosharem Band of Paiutes, Indian Peaks Band of Paiutes, and Shivwits Band of Paiutes), the Skull Valley Indian Reservation, the Uintah and Ouray Reservation (subject to federal court decisions removing certain lands from Indian country status within the Uintah and Ouray Reservation), and the Washakie Reservation; (2) any land held in trust by the United States for an Indian tribe; and (3) any other areas that are "Indian country" within the meaning of 18 U.S.C. section 1151.

Burke Creek Rabe Meadow Riparian Restoration Project - Dewatering Action Summary

Action	Year	Anticipated Start Month	Anticipated End Month	Activity	Anticipated Hydrology Concerns	Dewatering/Mitigation measures	Diversion Length (ft)	Diversion Description	Pumps required on-site	Min. Hose Length (LF)
1a	2024	May	May	Replace existing degraded CMP below campground road with concrete arch culvert.	Located adjacent to ex. Burke Creek Channel, located in active flow path, High groundwater table.	For culvert at NV Beach Campground Road, a clear water diversion required if flows are present. Groundwater pumping to forest to east or upland area north of creek.	20	Use 2" pump to pump flows around to flexible hose and outlet structures/dissapator	1	50
1b	2024	May	May	Construction of hardened consruction entrance from Nevada Beach Campground Road to DCLTSA Pump Station. Construct parking improvements and access road from station to edge of Burke Creek (crossing of creek with culverts to be installed during action 5a)	Located adjacent to ex. Burke Creek Channel, located in active flow path, High groundwater table.	For access from NV Beach, dewatering of creek not required. Very heavy focus during construction of ensuring adequate BMPs are in place. Pumps on site to pump groundwater to forest upland to east.	N/A	Use 2" pump to pump flows around to flexible hose and outlet structures/dissapator	1	200
2	2024	May	June	Construction of new channel and inset floodplain between ex. DCLTSA access road and Lake Tahoe barrier beach	Groundwater, Lake Tahoe Water Level influence, Surface flows in Kahle Ditch. Proximity to Lake Tahoe and popular recreation site.	Plug existing culvert and install coffer dam in Kahle Ditch upstream of sewer plant road to ensure water flows to north into Burke Creek. Pump groundwater to sandy upland to north, willows east of access road, upland area to east	N/A	N/A	4	600
3	2024, 2025	May	September	Construct BDAs, post-assisted log structures, and willow staking in Burke Creek and adjacent meadow	Creek flows, Wet Surface Access	Installation of small coffer dams surrounding work area. Pump 50% of water out of work area to adjacent wet meadow (50' min from channel). Visual monitoring and hourly grab samples of turbidity downstream.	N/A	N/A	2	100
4	2024	June	August	Construction of water quality basin at end of Kahle Drive	Groundwater	Pumping of groundwater	N/A	N/A	3	100
5a	2024	July	September	Upstream 400' from DCLTSA access road to Rabe Meadow. Activites include restoration of Burke Creek, removal of Kahle Ditch, construction of new DCLTSA access road crossing of creek/SEZ.	Creek Flows,multi-thread channels, groundwater flows, culvert footing installation	1. Pumping as needed while hand crew works in middle of Rabe Meadow to route Burke Creek away from Tahoe Beach Club and along historic route in center of meadow. 2. Pumping as needed to fill Kahle Ditch. 3. Diversion of Burke Creek using pipe around active work area to existing Burke Creek Channel downstream. Dewatering of excavation area for culvert footing installation. Diversion can be removed as long as new outlet channel is blocked with plastic-wrapped sand bags.	420 LF	Water tight 12" diameter pipe with capacity of 1 cfs, rock outfall in a section of channel that will be decommissioned in September	5	500
5b	2024	July	September	SEZ restoration and Kahle Ditch removal for 390' upstream of 5a.	Creek Flows,multi-thread channels, groundwater flows	1. Pumping as needed while hand crew works in middle of Rabe Meadow to route Burke Creek away from Tahoe Beach Club and along historic route in center of meadow. 2. Pumping as needed to fill Kahle Ditch.	n/a	Water to be diverted from project area through existing channels in middle of Rabe Meadow. Coffer dams to be placed in select locations to block flows from ditch.	5	500
5c	2024	July	September	SEZ restoration and Kahle Ditch removal for 1600' upstream of 5b to Kahle Drive.	Multi-thread channels, groundwater flows	Pumping as needed to fill Kahle Ditch.	N/A	N/A	5	500
6	2024	August	August	Excavate bypass channel to disconnect Burke Creek from Jennings Pond	Groundwater, Burke Creek Flows, Beaver activity	This action is the construction of the dewatering channel for Jennings Pond. NO SOONER THAN AUGUST 7th, install cofferdam on northeast side of Jennings Pond. Engineer will mark out location to limit disturbance to resident beaver population	130 LF	4' wide channel lined with tear proof fabric, 2% slope	4	600
7	2024	August	September	Jennings Pond restoration	Groundwater, Jennings Pond water	NO SOONER THAN AUGUST 21st, use pumps and dirtbags to dewater pond area to dry areas or existing stormwater infrastructure. Sumps may need to be constructed for dewatering. At end of grading remove coffer dam and diversion installed with action 6. Once Burke Creek and Jennings Pond are receiving flow, decommission diversion channel and lower floodplain in this area.	N/A	N/A	4	600
8	2024	September	October	Remove DCLTSA access road between Tahoe Beach Club and upstream most box culvert in Nevada Beach Campground. Connect channel built in Action 2 with channel built in Action 5 by removing sand bags and/or pumping partial flows into channel.	Groundwater, surface flows to newly constructed channel, proximity to Lake Tahoe	Install coffer dam and pumps at downstream end of new Burke Creek alignment near Lake Tahoe and designate upland pumping area. Remove access road within new floodplain and construct channel section and floodplain through old road alignment.	N/A	N/A	4	200
9	2024 or 2025	June	September	Filling of ephemeral ditches in meadows/forests to north of Burke Creek	Groundwater, surface flows in the event of storms	Construct in dry season and with favorable weather forecast. Keep pumps on site during construction and use as needed for dewatering	N/A	N/A	4	100
10	2024 or 2025	June	September	Trail improvements	Groundwater, surface flows in the event of storms	Construct in dry season and with favorable weather forecast. Keep pumps on site during construction and use as needed for dewatering	N/A	N/A	4	100
11	2024 or 2025	Sep-23	May-24	Remove 2 upstream box culverts and partially fill existing Burke Creek alignment upstream of middle culvert	Groundwater	Pumping of groundwater seepage and flows from culvert. Burke Creek flows will be flowing through channel constructued in action 2	N/A	N/A	4	200
12	2024	July	September	Construction in portion of riparian area adjacent to Kahle Basin	Groundwater	Pumping of groundwater to Kahle Basin	N/A	N/A	4	100

Rev 12/2023

Nevada Division of Environmental Protection
Clean Water Act Section 401 Water Quality Certification

The Nevada Division of Environmental Protection submits this 401 Water Quality Certification (Certification) for:

Burke Creek and Rabe Meadow Riparian Restoration (NV-401-23-011; SPK-2022-00075) proposed by Nevada Tahoe Conservation District.

This project is located within Rabe Meadow and Burke Creek, a perennial tributary to Lake Tahoe, in Douglas County, Nevada and proposes work in waters of the United States that are within the State of Nevada's jurisdiction. This Certification is formatted as follows:

- **A.** Proposed Project General Information
- **B.** General Conditions (including statutory citations)
- **C.** Special Conditions (including statutory citations)
- **D.** Condition Statements of Necessity

Nevada Division of Environmental Protection has examined the information furnished by the applicant and certifies that there is reasonable assurance that discharge from the proposed project will comply with water quality requirements (Nevada Revised Statute (NRS) Chapter 445A, Nevada Administrative Code (NAC) Chapter 445A, and Clean Water Act Sections 301, 302, 303, 306, and 307) as proposed, provided that the project proponent complies with all Certification conditions listed in Sections B, C, and D. All Certification conditions contained herein shall be incorporated into the federal license or permit for the proposed project and are enforceable by the federal permitting agency (40 CFR §121.10). All exceptions and conditions are justified as required by 40 CFR §121.7(d), with statements justifying why an exception or condition is necessary to assure that the discharge from a proposed project will comply with water quality requirement(s) and citations to appropriate federal and/or State water quality law that authorizes the condition.

A. Proposed Project General Information

Project Number:	NV-401-23-011; SPK-2022-00075
Project Name:	Burke Creek and Rabe Meadow Riparian Restoration
Project Proponent:	Nevada Tahoe Conservation District
Project Proponent Address:	P.O. Box 915 Zephyr Cove, Nevada 89448
Federal Permit Description:	Nationwide Permit 27 - Aquatic Habitat Restoration, Enhancement, and Establishment Activities
Pre-Filing Meeting Request Date:	6/17/2022
Certification Request Date:	3/31/2023
Reasonable Period of Time Deadline:	5/31/2023
NDEP Certification Determination:	Certification with Conditions
Date Certification Determination Submitted to Federal Agency:	5/25/2023

Amount of fill or excavation in waters of the U.S. (linear feet, acres, and/or cubic yards):	Temporary: 14 yd^3 (temporary coffer dams)	Permanent: 980 yd^3 (excavation) 7,990 yd^3 (fill)
Amount of dredge material in waters of the U.S. (linear feet, acres, and/or cubic yards):	Temporary: 0 yd^3	Permanent: 0 yd^3
Total impact to waters of the U.S. (linear feet, acres, and/or cubic yards):	56.7 acres	
Project scope of work summary:	The purpose of this project is to improve water quality, restore riparian and meadow vegetation, and improve aquatic and terrestrial habitats by restoring hydrologic and ecologic function to degraded portions of Burke Creek and Rabe Meadow in Douglas County, Nevada. This project will utilize Nationwide Permit 27 (Aquatic Habitat Restoration, Enhancement, and Establishment Activities) to realign Burke Creek incorporating a new channel with a restored floodplain within Rabe Meadow and a new outlet to Lake Tahoe. Restoration techniques will include construction of a new high-sinuosity channel and a new creek outlet to Lake Tahoe, removal of meadow fill to expand the riparian area, native plant revegetation, removal of several historic ditches and an artificial pond, construction of improvements to existing pedestrian trails in riparian areas, construction of stormwater improvements for Kahle Drive, and installation of beaver dam analogs (BDA), post-assisted log structures (PALS), and similar in-channel structures. This project will result in a net increase of 1.5 acres of aquatic resources upon project completion. A Dewatering and Diversion Plan has been developed for the project to describe the methods of managing stream flows, groundwater flows, and seepage flows to maintain surface water quality during project implementation. All erosion control measures shall meet or exceed the requirements of the Tahoe Regional Planning Agency (TRPA). The project is anticipated to take place May 1 through October 15, 2023, and May 1 – July 1, 2024.	

A detailed project description, including measures to ensure that discharges to waters of the U.S. do not significantly impact water quality, is included in the Certification Request and in additional information attached to the Certification Request.

B. General Conditions

Condition Number	Condition Title	Condition Description and Reference to Federal Law, and/or State, and/or Water Quality Standard
1	Permits and Licenses	All other required federal and State permits or licenses must be obtained prior to construction commencement to ensure compliance with all federal and State regulations (NRS 445A.300 - 445A.730; NAC 445A.228).
2	Pre-Construction Inspection	Prior to initial operation under a federal license or permit which NDEP has issued Certification, NDEP shall be allowed to review the manner in which the facility or activity shall be operated or conducted for the purposes of assuring that applicable effluent limitations or other applicable water quality requirements will not be violated (40 CFR §121.11; NRS 445A.655).
3	Water Quality Standards/Beneficial Uses	Any point source discharge associated with the proposed project shall not exceed State water quality standards or impair the beneficial uses of any water of the State. Beneficial uses define the water quality criteria required to protect the uses of a waterbody and exceedances are a violation of State law. No exceedances of water quality standards or impairment of beneficial uses of the waterbody are permitted (NRS 445A.520; NRS445A.720; NAC 445A.118 - 445A.2234).

4	High Quality Waters	Any surface waters of the State whose quality is higher than the applicable water quality standards, as of the date when those standards become effective, must be maintained in their higher quality. No discharges of a pollutant from a point source may be made which will result in lowering the quality of these waters (NRS 445A.565).
5	Waters with Approved TMDLs and 303(d) Listed Waters	If the proposed project would discharge from a point source into a waterbody listed as impaired and on the current 303(d) list or has an approved TMDL, no discharges of a pollutant from a point source may be made which will result in further degradation of these waters without approval by NDEP. For the most current list of approved TMDLs for Nevada, please refer to NDEP's Water Quality Integrated Report (https://ndep.nv.gov/uploads/water-wqm-docs/IR2022FINAL_Report.pdf). Waters listed as impaired or with approved TMDLs are not meeting the requirements for their designated beneficial uses and NDEP requires review to ensure the proposed project will not exceed numeric or narrative water quality criteria for the waterbody and that BMPs for the project adhere to suggested BMPs outlined in applicable TMDLs (NRS 445A.520; NRS 445A.720; NAC 445A.228).
6	Best Management Practices (BMPs)	Work in or adjacent to waters of the State shall be performed in such a way that minimizes point source discharges of pollutants to the receiving waterbody. Best Management Practices to control and mitigate inputs of pollutants must be implemented and functional prior to commencement of work and shall be maintained and modified throughout the duration of work performed to assure that State water quality standards are met. Pollutants are defined as artificially made or induced alterations to the physical, chemical, or biological integrity of the water (NRS 445A.525; NAC 445A.121).
7	Equipment Use	a. Equipment used during project implementation must be in proper working condition and free from leaks to prevent discharge of debris, oil, grease, scum, and other floating materials to waters of the State which could have adverse effects on the chemical, physical, or biological function of the waterbody (NAC 445A.121). b. Equipment fueling, staging, maintenance, and repair must be conducted in an upland position where discharge of pollutants, incidental to these activities, do not have the potential to pollute waters of the State (NAC 445A.121). c. Equipment operation shall be conducted in a manner that minimizes impacts to waters of the State (NAC 445A.121).
8	Construction	Except those authorized by this Certification, no pollutants associated with this project shall be discharged from a point source or allowed to remain in a position where a pollutant can be carried to waters of the State by any means. Material permitted to enter waters of the State must be stabilized in position to prevent excessive erosion. Pollutants are defined as artificially made or induced alterations to the physical, chemical, or biological integrity of the water. Pollutants can include, but are not limited to soil, sand, silt, rock, dredge material, chemical waste, biological material, heat, concrete, concrete washings, and discarded equipment (NRS 445A.400; NRS 445A.465).
9	Concrete	Wet and uncured concrete shall not be allowed to enter waters of the State. Impermeable covers must be placed over concrete not poured into forms to prevent degradation of waters of the State through seepage and leaching of uncured concrete (NRS 445A.465).
10	Linear Distance Requirement	No proposed project will exceed 300 linear feet of dredge or fill material in waters of the State without approval by NDEP. Projects exceeding 300 linear feet cannot be guaranteed to have minimal single or cumulative adverse effects on the aquatic environment without a review of the proposed project by NDEP (NAC 445A.228; NRS 445A.720; NRS 445A.530).
11	Invasive Species Management	If BMPs incorporate natural materials, such as seeds, mulch, straw bales, or coir logs, they shall be certified as weed free. Certified weed free materials used in BMPs are

		necessary to prevent the spread of invasive species throughout the State (NRS 555.010; NRS 555.150).
12	Revegetation and Site Restoration	Disturbance of native vegetation shall not exceed the minimum necessary to complete the project. If revegetation is proposed to restore and stabilize areas affected during construction, site-appropriate plant materials shall be used with an emphasis on native and/or adapted perennial vegetation. Site stabilization is necessary to prevent erosion, decrease sediment inputs into waters of the State, and reduce encroachment of invasive species in denuded areas since invasive species are associated with modified hydrologic regimes and deleterious impacts to the aquatic environment (NRS 445A.305).
13	Post-Construction	Upon completion of the project, all temporary and excess materials and installments used during construction must be removed from the site to prevent pollutants from entering waters of the State by any means and affected areas must be returned to pre-construction elevations and contours (NRS 445A.465).

C. Special Conditions

Condition Number	Condition Title	Condition Description and Reference to Federal Law, and/or State Law, and/or Water Quality Standard
14	Clean Water Diversion	Impacts to water quality due to excessive sedimentation and/or turbidity shall be minimized through the proposed construction of temporary clean water diversions to bypass live stream flows around construction areas. This condition is necessary to ensure point source discharges of sediment to waters of the U.S. are minimized to the maximum extent practical and will not result in an exceedance of State water quality standards associated with Lake Tahoe Tributaries. Waters must be free from materials from controlled sources in amounts sufficient to change the existing color, turbidity, or other conditions in the receiving stream to such a degree as to create a public nuisance or in amounts sufficient to interfere with any beneficial uses of the water (NRS 445A.720; NRS 445A.530; NRS 445A.525; NAC 445A.1628; NAC 445A.1239; NAC 445A.121).

D. Condition Statements of Necessity

The conditions above assure minimal individual and cumulative adverse effects on the aquatic environment and the continued use and enjoyment of Nevada's water resources for future generations (NRS 445A.720). The State has an obligation to protect the beneficial uses of waterbodies across its jurisdiction through the development of water quality standards and criteria (NRS 445A.530; NAC 445A.118 - 445A.2234). Projects which require a federal license or permit must first receive certification from the state in which the discharge originates, or will originate, to verify that any proposed activity complies with federal, State, and local regulation (40 CFR §121; NRS 445A.620; NRS 445A.720). The conditions above have been developed for the proposed project because these activities have been determined to have an increased potential to pollute waters of the State and steps must be taken to reduce the risks associated with these activities (NRS 445A.525; NRS 445A.565). The State must develop limitations necessary to meet water quality standards, treatment standards, and schedules of compliance established pursuant to the laws of this State and any other federal law or regulation and is required to implement any applicable water quality standard established pursuant to NRS 445A.300 to 445A.730, inclusive, such limitations shall be established and enforced (NRS 445A.530; NAC 445A.118 - 445A.2234).

Pursuant to 40 CFR §121.7(d), narrative statements justifying the conditions listed by number follows below:

1. Water Quality Certification does not negate the requirement for applicants to obtain all other required federal, State, and local permits, licenses, and authorizations prior to construction commencement which ensures compliance with all applicable regulations (NRS 445A.300 - 445A.730; NAC 445A.228).

2. NDEP reserves the right to inspect any activity or facility that requires the use of a federal license or permit prior to initial commencement to ensure that applicable effluent limitations or other applicable water quality requirements will not be violated (40 CFR §121.11; NRS 445A.655).

3. To protect Nevada's water resources, any point source discharge associated with a project occurring in waters of the State shall not exceed State water quality standards or impair the beneficial uses for the applicable waterbody (NRS 445A.520). Beneficial uses define the water quality criteria required to support the existing uses of a waterbody and exceedances are a violation of State law. No exceedances of water quality standards or impairment of beneficial uses of the waterbody are permitted (NRS 445A.520; NRS 445A.720; NAC 445A.118 - 445A.2234).

4. To protect the continued attainment of high-quality waterbodies, no discharges of a pollutant from a point source may be made which will result in lowering the quality of these waters. NDEP requires review to ensure the proposed project will not exceed applicable numeric or narrative water quality standards for the waterbody and that BMPs promote the chemical, physical, and biological integrity of these waters (NRS 445A.565; NRS 445A.720; NAC 445A.228).

5. To prevent further degradation of 303(d) listed waterbodies and waterbodies with an approved TMDL, no discharges of a pollutant from a point source may be made which will result in further degradation of these waters. For the most current list of approved TMDLs for Nevada, please refer to NDEP's Water Quality Integrated Report (https://ndep.nv.gov/uploads/water-wqm-docs/IR2022FINAL_Report.pdf). NDEP requires review to ensure the proposed project will not exceed applicable numeric or narrative water quality standards for the waterbody and that BMPs promote the chemical, physical, and biological integrity of these waters (NRS 445A.720; NAC 445A.228).

6. Best Management Practices are effective measures to control and mitigate point source inputs of pollutants into a waterbody. Prior to commencement of any work in waters of the State, BMPs designed for the project must be in place and shall be maintained throughout the duration of the project to ensure no more than minimal effects to the aquatic environment (NRS 445A.525; NAC 445A.121). A list of BMPs recommended by NDEP are available on the BWQP website: https://ndep.nv.gov/water/rivers-streams-lakes/nonpoint-source-pollution-management-program/best-management-practices-toolbox.

7. Equipment used in waters of the State must be in proper working condition and free from leaks. Any maintenance, repair, or staging of this equipment must be completed in an upland position to prevent discharge of debris, oil, grease, scum, and other floating materials to waters of the State which could have adverse effects on the aquatic environment (NRS 445A.520; NAC 445A.121.2).

8. Except those authorized by this Certification, no pollutants associated with this project will be discharged from a point source or allowed to remain in a position where a pollutant can be carried to waters of the State by any means and material permitted to enter waters of the State must be stabilized in a way that prevents excessive erosion. Adherence to this condition prevents violations of water quality standards and State law (NRS 445A.400).

9. Wet and uncured concrete negatively impacts the chemical and physical integrity of water if allowed to enter a waterbody and poses a serious hazard to aquatic life. No wet or uncured concrete shall be allowed to enter water of the State by any means, and impermeable covers shall be placed over any wet or uncured concrete to prevent leaching of this pollutant into a waterbody (NRS 445A.465).

10. No proposed project will exceed 300 linear feet of dredge or fill material in waters of the State since projects of this size cannot be guaranteed to have minimal single or cumulative adverse effects on the aquatic environment. Projects proposing impacts greater than 300 linear feet require review and approval by NDEP prior to project commencement (NRS 445A.530; NRS 445A.720; NAC 445A.228).

11. If BMPs incorporate natural materials, such as seeds, mulch, straw bales, or coir logs, they shall be certified as weed free to prevent the spread of invasive species which are associated with modified hydrologic regimes and deleterious impacts to the aquatic environment (NRS 555.010; NRS 555.150).

12. Disturbance of native vegetation shall not exceed the minimum necessary to complete the project. If revegetation is proposed to restore and stabilize areas affected during construction, site-appropriate plant materials shall be used with an emphasis on native and/or adapted perennial vegetation. Site stabilization is necessary to prevent erosion, decrease sediment inputs into waters of the State, and reduce encroachment of invasive species in denuded areas since invasive species are associated with modified hydrologic regimes and deleterious impacts to the aquatic environment (NRS 445A.305).

13. All temporary and excess materials and installments used during construction shall be removed from the site upon project completion to prevent pollutants from entering waters of the State by any means. Affected areas must be returned to pre-construction elevations and contours to prevent unauthorized alterations to a waterbody once a project is complete (NRS 445A.465).

14. Impacts to water quality due to excessive sedimentation and/or turbidity shall be minimized through the proposed construction of temporary clean water diversions to bypass live stream flows around construction areas. This condition is necessary to ensure point source discharges of sediment to waters of the U.S. are minimized to the maximum extent practical and will not result in an exceedance of State water quality standards associated with Lake Tahoe Tributaries. Waters must be free from materials from controlled sources in amounts sufficient to change the existing color, turbidity, or other conditions in the receiving stream to such a degree as to create a public nuisance or in amounts sufficient to interfere with any beneficial uses of the water (NRS 445A.720; NRS 445A.530; NRS 445A.525; NAC 445A.1628; NAC 445A.1239; NAC 445A.121).

