Ogden Valley City
Planning Department
(385) 732-1340
planning@ogdenvalleyut.org

Staff Report – Updated 11/12/2026

Meeting Date: October 27, 2026

Applicant: Colson Hayes

Re: Conditional Use Permit for commercial campsite in the Forest-5 Zone

Prepared by: Brian Carver, AICP

Scope of Decision: Administrative. Conditional uses are uses that may be appropriate within a zoning district when designed and operated to mitigate reasonably anticipated land use impacts. Conditional uses are presumed allowable where applicable standards can be met. The purpose of conditional use review is to evaluate objective impacts and apply reasonable mitigation, not to determine whether a use is desirable.

Request and Synopsis

Mr. Hayes is seeking a permit to construct a 16-space commercial campsite on 5 acres on parcel 211810002 at 10622 East Hwy 39, in the Forest-5 Zone. Commercial campgrounds are a conditional use in the zone. The site plan is compliant with campground design standards, with the exception of required second ingress/egress and an acceleration lane on Highway 39. Staff recommends the following conditions for approval of this application:

Condition 1: Secondary Access

Finding

The proposed campground is expected to accommodate a concentration of overnight guests and recreational vehicles. In the event of a wildfire, medical emergency, roadway obstruction, or other emergency, a single access point may impede emergency response and evacuation activities.

Condition

The campground shall provide a minimum of two ingress/egress access points available for emergency and public use. An alternative access arrangement may be approved upon

written determination by the Weber Fire District that the proposed access configuration provides adequate emergency access and evacuation capability.

Condition 2: Acceleration/Deceleration Lane

Finding

The proposed access connects to a heavily traveled state highway. Vehicles entering and exiting the campground, including RVs and vehicles towing trailers, may create turning conflicts and traffic safety concerns.

Condition

A minimum 300-foot acceleration/deceleration lane, or such alternative design as may be approved by UDOT, shall be constructed to serve the campground access point prior to occupancy of the campground and in accordance with UDOT requirements. An alternate improvement may be approved upon written determination by the Utah Department of Transportation that the proposed access configuration provides adequate safe ingress and egress.

Condition 3: UDOT Access Approval

Finding

Safe and legal access to the property is necessary to mitigate traffic-related impacts associated with the campground. Access onto a state highway is regulated by UDOT.

Condition

Prior to issuance of any building permit, the applicant shall submit documentation to the City demonstrating either: (1) issuance of a UDOT access permit for the proposed access; or (2) written confirmation from UDOT that Elroy's Mountain Way provides acceptable and adequate access to serve the proposed campground. This condition shall not delay approval of the Conditional Use Permit but shall be satisfied prior to building permit issuance.

Condition 4: Bear-Resistant Refuse Containers

Finding

Campground operations will generate solid waste that may attract wildlife, including bears and other nuisance animals, creating potential health, safety, and environmental concerns.

Condition

The location of all refuse collection areas shall be identified on the approved site plan. All refuse containers shall be bear-resistant and maintained in accordance with applicable state, county, and solid waste provider requirements. Refuse collection areas shall remain accessible for service vehicles and shall be maintained in a clean and sanitary condition.

Condition 5: Quiet Hours

Finding

Campground activities have the potential to generate noise that may adversely affect neighboring properties and campground occupants during nighttime hours.

Condition

Quiet hours shall be observed between 10:00 p.m. and 7:00 a.m. During quiet hours, amplified sound, outdoor gatherings that create unreasonable noise, and operation of generators shall be prohibited, except in emergency situations. Nothing herein shall preclude enforcement of the City's nuisance ordinances.

Condition 6: Operational Management

Finding

Due to the transient nature of campground occupancy, on-site management and clearly defined operational procedures are necessary to address guest conduct, emergencies, and neighborhood concerns.

Conditions

1. The campground operator shall maintain and enforce written campground rules governing guest conduct, quiet hours, parking, waste disposal, fire safety, and wildlife interactions.

2. A campground manager shall be present on-site when required by the approved management plan, or a 24-hour emergency contact phone number shall be provided and posted in a conspicuous location.
3. The operator shall establish and maintain a complaint response protocol. Complaints received from neighboring property owners, law enforcement agencies, fire officials, or City staff shall be documented and responded to in a timely manner. Records of complaints and responses shall be made available to the City upon reasonable request.

Condition 7: Sensitive Lands Analysis

Finding

The property slopes gently from north to south, with the majority of the site grading at less than 15%. A portion of the property's northern half has an increased slope, but does not exceed 25% grade (see Figure 1).



Figure 1

Due to the QAFY soils designation shown on the Weber County Geological Map and the site plan showing an intermittent spring, staff reviewed the proposed uses' effects in relation to sensitive lands(see Figure 2). The geological map shows the subject parcel is designated as QAFY. QAFY soils is composed of mostly poorly bedded and poorly sorted, mostly unconsolidated sand, silt, and gravel; impinge on present-day floodplains, divert active streams, and overlie low terraces. A Geotech report was provided due to the QAFY designation (see attached). The report did not identify any active landslide areas, areas of instability, or areas where development could increase the risk of slope failure in relation to the subject property (Parcel 9).

