



March 19, 2025

Mr. Dan Alexander
Story Distributing Company
1612 Gold Avenue
Bozeman, Montana 59715

Delivered via email: dana@redtailmt.com

**SUBJECT: Remedial Investigation Work Plan
Casey's Corner #6 47650 Gallatin Road, Big Sky, Montana
DEQ Facility ID 16-06923; Release 6292, Work Plan 34345
Tetra Tech Project Number 117-8300005A**

Dear Mr. Alexander:

Tetra Tech, Inc. (Tetra Tech) is pleased to submit this work plan to conduct a remedial investigation (RI) to investigate the release discovered Casey's Corner #6 located at 47650 Gallatin Road, Big Sky, Gallatin County, Montana (Figure 1). This work plan has been prepared in response to a request from Eric Krueger of the Montana Department of Environmental Quality (DEQ) in correspondence dated July 12, 2021 (DEQ, 2021). In this correspondence Mr. Krueger made the following requests:

- *Prepare the WP in accordance with the Remedial Investigation (RI) Guidance.*
- *Evaluate Facility for potential existing monitoring wells and repair wells as necessary prior to sampling. Gauge fluid levels in potential existing monitoring wells prior to installation of additional soil borings and monitoring wells to determine optimal placement and well screening intervals.*
- *Evaluate Facility for potential domestic and/or public water supply wells. Collect water samples from water wells, if found. Analyze water well samples by EPA Method 524.2.*
- *Install an adequate number of soil borings and monitoring wells to determine the extent and magnitude of petroleum contamination in soil, groundwater, and other potential contaminated media.*
- *Collect discrete soil samples to document the vertical and lateral extent and magnitude of petroleum contamination.*
- *Complete one round of groundwater monitoring in all newly installed wells and any on-site existing monitoring wells. The monitoring event is to be completed at least one week after monitoring well installation and development.*
- *Conduct groundwater monitoring using low-flow methods in accordance with DEQ's Groundwater Sampling Guidance.*
- *Dispose of purge water according to the Disposal of Untreated Water from Monitoring Wells flowchart.*
- *Analyze soil and groundwater samples for petroleum constituents according to the Montana Tier I Risk-Based Corrective Action (RBCA) Guidance for Petroleum Releases; include analyses for lead scavengers.*
- *Validate laboratory analytical data using DEQ's Data Validation Summary Form.*

- *Prepare a Release Closure Plan (RCP); discuss results with DEQ's project manager.*
- *Prepare and submit a Remedial Investigation Report detailing the results of the investigation.*

The following sections summarize Tetra Tech's proposed scope of work and schedule to complete the requested tasks. An estimated budget is presented in the attached Unit Cost Worksheet.

BACKGROUND INFORMATION

The site consists of a convenience store building, private residences, fuel dispenser canopy, one above ground storage tank (AST) and associated fuel dispenser, and an active underground storage tank (UST) basin with three USTs (Figure 2). The passenger vehicle dispensers are located on the eastern end of the store and the UST basin adjoins the convenience store to the south. The AST and associated fuel dispenser are located southeast of the convenience store.

Multiple above and below ground petroleum releases have been identified at this facility between the years 1986 and 2021. In 1986, a concrete form pin was driven through a product line. This release was not discovered until six months after, when gasoline was observed on the downgradient pond. At the request of the DEQ soil borings were installed to investigate the release. Petroleum hydrocarbon concentrations were detected in soil and surface water samples. According to DEQ records, no further action was taken (RAM Environmental, 1999).

A second release was discovered during facility upgrades conducted in 1994. Gasoline odor was observed in soils during facility upgrades of product lines; however, it was noted that the existing piping was in good condition. The release was thought to be caused by customer overfills at the facility dispensers. Approximately eight cubic yards was excavated during the facility upgrades. The excavated soils were sampled and analyzed for diesel range organics (DRO) and gasoline range organics (GRO). Minimal concentrations of petroleum hydrocarbons were detected. No further actions were conducted (RAM Environmental, 1999).

