Millcreek

1330 E Chambers Avenue
Millcreek, UT 84106

Request for Proposals

Neffs Canyon Debris Basin Engineering Design Project

due

March 7th, 2025, at 5:00 p.m. local time

Project No. ENG 24-16-4

1. **Introduction**. Millcreek (the "*City*") is requesting proposals/bids ("*Proposals*" or "*Responses*") from qualified proposers ("*Proposers*") to provide flood basin design services (as described below).

1.1. Intent. This Request for Proposals/Bids (this "*Request*") intends to set forth the minimum acceptable requirements for Responses to this request.

2. **Background of the Project**. The City completed the Neffs Creek Debris Basin Feasibility Study in 2022. Based on this study, the recommended alternative is to design and construct a below-grade debris basin connected to a new storm drain trunk line installed in the neighborhood roads to Wasatch Boulevard back to Neffs Creek. The main goal of this project is to remove the effective FEMA alluvial floodplain and mitigate the risk by safely conveying the existing alluvial fan flood hazard through the proposed debris basin and storm drainpipe. More detailed information about this project is in the Scope of Services (at the end of this document). Funding for Phase 1 (design, environmental documents, & geotechnical investigation) of this project is from a Federal Pre-Disaster Mitigation grant for $3,027,000. Funding for the final Phase 2 (construction) is pending the award of a FEMA Flood Mitigation Assistance (FMA) grant for $21 million. Both grant funds are based on a 75% Federal and 25% City match.

3. **Detailed Description of Services/Scope of Work**. Please refer to the end of this document for Project Details and Minimum Scope Requirements.

4. **Proposal Requirements**. Submit an electronic/digital copy of the Proposal in PDF (Portable Document Format) emailed or delivered on a thumb drive of the Proposal (not to exceed four pages) to Dan Drumiler, Stormwater Engineer Manager, **and a separate document of the Fee component emailed or delivered on a thumb drive, to _ddrumiler@millcreekut.gov or Millcreek City Hall 2nd floor Attn: Dan Drumiler**. One of the four pages may include a tabloid (11X17) sheet. The four-page limitation does not include the cover/introductory letter or resume pages.

4.1. Introductory Letter. An introductory letter expressing an interest in providing this service should be included. The introductory letter should be addressed to:

Dan Drumiler, P.E.
Stormwater Engineer Manager
Millcreek City Hall
1330 East Chambers Avenue Millcreek, UT 84106

Include an e-mail address for the consultant's primary contact.

4.2. Relevant Experience: Provide an organizational chart showing the individual team members, qualifications, breakdown of responsibilities, and the percentage of work expected to be performed by each team member. Indicate other offices/locations/subconsultants that might provide services and a percentage of work to be performed at those locations. Please describe the proposer's relevant experience on similar projects. Provide information for at least three such projects.

4.3. Work Approach: Describe the methodology and process to complete the scope of work attached at the end of this RFP, including any potential innovative or creative solutions for the project. This approach should also identify any of the proposed strategies to control costs, ensure operational effectiveness, describe outputs to be delivered, and identify the advantages of the proposal to Millcreek. This section should include a summary of the time expected to complete each primary task in the scope of work, the classification of personnel, and the associated rate of those performing the work. Identify any additional services to be provided by sub consultants or resources outside the firm.

4.4 Project Team: Provide a chart/matrix that identifies the job titles and roles of each of the key individuals involved in completing each task of the project as identified in the scope of work, including a breakdown of billable hours and any related information of key team members to complete each task. Include support classifications and billing hours for any ancillary work, time, and materials not billable to any individual team member. Provide resumes for all key individuals on the proposed Project Team outlining qualifications, education, and specific experience and expertise related to debris basin & storm drain design or equivalent flood control structures. List current work commitments to other projects or activities in sufficient detail to indicate that individuals assigned to the proposed project can meet time commitments. Provided a matrix that indicates past project collaborations carried out by the proposed Project Team. Personnel assigned to the project must be actively engaged in completing the tasks. Any personnel change after the proposal is submitted or after the contract is awarded must be approved by the City before the change is made to ensure consistent expertise throughout the term

of the project, or any signed contract may be deemed in breach.