Appendix A - USFWS species list

Enclosure 6

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Reno Fish And Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
Phone: (775) 861-6300 Fax: (775) 861-6301

In Reply Refer To: March 14, 2023
Project Code: 2022-0055187
Project Name: Burke Creek Rabe Meadow Riparian Restoration Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- Migratory Birds

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Reno Fish And Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
(775) 861-6300

PROJECT SUMMARY

Project Code: 2022-0055187
Project Name: Burke Creek Rabe Meadow Riparian Restoration Project
Project Type: Restoration / Enhancement - Wetland
Project Description: Perform restoration to Burke Creek and Rabe Meadow through modification to the stream, re-establishing flood plain, remove conifer encroachment, and filling of ditches.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.976334,-119.94395892265865,14z

Counties: Douglas County, Nevada

ENDANGERED SPECIES ACT SPECIES

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
North American Wolverine *Gulo gulo luscus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5123	Proposed Threatened
Sierra Nevada Red Fox *Vulpes vulpes necator* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4252	Endangered

BIRDS

NAME	STATUS
California Spotted Owl *Strix occidentalis occidentalis* Population: Sierra Nevada No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7266	Proposed Threatened

AMPHIBIANS

NAME	STATUS
Sierra Nevada Yellow-legged Frog *Rana sierrae* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9529	Endangered

FISHES

NAME	STATUS
Lahontan Cutthroat Trout *Oncorhynchus clarkii henshawi*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/3964

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

CONIFERS AND CYCADS

NAME	STATUS
Whitebark Pine *Pinus albicaulis*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/1748

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Black-throated Gray Warbler *Dendroica nigrescens* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 1 to Jul 20
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31

NAME	BREEDING SEASON
Cassin's Finch *Carpodacus cassinii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9462	Breeds May 15 to Jul 15
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
Evening Grosbeak *Coccothraustes vespertinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Aug 10
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31
Lawrence's Goldfinch *Carduelis lawrencei* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Lewis's Woodpecker *Melanerpes lewis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30
Long-eared Owl *asio otus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Western Grebe *aechmophorus occidentalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

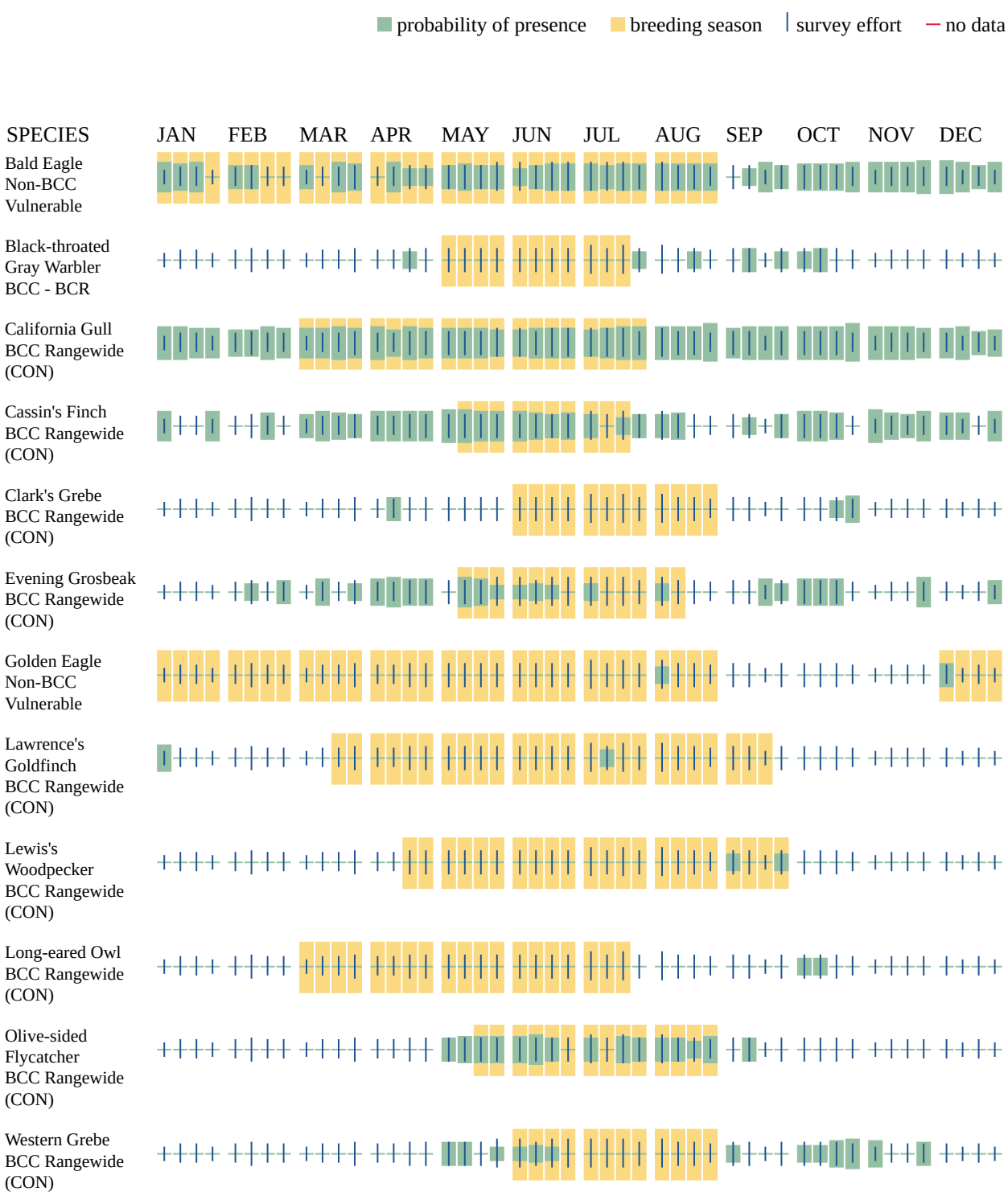
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

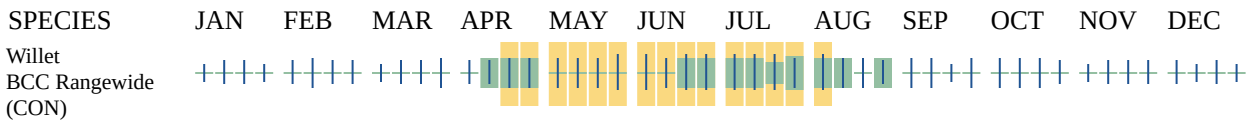
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

MIGRATORY BIRDS FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

IPAC USER CONTACT INFORMATION

Agency: Sierra Ecotone Solutions LLC
Name: Garth Alling
Address: PO Box 1297
City: Zephyr Cove
State: NV
Zip: 89448
Email galling@sierraecotonesolutions.com
Phone: 5304162440

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Forest Service
Name: Sarah Moskopf
Email: sarah.muskopf@usda.gov
Phone: 5305432835

Appendix B: SNYLF Programmatic Biological Opinion Standards and Guidelines

1. Scientifically sound
2. Statistically robust
3. Probabilistic
4. Unbiased
5. Developed by an interdisciplinary team with expertise in
   a. Ecology of the three montane amphibian species
   b. Monitoring design and statistical analysis
   c. Montane meadow ecology
   d. Hydrology
   e. Range ecology and management
   f. Vegetation ecology and management
6. Conducted at scale(s) appropriate to questions posed and inferences made.
7. Specific measures regarding sampling, reporting and analysis periodicity (e.g. when, where, how often?)
8. Of sufficient duration within forest planning horizons, generally 10-15 years, to appropriately address the questions posed and inferences made, including any questions related to incremental and slow changes.

Although the goal is to design, fund and implement a cooperative inter-agency monitoring strategy, the Forest Service will retain the responsibility for oversight, implementation, analysis and reporting. The initial year of effectiveness monitoring (field season 2015) will be conducted largely as a pilot and used to refine methods, process, protocols, and other components.

Programmatic Conservation Measures

The following conservation measures are intended to avoid, and minimize, the effects of projects in the nine Forest programs on the Sierra Nevada yellow-legged frog, the Northern Distinct Population Segment of the mountain yellow-legged frog, and Yosemite toad,. These measures are the appropriate S&Gs and BMPs from the individual Forest Land and Resource Management as amended by the 2004 Sierra Nevada Forest Plan Amendment (USFS 2004), and Region 5 Hydrologic Best Management Practices. These S&Gs and BMPs are treated as minimums. Site-specific application of each will be tailored to exact project landscapes, topography, geology, soils, etc. and result in greater specificity, thereby providing more stringent protections for the three listed amphibians and their habitat. Some S&Gs and BMPs are designed to be implemented for all of the nine Forest programs, while others are specific to a single program. The majority of the conservation measures are intended to protect the three listed species, wildlife, and/or sensitive habitats. In addition to the S&Gs and BMPs, at the project level the nine Forests implement additional "Design Criteria" that specify how these will be implemented to meet site-specific desired conditions, such as avoiding or minimizing ongoing impacts to known occurrences of the three amphibian species. The Forest Biologist will work with the project manager to develop any minor project specific adjustments. These specific Design Criteria actions will be included as part of the Batch Process for individual projects. They also will be documented in a written report submitted after project completion to the Service.

1. General Measures: The following S&Gs and BMPs establish general guidelines that will be implemented for all nine Forest Service programs. Site-specific implementation measures that comport with these guidelines will be described for individual projects as they are proposed:

a. Wheeled vehicles off designated routes, trails, and limited off-highway vehicle (OHV) use will be prohibited to reduce the risk of crushing, injuring, or disturbing individuals of the three listed amphibians (per S&G 69).

b. Within critical aquatic refuges, occupied habitats, or areas proposed as Critical Habitat, mitigation measures to avoid impacts to the 3 listed amphibians will be implemented for ground disturbing equipment to reduce the risk of killing individuals and adversely affecting their habitat (per S&G 109). The measures may include avoiding the activity all together.

c. Low ground pressure equipment, helicopters, over the snow logging, or other non-ground disturbing actions will be implemented when needed to achieve Riparian Conservation Objectives in the written opinion of the Forest Biologist in order to minimize impacts to riparian conservation areas when operating off of existing roads. The measures include minimizing construction of skid trails or roads for access into riparian conservation areas for fuel treatments, salvage harvest, or hazard tree removal (per S&G 113).

d. Prescribed fire treatments will be designed to minimize disturbance to ground cover and riparian vegetation in riparian conservation areas (per S&G 111). Further, no prescribed fires will be lit within riparian vegetation (per S&G 109).

e. The use of low velocity water pumps and screening devices for pumps (per S&G 110) will be utilized during drafting for project treatments to preventing mortality of eggs, tadpoles, juveniles, and adult frogs.

f. Pesticide application within riparian conservation areas, for example to control invasive species or promote reforestation, will be limited to situations where the application is consistent with riparian conservation objectives (per S&G 97). The applications will be designed to avoid adverse effects to individuals and aquatic habitats of the three amphibian species where application is within 500 feet of occupied sites (per S&G 98).

g. Fuels and other toxic materials will be stored outside of riparian conservation areas and critical aquatic refuges (per S&G 99) to limit the exposure of the three amphibian species to the toxic materials associated with vegetation management activities.

h. If management activities are proposed in a CAR or RCA, site-specific mitigation measures will be designed to (1) minimize risk of sediment entry into aquatic systems and (2) minimize impacts to habitat for aquatic- and riparian-dependent species (per S&G 92).

i. Mechanical ground-disturbing activities may occur within RCAs and CARs when the activity is consistent with riparian conservation objectives (per S&G 113). Potential adverse effects will be minimized by a requirement to utilize low ground pressure equipment, helicopters, over snow logging or other non-ground disturbing methodologies when operating off of existing roads. BMPs will be applied, and construction of new skid roads or trails into these areas minimized.

j. When a project results in riparian vegetation being outside the range of natural variability to an extent that the three listed amphibians and/or their habitats may be negatively affected,

design criteria will be incorporated to mitigate effects or restore to riparian vegetation to the natural range of variability during project implementation (per S&G 105).

k. Disturbance will be limited to 20 percent or less of streambanks and natural lake shorelines to reduce the impacts to cover in aquatic habitats (per S&G 103). This is measured as a percent of stream reach or lake/pond shoreline affected by management activities such as bank sloughing, chiseling, trampling, or other means of exposing bare soil or cutting plant roots.

l. In CARS or RCAs, proposed management activities will increase or decrease frequency and distribution of coarse woody debris so that they more closely match levels within the range of natural variability in order to sustain stream channel physical complexity and stability (per S&G 108).

m. Native vegetation cover will be enhanced by various techniques including planting, seeding, soil stabilization, after wildfires to reduce the effects on wildlife and their habitats (per S&G 112). Seeds or cuttings will be obtained from appropriate local native plant species.

n. Management activities will not adversely affect water temperatures required for local species, including the three amphibian species (per S&G 96).

o. For projects that could adversely affect streams to the extent that the three listed amphibians and/or their habitats may be negative affected, and the streams are already outside the range of natural variability, mitigation measures and short-term restoration actions will be implemented to prevent declines and/or improve conditions. Long-term restoration actions will be evaluated and implemented according to priority (per S&G 102), which includes adverse impacts to listed species.

p. Forests will prohibit or mitigate ground-disturbing activities that adversely affect hydrologic processes that maintain water flow, water quality, or water temperature critical to sustaining bog and fen ecosystems and plant species that depend on these ecosystems. During project analysis, forests will survey, map, and develop measures to protect bogs and fens from such activities as trampling by livestock, pack stock, humans, and wheeled vehicles (per S&G 118).

q. Culverts and stream crossings will not create barriers except for the benefit of the three Sierra Nevada amphibians. Water drafting sites will be located to avoid adverse effects to instream flows and depletion of pool habitat. Where possible, maintain and restore timing, variability and duration of floodplain inundation and water table elevation in meadows, wetlands, and other special aquatic features (per S&G 101).

r. Corrective actions will be implemented when needed to restore hydrologic connectivity of aquatic systems that are disrupted by roads (per S&G 100).

s. When permits, if any, are re-issued, measures to minimize sedimentation will be evaluated and included as necessary (per S&G 93).

t. Actions consistent with S&Gs and the desired conditions of aquatic habitats will be implemented after identifying and evaluating adverse effects of recreation-associated activities (per S&G 116).

u. When gathering of pack stock is necessary, such as an overnight pack stock trip, new facilities will be located outside of meadow and riparian conservation areas to reduce the risk of directly killing or injuring individuals and impacting these habitats (per S&G 119).

Program Specific Conservation Measures

1. The following S&Gs and BMPs will be specifically implemented for the **Timber Harvest, Vegetation Management, Fuels Management, and Watershed Restoration** Programs. These conservation measures will be included as part of the individual projects that can be appended to this programmatic biological opinion.

   a. Protection needs will be established with appropriate restrictions and mapped prior to commencement of operations (per BMP 1.4). This includes wetlands, meadows, lakes, springs, streamcourse protection zone widths, etc.

   b. A limited operating period may be established to ensure that negative impacts to resources may be avoided; contract provisions can also be used to close down operations during adverse operating conditions (per BMP 1.5)

   c. The size and shape of regeneration harvest units will be established to prevent erosion and sediment in order to protect fish, wildlife and other resource needs including the three listed amphibians (per BMP 1.7).

   d. An emergency response plan will be created and implemented to prevent contamination of waters from accidental spills of hazardous substances (per BMP 7.4).

   e. Water quality and hydrologic considerations as evaluated by a trained earth or water scientist will be incorporated into the timber sale planning process (per BMP 1.1).

   f. Fire and fuels management activities in the form of preventative, corrective and administrative measures include the use of prescribed fire or mechanical methods to achieve resource objectives to reduce flooding and erosion perturbations. This may be achieved by managing the frequency, intensity and extent of wildfire (per BMP6.1). Where operations disturb the soil, a vegetative ground cover will be established to prevent erosion and sedimentation (per BMP 1.15)

   g. Harvested or managed areas will be revegetated within five years to contain the minimum number, size and species composition specified in regional silvicultural guides for each forest type. This protects water quality by helping to stabilize soils, increasing ground cover and providing improved infiltration (per BMP 1.23).

   h. Soil erosion will be minimized to protect water quality via the stabilizing influence of vegetation foliage and root networks. Surface-disturbed areas will be revegetated with grass

or browse species between previously planted trees as needed for control of overland runoff and to meet wildlife needs (per BMP 5.4).

i. Forests will maintain desirable stream channel characteristics and watershed conditions to ensure favorable conditions of water quality and quantity and maintain habitat for three listed amphibians. In designing harvest units, size and distribution of natural structures, such as snag and down logs, will be considered to prevent erosion and sedimentation (per BMP 1.2).

j. High-erosion hazard areas will be identified pre-project to adjust treatment measures and prevent downstream water-quality degradation (per BMP 1.3).

k. Unstable lands will be protected by providing special treatment of these areas to avoid triggering mass slope failure with resultant erosion and sedimentation (per BMP 1.6).

l. Tractor logging will be avoided where the predicted, post-logging erosion hazard cannot be reduced to either "low" or "moderate." The careful control of skidding patterns will serve to avoid onsite and downstream channel instability, build-up of destructive runoff flows, and erosion in sensitive watershed areas such as meadows and Streamside Management Zones (per BMP 1.9; per BMP 1.10).

m. The soil mantle will be protected from excessive disturbance to maintain the integrity of the Streamside Management Zones and other sensitive watershed areas, and control erosion on cable corridors. Heavy machinery will not be used over the sale area to reduce the amount of soil disturbance. Erosion-control measures will be applied as necessary in cable corridors to control erosion and runoff (per BMP 1.11).

n. Locate new log landings or reuse old landings located in such a way as to avoid watershed impacts and associated water quality degradation. Landing locations will be selected that involve the least amount of excavation and the least erosion potential, and to the extent feasible are well outside of the Streamside Management Zone; near the ridges away from headwater swales in areas that will allow skidding without crossing channels; and avoid violating the Streamside Management Zone, or causing direct deposit of soil and debris to the stream. The Sale Administrator will work with the Forest Biologist and the IDT when considering landings that do not meet these criteria. Landings will be located where the least amount of skid roads will be required, and sidecast can be stabilized without entering drainages or affecting other sensitive areas. Landings will be positioned such that the skid road approach will be as nearly level as possible to promote safety, and protect the soil from erosion. The number of skid trails entering a landing will be kept to a minimum (per BMP 1.12).

o. The Forest Service will ensure that purchasers and their sub-contractors understand and adhere to water-quality BMP prescriptions formulated during the timber sale planning process to prevent and control erosion during timber sale operations. This will be accomplished by setting forth the purchaser's responsibilities in the timber sale contract, and holding the purchaser accountable for actions of their sub-contractor (per BMP 1.13).

p. Appropriate erosion and sedimentation protection for disturbed areas will be provided by spreading slash, mulch, wood chips, or, by agreement, some other treatment, on portions of tractor roads, skid trails, landings, cable corridors or temporary road fills (per BMP 1.14).

q. Erosion will be minimized by ensuring that constructed erosion-control structures are stabilized and working (per BMP 1.20)

r. The Forest Service's formal acceptance of erosion control work by the sale purchaser will be required to ensure the adequacy of required erosion-control work on timber sales (per BMP 1.21).

s. Water quality will be maintained or improved by protecting sensitive areas from degradation which likely would result from using mechanized equipment for slash disposal. Special slash treatment site preparation will be prescribed in sensitive areas (including areas with habitat for the three listed amphibians) to facilitate slash disposal without use of mechanized equipment (per BMP 1.22).

t. Use of mechanized equipment will be prohibited from sensitive areas in meadows, wetlands, Streamside Management Zones, and landslide areas (per BMP 1.22, per BMP 1.8, and per BMP 1.1).

u. For soil disturbing treatments other than timber harvest (cover by other BMPs), preventative measures will be implemented that decrease sediment production and stream turbidity resulting from management activities e.g., disking, seed drilling, windrowing, that mechanically treat slopes. Preventative measures that will limit surface-disturbance activities will be identified for each specific site based on the slope, infiltration rate, permeability, and water-holding capacity of the soil of the site. Examples of preventative measures include extra ground cover requirements and/or buffers of streams and/or riparian areas for mechanical treatment (per BMP 5.1).

v. During project planning, slope limitation will be established for tractor use to reduce gully and sheet erosion and associated sediment production. This is a preventive measure to limit excessive surface disturbance and prevent surface water from concentrating. This measure facilitates making allowances for proper drainage of disturbed areas by limiting tractor operation to slopes where corrective measures such as water bars can be effectively installed (per BMP 5.2).

w. Watersheds will be restored to repair degraded watershed conditions and improve water quality and soil stability. Watershed restoration is a corrective measure to improve ground cover density; improve infiltration; prevent excessive overland runoff and conserve the soil resource; stabilize stream banks and stream channels; improve soil productivity; reduce flood occurrence and flood damage; and improve overall watershed function (per BMP 7.1)

x. The designations of SMZs will minimize the potential for adverse effects from adjacent management activities. Management activities within these zones are designed to improve riparian values and to protect the three listed amphibians. The SMZ will be a zone of total exclusion of activity, or a zone of closely managed activity that acts as an effective filter and

absorptive zone for sediment; maintains shade; protects aquatic and terrestrial riparian habitats; protects channel and streambanks; and promotes floodplain stability (per BMP 1.8).

y. Damage to the ground cover, soil, and the hydrologic function of meadows will be avoided to protect meadows. Unless otherwise agreed, trees felled into meadows will be removed by end-lining, with slash removed, and the resulting disturbance will be repaired where necessary to protect vegetative cover, soil, and water quality (per BMP 1.18).

z. In order to protect streamcourses and aquatic areas where diversion of the stream has resulted from timber management, unobstructed passage of stormflows will be provided, sediment and other pollutants entering streamcourses controlled, and the natural course of any stream restored as soon as practicable (per BMP 1.19).

aa. Tractor operations will be limited in wetlands and meadows. In order to limit turbidity and sediment production resulting from compaction, rutting, runoff concentration, and subsequent erosion use of mechanical equipment will be excluded in wetland and meadows except for the purpose of restoring wetland and meadow functions. Sediment and other pollutants will be controlled from entering streamcourses. The application of this BMP will be mandatory on all vegetation-manipulation projects as prescribed in the environmental documentation (per BMP 5.3). Specific protection measures will be established for each area that could incur adverse water-quality impacts (per BMP 1.18).

bb. Water-quality will be protected during the implementation of prescribed fires. The prescription will include at the watershed- and subwatershed-scale, the optimum and maximum burn block size, aggregate burned area, acceptable disturbance for contiguous and aggregate length for the Riparian/Streamside Management Zones; and expected fire return intervals and maximum expected area covered by water-repellant soils. (per BMP 6.2)

cc. Water quality will be protected from prescribed burning effects by maintaining soil productivity; minimizing erosion; and minimizing ash, sediment, nutrients, and debris from entering water bodies (per BMP 6.3). Some of the techniques that will be used to prevent water-quality degradation include constructing water bars in fire lines, reducing fuel loading in drainage channels; and maintaining the integrity of the Streamside Management Zone within the limits of the burn plan.

dd. Where possible, any long- and short-term adverse impacts to water quality associated with the occupancy and modification of floodplains will be avoided. Factors that will be evaluated include, environmental quality, ecological effects, and individual safety and health will be considered as well as flood frequencies, watershed conditions, climatic and environmental factors associated with past flood events, flood flow quantities and specific flood boundaries (per BMP 7.2).

ee. Adverse water-quality impacts associated with destruction, disturbance, or modification of wetlands will be avoided (per BMP 7.3). Factors that will be evaluated include, but are not limited to, water supply, water quality, recharge areas, functioning of the wetland during flood and storm events, flora and fauna, habitat diversity and stability, and hydrologic function of riparian areas.

ff. A water quality monitoring plan will be part of an environmental document, a management plan, or a special use permit, or it will be developed in response to other needs to evaluate the implementation and effectiveness of a management prescription in protecting water quality (per BMP 7.6).

gg. Management by closure to seasonal, temporary, and permanent use will be used to exclude activities that could result in damages to either resources or improvements, including impaired water quality from roads and trails (per BMP 7.7). Closure to use will occur when the condition of the watershed must be protected to preclude adverse water-quality effects and adverse impacts to the three listed amphibians (per BMP 1.5; per BMP 2.9).

hh. For any new proposed action or activity that may affect water quality, the Forest Service will examine all past, present, and future activities in a sub-watershed that may have a cumulative effect to water quality and beneficial uses (uses specified in water quality standards for each water body or segment), including the three listed amphibians if present in the sub-watershed or downstream. This Cumulative Watershed Effects (CWE) analysis is guided by considerations such as: whether the proposed activity along with other activity in that sub watershed exceed thresholds and are the risks to water quality are too great; whether the action can be deferred to let the watershed recover before implementation; and whether the short-term risks are acceptable, with added mitigation, given the long-term benefits (e.g., mechanical treatment of fuels may cause some short-term risk to water quality which may be acceptable if the treatment can prevent the greater impacts of a future large, high severity wildfire). The CWE process greatly facilitates development of appropriate mitigation measures/design criteria to avoid adverse effects to the three listed amphibians (per BMP 7.8).