May 8, 1997 the MDEQ received correspondence stating fuel was spilling onto an unpaved area near the diesel dispensers. In response to the MDEQ inquiry, the facility manager stated approximately 20 gallons of fuel had spilled due to a malfunctioning shut-off control. Two cubic yards of impacted soil was removed from the facility. MDEQ personnel subsequently sampled the domestic well at the facility for DRO and volatile organic compounds (VOCs). No concentrations of DRO or VOCs were detected in the domestic well samples (RAM Environmental, 1999).

In April 1999 RAM Environmental installed three monitoring wells at the request of MDEQ to determine if groundwater at the property was impacted by the historic releases discussed above. The monitoring wells were installed downgradient of the suspected release area and sampled for GRO and DRO. Additionally, one domestic well was sample and analyzed for VOCs. No petroleum hydrocarbons were detected in samples collected during this investigation (RAM Environmental, 1999).

In January 2021, Antea Group conducted a phase II investigation at the property to investigate the presence of petroleum hydrocarbon impacts at the facility. Five soil borings were installed downgradient of the fuel dispensers. Soil and groundwater samples were collected from each soil boring and analyzed for volatile petroleum hydrocarbons (VPH), extractable petroleum

hydrocarbons (EPH), and BTEX (benzene, toluene, ethylbenzene, and xylene. Results from phase II investigation indicate petroleum hydrocarbon impacts to the soil and groundwater at the facility are present. The concentrations reported during this investigation indicate multiple DEQ risk-based screening levels (RBSLs) exceedances in the soils and groundwater at the facility (Antea Group, 2021).

SCOPE OF WORK

This scope of work was developed to fulfill the DEQ requirements presented earlier in this document. The following details describe the methods used for this investigation:

SUBSURFACE INVESTIGATION

- Prepare an initial work plan outlining the objectives of the on-site activities compliant with the DEQ requirement for initiation of a remedial investigation for Release ID 6292 at 47650 Gallatin Rd., Gallatin Gateway, Big Sky, Montana.
- Prepare a site-specific health and safety plan prior to the initiation of any on-site activities.
- Conduct an underground utility locate using the Montana 24-hour Utility Notification Center. A private utility locate will also be employed to locate utilities within the proposed soil boring areas. During this activity, an initial search of existing monitoring well and domestic wells will be conducted. The monitoring wells will be assessed for condition to determine if repairs are necessary.
- Drill seven soil borings using direct push drilling techniques in the areas indicated on Figure 2. Exact locations will be determined after on-site assessment of site-specific access, underground utility locates, and safety. The borings will be executed to a depth of approximately 15 feet below ground surface (bgs) to assess petroleum hydrocarbon impacts down to the soil-groundwater interface. The approximate depth of 15 feet bgs was used for cost estimating purposes.
- Collect soil samples from each borehole continuously and log each sample for soil type, density, moisture content, color, and evidence of petroleum hydrocarbon staining and odor.
- Each sample will be screened for petroleum hydrocarbon impacts using visual observations of staining, odor, and standard headspace screening techniques with a flame-ionization detector (FID).
- Soil samples will be collected from the zone of greatest petroleum impacts (as identified during field screening), and from the top of the saturated zone in each of the borings. However, if impacts are not observed in the soil column, then only the sample from the groundwater interface will be collected for laboratory analysis. For cost estimation purposes it is assumed that two soil samples will be collected from each boring. Each soil sample will be placed in clean laboratory-supplied containers and submitted to Energy Laboratories in Billings, Montana. The soil samples will be analyzed for volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH) screen using the Massachusetts Department of Environmental Protection method (MDEP, 2008), ethylene dibromide (EDB) via EPA method 8011, and 1,2 dichloroethane (DCA) via EPA method 8260. In accordance with DEQ guidance, if the EPH concentration in soil exceeds 200 milligrams per kilogram (mg/Kg), then an EPH fractionation analysis is required (DEQ, 2018). For purposes of estimating costs for this proposal, it will be assumed that six of the soil samples will be also analyzed for EPH fractionation.