4.3. References. Include the name, address, and contact person of government or private agencies with which the Proposer has provided a similar service and can attest to the performance of relevant projects. Depending on the investigation, the City may contact such references and do its investigations, which may result in disqualification based on the City's sole and absolute discretion.

5. **Identification of Anticipated Potential Problems**. Proposals should identify and describe any potential problems regarding the Scope of Work.

6. **Evaluation Criteria and Scoring Process**. The Evaluation Committee will review all Proposals received. Each evaluation criterion has been given a percentage based on its relative value. The requirements and each associated percentage are as follows:

- Relevant Experience (30%)
- Work Approach (45%)
- Project Team (25%)
- References (references is a mandatory minimum requirement, and the City may do its investigation, and the result of the investigation at any time during the solicitation process may result in a disqualification based on the City's sole and absolute discretion)

7. **Selection**. The City Engineer shall select the Evaluation Committee to score all eligible proposals based on the Evaluation Criteria and Scoring Process.

The City may conduct discussions with the Proposers being considered for the award. In addition, one or more Proposers may be invited to participate in an interview. Proposals may be accepted without discussion or interview. The Mayor or his designee will make the award.

8. **General Information**. City reserves the right to reject any and all Responses. The City reserves the right to amend, modify, or waive any requirement this Request outlines. Response to this Request is at the Proposer's sole risk and expense. All Proposers must comply with applicable federal, state, and local laws and regulations. Except for written responses provided by the contact person described below, the City has not authorized anyone to make any representations regarding the subject matter of this Request. All requests for clarification or additional information regarding this Request must be submitted in writing to the contact person described below no later than **February 28th, 2025, at 2:00 p.m**. The contact person will endeavor to respond to such requests for clarification or additional information. If the contact person deems, in her sole and absolute discretion, that such response is of general applicability, his response, if any, will be posted on the City's website at Millcreekut.gov (which constitutes a written response). Entities responding to this Request are encouraged to review such websites frequently. The City anticipates selecting one or more of the responding Proposers, but there is no guarantee that any responding Proposer will be selected. Responses will be placed in the public domain and become public records subject to examination and review by any interested parties by the Government

Record Access Management Act (Utah Code Ann. § 63G-2-101, *et seq.*). All materials submitted in response to this Request will become the property of the City and will be managed by the Government Record Access Management Act.

9. **Terms of Contract**. The successful Proposer must contract with the City to provide the services described herein. If the selected Proposer and the City Attorney cannot negotiate an acceptable agreement, then another Proposer(s) will be selected by the Mayor, or his designee, and negotiation will continue with such other Proposer(s) until an acceptable agreement is completed.

10. **Contact Person**. For more information on the Proposal, contact Kurt Hansen, Director of City Facilities, at khansen@millcreekut.gov, 1330 E Chambers Avenue, Millcreek, UT 84106. For American with Disabilities Act (ADA) accommodation, contact our ADA Coordinator at 801-214-2751 or adainfo@millcreekut.gov.

SCOPE OF SERVICES

Neffs Canyon Alluvial Fan Flood Mitigation Project

Project Overview

Millcreek completed the Neffs Creek Debris Basin Feasibility Study in 2022. The purpose of that study was to evaluate the feasibility of constructing a debris basin or other protective measure at the mouth of Neffs Canyon to eliminate the alluvial fan flood hazard that was recently made effective by FEMA in this area (see link below).

https://www.millcreekut.gov/DocumentCenter/View/909/Neffs-Creek-Revised-Floodplain-Map-36x48

The feasibility study was used as the basis of obtaining grant funding from FEMA to design and construct the improvements associated with the recommended alternative that included a debris basin near the alluvial fan apex and an outfall pipeline that would eliminate the existing alluvial fan floodplain. An area map showing the project location is shown in Figure E-1. As Figure E-1 indicates, the proposed debris basin will need to be constructed on U.S. Forest Service (USFS) land, between Federal Wilderness area and developed private property. A Conditional Letter of Map Revision (CLOMR) has also been approved to revise the peak magnitude of the one-percent annual chance flood, which is the basis for the alluvial fan floodplain, from 300 cfs to 107 cfs. A link to the feasibility study is provided here for reference:

https://www.millcreekut.gov/DocumentCenter/View/4964/Neffs-Creek-Basin-Final-Report-09-29-2022_wApp-min

