November 24, 2025

Mr. Anthony Bell
Circle K Stores, Inc.
1100 Situs Court, Suite 100
Raleigh, NC 27606

Delivered via email: abell@circlek.com

SUBJECT: Work Plan to Investigate Petroleum-Contaminated Media
Holiday StationStore 271 (Circle K Store 2746271)
701 N Merrill Avenue, Glendive, Montana
DEQ Facility ID 11-08061; Release 3375, Work Plan 35072
Tetra Tech Project Number 117-082722-25004

Dear Mr. Bell:

Tetra Tech, Inc. (Tetra Tech) is pleased to submit this work plan to investigate petroleum-contaminated media at Holiday StationStore 271, 701 N Merrill Avenue, Glendive, Montana (Figure 1). This work plan has been prepared in response to a request from Christopher Herman of the Montana Department of Environmental Quality (DEQ) in correspondence dated July 18, 2025 (DEQ, 2025).

The following sections summarize Tetra Tech's proposed scope of work and schedule to complete the requested tasks. A cost estimate is presented in Attachment A.

BACKGROUND INFORMATION

Holiday StationStore #271 is located at 701 North Merrill Avenue near the central business district of Glendive, Montana (Figure 1). The site consists of a convenience store, an underground storage tank (UST) basin, and five fuel dispensers (Figure 2). Residential properties border the site on the north and west, and commercial properties on the south and east. Railroad property is also located to the south and east of the property.

During a site investigation conducted in March 1997, petroleum hydrocarbon-impacted soils were discovered at Glendive Plumbing and Heating, historically located directly adjacent (northwest) to the Holiday StationStore #271 store (Snow, 1997).

Several subsurface investigations were conducted at the site in March and September 1998 (Maxim, 1998 and 1999). During these investigations, soil borings were drilled, and seven groundwater monitoring wells were installed. These investigations identified a lithology consisting of approximately three to five feet of fill underlain by clays, silts, and fine to medium-grained sands to approximately 10 feet below ground surface (bgs). These sediments are underlain by a stiff, brown clay ranging from approximately one to more than 10 feet in thickness. Below this stiff clay is an interval of sand and gravel.

Perched groundwater was occasionally encountered in the shallow clays, silts, and sands at depths ranging from approximately five to nine feet bgs. A deeper unconfined aquifer is present at approximately 20 feet bgs in the sand and gravel interval.

Four of the seven groundwater monitoring wells installed were shallow wells screened in the perched zone, with the remaining three in the lower water-bearing zone. Petroleum hydrocarbon-impacted groundwater was encountered in the shallow perched zones. Petroleum hydrocarbon impacts were also detected in the eastern, upgradient portion of the deeper sand and gravel aquifer

(monitoring well HG-17D, Figure 2) at concentrations near the detection limit during the initial monitoring event. These impacts were likely the result of cross-contamination that occurred during drilling, sample collection, or laboratory analysis. Since the initial monitoring event, no petroleum impacts have been detected in the deeper sand and gravel aquifer. While the investigation did establish that a release had occurred at the site, neither the quantity nor the approximate date of the release was determined (Maxim 1998, 1999). During the 2014 groundwater monitoring event, only monitoring wells HG-17s, HG17d, and HG-20s could be sampled.

Subsequent investigations have indicated that the groundwater flow direction for the deeper aquifer is to the northwest. The shallow aquifer has been noted to be discontinuous. The most recent groundwater quality data indicates that hydrocarbon concentrations in monitoring wells HG-20S and HG-21S (before it was destroyed) exceeded DEQ Risk Based Screening Level (RBSL; MDEQ, 2020; Tetra Tech, 2018).

A remedial investigation was conducted in 2022 to investigate the extent of hydrocarbon impacts on the existing and neighboring property to the northeast. This investigation included a petroleum vapor intrusion (PVI) investigation. Petroleum hydrocarbon impacts over MDEQ RBSLs were detected in subsurface soils during the drilling of monitoring well HG-25S (Figure 2). RBSL exceedances in the groundwater were reported in monitoring wells HG-17S, HG-25S, and HG-26S. The petroleum release has not impacted the lower aquifer. The results of the PVI investigation did not conclusively indicate that this release has impacted the sub-slab and indoor air. Indoor and sub-slab air samples collected from the Holiday store and neighboring property (Maas residence) to the northeast indicate PVI. Residential RSLs were exceeded for air samples collected in July of 2022 from the Maas indoor, Holiday indoor, and ambient samples. Sub-slab and crawl space air samples also indicated PVI impacts. The March 2023 air sampling event did not indicate any RSL exceedances. (Tetra Tech, 2023).