- Impacted drill cuttings, as identified by field screening, will be containerized on site within 55-gallon drums. A soil sample will be collected from the containerized soil and submitted for laboratory analysis of VPH and EPH per landfill disposal requirements.

MONITORING WELL INSTALLATION

- Four of the seven soil borings will be completed as monitor wells with 2-inch diameter Schedule 40 PVC materials (Figure 2). The well screen piping will be 0.020 slot size prepacked well screen and installed from to approximately 15 feet bgs. A threaded cap will be installed on the bottom of the screen piping. Bentonite pellets will be placed from the top of the screen to two feet bgs. The monitor wells will be completed with an 8-inch diameter flush-mount steel protector casing concreted in place. The top of the PVC casings will be fitted with 2-inch diameter water-tight locking plugs.
- Each monitoring well will be developed using a surge block and water pumping technique. The well will be surged and pumped until the pumped water is sediment free and clear. Development water will be containerized in accordance with the Disposal of Untreated Water from Monitoring Wells Flow Chart and disposed of appropriately following receipt of laboratory results (MDEQ,2015).
- The vertical elevation of each new and existing monitoring well PVC casing will be surveyed by and overseen by licensed engineer or conducted by a licensed surveyor to an accuracy of 0.01 feet and mean sea level datum.

GROUNDWATER MONITORING

- Depth to groundwater will be measured for each monitoring well (new and existing) using an electronic oil/water interface meter. The meter will be decontaminated between each well measurement using Liquinox® soap solution and clean potable water rinse.
- Each monitoring well will be purged with low-flow slow-purge pumping method using a submersible bladder pump and dedicated polyethylene tubing. During purging, the water will be analyzed for pH, temperature, dissolved oxygen, specific conductivity, oxidation-reduction potential, and turbidity using field instruments. Purge water will be containerized in accordance with the Disposal of Untreated Water from Monitoring Wells Flow Chart and disposed of appropriately following receipt of laboratory results (MDEQ,2015). The pump will be decontaminated between wells using a Liquinox solution followed by a triple rinse technique. Additionally, a new bladder will be installed between each well.
- A groundwater sample will be collected from each newly installed monitor well and existing monitoring well using a submersible bladder pump and dedicated polyethylene tubing. Groundwater samples will be analyzed for VPH and EPH via EPA method 8260 via the methods listed above. In accordance with DEQ guidance, if the EPH concentration in water exceeds 1,000 micrograms per liter (µg/L), then an EPH fractionation analysis is required (DEQ, 2018). DCA and EDB will be sampled during the initial sampling event via the methods listed above. For purposes of estimating costs for this proposal, it will be assumed that three of the water samples will be also analyzed for EPH fractions.
- There are two known water wells located on the facility that provide drinking water to the convenience store and residences. A sample will be collected from the hydrant or faucet nearest the service line and upstream of any filtration device or water softener. The water will be allowed to run for a minimum of 10 minutes prior to sample collection. These water samples will be analyzed for VOCs via EPA Method 524.2.

DATA VALIDATION

Each analytical data package will include a summary report that cross references the sample identification with the laboratory identification and identifies variations from standard operating procedures; laboratory analytical results; quality control data, which may include but is not limited to: surrogate recoveries, initial and continuing calibration blanks and spikes, method blanks, laboratory control blanks and spikes, and matrix spike and matrix spike duplicates; FID chromatograms; chain of custody form(s); and a sample receipt checklist.

Additionally, as indicated below, a data validation will also be included with the investigation report and will follow DEQ's data validation guideline as per <https://deq.mt.gov/Portals/112/Land/StateSuperfund/Documents/DataValidationReport.pdf>. It is anticipated that three or four separate data validations will need to be completed for this project.