2. The following S&Gs and BMPs will be specifically implemented for the **Road and Trail Maintenance** Program. These conservation measures will be included as part of the individual projects that can be appended to this programmatic biological opinion.

   a. To protect hydrologic values and aquatic species water source development and utilization will follow specific criteria for the location of drafting sites, procedures for drafting operations, as well as approaches and drafting pads (per BMP 2.5).

   b. The Forest Service will minimize water, aquatic, and riparian resource disturbances that may affect individuals of the three amphibian species and related sediment production when constructing, reconstructing, or maintaining temporary and permanent water crossings (BMP 2.8). Specifications for stream crossing areas and design, construction/reconstruction of permanent and temporary crossings, as well as maintenance of these crossings included in 36 technical specifications listed in BMP 2.8 will be followed.

   c. Measures described in BMP 2.11 to prevent adverse effects from fuels, lubricants, cleaners, and other harmful materials that are discharged into nearby surface waters or infiltrate through soils to contaminate groundwater resources on skin-respiring amphibians resulting from equipment refueling and servicing will be implemented.

Burke Creek Rabe Meadow Riparian Restoration Project

Resource Protection Measures

The following resource protection measures (RPMs) for the Burke Creek Rabe Meadow Riparian Restoration Project will minimize and avoid potential project-related effects on botanical resources, terrestrial and aquatic wildlife, water quality and soils, cultural resources, and recreational resources. For most resources, the RPMs directly incorporate the Standards and Guidelines from the LTBMU Land and Resource Management Plan (USFS 2016). In addition to RPMs, applicable Best Management Practices (BMPs) identified in the Project Stormwater Pollution Prevention Plan (SWPPP) will be utilized. Adherence to these BMPs ensures compliance with the Clean Water Act. The Nevada Tahoe Conservation District (NTCD) is responsible for the implementation of applicable RPMs and BMPs and will incorporate them into the final design plans and any plans required for permitting.

Botanical Resources

BOT-1 Sensitive Plants (not including Tahoe yellow cress)

No sensitive plant species (other than Tahoe yellow cress) were documented within the Project Area during field surveys.

- If sensitive species are observed within any Sub-Project Area during Project implementation, ground disturbing activities in that area will stop until the LTBMU Forest Botanist is notified and appropriate avoidance or mitigation actions are agreed on. If feasible, identified occurrences would be avoided with a protective buffer from restoration activities and protected *in situ*.

BOT-2 Revegetation

- Ground and vegetation disturbance shall be minimized to the areas necessary for construction. Seed and plant mixes must be approved by the Forest Botanist or their designated appointee who has knowledge of local flora. Non-native invasive species will not be intentionally used in revegetation. Seed lots will be tested for weed seed and test results will be provided to the Forest Botanist or their designated appointee. Persistent non-natives, such as timothy (*Phleum pretense*), orchardgrass (*Dactylis glomerata*), ryegrass (*Lolium spp.),* or crested wheatgrass (*Agropyron cristatum*) will not be used in revegetation.

- Seed and plant material will be sourced from species native to the Lake Tahoe Basin. As a general rule, plant and seed material should be collected from local genetic sources within the USFS Provisional Seed Zone of the disturbed area and within 500 – 1,000 ft. elevation of the site.

BOT-3 Tahoe yellow cress

Baseline and Inventory

- Monitoring will occur in TYC habitat within Sub-Project Area 1 during periods of active ground disturbance throughout the TRPA approved survey period from June 15- September 30th. The

monitoring will be conducted by a botanist approved by the LTBMU Forest Botanist and should occur within 14 days of projected disturbance. During the inventory, the botanist will count TYC "stems", described as the above-ground leafy rosette that results from either seed germination or vegetative reproduction. Stems appear on the soil surface to be individuals, but may be connected below the surface by an extensive system of lateral and vertical roots (Stanton et al. 2015, pg. 17). The stem count will include an estimate of the percentage that are vegetative, flowering, and fruiting.

- During the inventory, the botanist will consult with the Project Managers to determine which stems, if any, will be directly impacted by the construction.

Avoidance

- TYC stems that will not be impacted will be flagged in blue and fluorescent orange and avoided for the duration of the Project.

Translocation

- TYC stems that may be indirectly impacted by Project activities will be translocated between June 15-September 30, 2024.

- Translocation methods shall follow Best Management Practices specified in the 2015 TYC Conservation Strategy (Stanton et al. 2015).

- The translocation may take several approaches which shall be determined in consultation with the LTBMU Forest Botanist:
  1) All extant stems may be immediately translocated to a receptor location (on-site or off) that will be determined based on site conditions, or
  2) All (or some portion) of the stems selected for translocation may be moved to potting tubes in a greenhouse for planting at a later date.

Seed collection

- Propagation of container-grown TYC in a greenhouse for out planting in subsequent years may be implemented if necessary to meet performance criteria. Seed collection would be conducted following standard USFS protocols and 2015 Conservation Strategy Best Management Practices (pg. 90).

Resource Protection Barriers

- New resource protection barriers in the form of large logs produced from meadow restoration activities and fencing will be installed surrounding the new channel location and outlet of Burke Creek for sustained protection of newly created TYC habitat from high intensity recreation impacts. Fencing would be designed in coordination with public services staff to maintain public access to the lake shore.

- Existing fencing at Burke Creek outlet will be maintained as long as TYC are present, or at least 3-years post-project.

Revegetation

- Revegetation treatments applied to the newly created channel of Burke Creek will be designed in coordination with Forest Botanist to minimize introduction of competitive pressure on TYC.

Post-project monitoring

- TYC habitat quality and plant abundance will be monitored in Sub-Project Area 1 following 2015 Conservation Strategy survey protocols (pg. 64) for 3-years post-project or until performance criteria are met.

- If TYC stem counts decline from the baseline count (from encroachment of upland vegetation species or recession of soil moisture) translocation or out planting to the newly constructed habitat would occur to meet performance criteria.

The following performance criteria is proposed:

- A baseline of 330 stems +/- 10% for the Sub-Project 1 area provides a performance target that integrates long-term survey data. This target represents the combined average stem count at both sites (230 stems at Burke Creek and 100 at Kahle Ditch) during the survey period from 2000-2023. Surveys during that period were conducted under a balanced number of high (8 years), low (9 years), and transitional lake levels (4 years), meaning it has relatively low bias.

- If the baseline target stem count of 330 stems +/-10%, is not achieved within Sub-Project Area 1 through natural processes of persistence of existing habitat and colonization of the new channel within 3-years post-project, the difference may be mitigated by a 2:1 planting of container-grown TYC in created habitat. This ratio is based on survival rates of > 50% from past plantings at this location (Stanton and Pavlik 2006).

- Propagation and out planting will follow Best Management Practices in the 2015 TYC Conservation Strategy.

BOT – 4 Salvaged Sod

Sod will be harvested and salvaged in disturbance areas (except where weeds are present), watered until re-planted, and used for revegetation of disturbed surfaces.

Invasive Plants

The following measures were identified in the project Invasive Plant Risk Assessment to reduce the risk of spreading invasive plants. These measures are consistent with Forest Service policy and manual direction and the 2016 LTBMU LRMP.

INV-01 through 08 are standard management measures, INV-09 has species-specific measures.

INV-01 Inventory

- Before the onset of construction activities, each Sub-Project Area, associated access routes, material source sites, and staging areas will be inventoried for invasive plants.
- Infestations discovered prior to or during project implementation will be flagged and reported to the Forest Botanist or their designated appointee for prioritization and assessment for treatment. If infestations cannot be avoided or treated, a barrier will be installed to prevent the spread of non-native invasive plants to new areas within the project area or off site. Appropriate barrier areas and methods will be established in coordination with the Forest Botanist.

INV-02 Equipment Cleaning

- All equipment and vehicles used for project implementation must be free of plant material before moving into the project area. Equipment will be considered clean when visual inspection does not reveal soil, seeds, plant material or other such debris. Cleaning shall occur at a vehicle washing station or steam-cleaning facility before the equipment and vehicles enter the project area.
- When working in known invasive plant infestations or designated weed areas, equipment shall be cleaned before moving to other National Forest Service system lands. These areas will be identified on project maps.

INV-03 Staging areas

- Equipment, materials, or crews will not be staged in invasive plant-infested areas, wherever feasible. If staging within existing infestations cannot be avoided, the invasive species would be treated/removed, then a barrier will be installed to prevent the spread of non-native invasive plants to new areas within the project area or off site. Appropriate barrier areas and methods will be established in coordination with the Forest Botanist.

INV-04 Control Areas

- Where feasible, invasive plant infestations on the LTBMU priority ranking list will be designated as Control Areas in coordination with the Forest Botanist. Equipment, traffic and soil-disturbing project activities would be excluded in Control Areas and will be identified on project maps and delineated in the field with orange 'noxious weed' flagging. Where Control Areas cannot be avoided, and risk of spread of a priority management species to new areas is high, invasive plants will be treated/removed and appropriate barriers will be installed, if feasible, and equipment will be washed on site before moving to a new sub-project area.

INV-05 Project-Related Disturbance

- The amount of ground and vegetation disturbance in staging and construction areas will be minimized to the extent possible. Where feasible, vegetation will be reestablished on disturbed bare ground to reduce invasive species establishment; revegetation is especially important in staging areas. Where soil compaction has occurred to an extent that would inhibit native plant establishment (including all access routes, staging and storage sites), disturbed areas should be de-compacted by scarifying and mulched prior to seeding. Revegetation activities in areas with existing infestations will be designed to favor native species establishment over non-native invasive species growth and spread.

INV-06 Post Project Monitoring

- After the project is completed, the Forest Botanist will be notified so that the project area can be monitored and treated for invasive plants for a minimum of three years after project implementation to mitigate project related introduction and spread of these species.

INV-07 Gravel, Fill, and Other Materials

- Gravel, fill, or other imported materials are required to come from a suitable or conditional weed-free source by the LTBMU weed free material program. Onsite sand, gravel, rock, or organic matter will be used when possible. If conditional sources are used, Early Detection and Rapid Response (EDRR) monitoring of application sites will be conducted for two growing seasons following implementation.
- Off-site fill is proposed for use that was sourced from the 2016 Kahle Basin Implementation Project. The fill is currently stored off-site on Sewer Plant Road and covered with protective tarps. The stock pile will be surveyed for invasive plants prior to movement to the Project area.

INV-08 Mulch and Topsoil

- North American Invasive Species Management Association (NAISMA) certified weed-free mulch will be used if chipped material is not available on site. Topsoil will be salvaged from the project area for use in onsite revegetation, unless contaminated with invasive species.

INV-09 Species-Specific Management Measures

See Table 2 below.

Table 2
Species-Specific Management Measures

Scientific Name	Common Name	Treatment
Bromus tectorum	Cheatgrass	• Flag and avoid where feasible. • Minimize disturbance in infested areas. • Use barriers to prevent spread from staging areas or constructed access routes.
Cirsium arvense	Canada thistle	• Flag and avoid all existing infestations • Chemically treat infestations with Aminopyralid in rosette to early flowering stages.
Cirsium vulgare	Bull thistle	• Remove plants by digging out the rosette and entire tap root, securely bag plants, and dispose offsite; • If present, remove flowering heads before seed set and dispose of off-site. • Plants may be left on-site to desiccate if they are in rosette stage with no signs of bud or flower development.

Table 2 Species-Specific Management Measures		
Scientific Name	**Common Name**	**Treatment**
Centaurea stoebe ssp. *micranthos* *Centaurea diffusa*	Spotted knapweed Diffuse knapweed	• Flag and avoid ground disturbance in all existing infestations • Remove plants by digging out the rosette and entire tap root, securely bag plants, and dispose offsite; if present, remove flowering heads before seed set and dispose of off-site. • Plants may be left on-site to desiccate if they are in rosette stage with no signs of bud or flower development.
Hypericum perforatum	Klamath weed	• The deep taproots can regenerate, so hand pulling or digging is only effective for small isolated infestations. • Flag and avoid all existing infestations • Chemically treat infestations with Aminopyralid.
Lepidium latifolia	Perennial pepperweed	• Seedlings are easily controlled by hand-pulling, but mature plants will re-sprout. • Flag and avoid all existing infestations • Chemically treat infestations with Chlorsulfuron.
Leucanthemum vulgare	Oxeye daisy	• Dig out plants if the soil is moist and loose enough to remove the entire shallow root-system with hand tools digging more than 6 inches deep. Dispose of off-site. • For larger stands, Aminopyralid would be applied in the spring during the seedling to pre-bud stage.
Potentilla recta	Sulphur cinquefoil	• Verify species identification during pre-implementation surveys and flag occupied areas for avoidance or as control areas. • Dig out plants if the soil is moist and loose enough to remove the entire woody root. Dispose of off-site. • For larger stands, Aminopyralid would be applied in the spring during the rosette to pre-bud stage. • Wash equipment on site prior to moving to other project areas
Myriophyllum spicatum	Eurasian watermilfoil	• Manual removal of plants and roots. Disposed of off-site.

Table 2 Species-Specific Management Measures		
Scientific Name	**Common Name**	**Treatment**
		• Post-project monitoring of the new outlet of Burke Creek will be needed to detect and address new infestations.

Terrestrial and Aquatic Wildlife

WL -1 Contractor Training

Prior to construction, all contractor, and subcontractor project personnel will receive training from qualified resource specialists (NTCD and/or USFS Personnel) regarding the appropriate work practices necessary to effectively implement these RPMs including appropriate wildlife avoidance measures; impact minimization procedures; the importance of sensitive resources, and the purpose and methods for protecting such resources.

WL – 2 Sierra Nevada Yellow Legged Frog

Projects activities would follow applicable protection measures as included below and identified in the US Fish and Wildlife Service Biological Opinion (see Terrestrial and Aquatic Wildlife Biological Evaluation (BE)) on Sierra Nevada yellow legged frog within the Lake Tahoe Basin (or superseding current direction). Protection measures include Programmatic Conservation Measures 1.c, 1.e, 1.f, 1.g, 1.h, 1.i, 1.m, 1.n, and 1.o. Program Specific Conservation Measures include 1.a, 1.d, 1.i, 1.w, 1.x, 1.y, 1.aa, and 1.ee. See Appendix B of the terrestrial and aquatic biological evaluation for details of these measures that protect habitat and water quality.

WL – 3 Dewatering and Diversion

Implement and follow the Dewatering and Diversion Plan as outlined in the Terrestrial and Aquatic Wildlife BE. Dewatering and drafting shall use screening devices for water drafting pumps. Use pumps with low entry velocity to minimize removal of aquatic species, including juvenile fish, amphibian egg masses and tadpoles, from aquatic habitats. The following criteria should be used to avoid impacts:

- Drafting operations should be restricted to one hour after sunrise to one hour before sunset to avoid the use of lights that attract fish.
- Pumping rate shall not exceed 350 gallons per minute. In Jennings Pond, where pumping rates might need to exceed 350 gpm to meet project objectives, rates shall not exceed 850 gpm. Additionally, when pumping rates exceed 350 gpm, an Aquatic Resource Specialist or Watershed Specialist will monitor pumping operations to ensure that aquatic species are protected.
- The pumping rate shall not exceed ten percent of stream flow (estimated by pump operators) to ensure adequate downstream flow to support aquatic species.
- Drafting should occur in streams and pools with deep and flowing water; not streams with low flows and isolated pools.
- Pumping operations shall not result in obvious draw-down of upstream or downstream pools, unless dewatering is the goal.
- Each pumping operation shall use screens. The screen face should be oriented parallel to flow for best screening performance.

- The screen shall be cleaned as often as necessary to prevent approach velocity from exceeding 0.33 feet per second. Operators should withdraw the screen and clean it after each use, or as necessary to keep the screen face free of debris. Pumping should stop for screen cleaning when approximately fifteen percent or more of the screen area is occluded by debris. A suitable brush shall be available for this cleaning operation.
- Screen Mesh must be in good repair and present a sealed, positive barrier- effectively preventing entry of aquatic species, including juvenile fish, amphibian egg masses and tadpoles, into the intake. The screen mesh size shall be:
    - Round openings - maximum 3/32 inch diameter (.09 inch)
    - Square openings - maximum 3/32 inch diagonal (.09 inch)
    - Slotted openings - maximum 1/16 inch width (.07 inch)

WL – 4 Aquatic Species Salvage

Salvage/recovery of aquatic species will be conducted by LTBMU Fisheries Staff within anticipated construction dewatering or diversion zone operations by electro-shocking or other suitable means. Aquatic species will be moved upstream or downstream of project activities where possible, or to other suitable habitat within the project area, as determined by USFS fisheries staff. Block nets will be installed to ensure fish do not move back into the project area. Nets will be cleaned one to two times daily to ensure the nets are functioning.

WL – 5 Bd Disinfection Protocol

Field gear (waders, float tubes, etc.) will be cleaned, decontaminated, and/or fully dried prior to entering or moving between aquatic habitats per the *Batrachochytrium dendrobatidis* (Bd) Disinfection Protocol described below:

- All field gear that comes in contact with water is disinfected using a 0.016% solution of quaternary ammonia (Quat 256) between water bodies.

Before leaving a site, rinse all infected gear to remove mud and debris. Then mix 7 eye drops of Quat 256 per liter of water in a drybag, and immerse and saturate all contaminated gear for 5 minutes, mixing occasionally. Do this away from water. Discard the quat mixture in broken-down organic soil in a non-vegetated area away from water. Cover lightly with soil.

WL - 6: Nesting Bird Surveys

Nesting bird surveys will be conducted (NTCD/Contractor) no more than 14 days prior to construction activities if work is scheduled to occur during the breeding season—April through August. If a nest is found, exclusionary avoidance zones (to be determined based on species-specific needs) will be created surrounding any active nests within or adjacent to the project.

WL – 7 Marten Den Surveys

Conduct (NTCD/Contractor) pre-implementation camera surveys where project activities would occur within suitable marten denning habitat plus a 50-meter buffer. Conduct surveys the same season as implementation. If marten are detected, follow-up with pedestrian den surveys no more than three weeks before project initiation and regardless of season. Possible dens will be further monitored by remote camera in order to determine if they are being actively used by marten. Based upon the results, the Responsible Official may implement a Limited Operation Period (LOP) and/or adapt construction timelines or facility locations as determined necessary to provide adequate protection. If dens of other species are located during the surveys, consult the Forest Biologist to determine whether to conduct camera surveys and/or protect the den.

WL – 8 North American Beaver

North American beaver lodges and dams shall not be disturbed between the months of March and August. Any removal and/or disturbance shall not occur until after 21 August of the year to prevent impacts to young kits that may be present within the lodge.

WL – 9 Bat Surveys

If tree removal occurs May 1 – August 31, surveys for possible bat roosts will be conducted within 30 days of the start of tree removal activities (NTCD/Contractor). Possible roost structures include snags, complex trees, trees with sloughing bark, and/or large diameter trees. If tree removal activities take more than 30 days and/or if there is a gap of 30 days between tree removal activities, surveys should be repeated. All potential roosting sites will be surveyed by a qualified biologist to determine usage. Specific survey methodologies will be determined in coordination with the Forest Biologist. If an active roost is identified, the Responsible Official may implement an LOP and/or adapt construction and/or tree removal timelines as necessary to provide adequate protection to the individuals in the roost.

WL – 10 Wildlife Egress

Measures shall be taken to allow for exit of trapped wildlife within the project area when excavations are left open overnight. Excavations shall be fitted with ramps and/or suitable egress for small mammals that may be contained within the excavated area. Construction monitors shall inspect all excavations and areas of active construction for trapped wildlife. Wildlife found in active construction areas will be allowed to passively leave the site. If necessary, wildlife may be relocated by a qualified biologist. The construction foreman will notify the environmental monitor immediately if any wildlife enters or becomes trapped in the work area.

WL – 11 Western Pearlshell Mussel Protection

eDNA samples will be collected to determine presence and location of western pearlshell mussels (*Margaritifera falcate*) in the project area prior to dewatering the creek or commencing construction activities. Avoid installing temporary crossings, diverting flows or dewatering streams in areas occupied by western pearlshell mussels. If these activities cannot be avoided to meet project objectives, mussels will be relocated to suitable habitat prior to implementation. Suitable relocation sites will be determined in the field by the Forest Service Aquatic Biologist and will take into consideration the mussel population within and outside of the project area.

WL - 12: General Wildlife Protections

- If sensitive or ESA listed species are found during implementation, pause project activities that may affect the species and notify the Forest Biologist within 24 hours.
- All trash and food will be removed from the site at the end of each workday to avoid attracting wildlife to the site.
- No harm, harassment, or collection of plant and wildlife species will be allowed. Feeding of wildlife will be prohibited.

WL – 13 Salvaged Sod

Sod will be harvested and salvaged in disturbance areas (except where weeds are present), watered until re-planted, and used for revegetation of disturbed surfaces during implementation.

WL – 14 Downed Wood

Retain/add downed wood in the open meadow areas where feasible for native amphibian species. Density should be approximately three logs >30 cm diameter at midpoint per 0.4 ha.

WL – 15 Aquatic Invasive Species Surveys

Surveys for aquatic invasive species will be performed prior to any ground disturbance or in water

activities. Removal of aquatic invasive plant species shall be performed prior to dewatering, filling or disturbance. Methods of removal may vary and shall be determined on a case-by-case basis (e.g. hand pulling, suction dredging, placement of benthic barriers, etc.)