A remedial investigation was conducted in 2024 and consisted of completing four soil borings as monitoring wells, HG-28S, HG-29S, HG-30S, and HG-31S. Petroleum hydrocarbon impacts above MDEQ RBSLs were observed in a soil sample collected from HG-29S at 14 to 15 feet bgs. Petroleum hydrocarbon constituents were observed above MDEQ RBSLs in groundwater samples collected from monitoring well HG-29S. Based on the results of the remedial investigation, Tetra Tech recommended semi-annual for the presence of PVI to the Maas residence and Holiday store, installation of two shallow monitoring wells east of monitoring wells HG-17S and HG-29s, and in-stu injections of chemical oxidants or colloidal activated carbon to remediate petroleum impacted soils and perched groundwater at the site (Tetra Tech, 2025).

SCOPE OF WORK

This project's general scope includes installing two soil borings and completing each as groundwater monitoring wells. Two groundwater monitoring and two PVI monitoring events will be conducted after the soil boring and monitoring well installation. The groundwater monitoring events will be conducted during high and low groundwater conditions and will include static water level measurements at all monitoring wells. The newly installed and existing monitoring wells will be sampled during each groundwater monitoring event. The PVI monitoring events will be performed in conjunction with the groundwater monitoring events.

Work Plan Preparation and Project Management

These tasks include preparing this work plan, and project management time necessary for coordination and scheduling of the project. In addition, a site-specific health and safety plan (HASP) will be prepared to address activities in this work plan prior to conducting any on-site activities.

Utility Locates

Tetra Tech will submit a utility locate request with Montana 811 to locate public utilities at the site. A private utility locator will also be employed to locate utilities within the excavation area and the proposed groundwater monitoring well installation areas.

SUBSURFACE INVESTIGATION

- Drill up to two soil borings using direct push drilling techniques in the areas indicated on Figure 2. Exact locations will be determined after an on-site assessment of site-specific access, underground utility locates, overhead power lines, and safety. The two borings will be advanced to a depth approximately 15 feet below ground surface (bgs) to assess petroleum hydrocarbon impacts within the perched or shallow groundwater zones.
- 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 photo-ionization detector (PID).
- 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 boring. However, if impacts are not observed in the soil column, only the groundwater interface sample 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) and extractable petroleum hydrocarbons (EPH) screen using the Montana modified Massachusetts Department of Environmental Protection method (MDEP, 2008). By 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 estimating costs, it will be assumed that six soil samples will also be analyzed for EPH fractionation.
- Impacted drill cuttings identified by field screening will be containerized on-site in 55-gallon drums. A soil sample will be collected from the containerized soil and submitted for laboratory analysis of VPH, EPH, Resource Conservation and Recovery Act (RCRA) eight Toxicity Characteristic Leaching Procedure (TCLP) metals per landfill disposal requirements, and paint filter test.

MONITORING WELL INSTALLATION

- Each soil boring will be completed as a monitoring well 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 10 to approximately 15 feet bgs within the perched groundwater zones. A threaded cap will be installed on the bottom of the screen piping. Bentonite chips will be placed from above the top of the screen to two feet bgs. The monitoring 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 by the Disposal of Untreated Water from Monitoring Wells Flow Chart and disposed of appropriately following receipt of laboratory results (MDEQ, 2015).
- The measuring point of the new monitoring well PVC casing will be surveyed to an accuracy of 0.01 feet vertically in the NAVD 88 datum and to the nearest 0.10 feet horizontally in the Montana State Plane Coordinate system. Surveying activities will be conducted by or overseen

by a licensed surveyor or engineer.