REMEDIAL INVESTIGATION REPORT PREPARATION

Tetra Tech will prepare a Remedial Investigation Report (RIR) presenting findings and conclusions the soil and groundwater investigations, and groundwater monitoring activities. The report will include results from field screening activities, figures depicting site features and well locations, well completion details and logs, summary of soil sampling results, groundwater elevations, groundwater potentiometric surface map, groundwater flow direction and gradient, summary of groundwater analytical results, discussion on vertical and aerial extent of impacts based on the investigation data. Tetra Tech will also prepare a Release Closure Plan (RCP), which will be appended to the RIR, to evaluate the potential for closure of the release.

SCHEDULE AND COSTS

The above tasks will be initiated following receipt of project authorization by Story Distributing, DEQ and the Montana Petroleum Tank Release Compensation Board. Estimated project costs are shown on the Cost Estimate and Groundwater Monitoring Tool included in Attachment A. Drilling contractor bids are included in Attachment C.

PROPOSAL AUTHORIZATION

Should you find this work plan acceptable, please sign the Work Authorization #4 included in Attachment B and return a signed copy to our Billings, Montana office. If you have questions or comments regarding this work plan, don't hesitate to call us at (406) 248-9161. For your convenience, we have forwarded a copy of this work plan to DEQ for their review. We appreciate the opportunity to provide you with environmental consulting services.

Sincerely,

Tetra Tech, Inc.



Austin Maphis
Environmental Geologist



Paul E. Lemire
Project Manager

PR/JRR/ba

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Cc: Eric Krueger, DEQ; Eric.Krueger@mt.gov

Figures

Attachment A: Unit Cost Worksheets

Attachment B: Work Authorization #4

Attachment C: Bid Sheets

REFERENCES

Antea Group, 2021. Phase II Investigation Casey # 6, 47650 Gallatin Rd., Gallatin Gateway, Gallatin County, Montana. January.

MDEP, 2008a. Massachusetts Department of Environmental Protection (MADEP), 2008. Method for Determination of Volatile Petroleum Hydrocarbons (VPH). Revision 1.1. May.

MDEP, 2008b. Massachusetts Department of Environmental Protection (MADEP), 2008. Method for Determination of Extractable Petroleum Hydrocarbons (EPH). Revision 1.1.

MDEQ, 2015. Disposal of Untreated Purge Water from Monitoring Well. July 27.