Again, the main goal of this project is to remove the effective FEMA alluvial fan floodplain and mitigate the risk by safely conveying the alluvial fan flood hazard though the proposed debris basin and storm drain pipeline as shown conceptually in Figure E-2. A conceptual rendering of the debris basin is shown in Figure E-3. **Note - The parking lot expansion shown in this Figure is not part of this project.**

The FEMA grant awarded to Millcreek covers only Phase 1 of the project, which includes final design and developing and acquiring signed NEPA documents for the Project. After the Phase 1 work is complete, Millcreek will continue to secure grant funding already in process for the project construction (Phase 2).

The project is anticipated to include the design of the following major elements:

1. A 9 acre-ft below-grade debris basin between the Federal Wilderness area boundary and the residential properties along Zarahemla Drive.
2. A diversion structure on the existing active Neffs Creek channel to divert runoff in excess of 15 cfs into the new debris basin.
3. An armored channel to convey runoff from the diversion from the existing Neffs Creek channel to the debris basin and to the debris basin outlet structure.
4. An armored channel to convey runoff from the historic Neffs Creek channel into the debris basin and to the debris basin outlet structure.
5. An outlet/emergency overflow structure on the debris basin that discharges into a pipe that will convey up to 228 cfs (the 500-year flood) to the intersection of Zarahemla Drive and Mathews Way.
6. A new storm drain pipeline that will convey at least 107 cfs (the 100-year flood) from the intersection of Zarahemla Drive and Mathews Way through public streets in several Millcreek neighborhoods before discharging into the Neffs Creek storm drain near Wasatch Blvd.

7. Using some of the excavated material from the detention basin excavation to backfill the old reservoir east of the Neffs Canyon trailhead parking lot as part of the parking lot expansion project.
8. Revegetate all areas disturbed during construction.

COORDINATION

The selected design team will need to closely coordinate with the stakeholders and entities listed below while completing the Phase 1 work.

- **U.S. Forest Service**. Coordination and approvals from the USFS will be paramount on this project, as the recommended debris basin is located on public lands that they manage. Millcreek coordinated with U.S. Forest Service personnel during the feasibility study. USFS staff stated that the proper NEPA process would need to be followed and that USFS would need to issue the required real estate or land use agreements with Millcreek regarding access and maintenance of the new flood control facilities located on USFS land. Coordination regarding potential Project impacts to the Neffs Canyon Trailhead Improvement Project that is currently under design will also need to be performed by the design team. Plans are available upon request.
- **Salt Lake County.** Coordination with Salt Lake County will also be required as Neffs Creek is a County flood control facility. A County Flood Control Permit will be required for Project improvements.
- **FEMA.** A CLOMR submittal to FEMA will be required before completing final design to allow FEMA to review and approve the proposed design parameters of the recommended facilities. Coordination will also be performed to ensure that the NEPA process meets requirements for FEMA-funded projects.
- **DEM.** The Utah Division of Emergency Management (DEM) will be involved in reviewing the design. The FEMA grant money will be administered through DEM.
- **City of Millcreek.** Millcreek staff and elected officials. There is a lot of local interest in the project and some coordination and communication will need to occur with Millcreek officials and local residents to keep them informed and allow them to express concerns as part of the NEPA process.
- **Others.** May include Mount Olympus Community Council and impacted residents.

Design Services

Task 1-1: Collect and Review Existing Information. Meet with personnel from Millcreek and the stakeholders listed above as necessary to collect existing information pertinent to the project including previous engineering studies and information for city-owned utilities in the project area.

Task 1-2: Progress Meetings/Information Review. Meet with personnel from Millcreek and other key stakeholders in a kick-off meeting (2-hour meeting) to review the project and to discuss schedule. Plan for and attend design review meetings at 30% complete (2-hour meeting), 60% complete (2-hour meeting) and 90% complete (2-hour meeting). Prepare for and attend bi-weekly progress meetings (1-hour/meeting). All these meetings are assumed to be virtual and include agenda preparation and meeting notes. During these meetings coordinate with all in attendance on elements of design, discussions that have taken place with stakeholders, upcoming meetings, and decision points.