GROUNDWATER MONITORING

- Two groundwater monitoring events will be conducted to capture high and low groundwater conditions.
- 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 peristaltic pump or submersible bladder pump and dedicated polyethylene tubing. During purging, field instruments will analyze the water for pH, temperature, dissolved oxygen, specific conductivity, oxidation-reduction potential, and turbidity. Purge water will be containerized by 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 and existing monitoring well using a peristaltic pump or submersible bladder pump and dedicated polyethylene tubing. Groundwater samples will be analyzed for VPH and EPH via Montana modified Massachusetts Department of Environmental Protection method (MDEP, 2008). By DEQ guidance, if the EPH concentration in water exceeds 1,000 micrograms per liter (µg/L), then an EPH fractionation analysis is required (MDEQ, 2020). For estimating costs, it is assumed that three of the water samples will also be analyzed for EPH fractions.

PVI MONITORING

This task is associated with petroleum vapor monitoring for the following properties: the Maas residence at 713 North Merrill Avenue and the Holiday StationStore building at 701 North Merrill Avenue (Figure 2). Sub-slab and indoor air monitoring will be collected at the Maas residence and the Holiday StationStore. An ambient air sample will be collected at a location upwind of the Maas residence and Holiday StationStore building. Vapor intrusion sampling will be conducted semi-annually (2 events) for one year. Sub-slab, indoor air, and ambient outdoor samples will be collected following the Montana Vapor Intrusion Guide (MDEQ, 2021). Procedures for this task are described as follows:

- Sub-slab vapor samples will be collected from permanent vapor sampling points installed in the two buildings.
- Sub-slab samples will be collected into batch-cleaned 6-liter Summa® canisters with one-hour flow controllers.
- The indoor air samples in the two buildings will be collected using 8-hour flow controllers and batch-cleaned 6-liter Summa® canisters.
- The ambient air samples will be collected using 8-hour flow controllers and batch-cleaned 6-liter Summa® canisters.
- All vapor samples will be shipped to Eurofins Air Toxics, LLC in Folsom, California, using chain-of-custody procedures.
- Sub-slab vapor and indoor air samples collected in the buildings and ambient air samples will be analyzed for air petroleum hydrocarbons (APH) using the MDEP method and VOCs using EPA Method TO-15.

DATA VALIDATION

Data validation will be performed for each laboratory report. 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, data validation will 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 two separate data validations will need to be completed for this project.

REPORT PREPARATION

Tetra Tech will prepare a report summarizing results of the soil, groundwater, and PVI samples. The report will include results from field screening activities, figures depicting site features and well locations, well completion details and logs, a summary of soil sampling results, groundwater elevations, groundwater potentiometric surface maps, a summary of groundwater analytical results, PVI results, and a summary of findings and conclusions. Tetra Tech will also update the Remedial Closure Plan for the site.

SCHEDULE AND COSTS

Tetra Tech will initiate this work upon receiving authorization from the Circle K Store Inc., and approval from the MDEQ. Estimated project costs are shown on the estimated cost worksheet in Attachment A. Subcontractor bids for the monitoring well installation are included in Attachment B.

PROPOSAL AUTHORIZATION

The work described in this plan will be conducted according to the terms and conditions in the *Master Services Agreement* between Holiday Companies and Tetra Tech, dated March 28, 2017. Should you find this work plan acceptable, please sign the Work Authorization #28 included in Attachment C and return a signed copy to our Billings, Montana office. If you have questions or comments regarding this work plan, please call us at (406) 248-9161. For your convenience, we have forwarded a copy of this work plan to MDEQ for their review. We appreciate the opportunity to provide you with environmental consulting services.

Sincerely,

Tetra Tech, Inc.

Steven Marie, PE
Senior Engineer

Jacob Conver, PE
Senior Engineer

SM/JC

I:\A-G\Circle K Stores\117-082722-25004 - Circle K 271 Glendive PCM\05-Deliverables\Final\Work Plan\Holiday 271 WP 2025.docx

Cc: Christopher Herman, MDEQ; christopher.herman@mt.gov
Figures
Attachment A: Cost Estimate
Attachment B: Drilling Bid Sheets
Attachment C: Work Authorization #

REFERENCES

Maxim, 1998. *Results of Limited Soil and Groundwater Investigation, Holiday StationStore #271, Glendive, Montana*, Maxim Technologies, Inc., Billings, Montana, April.