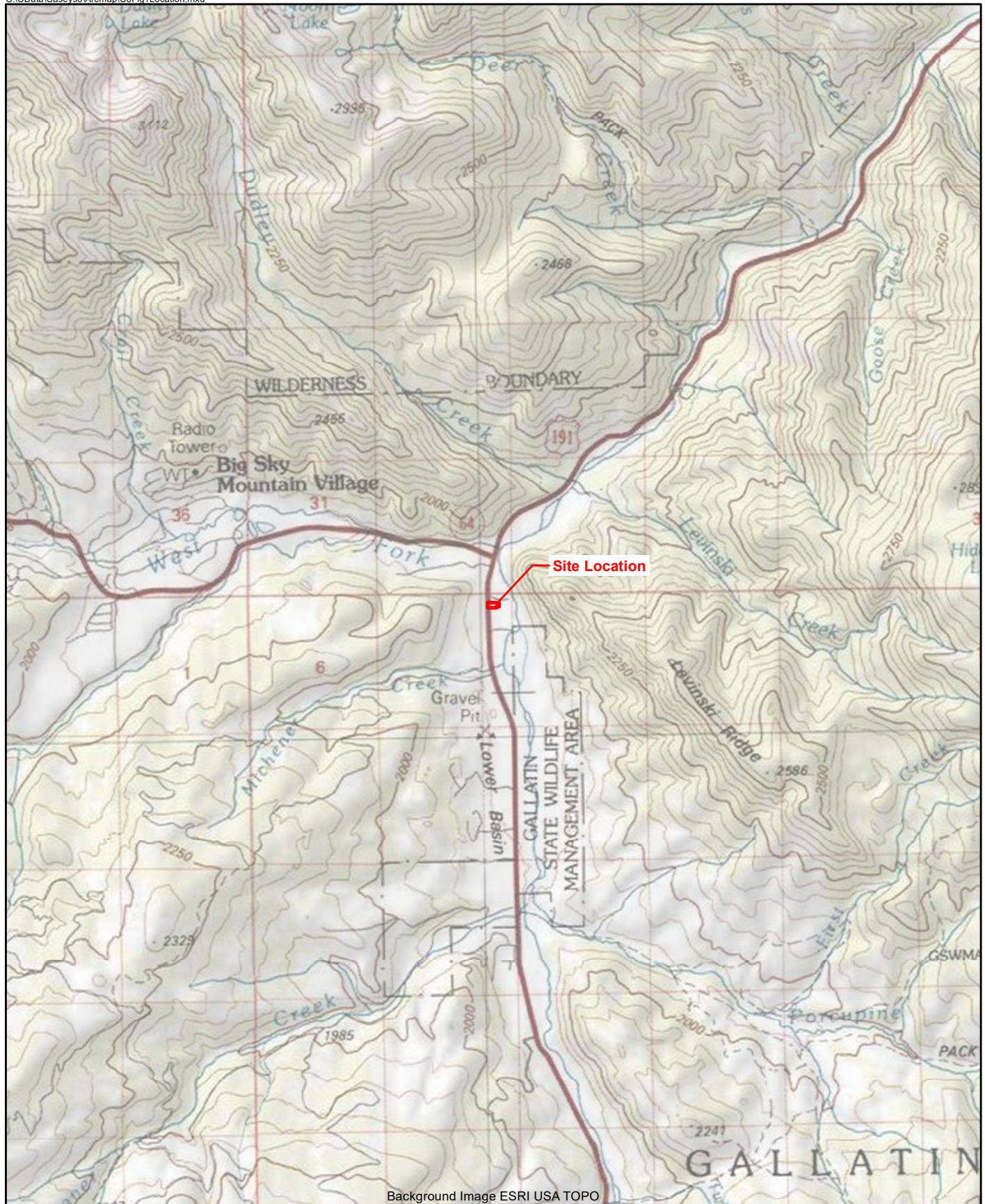
MDEQ, 2018. Montana Tier 1 Risk-Based Corrective Action Guidance for Petroleum Releases. May.

MDEQ, 2021. January 8, 2021, Petroleum Release at Casey #6, 47650 Gallatin Rd., Gallatin Gateway, Gallatin County, Montana; Facility ID 16-06923, (TID 21410), Release 6292, Work Plan 34345. July 12.

RAM Environmental, LLC, 1999. Phase I Remedial Investigation Report, Jasper's Exxon, Big Sky, Montana. May 27.