The 2008 Ogden Valley Sensitive Lands Stream Corridors map shows an intermittent stream/spring running north-south through the neighboring eastern parcel but does not show a stream/spring through the subject site (see Figure 2). The subject parcel is part of a recorded plat for Gateway Estates Subdivision Phase 1A. The plat shows seasonal stream/drainage and no build zone and stream protection zones within the parcel to the east, not within the subject parcel. The City Engineer has confirmed that the water course is present on the applicant’s parcel, as illustrated in the provided site plans. It is a seasonal ephemeral stream, requiring a 50-foot no-build zone on either side according to **Ogden Valley City Land Use Code Title 104-28-2 Sensitive Lands Overlay: Stream Corridors, Wetlands, and Shorelines.**

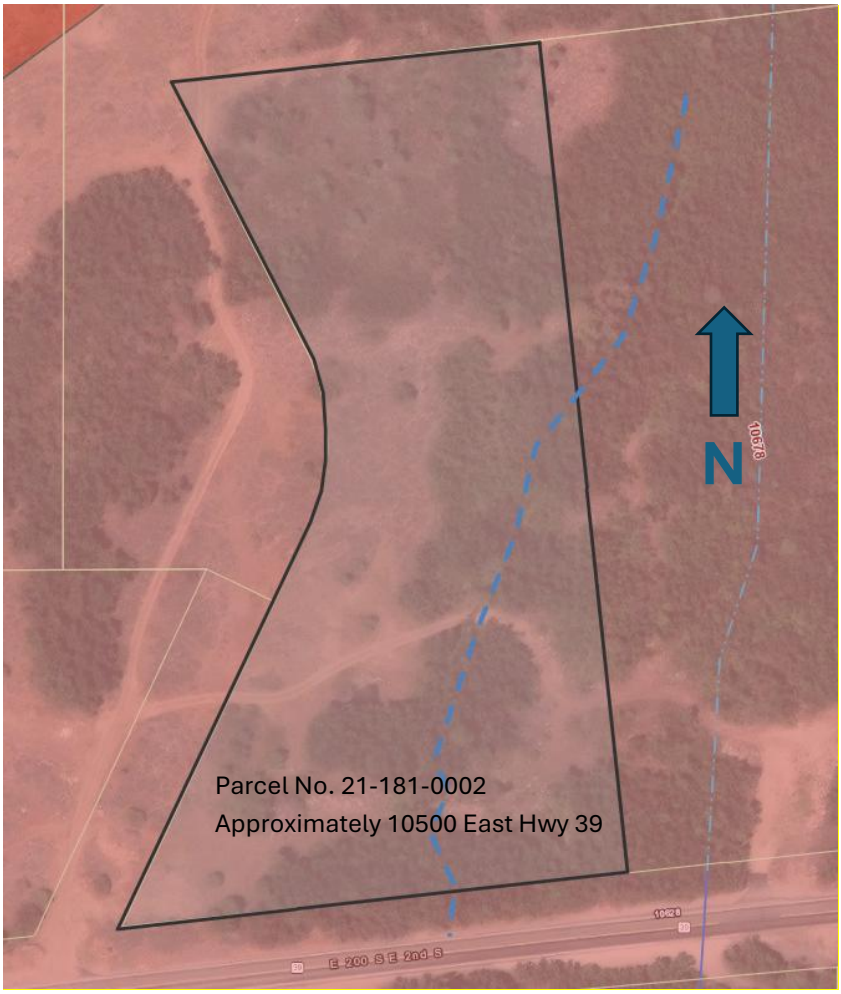


Figure 2

Conditions

1. An emergency evacuation plan in relation to the intermittent stream/spring will be provided before final issuance of the certificate of occupancy.
2. Site modifications will ensure the proper maintenance of the intermittent spring/stream and will not build structures or sites within the designated area.

Attachments

- Conditional Use Permit Application
- Site Plan
- Geotech Report

Ogden Valley City
167 S. 7500 E.
Huntsville, Utah 84317
Ph. (385) 732-1340
www.ogdenvalley.gov

Conditional Use Permit
Application

Name of Applicant: Colson Hayes_____ Date: 8/25/26_____

Mailing Address: 1152 S 1275 W Clearfield, UT 84015_____

Telephone: 801-209-8679_____ Email: campfirefliesbiz@gmail.com_____

Name of Property Owner or Agent: Colson Hayes_____

Mailing Address: 1152 S 1275 W Clearfield, UT 84015_____

Telephone: 801-209-8679_____ Email: campfirefliesbiz@gmail.com_____

Description of Request: For our 5 acre Forest Zone property, we're looking to build 16 camp sites for a commercial campground. We'll have combination bathroom/shower stalls and a storage area. We are happy and able to comply with all zoning laws, forest campground rules, and overall desires for the ogden valley of maintaining dark skies and natural beauty of the land to the best extent possible. More details are included in our devlopment plan that is included.___

Notice Required: Applicant is required to provide with this application the applicable names and addresses of all contiguous properties and those properties across the street from the subject property's frontage, or frontages, in the case of a corner lot for the City to notice the first meeting. The planning commission may also hold a public hearing as may be deemed necessary.

Certification: I certify under penalty of perjury that this application and all information submitted as a part of this application is true, complete and accurate to the best of my knowledge. Should any of the information or representations submitted in connection with this application be incorrect or untrue, I understand that Ogden Valley City may rescind any approval or take any other legal or appropriate action. I also acknowledge that I have reviewed the applicable sections of the Ogden Valley City Development Code and that items and checklists contained in this application are basic and minimum requirements only and that other requirements may be imposed that are unique to individual projects or uses. I also agree to allow the Staff, Planning Commission, or City Council or appointed agent(s) of the City to enter the subject property to make any necessary inspections thereof.