Maxim, 1999. *Results of Phase II Site Investigation, Holiday StationStore #271, Glendive, Montana*, Maxim Technologies, Inc., Billings, Montana, January.

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*, September.

MDEQ, 2020. Montana Tier 1 Risk-Based Corrective Action Guidance for Petroleum Releases. July.

MDEQ, 2025. Work Plan Requested to Investigate Petroleum-Contaminated Media a Circle K 2746271 (Former Holiday 271), 701 N Merrill Avenue, Glendive, Dawson County, Montana; Facility ID 11-08061 (TID 19804), Release 3375, Work Plan 35072. July 18.

Snow, D., 1997. *Limited Site Assessment for Clint Sallee*. Report submitted to Mr. Clint Sallee. April 3.

Tetra Tech, 2014. *September 2014 Groundwater Monitoring Report,* Holiday StationStore #271, Glendive, Montana, Facility ID 11-08061, Release 3375, Work Plan 7607. December 17.

Tetra Tech, 2018. Standardized Soil Boring and Monitoring Well Installation Report (AR-03), Holiday StationStore 271, 701 North Merrill Avenue, Glendive, Dawson County, Montana, MDEQ Facility ID No. 11-08061, Release No. 3375 WPID No. 10810. July 30.

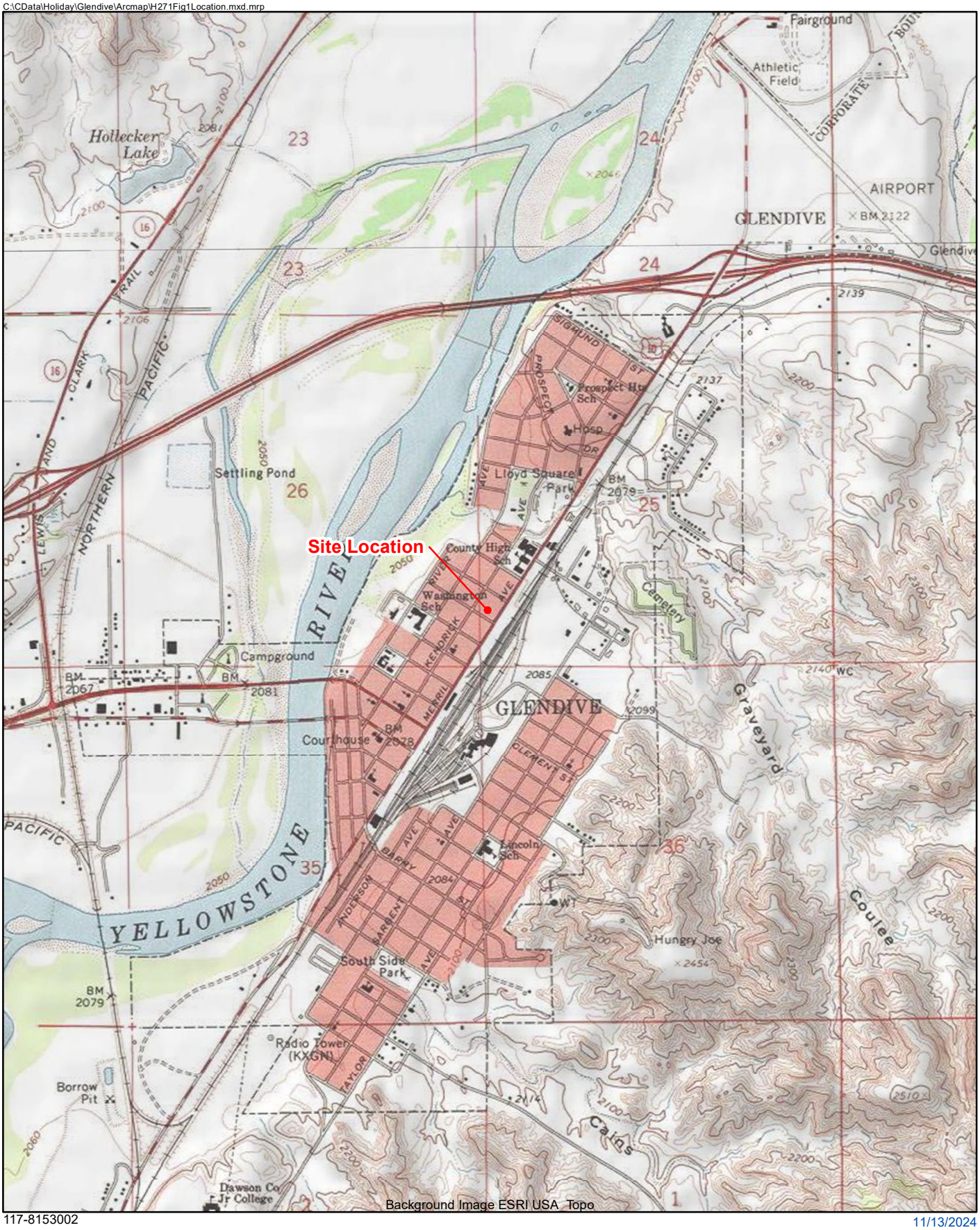
Tetra Tech, 2023 Remedial Investigation Report Holiday Station Store 271, 701 N Merrill Avenue, Glendive, Montana, DEQ Facility ID 11-08061; Release 3375, Work Plan 34429. May 22.