Task 1-3: Utility Investigations. Complete a utility records search to obtain information on existing utilities along the pipeline and debris basin alignment. Perform field reconnaissance of the proposed pipeline alignment to gather visual information pertinent to the preparation of an existing utility base map for the project.

Task 1-4: Survey and Mapping. Complete a topographic and utility survey of the project area. This survey will include visible surface utility features, locations and depths, and detailed topographic information of the selected debris basin site and storm drain pipeline corridor (including road surfaces and curb and gutter information). Use the survey and existing utility information collected to create a base map for the project improvements. This information will be used in the design of the debris basin, storm drain pipeline, curb and gutter, waterways, and street regrading.

Task 1-5: Geotechnical Investigations. Complete a geotechnical investigation to provide information on subsurface soil and groundwater conditions for design and construction. The geotechnical investigation will include field investigations, laboratory testing, engineering analyses, and a report. At the debris basin site, geotechnical analyses will include addressing the stability of the historic landslide near the debris basin site, seepage, slope stability, depth to bedrock and identifying suitable uses for the excavated material. The consultant shall also identify any other issues that they feel should be addressed in this analysis. A geotechnical study will also be completed along the proposed pipeline alignment to determine depth of asphalt, depth of road base, material that will be excavated during pipeline construction, and depth to groundwater (if applicable). Recommendations for trench zone and pipe zone material will be made and the suitability of using native fill for trench backfill will also be addressed. Assume that 8 bore holes will be drilled along the pipeline alignment to a depth of approximately 15 feet to define subsurface soil profiles and obtain samples for laboratory testing.

Task 1-6: Apex Control Structure Analyses. Previous studies contemplated constructing a debris basin near the apex of the Neffs Creek alluvial fan. Those studies summarized work that was performed to estimate debris flow volumes at the proposed basin location. Nearly all of the debris flow volume estimates far exceeded the storage volume of the proposed flood control structure at the apex. It is likely not feasible to construct a typical debris basin as part of this project. The proposed flood control structure at the apex is not intended to function as a typical debris structure or provide storage for flood hydrograph attenuation. Rather, it is intended to mitigate flow path uncertainty due to avulsion and existing channel capacity during significant runoff events. Recognizing this fact, the selected design team shall review the debris flow volume estimates that are summarized in previous reports and to perform work to accomplish the following:

- Provide preliminary design recommendations for the trash rack and outlet structure of the apex control structure.
- Generally describe how the apex control structure will function during typical runoff events with recurrence intervals of 10, 50, 100, and 500 years with respect to managing debris, sediment, and flooding.
- Prepare a recommended operation and maintenance plan for the proposed apex control structure.
- Identify structural features that the apex control structure should have to ensure that the structure will not cause induced flooding during extreme runoff or debris flow events in areas that would not be flooded if it is not constructed.
- Document the results of these tasks in a technical memorandum.

Task 1-7: Utility Potholing. Complete potholing on existing key buried utilities to determine vertical information and depths of cover that are needed to complete the final design and define impacts to existing utilities. For cost estimating purposes, assume that 16 potholes will be completed.

Task 1-8: Water Quality Treatment. Evaluate and propose design options for treating stormwater runoff and improving water quality associated with the project. Present findings, options, and recommendations for water quality treatment in a technical memorandum submitted with the 30% design.

Task 1-9: Prepare Design Report. Prepare a design report that documents the proposed design parameters for the major project features. This report will serve as the basis for design and the basis for obtaining a Conditional Letter of Map Revision (CLOMR) from FEMA.

Task 1-10: Prepare a Benefit Cost Analysis. Prepare a benefit cost analysis using the FEMA BCA Toolbox to verify that the benefit cost ratio is above 1.0.