Applicant Signature: _____ Date:_____

Property Owner or Agent Signature:_____ Date:_____

Conditional Use Permit Information

A conditional use permit shall be obtained for all uses listed as such under each land use zone regulations. No building permit or license shall be issued for a conditional use until the conditional use is approved by the Ogden Valley City Planning Commission.

Development Plan Required: The applicant shall prepare a site plan of the proposed conditional use, drawn to scale and showing all existing and proposed buildings, fences, landscaping, vehicle parking and loading areas, and such other information as the Planning Commission may require.

Development Plan Submission - Hearing: The development plan shall be submitted to the planning commission at least two weeks before its regularly scheduled meeting. The commission shall, insofar as practical, give notice of the first meeting at which the development plan will be considered to all contiguous properties and those properties across the street from the subject property's frontage, or frontages, in the case of a corner lot. These property owners will be invited to express their reaction to the proposal. The names and addresses of said property owners shall be furnished to the planning commission by the applicant at least two weeks before the meeting at which the development plan shall be first considered. Compliance with this section shall not be a condition precedent to proper legal notice and no hearing or action taken thereon shall be deemed invalid or illegal because of failure to provide notification as stated in this section. The planning commission may also hold a public hearing as may be deemed necessary.

Application - Determination: A conditional use shall be approved if reasonable conditions are proposed, or can be imposed, to mitigate the reasonably anticipated detrimental effects of the proposed use in accordance with applicable standards. If the reasonably anticipated detrimental effects of a proposed conditional use cannot be mitigated by the proposal or the imposition of reasonable conditions to achieve compliance with applicable standards, the conditional use may be denied. Approval shall consider the following items:

- That the proposed use is necessary or desirable and will contribute to the general well-being of Ogden Valley City;
- That the use will not be detrimental to the health, safety or general welfare of persons residing or working in the vicinity, or injurious to property or improvements in the vicinity;
- That the proposed use will comply with the regulations of this title as may be applicable;
- That the proposed use is in harmony with the intent of the zone in which it is located.
- That the infrastructure will support the new facility.
- In setting conditions, the Planning Commission shall show relationship to the broad area of concern to which each condition applies. These areas include Traffic; Noise; Odor; Pollution; Hours of operation; Design criteria; Lighting; Visual blight; Safety conditions not related to one of these broad areas may not be imposed.

Time Limit: A conditional use permit shall be null and void one year after approval unless substantial work shall have been accomplished towards its completion.

Appeals: Appeals of any decisions of the Planning Commission shall be made to the Administrative Appeals Hearing Officer. Appeals shall be filed in writing with the City Recorder within ten (10) calendar days of the decision of the commission as per provisions of Ogden Valley Municipal Code 2.05.040.

Revocation: A conditional use permit shall be reviewed every two years for compliance with the terms under which it was issued. It may be revoked upon failure to comply with requirements imposed when the permit was originally approved or as thereafter revised.

CAMP FIREFLIES

PERMITTING SET

10622 East Hwy 39
Huntsville, Weber County, Utah

GENERAL DEMOLITION NOTES:

1. Demolition and site clearing for this contract are to include all areas shown within demolition limits or by note.
2. Refer to site improvement plans for more details on limits of removal.
3. All curbs, walks, slabs, flatwork, light fixtures, flag poles, benches, and buried cables, to be cleared from site unless otherwise shown.
4. All utilities, sewer, water, gas, telephone and electrical services to remain unless otherwise shown.
5. Clear and grub trees, shrubs, and vegetation within construction limits, disposal to be off-site Except where noted otherwise.
6. DO NOT interrupt any services or disrupt the operation of any businesses shown outside the demolition limits.
7. Remove debris, rubbish, and other materials resulting from the demolition and site clearing operations from the site and dispose of in a legal manner.
8. The location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied upon as being exact or complete. Contractor shall contact authorities having jurisdiction for field locations. Contractor shall be responsible for protection of in place and relocated utilities during construction.
9. Stockpiles shall be graded to maintain slopes not greater than 3 horizontal to 1 vertical. Provide erosion control as needed to prevent sediment transport to adjacent drainage ways.
10. Contractor shall be responsible for disposal of all waste material. Disposal shall be at an approved site for such material. Burning onsite is not permitted.
11. Contractor shall verify with city any street removal, curb cuts, and any restoration required for utility line removal.
12. Contractor shall obtain all permits necessary for demolition from City, County, State or Federal Agencies as required.

GENERAL SITE NOTES:

1. All dimensions are to back of curb and edge of pavement unless otherwise noted.

General Grading Notes:

