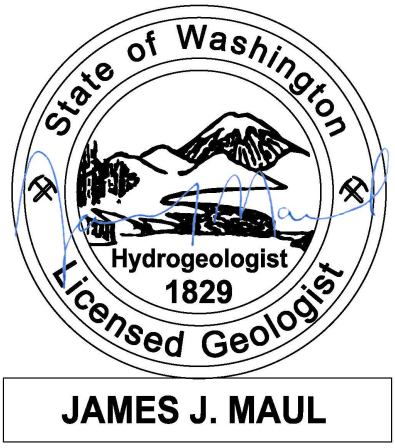
MEMORANDUM

To: Mike Warfel, LG, LHG, RG

Date: August 10, 2020

From: James J. Maul, LHG

Project No.: 0747.01.11



08-10-2020

RE: Addendum to Groundwater Compliance Monitoring Plan
North Cascade Ford Property
116 W. Ferry Street, Sedro-Woolley, Washington
Facility Side ID: 58313566; Cleanup Site ID: 12075

On behalf of VSF Properties, LLC, Maul Foster & Alongi, Inc. (MFA), prepared this memorandum to amend the groundwater compliance monitoring plan (CMP) for the North Cascade Ford property dated July 8, 2020, located at 116 W. Ferry Street in Sedro-Woolley, Washington (the Property) (see Figure 1-1) (MFA, 2020). The amendments in this memorandum were prepared following a discussion with Ecology on July 22, 2020. General changes include:

- Incorporation of four quarterly groundwater contour figures for the Property.
- Addition of one new monitoring well in AOC 2 (MW12) to the east of the 2020 remedial excavations.
- Description of data collected along and to the south of W Ferry Street associated with AOC 2.
- Summary of the work completed at AOC 4 between 2018 and 2020.

Specific modifications are noted below in red.

COMPLIANCE MONITORING PLAN TEXT

3.1 Geology and Hydrogeology

Historically, estimated potentiometric surface maps have shown groundwater gradients and flow directions at the Site to be variable and inconsistent (see Figures 3-1 through 3-4). Based on observations during excavation, silt lenses act as micro aquitards and are present at varying depths. These micro aquitards are variously interbedded with silty sand to poorly graded sand. These conditions were observed throughout each AOC excavation at varying depths with zones of overlying thin perched zones. Observations made during excavation make clear that the variable stratigraphy at the Site create localized confining conditions and vary from location to location, over small distances (i.e. 10's of feet). These localized perching and confining conditions explain the variability in hydraulic heads measured at the Site and lack of a clear correlation between hydraulic head measurements in monitoring well. Direct observation in excavations reveal that shallow groundwater is hydraulically discontinuous and there is no true groundwater flux in shallow at the Property.

3.2 Residual Contamination

The Site includes soil contamination remaining after completion of the 2020 RA in AOCs 1, 2, and 3:

- **AOC 1:** No changes.
- **AOC 2**: Concentrations of gasoline-range organics (GRO) and DRO above MTCA Method A CULs were detected in one sidewall sample (A2-ESW1; GRO at 150 milligrams per kilogram [mg/kg]) and one base sample (A2-BASE8; DRO at 2,200 mg/kg) at 8.5 and 10 feet bgs, respectively. Both samples were taken at depths that are approximately at, or below the seasonal low water levels in groundwater. ORC-A amended backfill was placed in the AOC 2 excavation to treat this contamination along with remaining groundwater contamination in AOC 2. Confirmation that CULs are met will be determined through the CMP. Groundwater impacts associated with this AOC do not extend south of the Property (MFA, 2017b). Reconnaissance groundwater samples were collected at two locations south of West Ferry Street (GP74 and GP75). Both samples had no detections of DRO or ORO. GRO was not analyzed in these reconnaissance groundwater samples. GRO was not detected in any confirmation samples collected during the 2016 interim action immediately adjacent to West Ferry Street (MFA, 2016).
- **AOC 3:** No changes.

No additional remedial actions were conducted in AOC 4. MFA prepared a letter summarizing the rationale for no further action at AOC 4 as an attachment to the feasibility study addendum (MFA, 2018). In an email dated November 20, 2018, Ecology requested two additional quarters of groundwater sampling events at AOC 4 to confirm compliance with MTCA Method A groundwater

cleanup levels. Two additional quarters of groundwater sampling were conducted in December 2018 and March 2019 at all monitoring wells on the Property (MFA, 2019a,b). GRO and BTEX were not detected in either monitoring event at monitoring well MW03 in AOC 4. Both quarterly reports were submitted to Ecology and all data uploaded to Ecology's Environmental Information Management database.