Task 1-11: Design Drawings. Prepare design drawings for the project. Existing aerial photography obtained from UGRC will be used as base mapping for the storm drain corridor. Pipeline, site plan, and debris basin grading plan will be prepared. Pipeline plan and profile drawings will be prepared at a scale of approximately 1-inch equals 20 feet (full size sheets). Drawings will be provided at 60%, 90% and 100% design for review and coordination. Digital aerial photography will be used in the plan portion of the design sheets. Drawings will also include catch basins, cleanout boxes, manholes, and connection to the existing infrastructure, and new structures and erosion control in the debris basin. Pipeline profiles will be prepared. Grading plans, site plans, road cross sections, structural drawings, erosion control plans, and details will be prepared as required.

Task 1-12: Technical Specifications. Utilize APWA technical specifications and details with Millcreek modifications unless otherwise noted.

Task 1-13: Obtain FEMA CLOMR Approval. Prepare and submit an application to FEMA to request a CLOMR for the project and allow them to approve the final design criteria for the Project. Obtain CLOMR approval from FEMA prior to completing the final design drawings and specifications.

Task 1-14: Contract Documents. Provide a pdf set of final contract documents and a pdf set of ½-size drawings with one bid schedule for the project being bid, including legal documents, general conditions, technical specifications, and drawings for the Project. Digital copies of the contract documents and drawings will be provided to Millcreek.

Task 1-15: Construction Cost Estimate. Prepare quantity take-offs for the project for unit priced bid schedules. Also prepare an engineer's opinion of probable construction cost for the project based on the current bidding practices. This will be performed at 60%, 90% and 100% submittals.

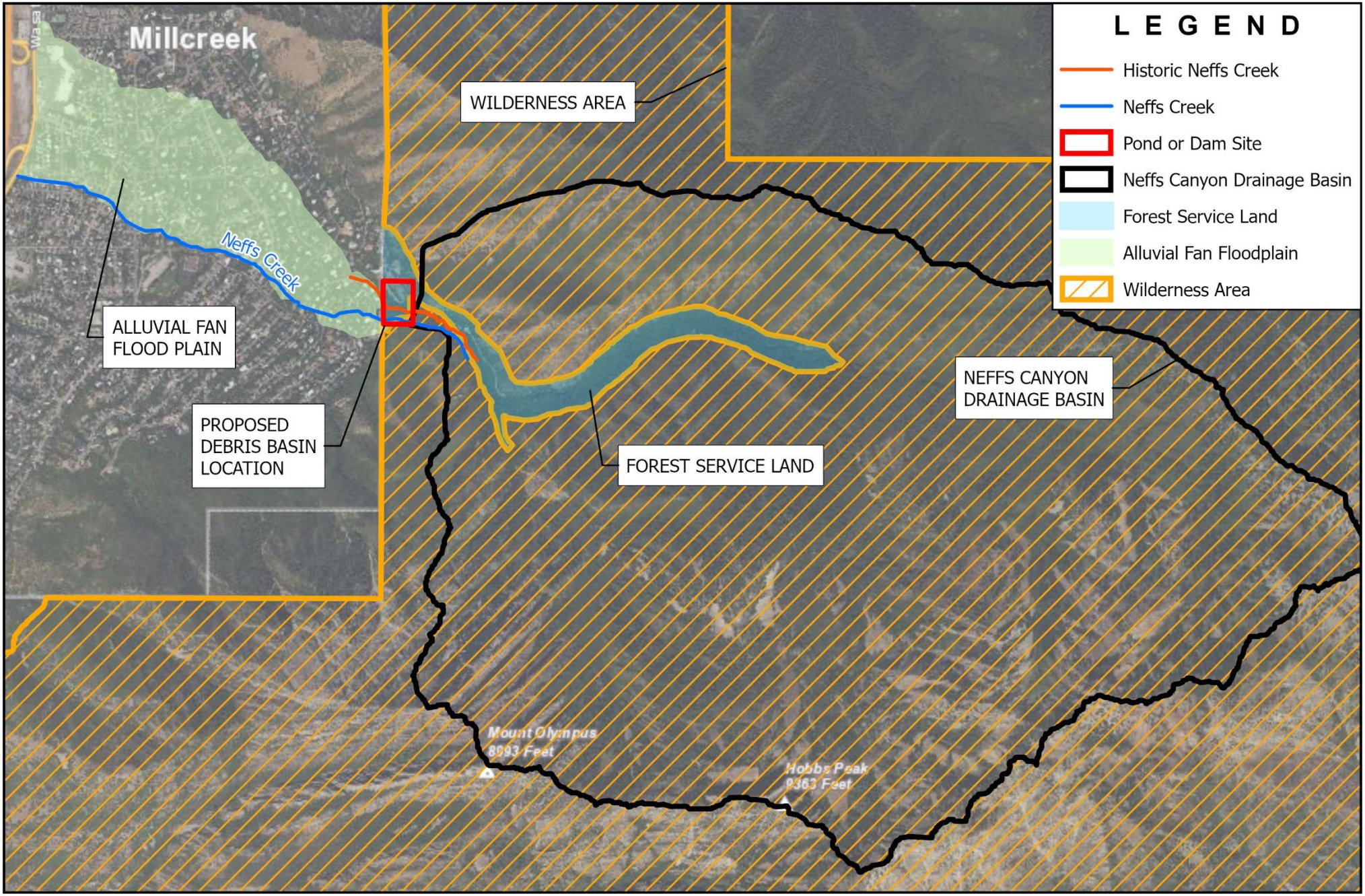
Task 1-16: Permitting. Prepare applications for and obtain the needed approvals/permits. This shall include, but not be limited to: obtaining a Flood Control Permit from Salt Lake County Flood Control for the new facilities and connecting to Neffs Creek near Wasatch Boulevard; obtaining Floodplain Development Permits from both Millcreek and Salt Lake County; obtaining a Utah State Stream Alteration Permit.