1. All work shall be in accordance with the City Public Works Standard.
2. Cut slopes shall be no steeper than 2 horizontal to 1 vertical.
3. Fill slopes shall be no steeper than 2 horizontal to 1 vertical.
4. Fills shall be compacted per the recommendations of the geotechnical report prepared for the project and shall be certified by the geotechnical engineer.
5. Areas to receive fill shall be properly prepared and approved by the City inspector and geotechnical Engineer prior to placing fill.
6. Fills shall be benched into competent material as per specifications and geotechnical report.
7. All trench backfill shall be tested and certified by the site geotechnical engineer per the grading code.
8. A geotechnical engineer shall perform periodic inspections and submit a complete report and map upon completion of the rough grading.
9. The final compaction report and certification from the geotechnical engineer shall contain the type of field testing performed. Each test shall be identified with the method of obtaining the in-place density, whether sand cone or drive ring and shall be so noted for each test. Sufficient maximum density determinations shall be performed to verify the accuracy of the maximum density curves used by the field technician.
10. Dust shall be controlled by watering.
11. The location and protection of all utilities is the responsibility of the permitee.
12. Approved protective measures and temporary drainage provisions must be used to protect adjoining properties during the grading project.
13. All public roadways must be cleared daily of all dirt, mud and debris deposited on them as a result of the grading operation. Cleaning is to be done to the satisfaction of the city engineer.
14. The site shall be cleared and grubbed of all vegetation and deleterious matter prior to grading.
15. The contractor shall provide shoring in accordance with OSHA requirements for trench walls.
16. Aggregate base shall be compacted per the geotechnical report prepared for the project.
17. Elevations shown on this plan are finish grades. Rough grades are the subgrades of the improvements shown hereon.
18. As part of the construction documents, owner has provided contractor with a topographic survey performed by manual or aerial means. Such survey was prepared for project design purposes and is provided to the contractor as a courtesy. It is expressly understood that such survey may not accurately reflect existing topographic conditions.
19. Erosion Control: Protect all inlet boxes, catch basins, etc. with straw bales or other approved method to strain the storm water during construction. Protect surrounding properties and streets from site runoff with sandbags and earth berms.

ADA NOTES:

Contractor must maintain a running slope on Accessible routes no steeper than 5.0% (1:20). The cross slope for Accessible routs must be no steeper than 2.0% (1:50). All Accessible routes must have a minimum clear width of 36". If grades on plans do not meet this requirement notify Consultants immediately.

The Client, Contractor, and Subcontractor should immediately notify the Consultant of any conditions of the project that they believe do not comply with the current state of the ADA and/or FHAA.

CAUTION NOTICE TO CONTRACTOR

The contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans are based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must call the appropriate utility company at least 48 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the contractor to relocate all existing utilities which conflict with the propose improvements shown on the plans.

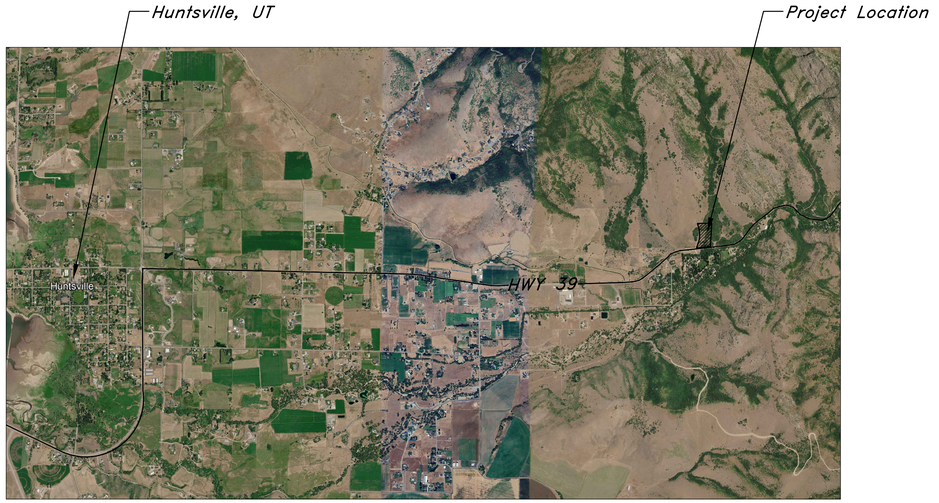
PRIVATE ENGINEER'S NOTICE TO CONTRACTORS

The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the contractor shall defend, indemnify, and hold the owner and the engineer harmless from any and all liability, real or alleged, in connection with the performance of work on this project, excepting for liability arising from the sole negligence of the owner or the engineer.

ALL CONSTRUCTION TO CONFORM TO OGDEN VALLEY CITY STANDARDS AND SPECIFICATIONS

SHEET INDEX

CIVIL	
C000	COVER SHEET
C100	OVERALL SITE PLAN
C101	ENLARGED SITE PLAN
C102	ENLARGED SITE PLAN



Vicinity Map
Not to Scale

PROJECT INFORMATION:

NAME OF PROJECT:	CAMP FIREFLIES
APPLICANT:	CAMP FIREFLIES CO. 1152 S 1275 W CLEARFIELD UT, 84015
PROJECT TYPE:	FOREST CAMPGROUND
PARCEL NUMBER:	211810002
AREA OF SITE:	5.021 ACRES
PROPERTY ZONE:	F5

PARKING SPACES PROVIDED:	23
ADA PARKING SPACES PROVIDED:	1
TOTAL PARKING SPACES PROVIDED:	24

ENGINEER/SURVEYOR:
GREAT BASIN ENGINEERING INC.
CONTACT: PAUL ANDERSON P.E. PRINCIPAL
OFFICE: 801-394-4515
ADDRESS: 5746 SOUTH 1475 EAST SUITE 200 OGDEN, 84403
EMAIL: PAC@GREATBASINENG.COM

LANDSCAPE ARCHITECT:
GREAT BASIN ENGINEERING INC.
CONTACT: JIM ZAUGG - PROJECT MANAGER/LANDSCAPE ARCHITECT
OFFICE: 801-394-4515
ADDRESS: 5746 SOUTH 1475 EAST SUITE 200 OGDEN, 84403
EMAIL: JZAUGG@GREATBASINENG.COM