Hydrology/Water Quality

HYD-1 Construction BMPs

Construction BMPs will include temporary erosion control BMPs (e.g., silt fencing, fiber rolls, drain inlet protection) and other requirements consistent with the project Stormwater Pollution Prevention Plan (SWPPP) to prevent sediment delivery and water quality impacts during construction.

HYD-2 Minimize Soil Disturbance

The extent of all excavation and soil disturbance will be minimized to avoid unnecessary soil disturbance.

HYD-3 Soil Disturbance Limits

Soil disturbing activities will not occur from October 15 to May 1 of each year unless an exemption request is applied for and approved from TRPA. Assure that permanent and temporary erosion control measures are in place for the winter season.

HYD-4 Excess Waste and Stockpile

Surplus or waste earthen materials will be removed from project sites, and stockpiled material will be stabilized and protected from erosion. All over-winter soil stockpiles shall be a minimum of 50 feet from drainage courses and storm drain inlets. Protect all stockpiles from winter precipitation and runoff using temporary perimeter sediment barriers, such as fiber rolls, silt fences, and/or gravel bags. Extend barriers around the entire perimeter of stockpile. Cover the entire stockpile with tarp, plastic, or other waterproof material for the duration of the winter. Tie down or weight covers to prevent movement. Inspect monthly and promptly repair or replace stockpile protections, as needed.

HYD-5 Spill Prevention Plan Requirements

Spill prevention plans will be prepared and implemented to capture and contain pollutants from fueling operations, and an emergency spill kit must be on site during active construction periods.

HYD-6 Construction Access:

- Temporary access routes will be constructed within or directly adjacent to the grading disturbance (within 10’ with Engineer’s direction) to minimize disturbance to vegetation and soil and limit stream or water channel crossings.
- Access to the channel in the middle of the meadow for wood structure placement will be by foot only, no access routes will be constructed in this area.

HYD-7 Diversion and Dewatering:

The Burke Creek channel will be diverted around active in-channel construction activities using pumps and diversion piping. In addition, segments of Burke Creek, Kahle Ditch and Jennings Pond will be dewatered before construction in those areas to facilitate backfilling and reconstruction in these areas. Dewatering discharge will remain a minimum of 50ft away from surface water flow and channels to prevent return flows to the creek and pond. Diversion and dewatering operations and equipment will be monitored daily to ensure they are functioning properly and not resulting in water quality violations. Refer to the detailed Dewatering and Diversion plan for more details.

HYD-8 Water Quality Best Management Practices

The project shall implement the erosion control and best management practices (BMP) included in the final plan set approved by the USFS LTBMU. Implementation of erosion control measures and BMPs and associated Stormwater Pollution Prevention Plan will decrease impacts to water quality and freshwater aquatic habitats.

Recreation and Public Safety

REC- 1 Parking Closure

Closures of the trailhead parking spaces at the Lam Watah trailhead will be limited to four spaces and will not occur during high volume holiday weekends. Public notice will be provided for temporary daily closure of a portion of the parking area and pathway in vicinity of the work area.

REC-2 Closure Signage and Fencing

Install signage and temporary barriers as needed during the intermittent closures. All signage and postings will meet applicable USFS universal accessibility guidelines (Architectural Barriers Act Accessibility Standards and Forest Service Outdoor Recreation Accessibility Guidelines). Temporary construction fencing will be placed in a manner such that it does not block existing travel routes on the Stateline-to-Stateline Bikeway and Lam Watah trail except during times when work is being conducted in that immediate vicinity.

REC- 3 Traffic Control

Implement traffic control as needed on Kahle Drive and at the Lam Watah Trailhead. Design access routes, staging areas and time of use to minimize impacts to public access to recreational lands.

Cultural Resources

CUL-01 Field Surveys

Heritage resource field surveys have been completed for all disturbance areas identified in the proposed action.

CUL-02 On-Site Historic Property Protection Measures

Heritage Program Manager or delegated Heritage Program staff (HPM/DHPS) may provide written approval for an undertaking's activities within or adjacent to the boundaries of historic properties based on professional judgment that such activities will not have an adverse effect on historic properties, or under carefully controlled conditions such as those specified below. All activities performed under Section 2.0 (Standard Protection Measures) must be documented in inventory or other Heritage Program Reports (HPMs), or other compliance reports prepared pursuant to the executed Region 5 Programmatic Agreement (PA).

1.0 Class I: Avoidance

HPM/DHPS shall exclude historic properties from areas where activities associated with undertakings will occur, except where authorized below.

1.1 Proposed undertakings shall avoid historic properties. Avoidance means that no activities associated with undertakings that may affect historic properties, unless specifically identified in this PA, shall occur within historic property boundaries, including any defined buffer zones (see clause 1.1(a), below).

Portions of undertakings may need to be modified, redesigned, or eliminated to properly avoid historic properties.

(a) Buffer zones may be established to ensure added protection where HPM/DHPS determine that they are necessary. The use of buffer zones in avoidance measures may be applicable where setting contributes to property eligibility under 36 CFR 60.4, or where setting may be an important attribute of some types of historic properties (e.g., historic buildings or structures with associated historic landscapes, or traditional cultural properties important to Indians), or where heavy equipment is used in proximity to historic properties.

(1) The size of buffer zones must be determined by HPMs or qualified Heritage Program staff on case-by-case bases.

(2) Landscape architects and qualified Heritage Program staff may be consulted to determine appropriate view sheds for historic resources.

(3) Indian tribes, or their designated representatives, and/or Native American Traditional Practitioners shall be consulted when the use or size of protective buffers for Indian traditional cultural properties needs to be determined.

1.2 Activities within historic property boundaries will be prohibited with the exception of using developed Forest transportation systems when the HPM or qualified heritage professional recommends that such use is consistent with the terms and purposes of this agreement, where limited activities approved by the HPM or qualified heritage professional will not have an adverse effect on historic properties, or except as specified below in sections 2.0 and 3.0 of Appendix E.

1.3 All historic properties within APEs shall be clearly delineated prior to implementing any associated activities that have the potential to affect historic properties.

(1) Historic property boundaries shall be delineated with coded flagging and/or other effective marking.

(2) Historic property location and boundary marking information shall be conveyed to appropriate Forest Service administrators or employees responsible for project implementation so that pertinent information can be incorporated into planning and implementation documents, contracts, and permits (e.g., clauses or stipulations in permits or contracts as needed).

1.4 When any changes in proposed activities are necessary to avoid historic properties (e.g., project modifications, redesign, or elimination; removing old or confusing project markings or engineering stakes within site boundaries; or revising maps or changing specifications), these changes shall be completed prior to initiating any project activities.

1.5 Monitoring by heritage program specialists may be used to enhance the effectiveness of protection measures. The results of any monitoring inspections shall be documented in cultural resources reports and the Infra database.

INVASIVE PLANT RISK ASSESSMENT
BURKE CREEK RABE MEADOW
RIPARIAN RESTORATION PROJECT

LAKE TAHOE BASIN MANAGEMENT UNIT
USDA FOREST SERVICE

March 2024

Prepared by: _____ Date: 3/6/24
Alison Stanton, Botanist, Sierra Ecotone Solutions LLC

Prepared by: _____ Date: 6 MAR 2024
Garth Alling, ~~Biologist~~, Sierra Ecotone Solutions LLC

Approved by: Emma Williams Date: 3/11/2024
Emma Williams, Forest Botanist

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1 INTRODUCTION

The United States Forest Service (USFS) has identified invasive species as one of four critical threats to the nation's ecosystems. Invasive plants pose a significant threat to ecological function due to their ability to displace native species, alter nutrient and fire cycles, decrease the availability of forage for wildlife, and degrade soil structure. Infestations can also reduce the recreational or aesthetic value of native habitats.

Forest management activities can contribute to the introduction and spread of invasive plants by creating suitable environmental conditions for establishment and by acting as vectors for spread. The following risk assessment has been prepared to evaluate the risk associated with invasive plant introduction and spread as a result of the project.

1.1 ANALYSIS FRAMEWORK: PERTINENT LAWS, POLICIES, AND DIRECTION

A comprehensive summary of principal statutes governing the management of invasive plants on the National Forest System is available in FSM 2900. A brief summary of the pertinent laws, policies, and direction is provided below.

1.1.1 Federal Laws and Executive Orders

Executive Order 13112 (1999)—directs federal agencies to prevent the introduction of invasive species; detect and respond rapidly to control such species; and to minimize the economic, ecological, and human health impacts from invasive species on public lands.

1.1.2 Forest Service Policies and Direction

Forest Service Manual 2080 (1995)—Was replaced by FSM 2900 in 2011. FSM 2080 revised USFS national policy on noxious weed management to emphasize integrated weed management, which includes prevention and control measures, cooperation, and information collection and reporting.

Forest Service Manual 2900 (2011)—directs the Forest Service to manage invasive species with an emphasis on integrated pest management and collaboration with stakeholders, to prioritize prevention and early detection and rapid response actions, and ensure that all Forest Service management activities are designed to minimize or eliminate the possibility of establishment or spread of invasive species on the National Forest System (NFS) lands or to adjacent areas.

Forest Service Manual 2070 (2008)—provides guidelines for the use of native material on NFS lands. It restricts the use of persistent, non-native, non-invasive plant materials and prohibits the use noxious weeds for revegetation, rehabilitation and restoration projects. It also requires that all revegetation projects be reviewed by a trained or certified plant material specialist for consistency with national, regional, and forest policies for the use of native plant materials.

The Forest Service National Strategic Framework for Invasive Species Management (2011)—provides a consistent, agency-wide approach to the prevention, detection, and control of invasive insects, pathogens, plants, wildlife, and fish. The Framework provides broad and consistent strategic direction across all Forest Service Deputy Areas and agency programs. It also describes how National and Regional Invasive Species Issue Teams (NISIT and RISIT) will coordinate activities with the Forest Service and with Federal, State, and local partners. National priorities will be reviewed at least once every 5 years and

adjusted as needed. RISITs will assess and adjust their regional invasive species priorities for their respective ecosystems at least once every 5 years. The Framework incorporates the Invasive Species Systems Approach (ISSA) developed by the Forest Service to respond to threats over the next 5 to 10 years and supersedes the National Strategy and Implementation Plan for Invasive Species Management (2004). The ISSA identifies the elements and actions of the Framework that all programs and units within the National Forest System, Research and Development and State and Private Forestry should take, as appropriate, in addressing invasive species.

Region 5 Noxious Weed Management Strategy and Action Plan (**USDA Forest Service 2000**)**—i**n response to national direction and regional needs, the region has developed this plan that is tiered to the national strategy. The Regional strategy emphasizes actions necessary to: promote the overall management of noxious weeds; to prevent the spread of weeds; control existing stands of weed infestations; promote the integration of weed issues into all Forest Service (FS) activities.

Sierra Nevada Forest Plan Amendment (USDA 2004)—Establishes the following invasive plant management prioritization: 1) prevent the introduction of new invaders; 2) conduct early treatment of new infestations; 3) contain and control established infestations. It also requires forests to conduct an invasive plant risk assessment to determine risks for weed spread (high, moderate, or low) associated with different types of management activities and develop mitigation measures for high and moderate risk activities with reference to the weed prevention practices in the Regional Noxious Weed Management Strategy. The 2016 LMP standards and guidelines included below supersede those Sierra Nevada Forest Plan Amendment plan components, however this invasive plant risk assessment has been prepared with guidance from the Sierra Nevada Forest Plan Amendment.

1.1.3 Forest Plan Direction

LTBMU Land Management Plan (LMP) (USDA 2016). The plan provides Standards and Guidelines regarding Invasive Species Management and directs the FS to incorporate prevention and control measures into project planning, management activities and operations to prevent new introductions or contribute to spreading of invasive species, and reduce impacts from existing infestations on NFS lands, or to adjacent lands and water bodies.

The LMP specifically addresses invasive plants through the development of desired conditions:
DC69. Invasive species do not adversely affect native species, human health, ecosystem processes, or other NFS resources.
DC70. Aquatic and terrestrial ecosystems are self-sustaining and resistant to the establishment of invasive species.
DC71. Invasive species management prioritizes prevention and early detection and rapid response actions.

The LMP also addresses Invasive Species Management Strategies for both aquatic and terrestrial species. Please refer to Standards and Guidelines below:

SG73. Incorporate prevention and control measures into project planning, management activities and operations to prevent new introductions or contribute to spreading of invasive species, and reduce impacts from existing infestations on NFS lands, or to adjacent lands and water bodies. [Standard]
SG74. When feasible, employ the following control measures, such as: [Guideline]

a) Use contract and permit clauses to require that the activities of contractors and permittees (including but not limited to special use permits, utility permits, pack stock operators) are

conducted to prevent and control the introduction, establishment, and spread of aquatic and terrestrial invasive species.

b) Include invasive species prevention and control measures in mining plans of operation and reclamation plans.
c) When working in known invasive species infestations during project implementation, equipment and vehicles shall be cleaned before moving to other NFS lands.
d) Support partner agencies and their programs.
e) Use on-site materials where feasible, unless contaminated with invasive species.

SG75. Gravel, fill, topsoil, mulch, and other materials should be free of invasive species. [Guideline]
SG76. New infestations are inventoried, and known infestations are prioritized and contained, controlled, or eradicated using an integrated management approach. [Standard]

Aquatic
SG77. Ensure that all motorized watercraft launching from staffed Forest Service facility have required documentation of AIS inspection. [Standard]
SG78. All equipment and vehicles (Forest Service and contracted) used in a waterbody during project implementation shall be inspected and free of invasive species prior to implementation. [Guideline]
SG79. Take actions as needed to minimize the risk of spreading Bd fungus and other potential aquatic pathogens and/or diseases through aquatic systems. [Guideline]
SG80. Ensure that field gear (waders, float tubes, etc.) is cleaned, decontaminated, and/or fully dried prior to entering or moving between aquatic habitats. [Guideline]
SG81. Establish non-motorized watercraft risk screening for AIS at staffed entry points for both Forest Service boat launches and recreation facilities adjacent to Lake Tahoe water bodies, including campgrounds, resorts, and day use areas. [Guideline]
SG82. Following emergency response guidelines, implement prevention measures to decrease the potential for aquatic invasive species transference during [Guideline]

Terrestrial
SG83. For projects involving ground disturbance, inventory project areas and adjacent areas (particularly access routes) for invasive plants. [Guideline]
SG84. If supplemental fodder (such as hay, straw, or silage) is required for permitted livestock, including horses and other pack animals, it shall be weed-free as certified by state or local certification programs. [Standard]
SG85. Screen plant materials used in revegetation, rehabilitation, and restoration (seed, cuttings, whole plants) for invasive plant risks. Avoid the use of persistent non-native plants unless justified in project documentation. [Guideline]
SG86. All equipment and vehicles (Forest Service and contracted) used off-road during project implementation shall be cleaned and free of invasive plant material before moving into the project area. [Guideline]
SG87. Following emergency response guidelines, utilize washing stations at staging areas, base camps, or other incident locations, to clean soil, seeds, vegetative material, or other debris that could contain invasive plant material from off-road equipment and vehicles. [Guideline]
SG88. Avoid locating landings or staging areas within areas infested by invasive plants, including during project implementation, fire management activities, and other ongoing management and maintenance activities. If infested areas are the only feasible landing/staging areas, then treat infestations prior to use, except in emergency situations. [Guideline]
SG89. Minimize the size of staging and construction areas. Where feasible, reestablish vegetation on disturbed bare ground to reduce invasive species establishment. [Guideline]

2 PROJECT DESCRIPTION

2.1 LOCATION AND EXTENT

The Burke Creek Rabe Meadow Riparian Restoration Project (Project), is located primarily on land managed by the US Forest Service (USFS) Lake Tahoe Basin Management Unit (LTBMU) in Stateline, Douglas County, Nevada (**Figure 1- Project Location and Vicinity**). The Project study area is 274 acres and includes the lowest reach of Burke Creek west of Highway 50, Rabe Meadow, a small parcel of private property owned by the Tahoe Beach Club, and a small part of the USFS Nevada Beach campground.

The Project area is bordered by Kahle Drive to the south, US Highway 50 to the east, Lake Tahoe to the west, and Nevada Beach Campground and Elks Point Road to the north. The project area includes the Lam Watah Trail and the Stateline-to-Stateline bike trail. The trailhead facilities are located at the corner of Kahle Drive and US Highway 50. The Project is located with the USGS South Lake Tahoe Quadrangle in T13N R 18E Sec 22.

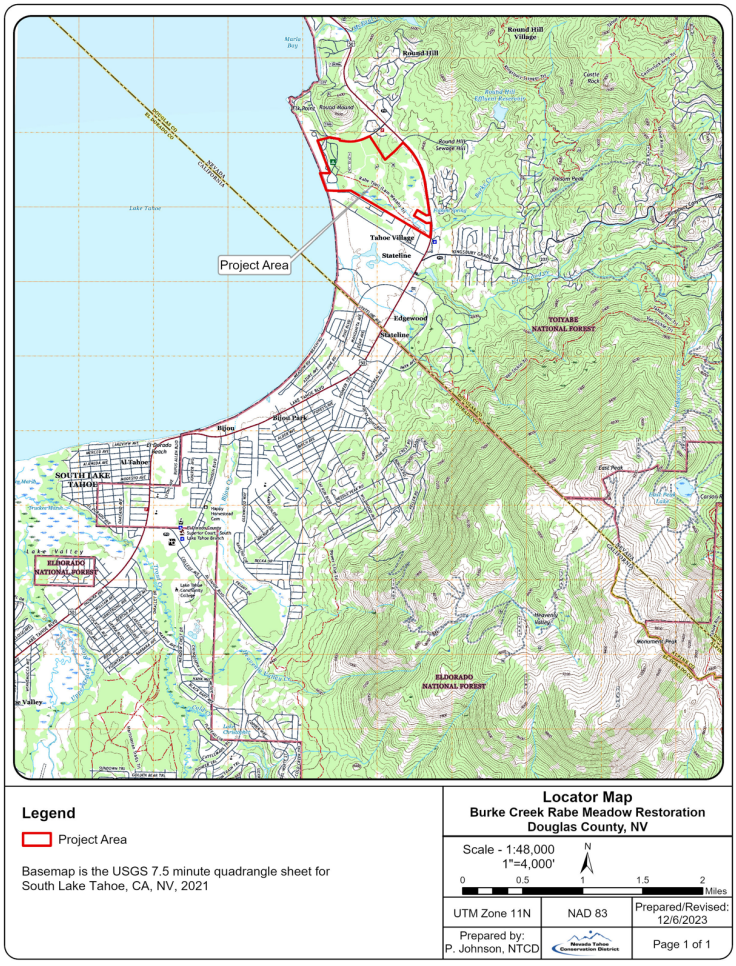

Figure 1. Project Vicinity Map

2.2 Project Overview and Planned Activities

The Burke Creek Rabe Meadow Riparian Restoration (Project) is being designed and managed by the Nevada Tahoe Conservation District (NTCD) under a cooperative agreement with the LTBMU. A small part of the Project would occur on adjacent private property owned by the Tahoe Beach Club. The purpose of the Project is to implement restoration to improve water quality and restore riparian and meadow vegetation to improve aquatic and terrestrial habitats. A central component of the Project is to re-align Burke Creek into a new high-sinuosity channel with a new outlet to Lake Tahoe and create a restored floodplain within Rabe meadow to create a more natural hydrology. The Project will also restore several man-made features including the Kahle Ditch, Jennings Pond, and remnant ditches. Other Project components include a new stormwater retention basin, construction of utility infrastructure with new access routes, and recreational improvements.

The Project includes 5 major components and has been divided into 5 Sub-Project areas as shown on the aerial imagery (**Figure 2- Project Overview and Project Sub-Project area locations**).

1. Burke Creek realignment and Kahle Ditch outlet restoration
2. Kahle Ditch restoration above new pump station access road
3. Restoration of Burke Creek alignment in the center of Rabe Meadow
4. Jennings Pond restoration and recreation improvements
5. Rabe Meadow ditches decommissioning

Project activities for the restoration include the following:

- Earthwork including excavation, fill, grading and utility trenching
- Dewatering of portions of Burke Creek, Jennings Pond, and Kahle ditch
- Salvage and relocation onsite of aquatic organisms within Burke Creek, Jennings Pond and Kahle ditch prior to dewatering activities
- Treatment and removal of invasive species within Rabe Meadow, Burke Creek, and Kahle Ditch.
    - Surveys for aquatic invasive species will be performed prior to any ground disturbance. Removal of aquatic invasive plant species shall be performed prior to dewatering, filling or disturbance. Methods of removal may vary and shall be determined on a case-by-case basis (e.g. hand pulling, suction dredging, placement of benthic barriers)
- Temporary access routes to portions of the restoration area
- Removal of conifers encroaching into meadow areas
- Revegetation using native seed, aspen plugs, and willow and sod transplanting
- Modify existing or obtain new special use permits with Nevada Energy, Southwest Gas, Douglas County, and the Douglas County Lake Tahoe Sewer Authority
- Decommission user-created trails and reconstruct trails and crossings that are causing resource damage.

Restoration will include a variety of techniques with the goals of improved water quality, erosion control, more natural hydrology, and robust riparian and meadow vegetation which in turn provide improved aquatic and terrestrial habitat for plants and animals. Restoration techniques utilized in each sub-project area will vary depending on observed existing conditions and machinery access to each area and will range from significant realignments of the creek and floodplain grading in some areas to smaller process-based restoration techniques in other areas. A project overview map of the project activities is attached for reference.

For a detailed project description of the proposed action please refer to the 2023 Burke Creek Rabe Meadow Riparian Project BE prepared for the project submitted to the USDA Lake Tahoe Basin Management Unit Forest Service Supervisors Office with this report.