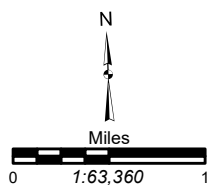



FIGURES



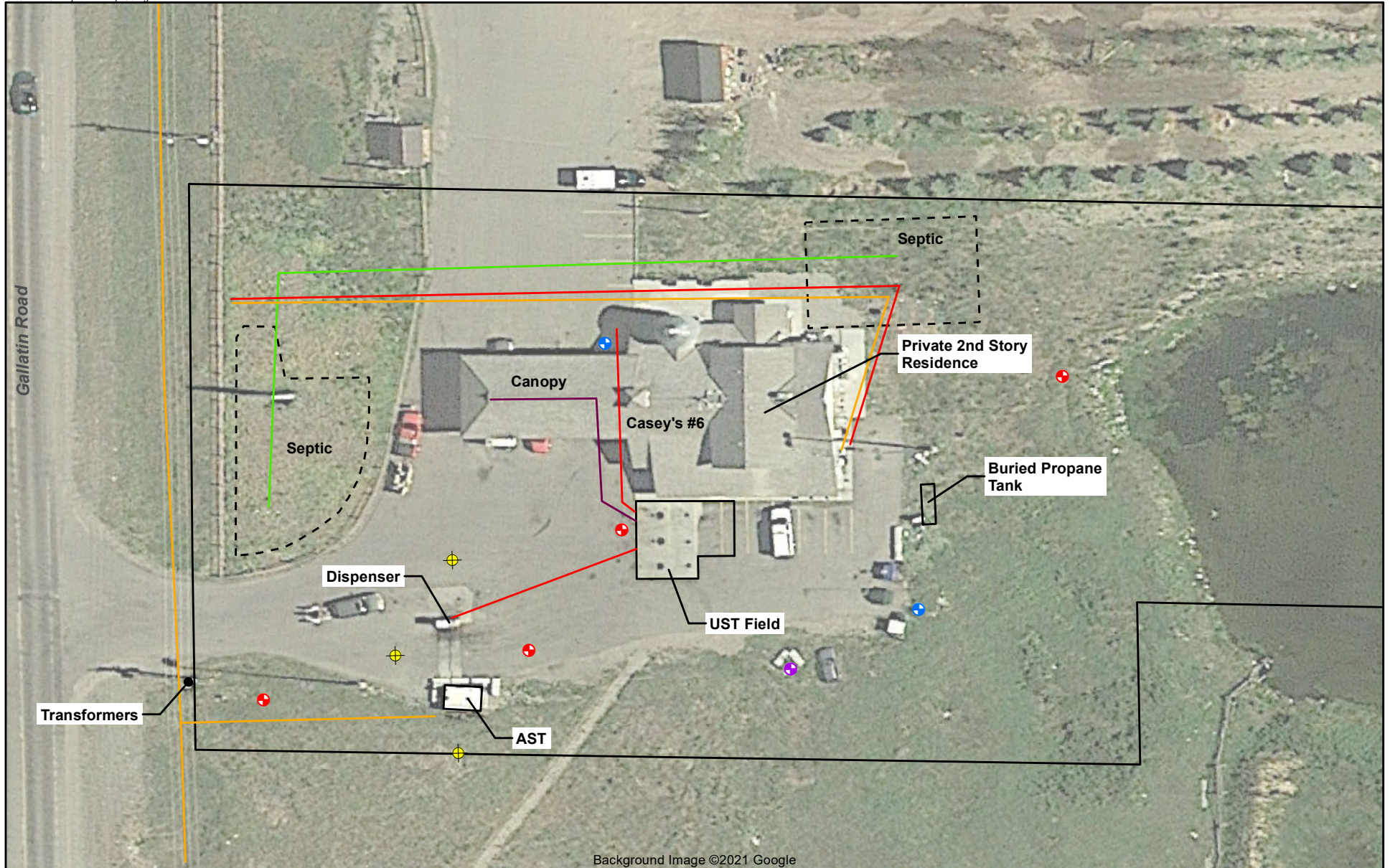
Background Image ESRI USA TOPO

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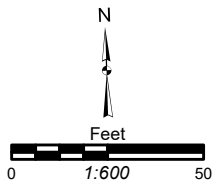


 Approximate Site Boundary

Location Map
Casey's Corner #6
47650 Gallatin Road
Big Sky, Montana
FIGURE 1



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|---|-----------------------|---|---------------------------------|
| ⊕ | Proposed Monitor Well | — | Underground Communications Line |
| ⊕ | Proposed Soil Boring | — | Underground Electric Line |
| ⊕ | Domestic Well | — | Underground Product Line |
| ⊕ | Unknown Well | — | Underground Sanitary Line |
| | | □ | Approximate Site Boundary |

Site Map
Casey's Corner #6
47650 Gallatin Road
Gallatin Gateway, Montana
FIGURE 2