ELECTRICAL ENGINEER:
RESOLUT
CONTACT: RICHARD WARDLE - PRINCIPAL
OFFICE: 801-530-3148
ADDRESS: 4225 LAKE PARK BOULEVARD SUITE 275 WEST VALLEY CITY, UTAH 84120
EMAIL: RWARDLE@RESOLUTGROUP.COM

REV	DATE	DESCRIPTION

GREAT BASIN ENGINEERING
5746 SOUTH 1475 EAST OGDEN, UTAH 84403
MAIN (801)394-4515 FAX (801)392-7544
WWW.GREATBASINENG.COM

COVER SHEET

Camp Fireflies
10622 East Hwy 39 Utah
Huntsville, Weber County,
A part of the Southwest Quarter of Section 11, T6N. R2E, SLB&M, U.S. Survey

9 OCT 2026

SHEET NO.
C000

26-504 - SITEBASE4.DWG

OVB Investments LLC
Parcel# 21-013-0011
3319 BASIN VIEW CIR.
MOUNTAIN GREEN, UT 84056

OVB Investments LLC
Parcel# 21-181-0003
3319 BASIN VIEW CIR.
MOUNTAIN GREEN, UT 84056

20' SIDE SETBACK

FUTURE ROADWAY

Exist. 10' Wide P.U.E. (Rec.)

INTERMITTENT STREAM

MATCHLINE
MATCHLINE

MATCHLINE
MATCHLINE

200' FROM
PROPERTY LINE

30' FRONT YARD
SETBACK

50' STREAM SETBACK

30' REAR SETBACK MAIN BLDG.
10' REAR SETBACK ACCESSORY BLDG.

Leroy's Mtn Way (PUBLIC RIGHT OF WAY)

200' FROM
PROPERTY LINE

INTERMITTENT STREAM

50' STREAM SETBACK

SEPTIC FIELD
100' FROM
STREAM

Exist. 30' Private Waterline Easement (Rec.)

30' FRONT YARD SETBACK

Exist. 10' Wide P.U.E. (Rec.)

Highway 39 (PUBLIC RIGHT OF WAY)

N

Scale: 1" = 60'

60 0 30 60 80 100 120

Graphic Scale

REV	DATE	DESCRIPTION

GREAT BASIN ENGINEERING

5746 SOUTH 1475 EAST OGDEN, UTAH 84403
MAIN (801)394-4515 S.L.C.(801)521-0222 FAX (801)392-7544
WWW.GREATBASINENGINEERING.COM

Overall Site Plan

Camp Fireflies

10622 East Hwy 39
Huntsville, Weber County, Utah
A part of the Southwest Quarter of Section 11, T6N. R2E, SLB&M, U.S. Survey

9 OCT 2026

SHEET NO.
C100

26-504 – SITEBASE4.DWG



REV | DATE | DESCRIPTION

GREAT BASIN ENGINEERING
5746 South 1475 East Ogden, Utah 84403
Main (801)394-4515 S.L.C (801)521-0222 Fax (801)392-7544
WWW.GREATBASINENGINEERING.COM

Enlarged Site Plan

Camp Fireflies

10622 East Hwy 39
Huntsville, Weber County, Utah
A part of the Southwest Quarter of Section 11, T6N. R2E, SLB&M, U.S. Survey

9 OCT 2026

SHEET NO.

C101

26-504 – SITEBASE4.DWG

MATCHLINE
MATCHLINE

MATCHLINE
MATCHLINE

PROPERTY: 1
218,723 sq. ft.
5.021 acres

DRIVEWAY AND PARKING, GRAVEL PAVING

DRIVEWAY AND PARKING, GRAVEL PAVING

GRAVEL PATHWAY TYP.

GRAVEL PATHWAY TYP.

GRAVEL PATHWAY TYP.

GRAVEL PATHWAY TYP.

GRAVEL PATHWAY TYP.

GRAVEL PATHWAY TYP.

PROPOSED SM CAMPSITE FFE=5180.00

PROPOSED SM CAMPSITE FFE=5176.00

PROPOSED SM CAMPSITE FFE=5166.25

PROPOSED LG CAMPSITE FFE=5157.50

PROPOSED LG CAMPSITE FFE=5153.50

PROPOSED SM CAMPSITE FFE=5148.00

PROPOSED LG CAMPSITE FFE=5147.50

PROPOSED SM CAMPSITE FFE=5163.25

SEWER LINE

SEWER LINE

SEPTIC SYSTEM

FROST FREE HYDRANT

FROST FREE HYDRANT

TRAILER PARKING

WATER LINE

WATER LINE

WATER LINE

WATER LINE FROM WELL

RV DUMP STATION

DRIVEWAY AND PARKING, GRAVEL PAVING

BRIDGE

BRIDGE

INTERMITTENT STREAM

SAUNA

HOT TUB

COLD PLUNGE

14.14'
12.00'
19.50'
6.00'
19.50'
12.00'
6.00'
12.00'
19.50'

5180
5175
5170
5165
5160
5155
5150
5145
5140
5135

Scale: 1" = 20'

20 0 10 20 25 30 35 40

Graphic Scale

REV	DATE	DESCRIPTION

GREAT BASIN ENGINEERING

574 SOUTH 1475 EAST OGDEN, UTAH 84403
MAIN (801)394-4515 SLC (801)521-0222 FAX (801)392-7544
WWW.GREATBASINENGINEERING.COM