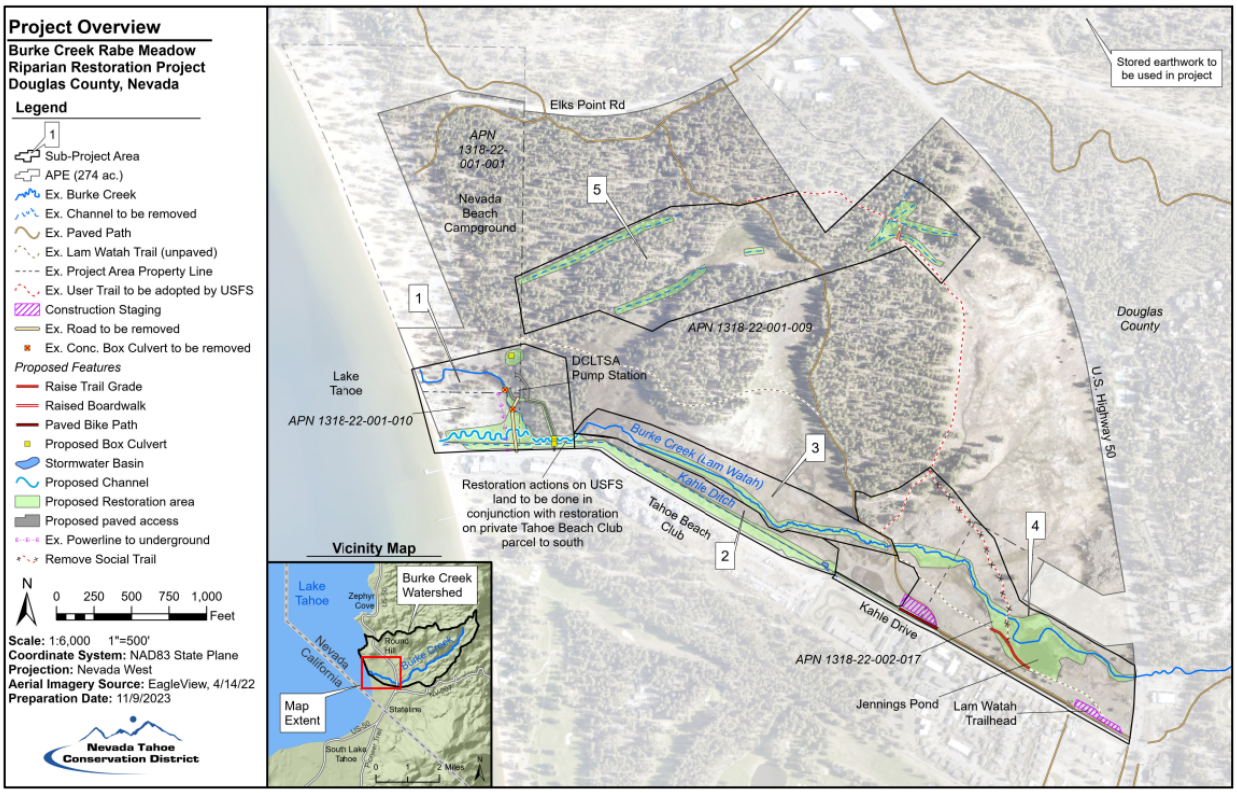

Figure 2. Project Overview and Sub-Project Area Locations Map

3 Non-Project Dependent Factors

3.1 Inventory

3.1.1 Surveys and Existing Data

The LTBMU Invasive Plants of Management Concern list (**Appendix A**) and spatial data of the most recent invasive plant surveys (LTBMU GIS for IPS) were reviewed prior to field surveys. For the purposes of the survey, it was assumed that there was potential for all terrestrial invasive plant species on this list within the project area.

In 2023, field surveys were conducted during multiple visits in June-July on approximately 16 acres within the botany analysis area where activities are planned. Additional surveys were conducted in these areas in 2021. For those areas outside of the surveyed areas, but within the botany analysis area, species occurrence information was compiled using LTBMU invasive plant species records and past survey reports.

Field surveys were designed around the flowering period and ecology of the invasive plants on the management list. Survey methodology consisted of a combination of general and intuitive controlled pedestrian surveys conducted along trails, parking areas, upland, riparian and meadow habitats targeted for Project activities. Staging areas and access routes were also surveyed. For each invasive species found, information was collected that described the size and extent of the infestation and mapped using a Global Positioning System (GPS).

3.1.2 Assessment Summary

Pre-implementation surveys and the current LTBMU invasive plant GIS database provides sufficient data to complete the risk assessment.

3.2 Known Invasive Plants in the Project Area

Figure 3 provides the locations of known invasive plant infestations within the Project Area boundary.

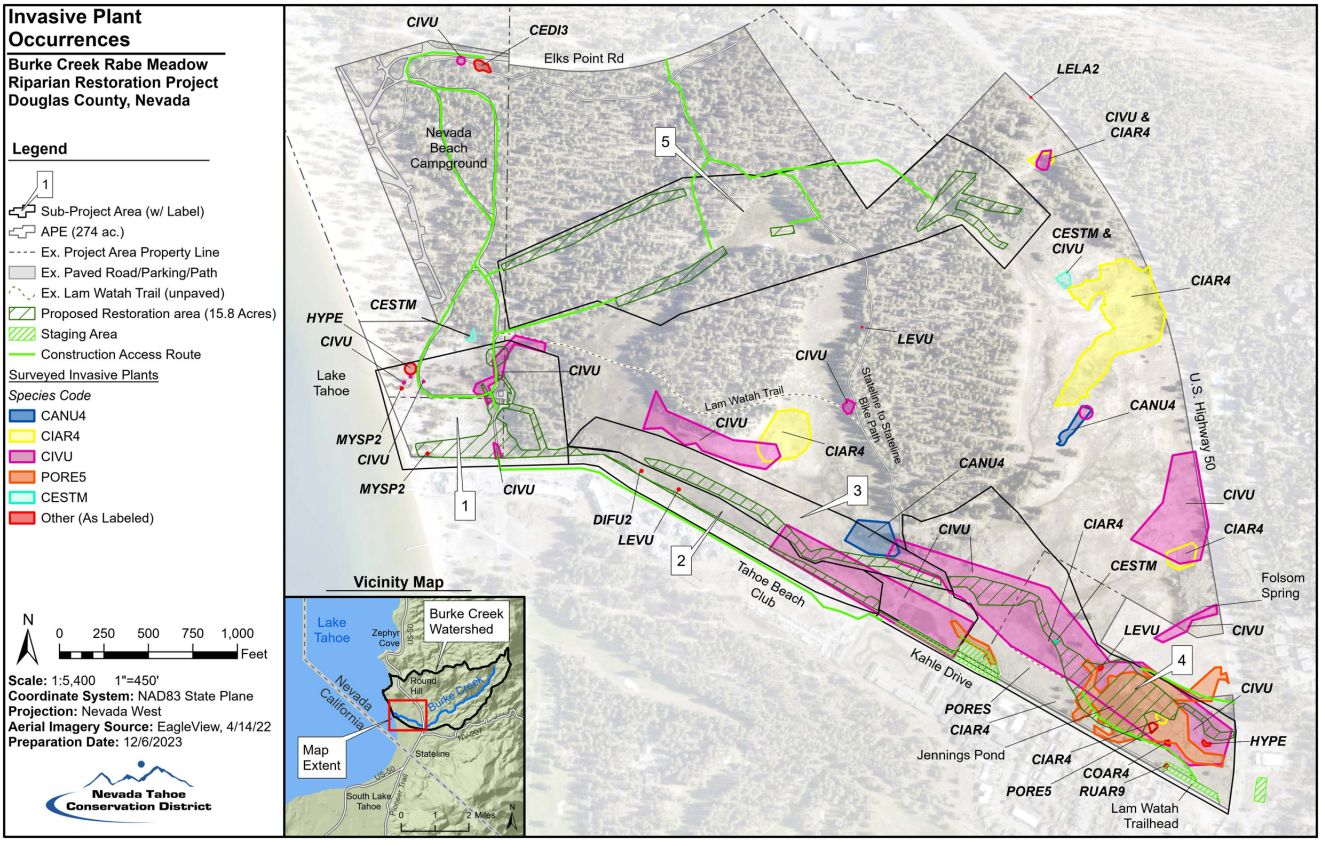

Figure 3. Location of known invasive plant infestations within the Project Area boundary.

Table 1 provides the LTBMU Invasive Plants of Management Concern known or with potential to occur in the Project Area. Infestation ID information is included for the 9 species mapped in the area.

Table 1: LTBMU Invasive Plants of Management Concern known or with potential to occur in the Project Area.

Scientific Name	Common Name	USDA Plant Code	Found?	Infestation Site ID
Acroptilon repens	Russian knapweed	ACRE3	No	
Ailanthus altissima	tree of heaven	AIAL	No	
Bromus tectorum	cheatgrass	BRTE	Yes	
Carduus nutans	nodding plumeless thistle	CANU4	Yes	0519436A, 0519885D
Centaurea calcitrapa	purple starthistle	CECA2	No	
Centaurea diffusa	diffuse knapweed	CEDI3	Yes	0519595B
Centaurea solstitialis	yellow starthistle	CESO3	No	
Centaurea stoebe ssp. micranthos	spotted knapweed	CESTM	Yes	0519885C, 0519129
Centaurea virgata ssp. squarrosa	squarrose knapweed	CEVIS2	No	
Chondrilla juncea	rush skeletonweed	CHJU	No	
Cirsium arvense	Canada thistle	CIAR4	Yes	519437, 519465A, 519885A, 519712 519709, 519877, 519223B, 05191746
Cirsium vulgare	bull thistle	CIVU	Yes	05191104, 0519130, 0519131, 0519132 05191854, 05191855, 0519219, 0519451A, 0519595A, 0519598 0519622, 0519921, 0519964, 05191745 05191755, 05191756, 05191797 0519183, 05191855
Conium maculatum	poison hemlock	COMA2	No	
Cytisus scoparius	Scotch broom	CYSC4	No	
Dipsacus fullonum	teasel	DIFU2	No	
Dittrichia graveolens	stinkwort	DIGR3	No	
Elymus caput-medusae	Medusa head	TACA8	No	
Elymus repens	quackgrass	ELRE4	No	
Hydrilla verticillata	hydrilla	HYVE3	No	
Hypericum perforatum	common St. Johnswort	HYPE	Yes	0519282, 519912, 05191742
Isatis tinctoria	dyer's woad	ISTI	No	
Lepidium appelianum	hairy whitetop	CAPU6 or LEAP7	No	

Lepidium draba	whitetop	CADR or LEDR	No	
Lepidium latifolium	perennial pepperweed	LELA2	Yes	0519793
Leucanthemum vulgare	oxeye daisy	LEVU	Yes	519461, 0519857, 05191748
Linaria dalmatica ssp. dalmatica	Dalmatian toadflax	LIDAD	No	
Linaria vulgaris	yellow toadflax	LIVU2	No	
Lythrum salicaria	purple loosestrife	LYSA2	No	
Myriophyllum spicatum	Eurasian watermilfoil	MYSP2	No	
Onopordum acanthium	Scotch thistle	ONAC	No	
Potamogeton crispus	curly pondweed	POCR3	No	
Potentilla recta	sulfur cinquefoil	PORE5	Yes	519609, 519338 , 05191747, 05191837
Rubus armeniacus	Himalayan blackberry	RUAR5	No	
Tamarix chinensis, T. ramosissima, and T. parviflora	tamarisk	TACH2, TARA and TAPA4	No	

A number of the mapped occurrences are located within Project Areas. Sub-Project Area 1 contains bull thistle (*Cirsium vulgare*) along the existing access road and the channel and outlet of Burke creek. Diffuse knapweed (*Centaurea diffusa),* Canada thistle (*Cirsium arvense*), and St. John's wort (*Hypericum perforatum*) also occur in this area. Eurasian watermilfoil (*Myriophyllum spicatum)* occurs at the outlets of Kahle Ditch and Burke Creek. Sub-Project Area 2 and 3 contain a patch of teasel (*Dipsacus fullonum*) and a small infestation of oxeye daisy (*Leucanthemum vulgare)* near Kahle Ditch and larger infestations of bull thistle and Italian thistle in the meadow. Sub-Project Area 4 contains the greatest concentration of invasive plants. Spotted knapweed (*Centaurea stoebe ssp. micranthos*), Canada thistle*,* nodding plumeless thistle (*Carduus nutans*), and sulphur cinquefoil (*Drymocallis glandulosa*) infestations have been documented within the planned grading area.

Two other species were detected that have invasive potential. A few large shrub-like comfrey plants *(Symphytum officanale)* were found within and adjacent to the Burke Creek channel near Jennings Pond, mainly within the arm of the creek coming from Folsom Spring which is outside of Sub-Project Area 4. These plants were treated in 2022 (E. Williams, pers. Comm.). Smooth brome (*Bromus inermis*) was found along the existing sewer pump station access road. No infestations are mapped within Sub-Project Area 5.

The extent and number of infestations in the Project Area pose a high risk to spread.

3.3 HABITAT VULNERABILITY

General Disturbance: Burke Creek and Rabe Meadow were significantly impacted during urbanization of the Tahoe Basin. The watershed was logged extensively during the Comstock Era of the late 1800s and

Rabe Meadow was used for livestock grazing until the 1970s. There were multiple developments in the 1960s and 70s including development of Sky Harbor Airport, followed by redevelopment of the airport into Tahoe Shores Mobile Home Park. The mobile home park has been redeveloped and replaced by the Tahoe Beach Club. These changes have impaired the hydrological connection between Burke Creek and the surrounding meadow and degraded water quality and aquatic and terrestrial habitats. The degraded conditions increase the vulnerability to weeds.

Recreation: Increased recreational use over the past two decades has resulted in an expansive network of user-created trails and an overall increase of bare soil throughout Rabe meadow. The area at the Lam Watah trailhead is heavily infested by non-natives and the trails throughout the Project Area have the greatest vulnerability to common weeds that are transported on human shoes and pets. The open habitat and bare areas in Nevada Beach campground in the vicinity of the mouth of Burke Creek are also highly vulnerable to weed introduction and spread.

Hydrology: The riparian plant communities of Burke Creek and Kahle Ditch and portions of Rabe meadow are susceptible to invasive species that require mesic conditions such as oxeye daisy and Sulphur cinquefoil, and also to facultative species like the thistles that thrive in meadow habitats. The wettest parts of Rabe meadow are not generally accessed by humans or pets and are relatively resistant to many introduced plants. Although, there are many areas of erosion that create bare ground where non-native plants may establish.

3.3.1 Habitat Vulnerability assessment

Within Sub-Project Areas 1 and 4, recreation intensity is very high, non-native weeds are prevalent, there is erosion and bare ground, therefore, habitat vulnerability is assessed as very high. Sub-Project Areas 2-3 (except for the part of 3 that includes trail) have limited use and habitat vulnerability is assessed as low. A small part of Sub-Project Area 5 is on a user-trail, however, there is little reason to stray from the trail in the area and the vulnerability of the surrounding forest is assessed as low. The overall vulnerability of habitat within the Project Area is assessed as high because the risk of spread in localized areas is very high.

3.4 NON-PROJECT DEPENDENT VECTORS

Recreation: The multiple walking and bike trails, including the Lam Watah trailhead, are heavily used and are the primary vectors of weed seed being transported on human shoes and pets throughout the Project Area. Nevada Beach campground is heavily used and also provides a source of weeds in the vicinity of the mouth of Burke Creek through the summer months.

Water: The Burke Creek channel can transport non-natives through the Project Area and into Lake Tahoe. Roadside ditches adjacent to Kahle Drive and the culverts in US Highway 50 convey stormwater and may be a source of non-native plants.

Other Factors: Fire risk is very high in the area with the high risk of ignitions from Nevada Beach Campground. Fire suppression activities and fuels reduction could be a vector of weeds. The project area was historically grazed, but grazing has not occurred for decades and is no longer a source of invasive plants.

3.4.1 Non-Project Dependent Vector assessment

The risk of spread from non-project dependent vectors is very high due to the intensive recreation in the Project Area and ability of water to transport weeds through the Project Area. This high risk of spread is moderated by the small size and number of infestations of terrestrial invasive plants located within the Project Area. If the amount of weeds within the Project area increases, the risk of spread through recreation would also increase. For aquatic invasive plants, Lake Tahoe will remain a vector of Eurasian watermilfoil, and the new outlet of Burke Creek is likely to become infested after the Project is complete, due to the proximity of other infestations and high amount of visitor use.

4 PROJECT DEPENDENT FACTORS

4.1 HABITAT ALTERATION

The Project will implement ground disturbing actions including excavation and grading with heavy equipment. Project implementation will result in a high degree of habitat modification with the objective to restore the riparian corridor of Burke Creek and adjacent wetland habitats. The overall amount of these habitats is expected to increase as a result of the Project and the created habitat is expected to be of higher quality than existing conditions.

4.2 INCREASED VECTORS AS A RESULT OF PROJECT CONSTRUCTION

Construction: As shown in **Figure 3**, project activities and disturbance will occur within a total area of 15.8 acres out of the 247-acre analysis area. Invasive plant occurrences were found or are known to occur within areas that will be disturbed. In 2023, infestations listed in table 1 were revisited and treated. Infestations that persist in grading areas will be flagged on the ground prior to implementation, and treated if timing is appropriate, however it is unlikely extant infestations will be avoidable. Where infestations were not treated or re-occur during the construction season, project activities could expose and/or transport invasive plant propagules within and between Sub-Project Areas. The very high amount of habitat alteration and disturbance will occur within Sub-Project Area 4, the area that is the most heavily infested. Most of the disturbance in Sub-Project Area 1 will avoid infested areas.

Equipment and Access Routes: Construction equipment would move along access routes to Sub-Project Areas. The majority of the access routes do not have known infestations, however, the access routes in Sub-Project Areas 1 and 4 have known infestations.

Materials: The Project may utilize erosion control materials, road base, and a variety of fill. The majority of fill will be native soil sourced through Project implementation, although fill may be brought in from outside weed-free sources, as needed. Native fill from excavation in Sub-Project Area 1 will be used in Sub-Project Area 4 and could spread bull thistle, along with many other non-native weedy species. Sub-Project Area 2 does not have mapped occurrences, but fill from this area will be moved to fill Jennings Pond. Off-site fill is proposed for use that was sourced from the 2016 Kahle Basin Implementation Project. The fill is currently stored off-site on Sewer Plant Road and covered with protective tarps. The fill pile was surveyed in 2023 and *Bromus tectorum* and *Melilotus albus* were detected in the vicinity. These species are already present throughout the proposed grading areas. The risk of introducing new infestations through proposed fill material is low.

Roads & trails: The Project includes improvements to existing trails and will not create additional trails. An access road will be replaced and may result in a very minor increase in the amount of road within Nevada Beach Campground.

Utility Corridors: Bull thistle and many other non-native weedy species are located along the existing access road in Sub-Project Area 1 where utilities will be undergrounded. These infrastructure modifications will occur within the existing right-of way and would not expand the amount of utility corridors present in the Project Area.

Traffic/visitor use: The project includes recreation improvements within the Burke Creek/Rabe Meadows complex and Nevada Beach campground that are intended to rectify existing issues with access and concentrate use. Visitor use is expected to remain high, but is not expected to increase as a result of the improvements.

The temporary and potential long-term increase in vectors listed above will be addressed through the Management Measures described in the next section.

4.3 MANAGEMENT MEASURES

The following resource protection measures (RPMs) are proposed for the Burke Creek Rabe Meadow Riparian Restoration Project to minimize and avoid potential project-related effects on botanical resources. The following measures are designed to minimize risk of new weed introductions, minimize the spread of weeds within project areas, and minimize the spread of weeds between project areas. Measures INV-01-08 directly incorporate the Standards and Guidelines from the LTBMU Land and Resource Management Plan (USFS 2016) and INV-09 has species-specific measures. NTCD is responsible for the implementation of applicable RPMs and BMPs and will incorporate them into the final design plans and any plans required for permitting.

INV-01 Inventory

- Before the onset of construction activities, each Sub-Project Area, associated access routes, material source sites, and staging areas will be inventoried for invasive plants.
- Infestations discovered prior to or during project implementation will be flagged and reported to the Forest Botanist or their designated appointee for prioritization and assessment for treatment. If infestations cannot be avoided or treated, a barrier will be installed to prevent the spread of non-native invasive plants to new areas within the project area or off site. Appropriate barrier areas and methods will be established in coordination with the Forest Botanist.

INV-02 Equipment Cleaning

- All equipment and vehicles used for project implementation must be free of plant material before moving into the project area. Equipment will be considered clean when visual inspection does not reveal soil, seeds, plant material or other such debris. Cleaning shall occur at a vehicle washing station or steam-cleaning facility before the equipment and vehicles enter the project area.
- When working in known invasive plant infestations or designated weed areas, equipment shall be cleaned before moving to un-infested areas of the project and other National Forest Service system lands. These areas will be flagged on the ground and identified on project maps.

INV-03 Staging areas

- Equipment, materials, or crews will not be staged in invasive plant-infested areas, wherever feasible. If staging within existing infestations cannot be avoided, the invasive species would be treated/removed, then a barrier will be installed to prevent the spread of non-native invasive plants to new areas within the project area or off site. Appropriate barrier areas and methods will be established in coordination with the Forest Botanist.

INV-04 Control Areas

- Where feasible, invasive plant infestations on the LTBMU priority ranking list will be designated as Control Areas in coordination with the Forest Botanist. Equipment, traffic and soil-disturbing project activities would be excluded in Control Areas and will be identified on project maps and delineated in the field with orange 'noxious weed' flagging. Where Control Areas cannot be avoided, and risk of spread of a priority management species to new areas is high, invasive plants will be treated/removed and appropriate barriers will be installed, if feasible, and equipment will be washed on site before moving to a new sub-project area.

INV-05 Project-related disturbance

- The amount of ground and vegetation disturbance in staging and construction areas will be minimized to the extent possible. Where feasible, vegetation will be reestablished on disturbed bare ground to reduce invasive species establishment; revegetation is especially important in staging areas. Where soil compaction has occurred to an extent that would inhibit native plant establishment (including all access routes, staging and storage sites), disturbed areas should be de-compacted by scarifying and mulched prior to seeding. Revegetation activities in areas with existing infestations will be designed to favor native species establishment over non-native invasive species growth and spread.

INV-06 Post Project Monitoring

- After the project is completed, the Forest Botanist will be notified so that the project area can be monitored and treated for invasive plants for a minimum of three years after project implementation to mitigate project related introduction and spread of these species.

INV-07 Gravel, fill, and other materials

- Gravel, fill, or other imported materials will be required to be determined as a suitable or conditional weed-free source by the LTBMU weed free material program. Onsite sand, gravel, rock, or organic matter will be used when possible. If conditional sources are used, early detection rapid response (EDRR) monitoring of application sites will be conducted for two growing seasons following implementation.
- Off-site fill is proposed for use that was sourced from the 2016 Kahle Basin Implementation Project. The fill is currently stored off-site on Sewer Plant Road and covered with protective tarps. The stock pile will be surveyed for invasive plants prior to movement to the Project area.

INV-08 Mulch and topsoil

- North American Invasive Species Management Association (NAISMA) certified weed-free mulch will be used if chipped material is not available on site. Topsoil will be salvaged from the project area for use in onsite revegetation, unless contaminated with invasive species.

INV-9 Species-Specific Management Measures

See Table 2 below

Table 2
Species-Specific Management Measures

Scientific Name	Common Name	Treatment
Bromus tectorum	Cheatgrass	• Flag and avoid where feasible. • Minimize disturbance in infested areas. • Use barriers to prevent spread from staging areas or constructed access routes.
Cirsium arvense	Canada thistle	• Flag and avoid all existing infestations • Chemically treat infestations with Aminopyralid in rosette to early flowering stages.
Cirsium vulgare	Bull thistle	• Remove plants by digging out the rosette and entire tap root, securely bag plants, and dispose offsite; • If present, remove flowering heads before seed set and dispose of off-site. • Pulled plants may be left on-site to desiccate if they are in rosette stage with no signs of bud or flower development.
Centaurea stoebe ssp. *micranthos* *Centaurea diffusa*	Spotted knapweed Diffuse knapweed	• Flag and avoid ground disturbance in all existing infestations • Remove plants by digging out the rosette and entire tap root, securely bag plants, and dispose offsite; if present, remove flowering heads before seed set and dispose of off-site. • Pulled plants may be left on-site to desiccate if they are in rosette stage with no signs of bud or flower development.
Hypericum perforatum	Klamath weed	• The deep taproots can regenerate, so hand pulling or digging is only effective for small isolated infestations. • Flag and avoid all existing infestations

Table 2
Species-Specific Management Measures

Scientific Name	Common Name	Treatment
		• Chemically treat infestations with Aminopyralid.
Lepidium latifolia	Perennial pepperweed	• Seedlings are easily controlled by hand-pulling, but mature plants will re-sprout. • Flag and avoid all existing infestations. • Chemically treat infestations with Chlorsulfuron.
Leucanthemum vulgare	Oxeye daisy	• Dig out plants if the soil is moist and loose enough to remove the entire shallow root-system with hand tools digging more than 6 inches deep. Dispose of off-site. • For larger stands, Aminopyralid would be applied in the spring during the seedling to pre-bud stage.
Potentilla recta	Sulphur cinquefoil	• Verify species identification during pre-implementation surveys and flag occupied areas for avoidance or as control areas. • Dig out plants if the soil is moist and loose enough to remove the entire woody root. Dispose of off-site. • For larger stands, Aminopyralid would be applied in the spring during the rosette to pre-bud stage. • Wash equipment on site prior to moving to other project areas
Myriophyllum spicatum	Eurasian watermilfoil	• Manual removal of plants and roots. Disposed of off-site. • Post-project monitoring of the new outlet of Burke Creek will be needed to detect and address new infestations.