During the 2020 remediation activities at the Property, Floyd Snider (on behalf of the property lessee Tom Lane) advanced a test pit to approximately 9 feet below ground surface in the vicinity of MW03. No visual or olfactory indications of contamination were observed in the test pit. A sample was collected from the base of the test pit but was not analyzed. Because no evidence of contamination was observed. Therefore, MFA believes that Ecology's criteria for an NFA in AOC 4 have been met.

4.3 Groundwater Monitoring Network

To meet the groundwater monitoring requirements in WAC 173-340-410, quarterly groundwater monitoring activities will be conducted at the Site. Because there is not true direction of groundwater flow at the Site, compliance monitoring wells will be installed in the footprint of former excavations where the presence of groundwater contamination was confirmed prior to remediation. (see Figure 4-1). Further, proposed wells are anticipated to act as sentry, upgradient, and dissolved-phase plume wells.

Groundwater monitoring will be conducted at the following wells in AOCs 1 through 3:

- AOC 1
  - MW01R and MW09
  - Water level only: MW07
- AOC 2
  - MW02 ~~and~~ MW10, MW12
  - Water level only: MW04R and MW06
- AOC 3
  - MW11

The installation of four new groundwater monitoring wells (MW01R, MW09, MW10, ~~and~~ MW11, and MW12) in and adjacent to the RA excavations is proposed in order to evaluate the effectiveness of the RA and monitor the groundwater quality in each AOC. Due to the localized perched zones of groundwater at the Property, monitoring well screens for new monitoring wells will be installed across the highest observed water level to the underlying silt unit observed at the base of the excavations of the 2020 remediation areas.

FIGURES

Figures 3-1 through 3-4 were added to the CMP.

Figure 4-1 has been revised to include an additional monitoring well (MW12) in AOC 2.

TABLE

Table 4-1 has been revised to include an additional monitoring well (MW12) in AOC 2.

REFERENCES

MFA. 2016. Interim remedial action completion report, North Cascade Ford property, Sedro-Woolley, Washington. Maul Foster & Alongi, Inc., Bellingham, Washington. November 8.

MFA. 2018. Feasibility study addendum, North Cascade Ford property, Sedro-Woolley, Washington. Prepared for VSF Properties, LLC. Prepared by Maul Foster & Alongi, Inc., Bellingham, Washington. November 21.

MFA. 2019a. Letter (re: quarterly groundwater monitoring results, north cascade ford property, Sedro-Woolley, Washington), to M. Warfel, Washington State Department of Ecology, from J Maul and C. Wise, Maul Foster & Alongi, Inc., Bellingham, Washington. April 11.

MFA. 2019b. Letter (re: quarterly groundwater monitoring results, north cascade ford property, Sedro-Woolley, Washington), to M. Warfel, Washington State Department of Ecology, from J Maul and C. Wise, Maul Foster & Alongi, Inc., Bellingham, Washington. May 30.

FIGURES

Figure 3-1
Groundwater Elevation Contours - May 2017

VSF Properties, LLC
North Cascade Ford Property
Sedro-Woolley, Washington

MW01
50.13 ft

MW05
49.90 ft

MW08
48.47 ft

49.2 ft
49.0 ft
48.8 ft
49.4 ft

MW07
48.44 ft

MW06
48.61 ft

MW03
49.33 ft

MW04
49.44 ft

MW02R
49.61 ft

FERRY STREET

Legend

- Monitoring Well Location
- Property Parcel
- BNSF-owned Parcel
- Groundwater Elevation Contour (feet NAVD 88; 0.2-foot interval)
- Groundwater Flow Direction

Notes:
BNSF = Burlington Northern Santa Fe Railway.
ft = feet.
NAVD = North American Vertical Datum of 1988.
Water levels measured on May 31, 2017.
The surveyed Property parcel boundaries do not coincide with the adjacent parcel boundaries obtained from Skagit County; therefore, there is an overlap between the Property and BNSF parcels.

0 25 50
Feet

Source: Aerial photograph (2015) obtained from Skagit County iMap. Property parcel boundaries surveyed by Wilson Engineering, LLC. Adjacent parcel boundaries obtained from Skagit County.