Enlarged Site Plan

Camp Fireflies

10622 East Hwy 39
Huntsville, Weber County, Utah
A part of the Southwest Quarter of Section 11, T6N. R2E, SLB&M. U.S. Survey

9 OCT 2026

SHEET NO.
C102

26-504 – SITEBASE4.DWG

AGEC
Applied GeoTech

March 4, 2021

Lowe Companies
6028 South Ridgeline Drive, Suite 203
Ogden, UT 84405

Attention: Matt Lowe
EMAIL: matt@lowecompanies.com

Subject: Reconnaissance-level Geologic-hazards Study
Proposed Gateway Estates Subdivision
Approximately 10700 East Highway 39
Huntsville, Utah
Project No. 1210067

Mr. Lowe:

Applied Geotechnical Engineering Consultants was requested to perform a reconnaissance-level geologic-hazards study for the proposed Gateway Estates subdivision.

PURPOSE AND SCOPE OF INVESTIGATION

This letter presents the results of a reconnaissance-level geologic-hazards study for the proposed Gateway Estates subdivision at approximately 10700 East Highway 39 in Huntsville, Utah.

The study was conducted to identify potential geologic hazards that may affect the proposed development. The hazards evaluated are surface fault rupture, landslide, tectonic subsidence, rockfall, debris flow and liquefaction. The study included a review of geologic literature, aerial photographs and lidar data, site reconnaissance, and geologic analysis. This report has been prepared to summarize the data obtained during the study and to present our conclusions.

PROPOSED CONSTRUCTION

We understand that single-family residences are planned to be constructed on the property. We anticipate the buildings will be one- to two-story structures with basements.

SITE DESCRIPTION

At the time of our site visit on February 10, 2021, there were no permanent structures or pavement on the site. The property consists of undeveloped land.

The general topography of the site is presented on Figure 2. There is a dry drainage that extends generally north-south through the west central portion of the property, which fans out into an alluvial fan. There are other minor drainages on the east and west sides of the property. Ridges with bedrock outcrops extend through much of the north half of the property and into parts of the south-central part of the property.

Vegetation consists of grass, brush and some patches of trees. Tree coverage is greatest in the central drainage.

There is similar properties to the north, east and west. State Route 39 borders the south side of the property. There are houses and camps south of the road.

OFFICE METHODS OF INVESTIGATION

Geologic conditions at the site were evaluated by a review of geologic literature, aerial photographs and lidar data. Aerial photographs and lidar data used during the investigation were downloaded from the Utah Geological Survey website. Photographs with numbers of AAJ-1B-23 and 24, and a date of August 10, 1946 were reviewed. The lidar data is from 2016 with 0.5-meter resolution.

A. Geologic Literature Review

The site is located on the north side of the South Fork of the Ogden River on the east side of the Ogden Valley. Ogden Valley is a northwest trending valley within the Wasatch Mountains of north-central Utah. The valley is filled with an accumulation of lacustrine, alluvial and colluvial sediments from deposition during the past 15 million years.

Bedrock is exposed through most of the steep parts of the site. The bedrock is mapped by Coogan and King (2016) to consist of Neoproterozoic metamorphic rocks classified as quartzites, meta-sandstone and argillites with dip down to the east-northeast at approximately 40 degrees (See Figure 1). The surface deposits in drainages consist of alluvium with colluvial deposits along the margin of drainages. There are landslide deposits mapped for the southwest corner of the property. The landslide map of Elliott and Harty (2010) shows no additional landslides for the property. The landslides appear to have relative shallow-depth slide planes and may be associated with springs in the area.

Ogden Valley is a down-dropped structure with the Ogden Valley Northeast margin fault along the northeast side of the valley and the Ogden Valley Southwest margin fault and the Ogden Valley North Fork fault along the southwest side of the valley. These faults are oriented in a general northwest to southeast direction with the two western faults estimated to have moved in the last 750,000 years and the east fault having evidence of movement in the last 2.6 million years. The faults are considered normal faults with dip direction down to the northeast on the two west fault systems and down to the southwest for the Ogden Valley Northeast margin fault. The faults are considered relatively old structures and do not represent a significant surface-fault-rupture hazard for development within the Ogden Valley area. Tectonic subsidence associated with fault movement would similarly not be a significant hazard at this site.

The Utah Fault and Fold database shows the Ogden Valley northeast margin fault located approximately 1 mile west of the property. No active faults are mapped through or near the site. The closest active fault to the site based on the Utah Geological Survey database is the Wasatch fault located approximately 12 miles to the west (Utah Geological Survey, 2021). The Morgan Fault is considered a potentially active fault and is approximately 12 miles south of the site.

B. Aerial Photograph and Lidar Review

Based on review of the aerial photographs and lidar data, the landslide deposits are mapped on Figure 2.

Based on the topography of the site and surrounding area debris flow is not considered a potential geologic hazards at the site.

C. Seismicity

The property is located in the Intermountain Seismic Zone, which consists of an area of relatively high historical seismic activity. The most intense seismic ground shaking at the site is expected to originate from the Wasatch fault zone. The Wasatch fault zone is considered capable of producing earthquakes on the order of 7 to 7.5 magnitude and can result in significant seismic ground shaking at the site. The US Geological Survey data indicate that a peak ground acceleration of 0.41g can be expected to have a 2 percent probability of being exceeded in a 50-year time period at this site (ICC, 2017).