4.3.1 Assessment summary

The risk of weed introduction and spread will be minimized by inventorying each Sub-Project Area prior to construction related disturbance, whenever feasible, and cleaning all construction equipment before entering the Project area or moving between areas. Staging in infested areas will be avoided to the extent feasible or appropriate protective barriers will be installed. Gravel, fill and revegetation materials will be screened for invasive species before use. Control Areas for construction exclusion will be designated, if appropriate, and infestations will be treated when feasible. These measures will be taken in coordination with the Forest Botanist and will avoid or reduce existing infestations and minimize the risk of spread. Post –project monitoring will reduce the long-term impacts of the Project. The consequences of not using these measures will result in increased risk of invasive plant infestations in the Project area and result in the degradation of sensitive resources. The resource protection measures listed above directly incorporate the Standards and Guidelines from the LTBMU Land and Resource Management Plan (USFS 2016) and are designed to minimize risk of new weed introductions, minimize the spread of weeds within units, and minimize the spread of weeds between units. These measures will be incorporated into Project designs.

5 ANTICIPATED WEED RESPONSE TO PROJECT

The overall risk of invasive weed spread and establishment as a result of Project implementation is moderate. This determination is based on the following and summarized in **Table 3:**

1. Invasive plants occur in the Project area;
2. Soil disturbance will occur within potentially infested riparian and meadow habitat;
3. Construction equipment and activities could import and spread weed propagules; and
4. The risk of transport of weed propagules through non-project dependent factors such as recreation and waterways is very high.

Table 3. Summary of Risk Factors

	Factor	Risk	Assessment summary
NON-PROJECT DEPENDENT FACTORS	Inventory	N/A	Pre-implementation surveys were completed in 2023 and the current LTBMU database of invasive plants is sufficient to complete the risk analysis.
	Known invasive plants	High	There are many known invasive plant occurrences within and around the Project area.
	Habitat vulnerability	High	Sub-Project Areas 1 and 4 are very vulnerable due to high recreation intensity. Sub-Project Areas 2-3 and 5 are low due to low accessibility and low levels of infestation.
	Non-project dependent vectors	Very High	Recreation intensity is very high within the Project Area and water and Lake Tahoe can also transport invasive plant propagules.
PROJECT-DEPENDENT FACTORS	Habitat alteration expected as a result of project	High	Project activities include excavation and grading to restore riparian corridor and wetland habitats. Although the created habitat is expected to be higher quality, a high degree of habitat modification will occur.
	Increased vectors as a result of project implementation	Low	Implementation of Management Measures are intended to reduce the temporary increase in potential

	Factor	Risk	Assessment summary
			weed spread from machinery and materials. Long-term increases in vectors are not expected.
	Management measures	Moderate	Standard management measures will be incorporated through design features to reduce invasive plant introduction and spread.
ANTICIPATED WEED RESPONSE		**High**	High levels of current infestation and high risk of spread.

6 REFERENCES

United States Department of Agriculture (USDA). 2016. Lake Tahoe Basin Management Unit Land and Resource Management Plan. USDA Forest Service, Lake Tahoe Basin Management Unit, South Lake Tahoe, CA.

USDA. 2012. Region 5 Noxious Weed Management Strategy and Action Plan. USDA Forest Service, Pacific Southwest Region. Vallejo, CA.

USDA. 2004a. National Strategy and Implementation Plan for Invasive Species Management. USDA Forest Service, Washington Office, Washington D.C.

USDA. 2004b. Sierra Nevada Forest Plan Amendment Record of Decision. USDA Forest Service, Pacific Southwest Region, Vallejo, CA.

USDA. 2005. Pacific Northwest Region, Invasive Plant Program; Preventing and Managing Invasive Plants. U.S.D.A. Forest Service. Final Environmental Impact Statement.

APPENDIX A. Invasive Species of Management Concern on the Lake Tahoe Basin Management Unit

Table 1: 2023 Invasive Plants of Management Concern. All species from the Terrestrial Invasive Plant Species (TIPS) Environmental Assessment (EA) (2010) are included in this list regardless of observations in the on LTBMU. Species in bold are not included in the TIPS EA (2010) and therefore their treatment options on LTBMU land may be limited.

Scientific Name	Common Name	USDA Plant Code	LTBMU Priority	NDA	CDFA	Cal-IPC	LTBWCG
Acroptilon repens	Russian knapweed	ACRE3	Medium	B	A	Moderate	Group 1
Ailanthus altissima	tree of heaven	AIAL	High		C	Moderate	Group 1
Berteroa incana	**Hoary alyssum**	**BEIN2**	**High**		**B**	**Watch**	
Bromus tectorum	cheatgrass	BRTE	Low			High	
Carduus nutans	nodding plumeless thistle	CANU4	High	B	A	Moderate	Group 1
Centaurea calcitrapa	purple starthistle	CECA2	Medium	A	B	Moderate	Group 1
Centaurea diffusa	diffuse knapweed	CEDI3	High	B	A	Moderate	Group 1
Centaurea solstitialis	yellow starthistle	CESO3	Medium	A	C	High	Group 1
Centaurea stoebe ssp. *micranthos*	spotted knapweed	CESTM	High		A	High	Group 2
Centaurea virgata ssp. *squarrosa*	squarrose knapweed	CEVIS2	High	A	A	Moderate	
Chondrilla juncea	rush skeletonweed	CHJU	High	A	A	Moderate	Group 1
Cirsium arvense	Canada thistle	CIAR4	High	C	B	Moderate	Group 1
Cirsium vulgare	bull thistle	CIVU	Low		C	Moderate	Group 2
Conium maculatum	poison hemlock	COMA2	Low	C		Moderate	
Convolvulus arvensis	Common bindweed	COAR4	Low		C		
Cytisus scoparius	Scotch broom	CYSC4	Medium		C	High	Group 2
Dipsacus fullonum	teasel	DIFU2	Low			Moderate	Group 1
Dittrichia graveolens	stinkwort	DIGR3	Low			Moderate ; Alert	Group 1
Elymus caput-medusae	Medusa head	TACA8	High			High	Group 1
Elymus repens	quackgrass	ELRE4	Low		B		
Hydrilla verticillata	**hydrilla**	**HYVE3**		**A**	**A**	**High**	
Hypericum perforatum	common St. Johnswort	HYPE	Medium	A	C	Limited	Group 2
Isatis tinctoria	dyer's woad	ISTI	High	A	B	Moderate	Group 1
Lepidium appelianum	hairy whitetop	CAPU6 or LEAP7	Medium		B		Group 1
Lepidium draba	whitetop	CADR or LEDR	Medium		B	Moderate	Group 1
Lepidium latifolium	perennial pepperweed	LELA2	High	C	B	High	Group 2
Leucanthemum vulgare	oxeye daisy	LEVU	Low			Moderate	Group 2
Linaria dalmatica ssp. *dalmatica*	Dalmatian toadflax	LIDAD	High	A	A	Moderate	Group 2
Linaria vulgaris	yellow toadflax	LIVU2	High	A		Moderate	Group 2
Lythrum salicaria	purple loosestrife	LYSA2	High	A	B	High	Group 1
Myriophyllum spicatum	**Eurasian watermilfoil**	**MYSP2**		**A**		**High**	
Onopordum acanthium	Scotch thistle	ONAC	High	B	A	High	Group 1
Phalaris arundinacea	Reed canary grass	PHAR3	Low				
Potamogeton crispus	**curly pondweed**	**POCR3**				**Moderate**	
Potentilla recta	sulfur cinquefoil	PORE5	Medium	A			Group 1
Rubus armeniacus	Himalayan blackberry	RUAR5	Medium			High	
Tamarix chinensis, T. ramosissima, and *T. parviflora*	tamarisk	TACH2, TARA and TAPA4	High	C		High	Group 1

APPENDIX G

GEOTECHNICAL REPORT

GEOTECHNICAL INVESTIGATION REPORT
KAHLE DRIVE RECONSTRUCTION
STATELINE, DOUGLAS COUNTY, NEVADA

A Report Prepared For:

Nevada Tahoe Conservation District
P.O. Box 915
Zephyr Cove, Nevada 89448

Prepared By:

Shane Mulvaney
Senior Geologist

Jonathan W. Pease, PhD., P.E., G.E.
Civil Engineer, (NV) 16296

Reno Tahoe Geo Associates, Inc.

P.O. Box 18449
Reno, Nevada 89511
(775) 853-9100

Project No. 22118.001
January 4, 2022

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1.0 INTRODUCTION AND SCOPE

1.1 Introduction

This report presents the results of Reno Tahoe Geo Associates (RTGA) geotechnical and pavement investigation for Kahle Drive Complete Streets Reconstruction Project in Stateline, Douglas County, Nevada. This letter is intended to provide design information for pavements and drainage appropriate for reconstruction of this roadway and information required by Douglas County. The vicinity map for the project is presented on Plate 1.

Only minimal subsurface investigation was included in the geotechnical scope of work. Therefore, it is important that RTGA be involved during grading and construction to confirm that the site conditions are as anticipated and to make any necessary revisions to our recommendations.

1.2 Project Description

The project site encompasses 2,320 feet of existing Kahle Drive and its associated right-of-way between Lake Tahoe Boulevard (US Highway 50) and its terminus at the Tahoe Beach Club entrance. The project area is shown on Plate 2 – Existing Site Plan.

Kahle Drive is currently a two-lane roadway about 25 feet wide without sidewalks or parking. The current street grade slopes down from U.S. 50 towards Lake Tahoe between 1 and 6 percent gradient, with the gradients generally increasing towards the southeast or uphill end of the alignment. The bottom of the alignment is at Elevation 6,350, and the top of the alignment is at Elevation 6,310 feet, or a rise of 60 feet. Left or right side of the street is relative to the stationing direction running from northwest (downhill) to southeast (uphill). The majority of the left side of the street has a bicycle trail/pedestrian path which is 20 to 30 feet outside of the right-of-way, beyond which is primarily undeveloped meadow. The western 500 feet of the left shoulder has a water quality basin built in 2018. There is a parking lot on the eastern 500 feet of the left side of Kahle Drive closest to U.S. 50. The western 500 feet of the right shoulder is an artificial wetland as part of a Kingsbury General Improvement District (KGID) facility. The majority of the right side is bordered with existing residences and apartment complexes, including intersections with Laura Drive, Faris Court, and Michell Drive. There are several vacant commercial lots on the right side of Kahle Drive within 400 feet of U.S. 50.

The existing roadway has severely degraded pavements along most of its alignment. There is abundant thermal, block, and alligator cracking, and multiple generations of repaired potholes. Water exfiltration occurs along most of the alignment during much of the year. Runoff from various uphill areas (including high groundwater levels) flows down Kahle Drive and eventually discharges to adjacent meadows in ways that are detrimental to water quality. A water quality basin has been constructed in 2018 on the northeast side of the downslope end of the project. Most utilities under the street are aged and require replacement.

The project proposes to transform Kahle Drive into a "complete street" by improving stormwater drainage and treatment, upgrading an outdated water main and hydrants, repairing wastewater infrastructure, adding sidewalks, bike lanes, crosswalks, and intersection safety improvements. The available roadway right-of-way is 50 feet, most of the additional undeveloped ROW being on the left or northeast side of the street. The new 32-foot-wide roadway will be generally shifted 6 to 12 feet northwest of the current curb line. There will be new sidewalks on the right or southwest side of the street just inside the edge of the existing right-of-way. The vertical alignment is significantly constrained by existing side streets and connections to residences and is not expected to differ more than 1 foot from the current grade. The overhead utility lines along the northeast shoulder will be buried, and new broadband facilities will be incorporated in the project.

1.2 Purpose and Scope of Work

The purpose of this investigation was to explore and evaluate the pavement, pavement base, and near-surface native soil conditions at the project site, and to provide our geotechnical engineering recommendations for project design and construction. Exploration consisted of pavement coring to determine condition and thickness, and sampling of aggregate base and native soils at three sampling locations. Our scope of work was reduced to this level from a larger scope which would have included more complete information on soil properties with depth and measurement of groundwater levels.

The scope of our reporting was outlined in our proposal dated October 5, 2022, and includes the following:

- A summary of existing pavement and subgrade conditions;
- A description of the field investigation and evaluation procedures;

- General soil and groundwater observations at the project site with an emphasis on how the conditions are expected to affect the proposed construction;
- Pavement replacement recommendations presenting short-, mid- and long-term recommendations including complete pavement structural cross sections, subgrade preparation, and subgrade drainage improvements where required. Pavement recommendations shall include material specification in accordance with NDOT or Orange Book standards; and
- Preliminary opinion of construction cost for the pavement rehabilitation sections including service lives.

2.0 FIELD EXPLORATION AND LABORATORY TESTING

2.1 Field Exploration

Explorations consisted of three pavement cores with soil sampling of the shallow subgrade materials. Our selection of field exploration locations was based on discussions with you onsite, the anticipated project layout, and site access. Explorations locations are shown on Plate 2.

2.1.1 Pavement Coring

Three locations were cored to determine asphalt concrete (AC) pavement thickness, aggregate base (AB) thickness and native soil sampling. Each core hole diameter was 10 inches. Core thickness was measured to the nearest ¼ inch. AB thickness was estimated by digging under the core locations. With the exception of location C-3 the pavement was of uniform consistency throughout the cores with no signs of having been placed with horizontal joints between lifts. Core C-3 included a surface pavement layer (overlay or repair) over 2 inches of degraded asphalt concrete. Measured pavement and base thicknesses are shown on Table 1.

TABLE 1 – PAVEMENT AND BASE THICKNESS

Location	Pavement Thickness (inches)	Base Thickness (inches)	Native Soil Type	Comments
C-1	4.5	4	Silty Sand (SM)	Single lift
C-2	6.75	6	Silty Sand (SM)	Single lift
C-3	4	0	Silty Sand with Gravel (SM)	2 inches of Competent Pavement Overlying 2 inches of Severely Degraded Pavement

2.1.2 Soil Sampling

Native soil was sampled under each coring location by excavating within the core hole with a hand auger and/or shovel. Where sufficient soil could not be collected from within the core hole near surface soil samples were also collected from native soil at the edge of the street. One bulk soil sample was collected for Resistance (R-Value) analysis. The core locations are shown on Plate 3 – Proposed Roadway Plan.

Our engineer visually classified and logged the soil conditions encountered according to the Unified Soil Classification System (USCS) and obtained bulk samples of representative soil stratum for laboratory testing. Soil samples were packaged and sealed in the field to reduce moisture loss and disturbance and returned to our laboratory for testing.

2.2 Laboratory Testing

Laboratory tests were performed on selected samples to aid in soil classification and to evaluate physical properties of the soils which may affect the geotechnical aspects of project design and construction. We performed laboratory testing on selected soil samples to assess the following:

- Soil Classification (ASTM D422, D1140, and D4318)
- R-Value (ASTM D2844)
- Corrosivity (Sulfate, Resistivity, Chlorides, and pH)

Laboratory test results are provided on Plates 4, 5, and 6.

3.0 PROJECT CONDITIONS

3.1 Site Conditions

From Lake Tahoe Boulevard, Kahle Drive slopes downward to the northwest at an average grade of approximately 5 percent. As mentioned above, in its current condition, Kahle Drive is highly degraded, with prevalent alligator cracking and potholes along its entire length.

3.2 Geologic Conditions

The geologic map compiled by Bonham and Burnett (1976) indicates the easternmost three-quarters of Kahle Drive is located on Quaternary fluvial deposits of pre-Tahoe age described as very poorly sorted sandy small pebble gravel with a well-developed soil horizon. The western quarter of Kahle Drive is shown overlying Quaternary fluvial deposits of Tioga age which are described as moderately to poorly sorted slightly weathered gravelly coarse sand derived from granodiorite. Tahoe age refers to an older glacial age between 70,000 and 100,000 years before present and Tioga age refers to the most recent glacial conditions between 10,000 and 30,000 years before present.

The NRCS maps the underlying soils primarily as Tahoe Complex (MUS 7041). These soils are classified as very poorly drained "mucky" silty loam with thinly bedded gravelly coarse sand and loamy sand layers. Slopes vary from 0 to 2 percent with depth to groundwater of 0 to 12 inches. These soils are classified as alluvium derived from granitic and volcanic rock.

Results of our coring sampling indicates existing degraded pavements are 4 to 6 inches thick with 4 to 6 inches of aggregate base. The aggregate base is generally somewhat mixed with native materials with 11 to 17 percent fines content. The sampled gradations may be compared to a specified fines content not exceeding 12 percent for SSPWC Type 1 Class A Aggregate Base or Class 1 or Class 2 Recycled Aggregate Base, or 10 percent for Type 2 Class B 3/4-inch aggregate base). The Nevada Department of Transportation also required 10 percent maximum fines content for Type 2 Class A or B Aggregate Base. The native soils are not significantly more silty than the base materials, with a fines content of 15 to 21 percent.

The native subgrade material sample for this project indicated an R-value of 71, which also meets and exceeds the R-value of 70 required for aggregate base materials by both SSPWC and NDOT. We note that in our investigations for Tahoe Beach Club located about 200 feet northwest at the end of Kahle Drive, our explorations encountered some aged, older lake clays close to the ground surface in

addition to silty sand materials. The three pothole samples only encountered silty sand materials consistent with the R-value sample.

3.3 Groundwater Levels

Groundwater conditions were not evaluated as part of our investigation. It is believed that at many times of the year, groundwater discharges to the surface in Kahle Drive and flows down the roadway surface where it exits through cracks and potholes. This groundwater also undoubtedly freezes during cold weather resulting in heave and volume change of the soils under traffic loading and loses strength for the short period where it is thawing. It is also possible that either surface water infiltration or groundwater collects in permeable backfill in utility trenches and returns to the surface where there are blockages to underground flow.

Previous groundwater studies included investigations for the Tahoe Beach Club summarized in a letter by RTGA (2019). This summarized and evaluated all previous groundwater data relative to a single vertical datum (NAVD88) and estimated a maximum seasonal groundwater level based on the previous groundwater measurements by various methods on various dates. The southeast end of the profile indicates previous groundwater levels on the southeast end of the Tahoe Beach Club property were 5 and 10 feet below existing ground surface.

A seasonal high-water table report was prepared in 2014 for planning of the Kahle Drive water quality basin located northeast of the downhill end of Kahle Drive (adjacent to Stations 11+00 to 14+00). This investigation used hand auger sampling and the TRPA methodology for identification of seasonal high groundwater level based on soil coloration and the presence of organic matter. This study concluded that maximum seasonal high groundwater level was typically 6 to 9 inches below the ground surface. We assume that at times, groundwater in this meadow is at the ground surface, although since construction of the basin in 2018, it may depress the groundwater a foot or more below the adjacent ground surface.

The upper portion of Kahle Drive is incised about 2 to 5 feet below adjacent natural grade on the left or northeast side (toward Burke Creek) and 1 to 2 feet lower than neighborhood grade on the southwest side. No groundwater data is present for this area other than the fact that water (from some origin) continually seeps from the pavement surface (generally in the range of Station 14+00 to 29+00) for most of the year.

3.4 Frost Heave Considerations

The soils in this area are moderately to highly subject to frost heave. This is due in part to the favorable soil type of fine sand with fines and significant potential for capillary rise, and in part due to the shallow groundwater reservoir/water table. Water may also be introduced due to irrigation and/or snow melt infiltration. Soil freezing will be more common and of greater duration for sidewalks or patios on the north sides of buildings/shaded areas, or in areas which are subject to adjacent snow storage from road or sidewalk clearing. Frost heave usually has only moderate consequence for asphalt pavements but may be significant for lightly loaded "rigid" concrete pavements, such as sidewalks. The Tahoe Beach Club has had a variety of issues in several areas of 4-inch sidewalks with annual winter heave of up to 2 inches relative to adjacent improvements including curb and gutter. Curbs and gutters are thicker and heavier than the sidewalk, and seems to heave less, although heave may occur throughout the roadway section with uniform response and therefore little differential movement. This differential heave may occur because water is trapped against the curb and gutter which may be adjacent to the sidewalk.

It is likely that the severe pavement deterioration in Kahle Drive is amplified by frost heave and subsequent reduction in strength when thawing occurs under otherwise flexible AC pavements. For this reason, a conservative drainage system has been recommended in Section 5.2.2. which also addresses frost heave.

This potential for frost can be reduced by using base materials which do not support capillary rise of moisture, and which deepen the materials in which frost heave occurs to below the depth of the freezing front. Drain rock with water in its voids will only expand about 2 percent, the expansion coefficient for ice itself. Drawbacks of drain rock include that it must be wrapped on all sides of the slab (bottom, sides, and top edges that are not encased in concrete) with a 4-oz-minimum-weight non-woven geotextile filter fabric. We believe the composite geonet would also provide a credible capillary break which will reduce upward migration of capillary seepage to the freezing front. Materials above the geonet could still expand due to water supplied from cracks in the pavement above.

Concrete slabs on grade are generally more susceptible to visible or physical damage compared to asphalt due to its brittle response and cracking. Adequate expansion joints adjacent to cast-in-place concrete landscaping walls is recommended so that if there is minor frost expansion, the sidewalk

will not be pinned at the edges and result in bending/tension cracks in the center of the restrained slab. Any stone facia on the adjacent walls should have adequate vertical spacing to prevent slabs from being pinned down by the facia. The amount of heave can be greatly reduced by use of drain rock as the base layer rather than aggregate base. The depth of curb and gutter is typically deeper than the depth of adjacent slabs, and they will be less susceptible to heave than the adjacent sidewalks and may be adequately supported on aggregate base.