Task 1-17: Easement Assistance. The proposed pipeline will cross several private parcels. Prepare a figure and a legal description for up to four parcels that can be used to obtain temporary construction and permanent maintenance easements. Millcreek will use these instruments to obtain and record the easements from private property owners.

Task 1-18: Additional Support Meetings. Attend up to 8 additional meetings as required for coordination and planning. These meetings might consist of coordination meetings with Millcreek, USFS, Salt Lake County Flood Control or others. Prepare exhibits (i.e. maps, drawings) as needed for these meetings as long as they are related to the engineering or design of the project. Assume that Millcreek will prepare all other required exhibits not related to the engineering or design of the project (e.g. financing of the project, residential assessments, etc.)

Task 1-19: NEPA Documentation. The proposed debris basin site is located on public land managed by the USFS. Perform the environmental work required to develop an Environmental Assessment in accordance with the USFS requirements to construct the debris basin and outfall pipeline. The consultant shall also coordinate with and prepare a Categorical Exclusion in accordance with FEMA requirements for the pipeline and project impacts located outside of USFS managed land. This includes private land and areas within existing street right-of-way. As part of the NEPA process, assume that the consultant will be responsible for planning and attending 2 public open house meetings.

Task 1-20: Public Involvement. Except for the 2 open house meetings included as part of Task 1-19: NEPA Documentation, no public relations or public involvement tasks are included as part of the Phase 1 Project scope of work. If Millcreek determines that public involvement work is needed as part of this Project for items such as detailed coordination with residents, public outreach, developing a website for the Project, and preparing for and attending public meetings in addition to the 2 NEPA open houses, those additional work tasks will be performed under a separate contract or via a contract modification to the Phase 1 design contract.