D. Liquefaction Potential

Based on our understanding of the geology of the area, liquefaction is not considered a hazard at this site (Anderson and others, 1994).

FIELD METHODS OF INVESTIGATION

A site visit was made on February 10, 2021 by a geologist from AGEC. The site was snow covered and thus evidence of geologic hazards could be obscured by the snow cover. There is surface evidence of the landslides mapped on Figure 2 and potential evidence that rockfall could be a hazard for develop below bedrock outcrops above or on Lots 1, 2, 3, 4, 21, 25, 28 ,29, 30 and 31. Rockfall should be evaluated for these lots once the snow has melted.

CONCLUSIONS AND RECOMMENDATIONS

Landslide is a potential hazard for development of the area mapped as landslide deposits on Figure 2. Additional subsurface investigation and stability analysis is recommended for lots planned to be developed in this area. Slope stability could also be a concern where slopes are steepened and should be evaluated for individual residences planned to be constructed. Rockfall is a potential hazard for the lots indicated above and should be further evaluated. It is our professional opinion that debris flow, surface fault rupture, tectonic subsidence and liquefaction are not significant hazards at the site.

LIMITATIONS

This study was performed in accordance with generally accepted engineering geology practices for the area. The findings of the study are based on published geologic maps, review of aerial photographs and lidar data of the site and our interpretation of geologic conditions at the site.

Sincerely,

APPLIED GEOTECHNICAL ENGINEERING CONSULTANTS, INC.



Douglas R. Hawkes, P.E., P.G.

Reviewed by James E. Nordquist, P.E.
DRH/bw

Enclosure

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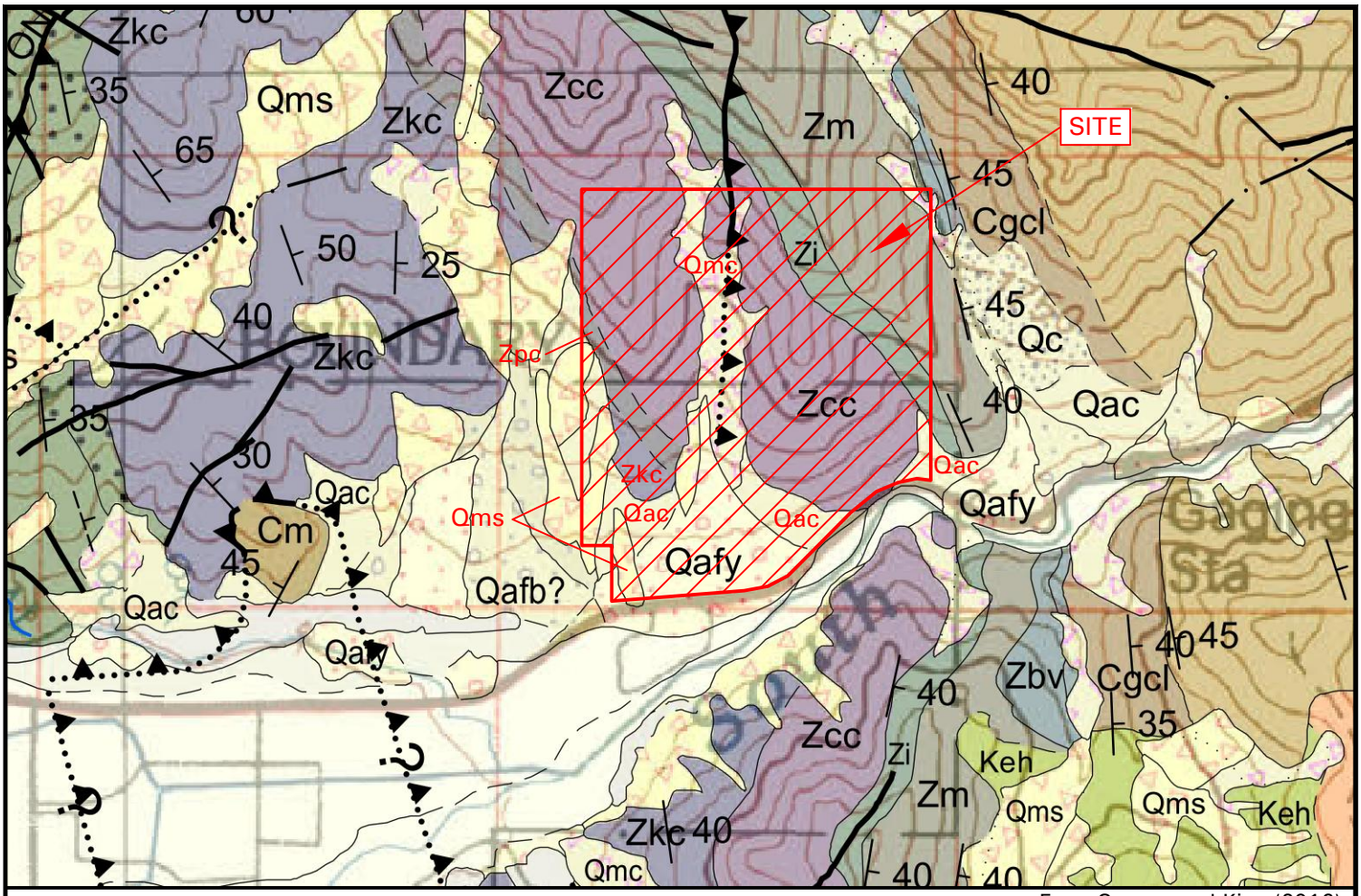