4.0 DISCUSSION AND CONCLUSIONS

From a geotechnical engineering standpoint, the site is generally favorable to the planned reconstruction project. Based on the results of our field investigation and laboratory testing programs, we have developed the following conclusions. These conclusions may change if additional information becomes available:

- Pavements are significantly degraded and need to be replaced in full. The aggregate base of the existing roadway is out of specification for new roadway design and would be difficult to segregate from other materials.
- The strength of the subgrade materials is generally good; however, it is compromised for most of each year by groundwater upwelling and poor drainage. The existing roadway also likely collects regional drainage, being lower than adjacent grade, in addition to groundwater seepage. The contribution of each water source cannot be determined with the available data.
- It is conservative to estimate that groundwater level extends to the existing pavement surface, and groundwater should be suppressed under the roadway at least 2 feet depth by the addition of a robust drainage system. Drainage pipes and a capillary break layer are recommended to capture groundwater before it rises into pavement grade and to limit frost heave potential. Without mitigation, frost heave damage is likely.
- Subgrade soils are generally suitable as structural fill and provide good subgrade support but can become weakened when saturated due to poor surface and subsurface drainage. The surface drainage pattern might be analyzed to determine locations where gravel subdrains should be located below low points, in addition to surface drains.
- Localized areas are expected to have poor subgrade soils where potholes have occurred over long periods of time. These areas should be overexcavated to stronger soils and backfilled with compacted fill.
- Pavements are in poor condition due exceeding their design life and saturation of subgrade due to infiltration of water and poor drainage. We believe it would be possible to grind existing pavements and aggregate base materials to provide suitable recycled aggregate base per the Standard Specifications for Public Works Construction ("Orange Book") or Nevada Department of Transportation Standard Specifications ("Silver Book"). There are sufficiently low fines content in the aggregate base materials that if supplemented by the larger grain size of grindings the combined materials would material specifications.

5.0 RECOMMENDATIONS

5.1 Site Clearing and Preparation

Since the roadway is the only access to the neighborhood and to Tahoe Beach Club, incremental single-lane or partial lane construction will be required in most areas to keep Kahle Drive open during construction. If utilities under the roadway are deep enough with few risers or valves, it may be preferable to place the deepest drainage system first, replace all utilities under the roadway next, and then remove pavements as necessary for roadbed reconstruction. A drainage/capillary break layer would be completed first and the roadway section brought up to the surface in each lane or strip.

Existing pavements are in poor condition and leaving pavements in place or milling only part of the thickness will leave cracks and joints which will reflect up to the new pavement surface. The preferred approach would be to grind the asphalt, and mix/reuse it in combination with the existing aggregate base as a recycled aggregate base material. Recycled AB materials could be stockpiled or placed in windrows. An RTGA representative should be present to observe stripping and grubbing depths, confirm that grindings are suitable for reuse as aggregate base, and confirm that grinding does not incorporate subgrade soils. Consideration should be made as to whether grinding equipment can operate on partial lane widths, it may be necessary to haul off site narrow section removals and use more virgin materials.

Dust control will be the responsibility of the contractor. A dust control plan should be prepared by the owner, civil engineer, or contractor prior to the start of grading.

We would expect that nearly all pavement subgrade areas will be wet of optimum or fully saturated. Where they are not following site stripping and any required grubbing, we recommend all subgrade areas for the future support of pavements or fills be scarified to a depth of at least 8 inches, uniformly moisture-conditioned to near optimum moisture content, compacted to at least 90 percent relative compaction*, and proof-rolled to a firm and unyielding condition. Where there is saturated soil that prevents equipment support, subgrade stabilization will be required.

* Wherever referenced in this report, relative compaction should be determined by comparing the in-situ densities of the site soils to the maximum dry density and optimum moisture content as established in accordance with the ASTM D1557 Test Method.

It may be necessary to install drainage trenches first prior to compaction of subgrade. A thicker drain rock section with a heavier woven permeable geotextile or a non-woven geotextile combined with geogrid (than the capillary break layer in Section 5.2.5) may be necessary to provide stabilization under saturated conditions. Remedial earthwork may also be necessary in wetter areas or if clay soils are present near the surface (as observed for several proposed buildings for Tahoe Beach Club immediately northwest of the project alignment).

5.2 Earthwork

5.2.1 General Site Grading

For the purposes of this report, soils with greater than 30 percent fines are either fine-grained or clay soils, and granular soils are those with less than 30 percent fines. Clay soils have a plasticity index of 15 or greater, and fine-grained soils have a plasticity index of less than 15. Granular soils are those not defined by either criterion above. Structural areas are portions of the site that will support the proposed structures, foundations, or pavements.

It is anticipated that site grading can be performed with conventional earthmoving equipment. However, the presence of moderate to high subgrade moisture may cause difficulties with subgrade support.

5.2.2 Fill Placement

In general, existing granular fill soils and native site soils are suitable for re-use as engineered fill. If imported engineered fill is required, it should be granular and free of organics and should meet the specifications presented below in Table 2. Allowable fines content has been reduced due to the likelihood of shallow groundwater; higher fines content is acceptable if the soil is in a non-saturated layer during construction. All imported fill materials should be approved by the project engineer prior to being transported to the site.

TABLE 2 - GUIDELINE SPECIFICATION FOR IMPORTED ENGINEERED FILL		
Sieve Size	**Percent by Weight Passing**	
4 Inch	100	
¾ Inch	70 – 100	
No. 4	**35 – 100**	
No. 40	10 – 65	
No. 200	**0 – 20* (pavement subgrade) 10 – 30 (outside of roadway)**	
Percent Passing No. 200 Sieve	**Maximum Liquid Limit**	**Maximum Plastic Index**
5 – 20	40	15
21 – 30	30	10

Soils used for engineered fill should be uniformly moisture conditioned to within two percent of optimum moisture content and placed in layers of eight inches or less in loose thickness. The lift should then be compacted with appropriate compaction equipment to achieve at least 90 percent relative compaction. Excavated native soils that do not meet the requirements presented above in Table 2 should be stockpiled in a designated area for subsequent off-site disposal.

It should be noted that onsite soils are likely to be wet of optimum and may require drying prior to compaction. Given the limited alignment space and limited drying potential, it may be necessary to removed onsite fill materials offsite for scarification and moisture conditioning (drying). It is recommended that prior to densification, the moisture content of the fills be determined, to evaluate the need for moisture conditioning. After the densification process, a firm, stable surface should be produced. No material should be placed, spread or rolled while it is frozen or thawing, or during unfavorable weather conditions.

Prior to fill placement, the exposed subgrade surfaces should be scarified to a minimum depth of eight inches, moisture conditioned as necessary, and compacted to a minimum of 90 percent relative compaction in accordance with the ASTM D1557 compaction test method. In all cases, the final surface should be smooth, firm, and exhibit no signs of deflection.

Fill material with more than 30 percent durable particles greater than ¾-inch, is not applicable for conventional compaction testing. These materials should be uniformly moisture conditioned to above optimum moisture content of the minus ¾-inch portion of the material, placed in thin layers not

exceeding one-foot in loose thickness, and compacted with a minimum of five passes with a large sheepsfoot compactor, such as a Caterpillar 825, or five passes with an excavator with a compaction wheel. Other types and sizes of compaction equipment may require thinner lifts of material. In all cases, the finished surface should be smooth and exhibit no signs of deflection. This alternative procedure has provided adequate performance as long as all other geotechnical recommendations are closely followed.

5.2.3 Remedial Earthwork

Primarily granular soils were found to exist from the ground surface down to the maximum sampled depth of 1.5 feet, however clayier or siltier soils may exist elsewhere where potholes or poor pavement conditions are present. No clay or fine-grained soils were observed in the three core holes. We have observed large areas of the Tahoe Beach Club campus at the northwest end of Kahle Drive where native clay soils are encountered near the ground surface. Correspondingly, remedial earthwork will likely only be required for limited localized areas. An allowance for overexcavaton and replacement in the range of 10 percent of the property should be provided in the contract documents. The fine-grained soils were classified as moist, stiff, and as exhibiting low plasticity.

Clay or fine-grained soils should be removed from beneath pavements, unless grading is such that those soils will be covered by at least 1-½ feet of aggregate base or structural fill beneath slabs and pavements. The separation underneath slabs and pavements refer to the depth below the rigid (asphalt concrete/Portland cement concrete) layer and the thickness can include the AB layer. It must be emphasized that unless clay soils are completely removed from structural areas some differential movement should be anticipated. All over-excavation should be backfilled with compacted structural fill to footing grade, or subgrade for pavements and slabs.

5.2.4 Stabilizing Fill

If construction occurs in wet weather or the groundwater level is too shallow, surface soils can be well above optimum moisture and impossible to compact. In some situations, moisture conditioning of the top 12 inches of subgrade may allow the soil to dry sufficiently to allow compaction. Where construction schedules preclude delays or drying is ineffective, mechanical stabilization will be necessary. Mechanical stabilization may be achieved by over-excavation and/or placement of an initial 12- to 18-inch-thick lift of 12-inch-minus, 3-inch-plus, well graded, angular rock fill. The more angular and well graded the rock is, the more effective it will be. This fill should be densified with

large equipment, such as a self-propelled sheepsfoot or a large loader, until no further deflection is noted. Additional lifts of rock may be necessary to achieve adequate stability.

The use of a geotextile will prevent mud from pumping up between the rocks, thereby increasing rock-to-rock contact and decreasing the required thickness of stabilizing fill. The geotextile should meet or exceed the following minimum properties on Table 3:

TABLE 3 - MINIMUM AVERAGE ROLL STRENGTH PROPERTIES FOR GEOTEXTILE	
Trapezoid Strength (ASTM D 4533)	80 lbs.
Puncture Strength (ASTM D 4833)	120 lbs.
Grab Tensile/Elongation (ASTM D 4632)	245 @ 50 %

As an alternate to rock fill, a geotextile/gravel system may be used for stabilization. This system would use ¾-inch or 1-1/2-inch drain rock, and either a) a non-woven filter fabric and a strong geogrid such as Tensar BX1200, or b) a woven filter fabric with considerable strength such as Mirafi FW402 or approved alternate. This option would suggest increasing the thickness of the drain rock layer in Section 5.2.5. Regardless of which alternate is selected, a test section is recommended to determine the required thickness of stabilization. The drain rock would be incorporated as part of the roadway subgrade system, and therefore would be preferable for this project. An allowance for 80 percent of the project area should be included in the project documents.

5.2.5 Drainage Requirements

We recommend that a drainage system be installed under the pavement subgrade as shown on Plate 7. A 6-inch-minimum rigid perforated pipe (SDR 35 or equivalent) should be laid near both edges of the pavement at least 2.5 feet below final grade or deeper as required to provided uniform drop in grade downhill. The drainpipe would be bedded in a ¾ inch drain rock backfill zone at least 2 feet wide and 9 inches deep, which is completely wrapped in a 4-ounce-non-woven geotextile filter fabric.

We recommend that a drainage layer be provided below the aggregate base layer to limit groundwater exfiltration and potential capillary rise under pavements which would exacerbate frost heave. This drainage/capillary break layer would consist of a 4-inch-minimum drain rock layer wrapped in

non-woven geotextile filter fabric across the width of the roadway. Alternatively, a two-sided drainage geonet material such as Strata Stratadrain® 302, Maccaferri MacDrain W®, or approved alternate) could be used. This layer would potentially have to be constructed in strips across the width of the roadway due to incremental construction of the roadway since Kahle Drive will have to remain open during construction. Adequate water conduction between adjacent strips would have to be considered. This layer would potentially have to be increased to 1 foot if also utilized for a stabilizing fill layer.

The subdrain should drain to daylight, or if grades are too low, a pump station should be included in the project to lift the water into the stormwater retention basin.

Any pipe trenches that are backfilled with drain rock should be completely wrapped in 4-ounce non-woven filter fabric and be interrupted with a lower permeability cutoff trench every 300 feet in length to prevent rapid migration of water through the trench to lower in the roadway section. The cutoff zone should consist of a plug of well-mixed 20 percent bentonite and 80 percent sand, or lean concrete, in order to force groundwater to recharge into the surrounding formation periodically rather than develop high pressures at the bottom end of the pipe run. An exception to the cutoff rule would be the perforated subdrain pipes.

The drain rock layer could potentially be omitted within about 200 feet of the intersection with US50 due to higher elevation and possible interference with utilities.

5.2.6 Temporary Trench Excavation and Backfill

Based on the subsurface conditions we anticipate that excavations for utility trenches can be made with a conventional backhoe or excavator. Shoring or sloping of trench walls deeper than 5 feet may be necessary to protect personnel and provide temporary stability. Trenches shallower than 5 feet will not be stable if they are subject to active drainage from groundwater or perched subsurface lenses of infiltrated water. This will be more prevalent in the early construction season (spring). All excavations should comply with current OSHA safety requirements for Type C soils. (Federal Register 29 CFR, Part 1926). Compaction is not required for subgrade materials below trench invert because the soils are likely saturated, provided they have not been disturbed by recent construction excavation or grading.

For the construction of underground utilities, pipe zone backfill (material beneath and in the immediate vicinity of the pipe) should consist of clean, granular material free of clay and organic matter and be of a size such that 100 percent passes the ¾-inch sieve, not more than 10 percent passes a No. 200 sieve, and the material has a minimum sand equivalency of 30. Trench intermediate backfill (material placed between the pipe zone backfill and finished subgrade) may consist of native soil that is free of debris and organic matter and has a maximum particle size of 4 inches.

Backfill for trenches or other excavations within pavement areas, beneath slabs, and adjacent to foundations should be compacted in 6- to 8-inch layers with mechanical tampers. Jetting and flooding should not be permitted. We recommend all backfill be compacted to at least 90 percent relative compaction. The moisture content of compacted backfill soils should be within two percent of the optimum. Poor compaction in utility trench backfill may cause excessive settlements resulting in damage to the pavement structural section or other overlying improvements. Compaction of trench backfill outside of improvement areas should be a minimum of 90 percent relative compaction to resist erosion.

5.2.7 Soil Corrosivity

In order to evaluate soil corrosivity potential, a bulk soil sample from 2-to 3 feet depth was tested for Soluble Sulfate, Soluble Chloride, Resistivity, and pH levels. The pH is indicated as non-corrosive. Results of analysis indicate low corrosivity potential for soluble sulfate and chlorides. Therefore, Type I-II cement is suitable for use where concrete will be in direct contact with site soils. The resistivity value indicates severe corrosive potential for ferrous metals in direct contact with native soils. Therefore, corrosion mitigation measures such as cathodic protection should be employed for buried steel pipes in contact with native soils.

5.3 Pavement Sections

Pavement sections were developed using the 1993 AASHTO method for the design of flexible and rigid pavements. The method uses as its basis the total traffic (in ESALs) expected for the project over a specific design life and the soil subgrade strength using the resilient modulus.

Traffic volumes (AADT-Annual Average Daily Traffic) were available for U.S. 50 at Stations 50040 (530 feet North of Kahle Drive) & 50041 (300 feet East of SR207-Kingsbury Grade) from NDOT "TRINA" website. Average daily traffic (ADT) in both directions on U.S. 50 was 23,400 vehicles

per day based on the data for 2021. The traffic estimate for Kahle Drive was based on the turning volumes for the intersection of Kahle Drive and U.S. 50 including Tahoe Beach Club projected traffic as part of the Tahoe Beach Club Environmental Impact Statement (EDAW, 2009) which were correlated with the U.S. 50 traffic data. We estimated the traffic on Kahle to be 11 percent of the traffic on U.S. 50 using this approach. Therefore, the 2021 estimate of average daily traffic on the most heavily trafficked portion of Kahle Drive is 2,574 vehicles per day, both directions. The ADT per lane is half of that, or 1,287 vehicles per day.

We estimated that truck traffic was 2 percent of all traffic based on the 2021 NDOT Annual Traffic Report. The average equivalent 18-kip single axle load (ESAL) per truck was 0.64 based on the various sizes of trucks classified on U.S. 50 in 2019. Asphalt Concrete (AC) pavements are to be designed for a 20-year life with 146,000 ESALs over the design life. Portland Concrete Cement (PCC) pavements are to be designed for a 30-year-life with 244,000 ESALs over the design life. We assumed a growth rate of 1 percent even though the new development in the neighborhood will be fully built out in about 2 years.

An R-value of 71 was measured for the granular soils that based on our limited soil explorations will be exposed in the majority of subgrade. For design purposes, a conservative R-value of 60 was used to accommodate minor variations in fill quality due to the natural variability of on-site materials. Drainage conditions were assumed to be poor (subgrade saturated 25 percent or more of the time) based on observed Kahle Drive conditions.

We recommend for the AC pavement design that the pavement course thicknesses correspond to those on Table 4 below. In our experience, pavement sections are most economical when the AC thickness is about half of the AB thickness:

TABLE 4 – PAVEMENT COURSE THICKNESS

Asphalt Pavement Design Section	AC (inches)	AB (or RAB) (inches)
Truck, 20 years, $1.5x10^5$ ESALs	4	8
Automobile Parking	3	6

The only PCC pavement anticipated to be used are driveway aprons or curb and gutter. Typical PCC pavements for the main roadway shall have, as a minimum, a 8-inch-thick concrete slab with 4,000 psi minimum compressive strength at 28 days, 6 sacks minimum, 3½-inches maximum slump with fiber, #5 rebar 2-feet on center each way, no doweling. We recommend that 6 inches of PCC over 6 inches of AB should be suitable for automobile parking areas. As noted above, drain rock with non-woven filter fabric would be recommended either as a separation layer below aggregate base or as a replacement for the aggregate base to reduce the frost heave potential.

Pavement performance can be greatly affected by saturation of unbound layers and subgrade soils. Based on our experience in Northern Nevada, environmental aspects, such as freeze-thaw cycles and thermal cracking will probably govern the life of AC pavements. Thermal cracking of the asphalt pavement allows more water to enter the pavement section, which promotes deterioration and increases maintenance costs.

5.3.1 Pavement Alternatives

The intent of the complete streets project is to provide a permanent long-term street improvement to bring Kahle Drive up to modern standards and suitable life expectance. The concept is against the alternatives to provide short- or mid-term solutions. All materials in the design should use materials specified in the NDOT Silver Book or Orange Book (Standard Specifications for Public Works Construction.

The drainage measures in this report are a critical additional step that we believe will substantially support pavement lasting the proposed design life of 20 years (Asphalt Concrete) or 30 years (Portland Cement Concrete). Depending on the severity of groundwater infiltration, there is a possibility that these design lives could be halved if the proposed groundwater and frost heave remediation is not performed. For example, many sidewalks in the general vicinity have shown frost heave of 2 inches in the first year they were constructed. The use of recycled aggregate base, which has asphalt content and is therefore somewhat hydrophonic, may also protect against frost heave.

Asphalt concrete pavements have been designed for a standard 20-year life expectancy with the design assumptions presented. Due to the local climate and available construction aggregates, an entire 20 years of performance life is seldom achieved. To achieve even this performance life, periodic maintenance is required. Such maintenance includes regular crack sealing, seal coats, and

patching as necessary. Between 15 and 20 years after initial construction (average 17 years), major rehabilitation (structural overlay or reconstruction) is generally required. Failure to provide the required maintenance will significantly reduce pavement design life and performance.

6.0 ADDITIONAL SERVICES

We recommend that Reno Tahoe Geo Associates conduct a general review of the project plans, including subsurface drainage systems and specifications to verify our earthwork and foundation recommendations have been properly interpreted and implemented during design. In addition, the recommendations made in this report are based on the assumption that an adequate program of tests and observations will be made during construction to verify compliance with these recommendations. These tests and observations should include, but not necessarily be limited to, the following:

- Observations and testing during site preparation, trenching, and earthwork;
- Observation and testing of construction materials; and
- Consultation as may be required during construction.

Additional information concerning the scope and cost of these services can be obtained from our office.

7.0 LIMITATIONS

Recommendations contained in this report are based on our field exploration, and our understanding of the proposed construction. This report has been prepared for design purposes for specific application to the currently proposed subject project in accordance with the generally accepted standards of practice at the time the report was written.

The analyses and recommendations submitted are based on the field exploration performed at the locations shown on Plate 2 of this report. This report does not reflect the soil variations that may be encountered during construction. Therefore, further evaluation of site conditions may be warranted during construction.

If the scope of the proposed construction changes from those described, our recommendations should be reviewed by us and may require modification. No warranty, expressed or implied, is made. All parties to the project including the designer, contractor, subcontractors, etc., should be made aware of this report in its entirety. The use of information contained in this report for bidding purposes should be done at the Contractor's option and risk.

8.0 REFERENCES

The following information was provided to RTGA over the course of this investigation and served as the basis of our understanding of the project type and scope.

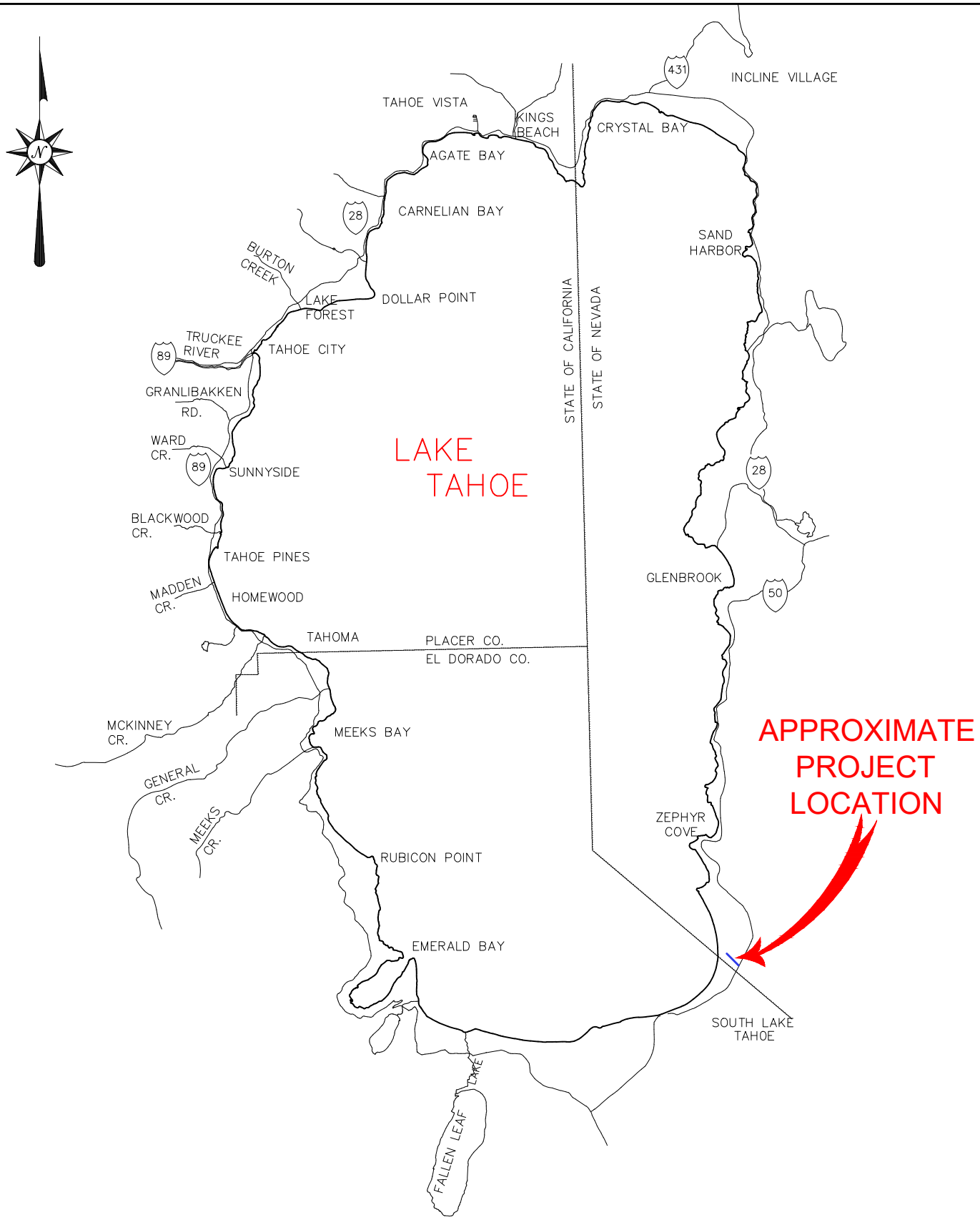
- EDAW, 2005, Beach Club on Lake Tahoe Draft EIS Transportation and Parking (Section 5.6).
- LSC Transportation Consultants Inc., 2002, Review of Tahoe Beach Club EIS Transportation Analysis for Current Conditions, letter to Tahoe Regional Planning Agency dated April 13, 2022, Tahoe City, California.
- Welsh Hagen Associates, April 2019, *50% Design Submittal, Kahle Drive Complete Street Reconstruction Project, Stateline, Douglas County, Nevada*.