BOWEN COLLINS & ASSOCIATES

Millcreek

NEFFS CANYON DEBRIS BASIN STUDY

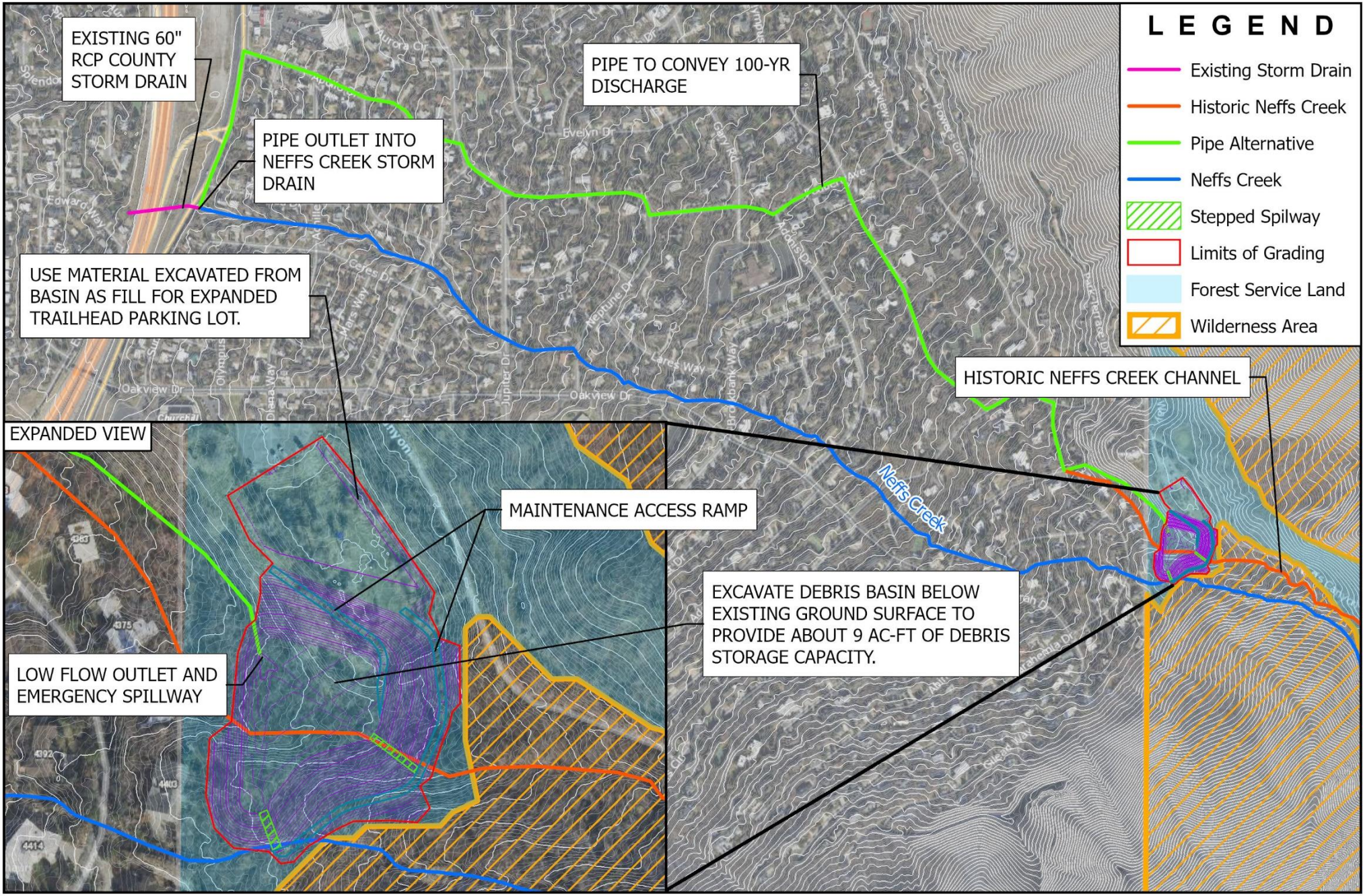
PROJECT LOCATION

NORTH:

SCALE: 0 1,000 2,000 Feet

FIGURE NO. E-1

P:\Millcreek (City)\656-21-02 Neffs Canyon Debris Basin Study\4.0 GIS\4.4 APRX\NeffsCanyonDebrisBasinAltAnalysisBK2.aprx bknaggs 12/30/2021



BOWEN COLLINS & ASSOCIATES

Millcreek

NEFFS CANYON DEBRIS BASIN STUDY

RECOMMENDED ALTERNATIVE - BELOW-GRADE DEBRIS BASIN AND PIPE TO NEFFS CREEK STORM DRAIN

NORTH:

SCALE: 0 500 1,000 Feet

FIGURE NO. E-2

P:\Millcreek (City)\656-21-02 Neffs Canyon Debris Basin Study\4.0 GIS\4.4 APRX\NeffsCanyonDebrisBasinAltAnalysisBK2.aprx bknaggs 12/30/2021