Tetra Tech, 2025 Remedial Investigation Report, Circle K Store 2746271 (Former Holiday 271). 701 N. Merrill Avenue. Glendive, Dawson County, Montana, DEQ Facility ID 511-08061; Release 3375, Work Plan 34752. May 29.

TETRA TECH

FIGURES

C:\CData\Holiday\Glendive\Arcmap\H271Fig1Location.mxd.mrp



117-8153002

11/13/2024

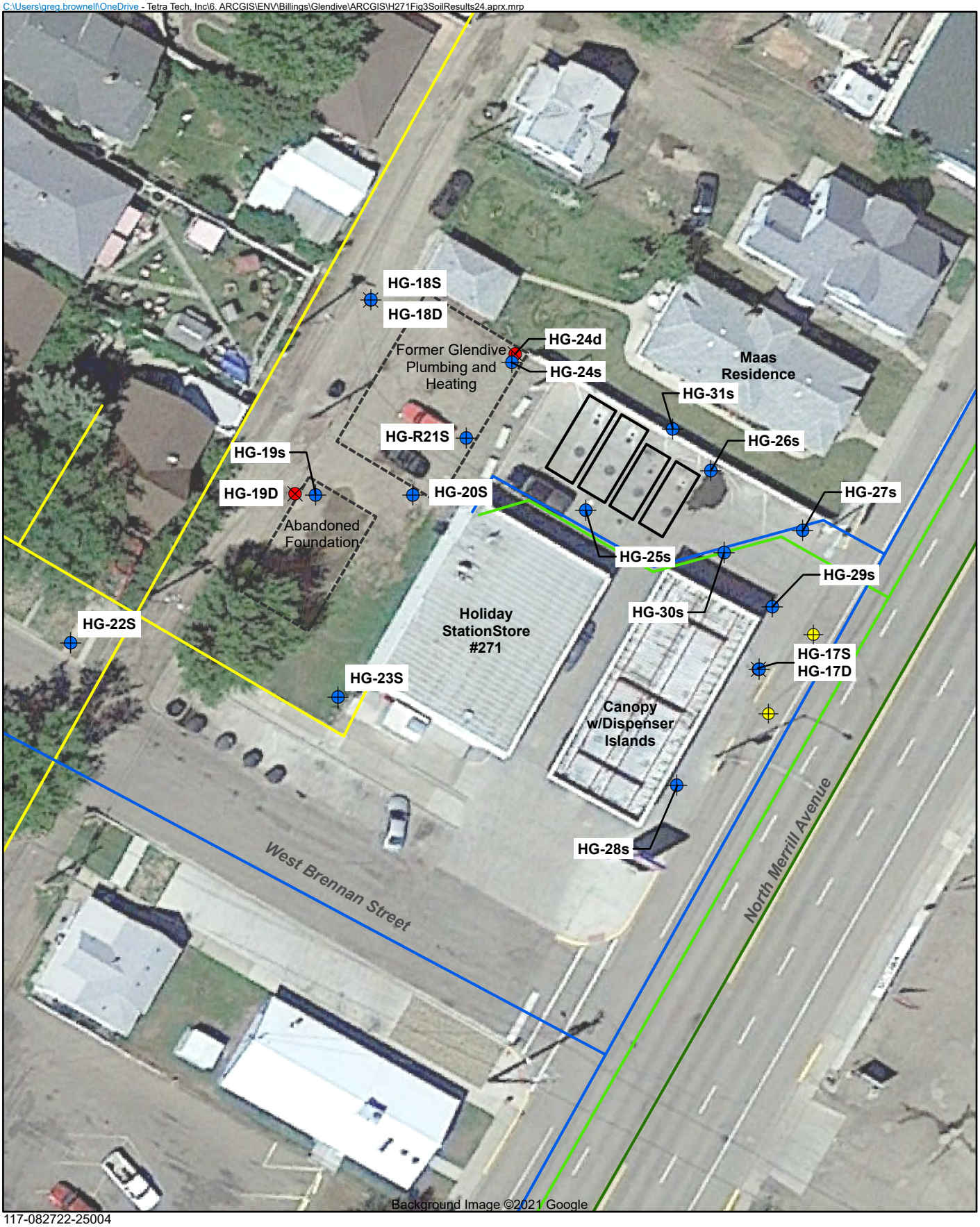
N
W E
S

Feet
0 500 1,000 2,000

Figure 1

Location Map
Holiday StationStore 271
71 North Merrill Avenue
Glendive, Montana

C:\Users\greg.brownell\OneDrive - Tetra Tech, Inc\6. ARCGIS\ENV\Billings\Glendive\ARCGIS\H271Fig3SoilResults24.aprx.mrp



117-082722-25004

9/10/2025

N

Feet

0 *1:480* 40

- Shallow Monitoring Well
- Deep Monitoring Well
- Proposed Shallow Monitoring Well
- Former Building Site
- Natural Gas Line
- Underground Water Line
- Underground Sanitary Sewer Line
- Underground Storm Sewer Line
- Underground Storage Tanks

Site Map
Holiday StationStore 271
701 North Merrill Avenue
Glendive, Montana
Figure 2

TETRA TECH

ATTACHMENT C

WORK AUTHORIZATION #28

TETRA TECH

WORK AUTHORIZATION

TO: Circle K Stores, Inc.

FROM: Tetra Tech, Inc.

WORK AUTHORIZATION NO.: 28

PROJECT TITLE: *Work Plan to Investigate Petroleum Contaminated Media*