From Coogan and King (2016)

EXPLANATION OF SYMBOLS AND GEOLOGIC UNITS IN AREA OF PROPOSED DEVELOPMENT

Qafy	-	Alluvial-fan deposit (Quarternary).
Qac	-	Alluvial and colluvial deposits (Quarternary).
Qmc	-	Landslide and Colluvial deposits (Quarternary).
Qms	-	Landslide deposits (Quarternary).
Zm	-	Mutual formation - quartzite (Neoproterozoic)
Zi	-	Inkom formation - argillite and metasandstone (Neoproterozoic)
Zcc	-	Caddy Canyon Quartzite - quartzite (Neoproterozoic)
Zpc	-	Papoose Creek Formation - argillite, metasandstone and quartzite (Neoproterozoic)
Zkc	-	Kelley Canyon Formation - argillite and phyllite (Neoproterozoic)

——— — — Geologic contact between units, dashed where approximate.

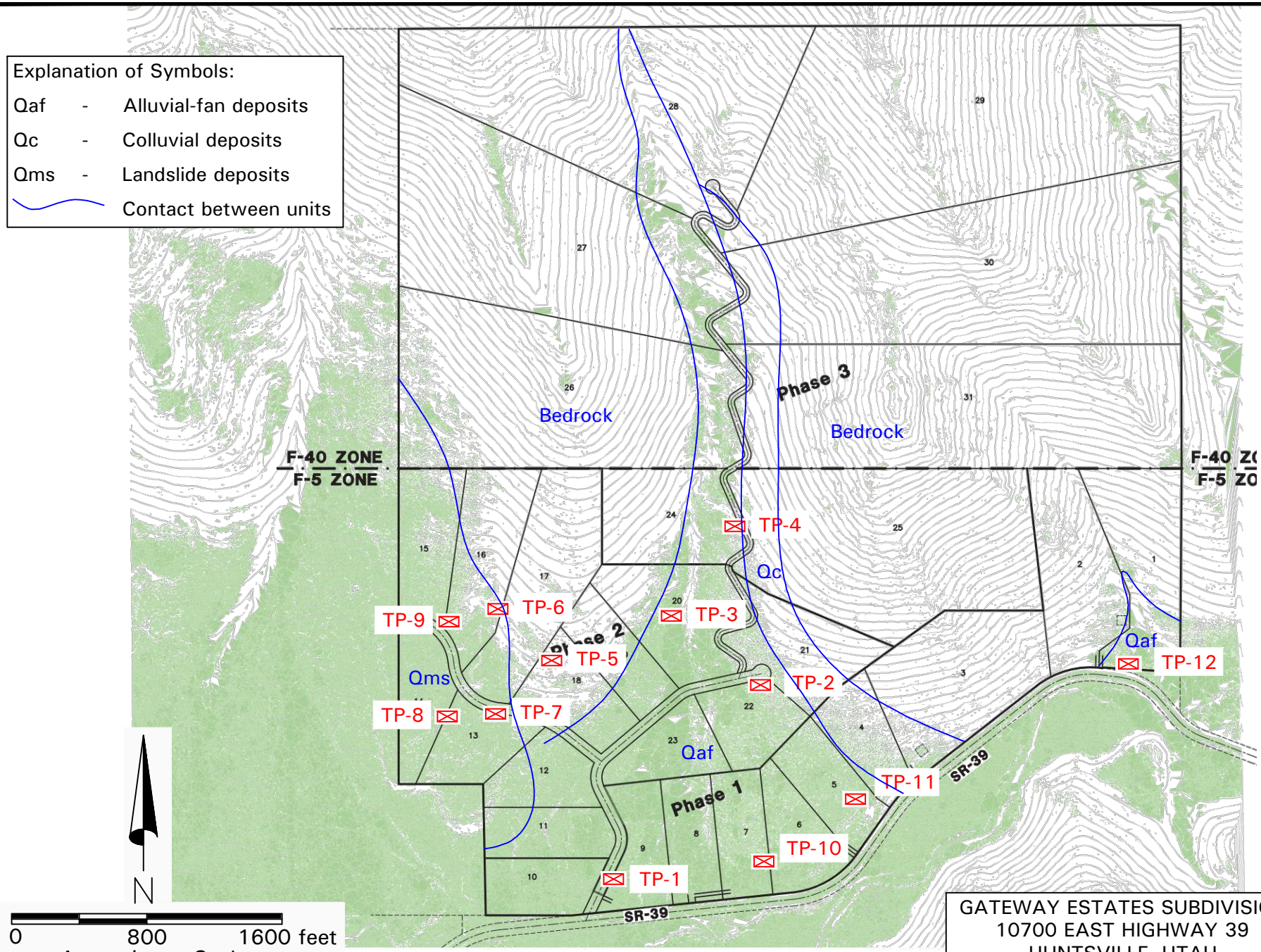
Thrust fault, dotted where concealed.

N

0 2000 4000 feet
Approximate Scale

GATEWAY ESTATES SUBDIVISION
10700 EAST HIGHWAY 39
HUNTSVILLE, UTAH

1210067	AGEC	Geologic Map	Figure 1



Base Map from Reeve and Associates.

GATEWAY ESTATES SUBDIVISION
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1210067	AGEC	Geology Map and Test Pit Locations	Figure 2