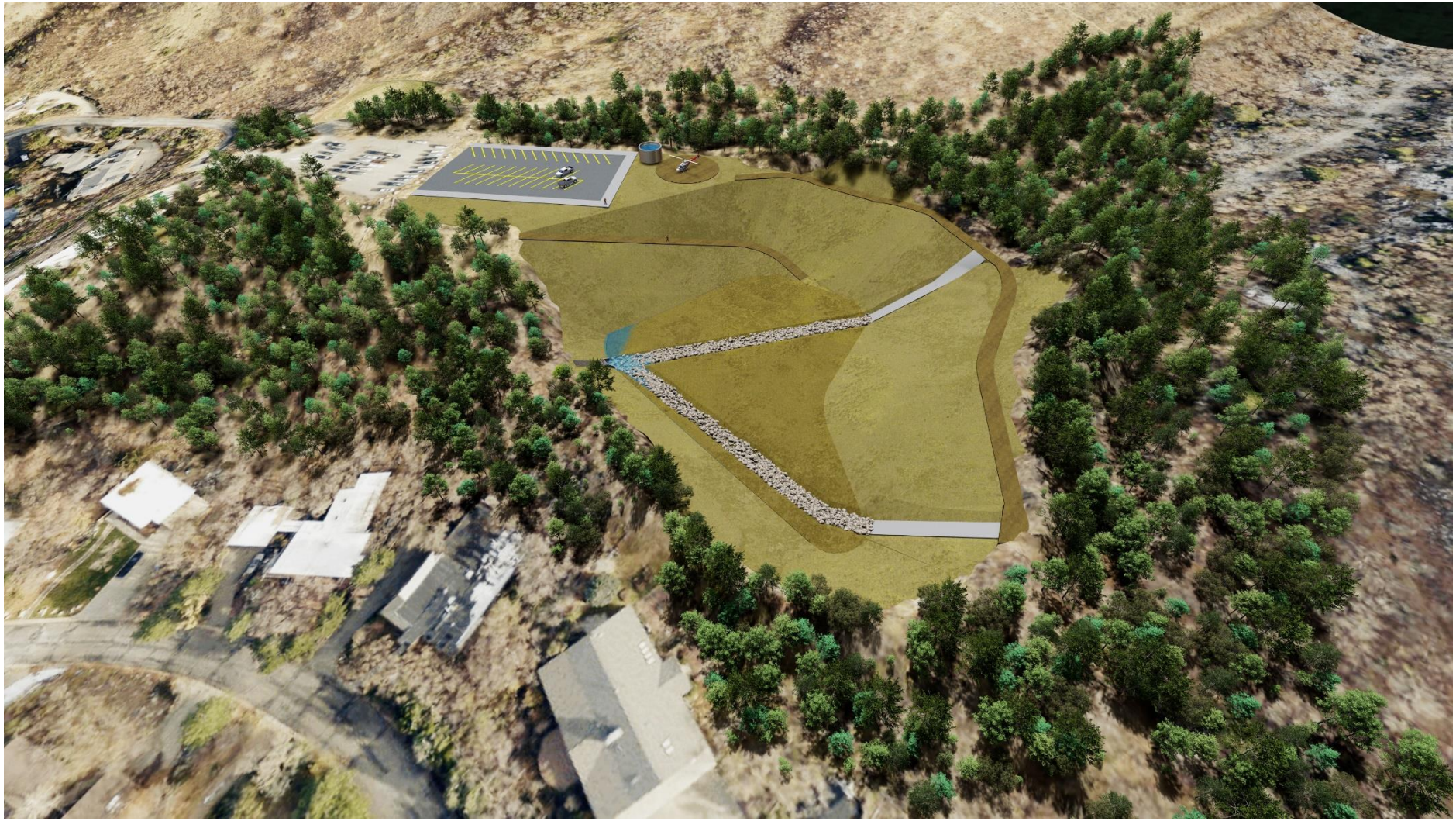


Figure E-3: Rendering of Recommended Debris Basin Alternative