In addition, the following published references were reviewed during preparation of this report.

- Bonham Jr., H.F. and Burnett, J.L., 1976, *Geologic Map, South Lake Tahoe Folio:* Nevada Bureau of Mines and Geology in cooperation with California Division of Mines and Geology, Environmental Series, Lake Tahoe Area;
- Loftis, Woody and M. Pook, 2014, Kahle Basin Seasonal High Water Table Report, by Woody Loftis, District Conservationist with NRCS and Michael Pook, Environmental Scientist with Nevada Tahoe Conversation District;
- Reno Tahoe Geo Associates, 2019, Updated Groundwater Investigation, Tahoe Beach Club Buildings 3 and 4, Stateline, Douglas County, Nevada, project 1706.006, dated January 18, 2019;
- Short-term Hourly Traffic Volume, Station 0050040, 2021, Nevada Department of Transportation (NDOT);
- Short-term Hourly Traffic Volume, Station 0050041, 2019, Nevada Department of Transportation (NDOT);
- Standard Specifications for Public Works Construction, Sponsored and Distributed by Regional Transportation Commission of Washoe County, Washoe County, City of Sparks, City of Reno, Carson City, City of Yerington;
- *Traffic Records Information Access (TRINA)* website, developed by Nevada Department of Transportation (NDOT);

- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), *Web Soil Survey*, accessed September 2022; and
- Vehicle Classification Distribution Report, 2021, Nevada Department of Transportation (NDOT).

PLATES



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Reno Tahoe Geo Associates, Inc.

P.O. Box 18449
Reno, Nevada 89511

CONSULTING CIVIL ENGINEERS

TEL (775)853-9100
FAX (775)853-9199

JOB # 22118.001 APPR: JWP DATE: 12/22/2022

VICINITY MAP

GEOTECHNICAL INVESTIGATION
KAHLE DRIVE RECONSTRUCTION
STATELINE

DOUGLAS COUNTY NEVADA

PLATE 1

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Reno Tahoe Geo Associates, Inc.

P.O. Box 18449
Reno, Nevada 89511

CONSULTING CIVIL ENGINEERS

TEL (775)853-9100
FAX (775)853-9199

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EXISTING SITE MAP

GEOTECHNICAL INVESTIGATION
KAHLE DRIVE RECONSTRUCTION
STATELINE

DOUGLAS COUNTY NEVADA

PLATE 2

KAHLE WATER QUALITY
BASIN IMPLEMENTATION
(NTCD - AUGUST 2018)

C-3

KAHLE DRIVE

MICHELLE DRIVE

MATCHLINE

C-2

KAHLE DRIVE

Bulk-1

C-1

MATCHLINE

FERIS CT.

LAURA DR.

Corehole Location

Bulk Sample Location

0 80 160

SCALE: 1"= 80'

Reno Tahoe Geo Associates, Inc.
P.O. Box 18449
Reno, Nevada 89511
CONSULTING CIVIL ENGINEERS
TEL (775)853-9100
FAX (775)853-9199

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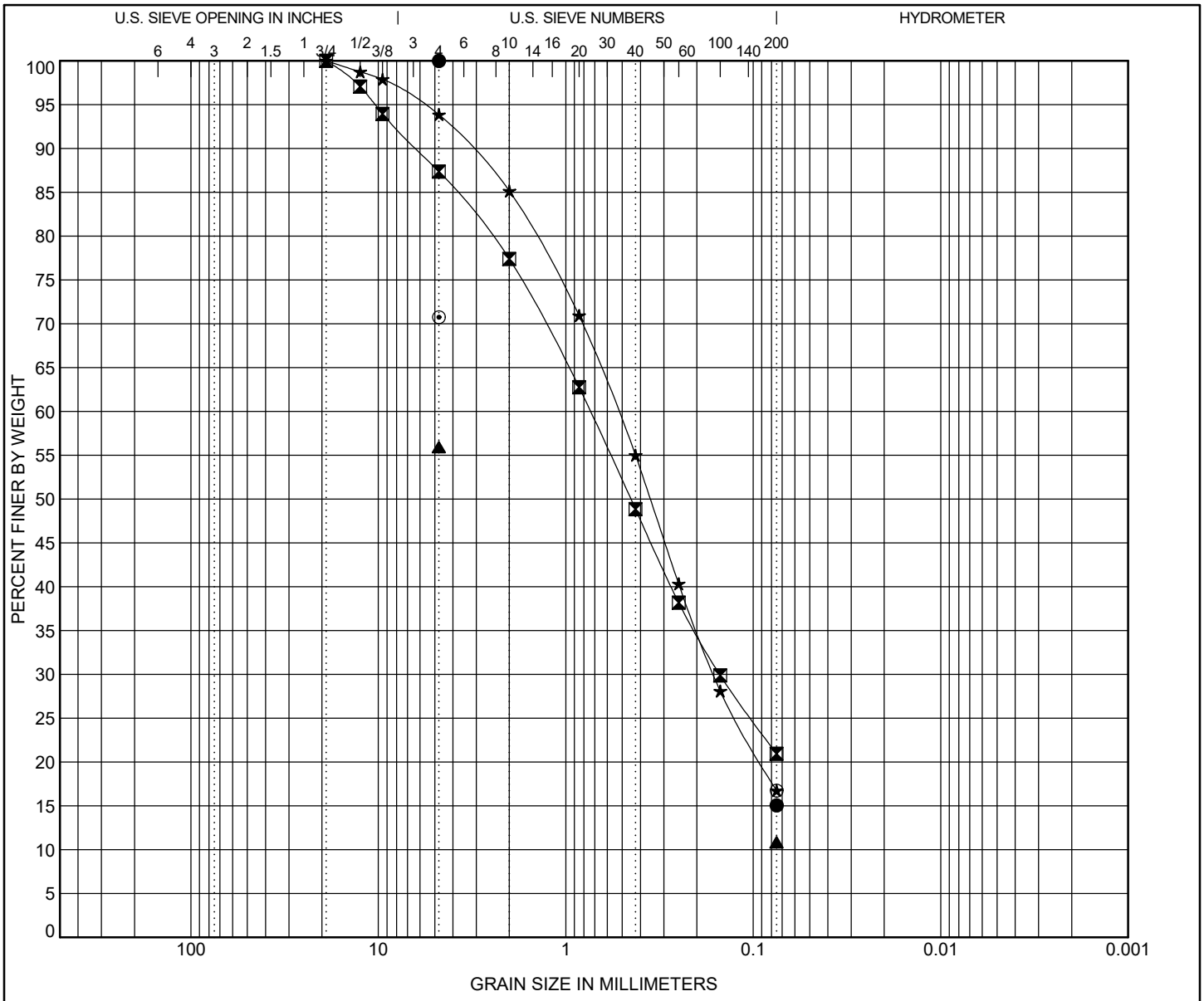
PROPOSED ROADWAY PLAN

GEOTECHNICAL INVESTIGATION
KAHLE DRIVE RECONSTRUCTION
STATELINE

DOUGLAS COUNTY NEVADA

PLATE 3



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	C-1 BASE	0.0	SILTY SAND(SM)					
⊠	C-1 NATIVE	0.0	SILTY SAND(SM)					
▲	C-2 BASE	0.0	SILTY SAND with GRAVEL(SM)					
★	C-2 NATIVE	0.0	SILTY SAND(SM)					
⊙	C-3 BASE	0.0	SILTY SAND with GRAVEL(SM)					

Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	C-1 BASE	0.0	4.75	0.674	0.156		0.0	84.9	15.1	
⊠	C-1 NATIVE	0.0	19	0.74	0.151		12.6	66.4	20.9	
▲	C-2 BASE	0.0	4.75		0.437		44.1	45.1	10.8	
★	C-2 NATIVE	0.0	19	0.528	0.162		6.1	77.1	16.7	
⊙	C-3 BASE	0.0	4.75	2.08	0.208		29.2	54.0	16.7	

Reno Tahoe Geo Associates, Inc.
P. O. Box 18449
Reno, Nevada 89511
CONSULTING CIVIL ENGINEERS
TEL (775) 853-9100
FAX (775) 853-9199

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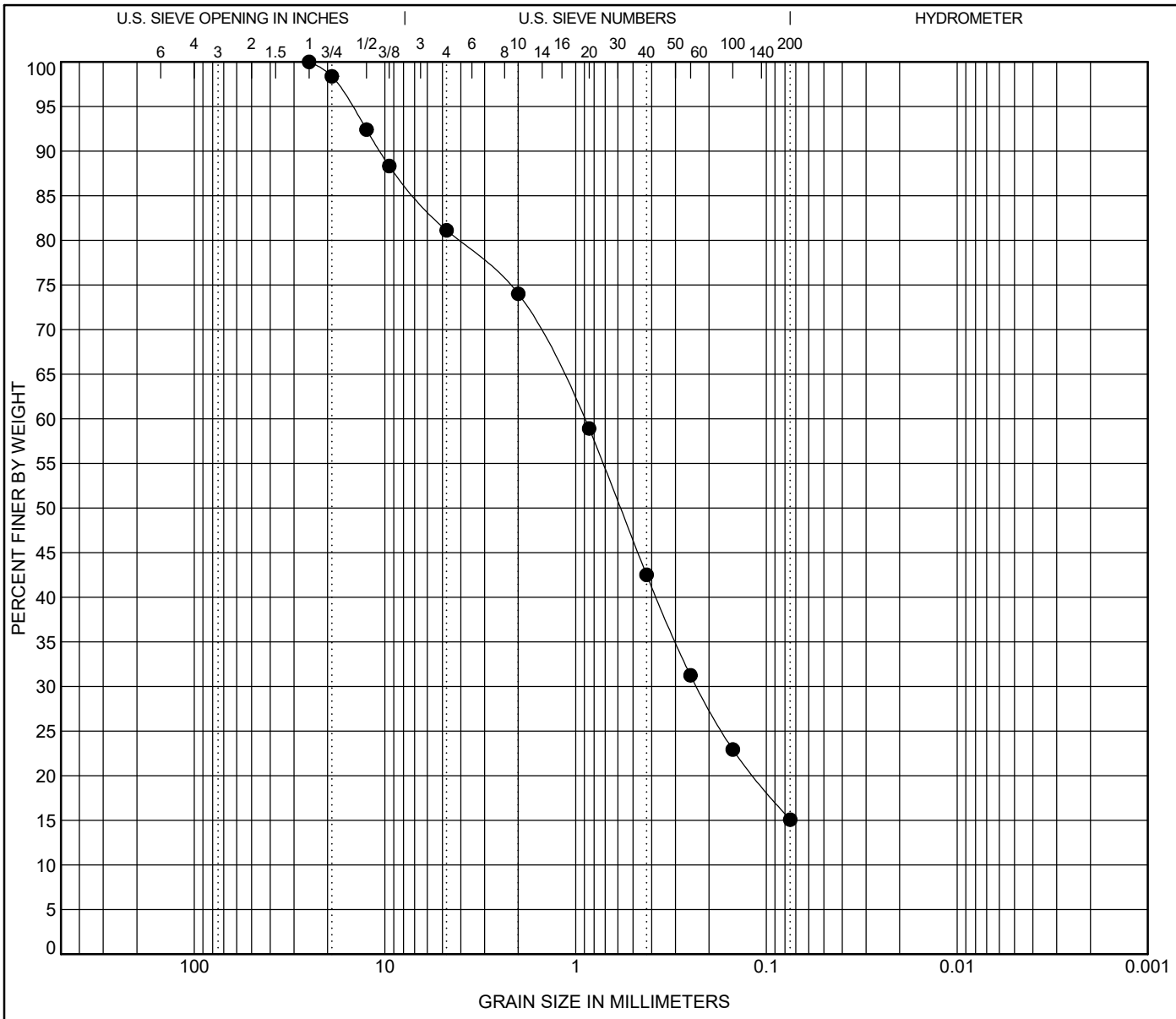
GRAIN SIZE ANALYSIS

GEOTECHNICAL INVESTIGATION
KAHLE DRIVE RECONSTRUCTION
STATELINE

DOUGLAS COUNTY NEVADA

PLATE 4
1 of 2

GRAIN SIZE LAB TESTING.GPJ MED DATA TEMPLATE 2015A.GDT 12/15/22



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification	Classification	LL	PL	PI	Cc	Cu
●	**C-3 BASE - BULK0.0**	**SILTY SAND(SM)**					

	Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**C-3 BASE - BULK0.0**	**25**	**0.904**	**0.232**		**18.9**	**66.1**	**15.1**	

Reno Tahoe Geo Associates, Inc.
P. O. Box 18449
Reno, Nevada 89511
CONSULTING CIVIL ENGINEERS
TEL (775) 853-9100
FAX (775) 853-9199

JOB # 22118.001 APPR: _____ DATE: 11/21/2022

GRAIN SIZE ANALYSIS

GEOTECHNICAL INVESTIGATION
KAHLE DRIVE RECONSTRUCTION
STATELINE

DOUGLAS COUNTY NEVADA

PLATE 4
2 of 2

Analytical Report

Reno Tahoe Geo Associates, Inc.
P.O. Box 18449
Reno, NV 89511
Attn: Elaine Pinnow
Phone: (775) 853-9100 **Fax:** NoFax

Date Printed: 12/3/2022
OrderID: *22110597*

PO\Project: *Kahle Drive/20118.001*

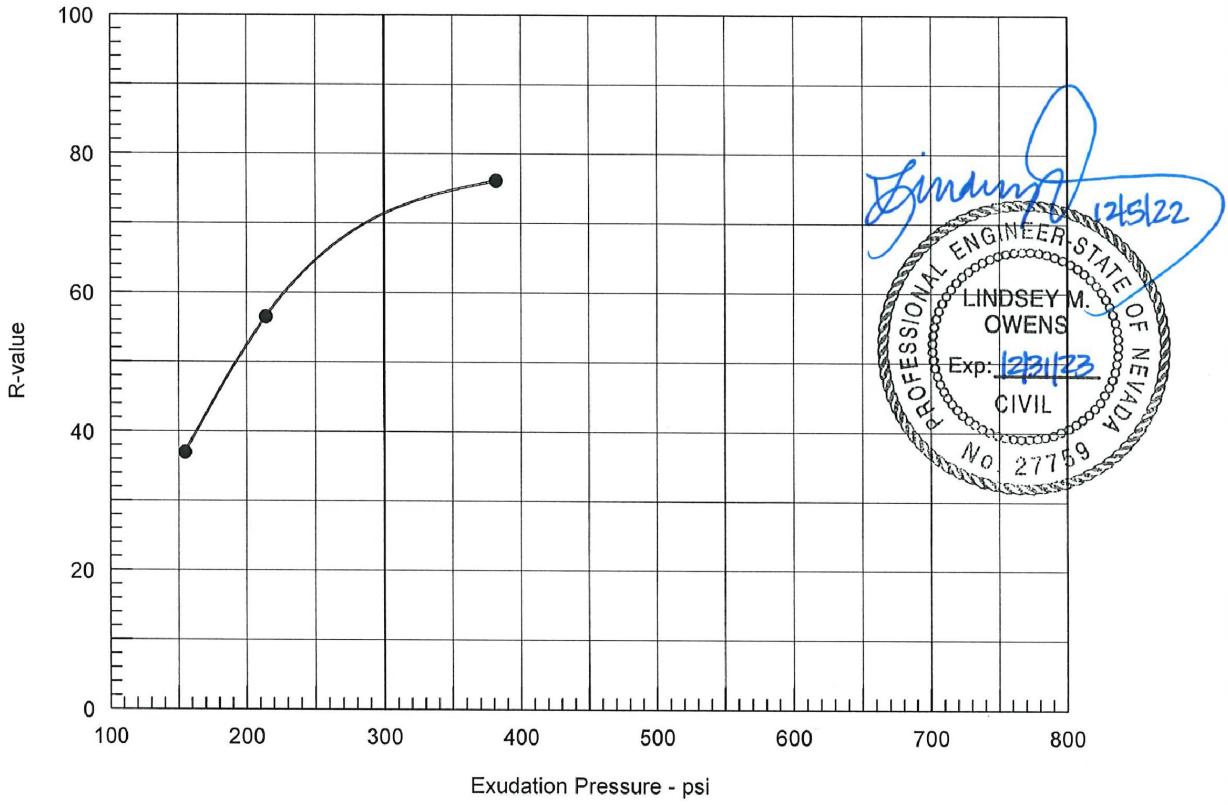
Customer Sample ID: C2 Base
WETLAB Sample ID: 22110597-001

Collect Date/Time: 10/25/2022 11:00
Receive Date: 11/17/2022 16:35

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
General Chemistry							
Paste pH	SW846 9045D	7.09	pH Units	1		11/21/2022	NV00925
Resistivity	SM 2510B	1500	ohms.cm	1	1.0	11/20/2022	NV00925
Anions by Ion Chromatography							
Chloride	EPA 300.0	140	mg/kg	10	10	11/22/2022	NV00925
Sulfate	EPA 300.0	28	mg/kg	10	15	11/22/2022	NV00925
Sample Preparation							
10:1 DI Water Extraction	WL 10.0	Complete		1		11/18/2022	NV00925
Saturated Paste Preparation	CSTPM S:1.0	Complete		1		11/21/2022	NV00925

DF=Dilution Factor, RL = Reporting Limit (minimum 3X the MDL), ND = Not Detected <RL or <MDL (if listed)

R-VALUE TEST REPORT



PROFESSIONAL ENGINEER STATE OF NEVADA
LINDSEY M. OWENS
Exp: 12/31/23
CIVIL
No 27759
12/5/22

Resistance R-Value and Expansion Pressure - ASTM D2844

No.	Compact. Pressure psi	Density pcf	Moist. %	Expansion Pressure psi	Horizontal Press. psi @ 160 psi	Sample Height in.	Exud. Pressure psi	R Value	R Value Corr.
1	350	120.1	12.7	0.85	67	2.54	155	37	37
2	350	121.7	11.8	1.00	43	2.51	214	56	56
3	350	123.5	10.7	0.45	24	2.50	382	76	76

Test Results	Material Description
R-value at 300 psi exudation pressure = 71	

Project No.: 2194-01-1
Project: Testing as Ordered
Source of Sample: Kahle Drive / Project #22118.001
Sample Number: Bulk
Date: 12/2/2022

Tested by: J. Trainer
Checked by: D. Frias
Remarks:
Laboratory Log 1197
Date Sampled by Client: 11/18/22

R-VALUE TEST REPORT

BLACK EAGLE CONSULTING, INC.

Reno Tahoe Geo Associates, Inc.
P.O. Box 18449
Reno, Nevada 89511
CONSULTING CIVIL ENGINEERS
TEL (775)853-9100
FAX (775)853-9199

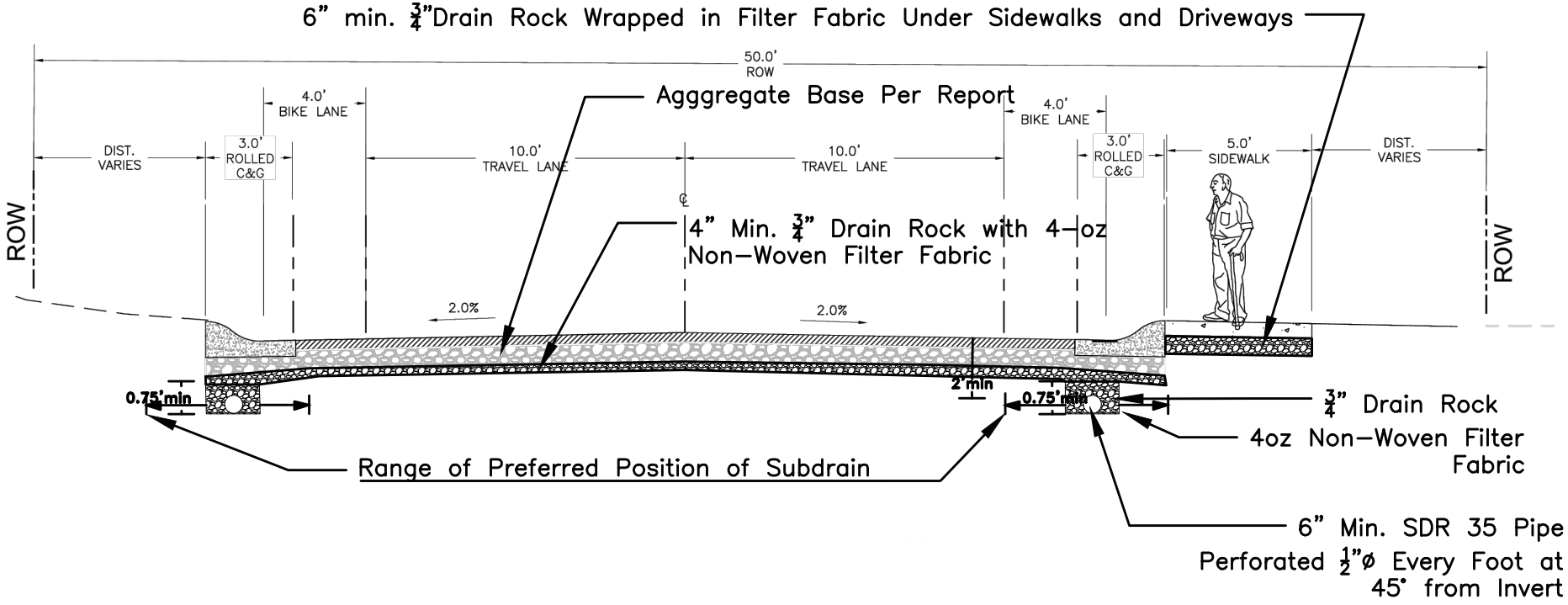
JOB # 22118.001 APPR: JWP DATE: 12/15/2022

R-VALUE RESULTS

GEOTECHNICAL INVESTIGATION
KAHLE DRIVE RECONSTRUCTION
STATELINE

DOUGLAS COUNTY NEVADA

PLATE 6



Notes: Cleanout/Inspection Port every 500 ft.

Reno Tahoe Geo Associates, Inc.
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Reno, Nevada 89511
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JOB # 22118.001 APPR: JWP DATE: 12/22/2022

PAVEMENT DRAINAGE CROSS SECTION

GEOTECHNICAL INVESTIGATION
KAHLE DRIVE RECONSTRUCTION
STATELINE

DOUGLAS COUNTY NEVADA

PLATE 7

J:\2022\22118.001 - Kahle Drive - Geotech\Drawings and Plans\Kahle Dr..dwg 1/04/23