PROJECT LOCATION: *Holiday StationStore 2746271, 701 North Merrill Avenue, Glendive, Montana*

Pursuant to the terms and conditions of the Master Consulting Services Agreement dated *March 28, 2017*, this Work Authorization hereby authorizes *Tetra Tech* to perform the specific services and under the particular conditions set forth herein:

1. **SCOPE OF WORK:** *Per the Scope of Work attachment hereto.*
2. **COMPENSATION:** *Cost Estimate for the Work Plan to Investigate Petroleum-Contaminated Meda in the amount of $49,841.32.*
3. **BILLING SCHEDULE:** *Monthly*
4. **TIME FOR COMMENCEMENT:** *October 2026*
5. **TIME FOR COMPLETION:** *December 2026*
6. **REPORTING REQUIREMENTS:** *Summary report.*
7. **OTHER PROVISIONS:** *None*

Upon execution of this Work Authorization, Client and Tetra Tech agree to bound by and comply with all the terms and conditions contained in the above referenced Consulting Services Agreement, except as modified by the specific terms and conditions, if any, contained herein.

APPROVED AND ACCEPTED BY:

Circle K Stores, Inc. (Client)	Tetra Tech, Inc. (Consultant)
Signed: _____	Signed: 
Name: _____	Name: Steven Marie
Title: _____	Title: Senior Engineer
Date: _____	Date: 09/11/25
Phone: _____	