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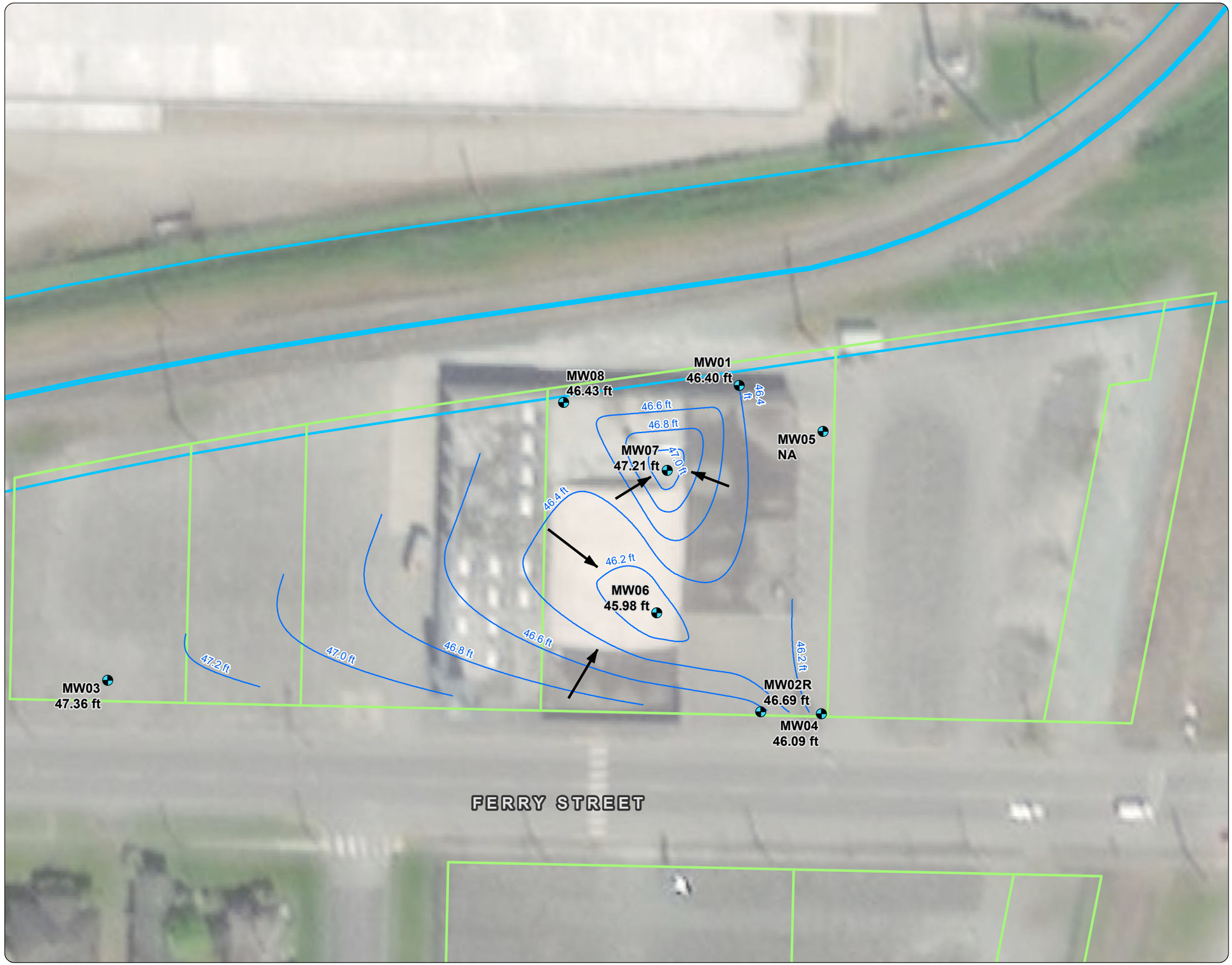
Print Date: 8/3/2020
Approved By: C. Wise
Produced By: abixby
Project: 0747.01.11

Figure 3-2
Groundwater Elevation Contours - October 2018

VSF Properties, LLC
North Cascade Ford Property
Sedro-Woolley, Washington



Legend

- Monitoring Well Location
- Property Parcel
- BNSF-owned Parcel
- Groundwater Elevation Contour (feet NAVD 88; 0.2-foot interval)
- Groundwater Flow Direction

Notes:
BNSF = Burlington Northern Santa Fe Railway.
ft = feet.
NA = not available. Very little water was present in the monitoring well during sampling; therefore, the water level measurement was not considered representative of the water table.
NAVD = North American Vertical Datum of 1988.
Water levels measured on October 17, 2018.
The surveyed Property parcel boundaries do not coincide with the adjacent parcel boundaries obtained from Skagit County; therefore, there is an overlap between the Property and BNSF parcels.

0 25 50
Feet

Source: Aerial photograph (2015) obtained from Skagit County iMap. Property parcel boundaries surveyed by Wilson Engineering, LLC. Adjacent parcel boundaries obtained from Skagit County.

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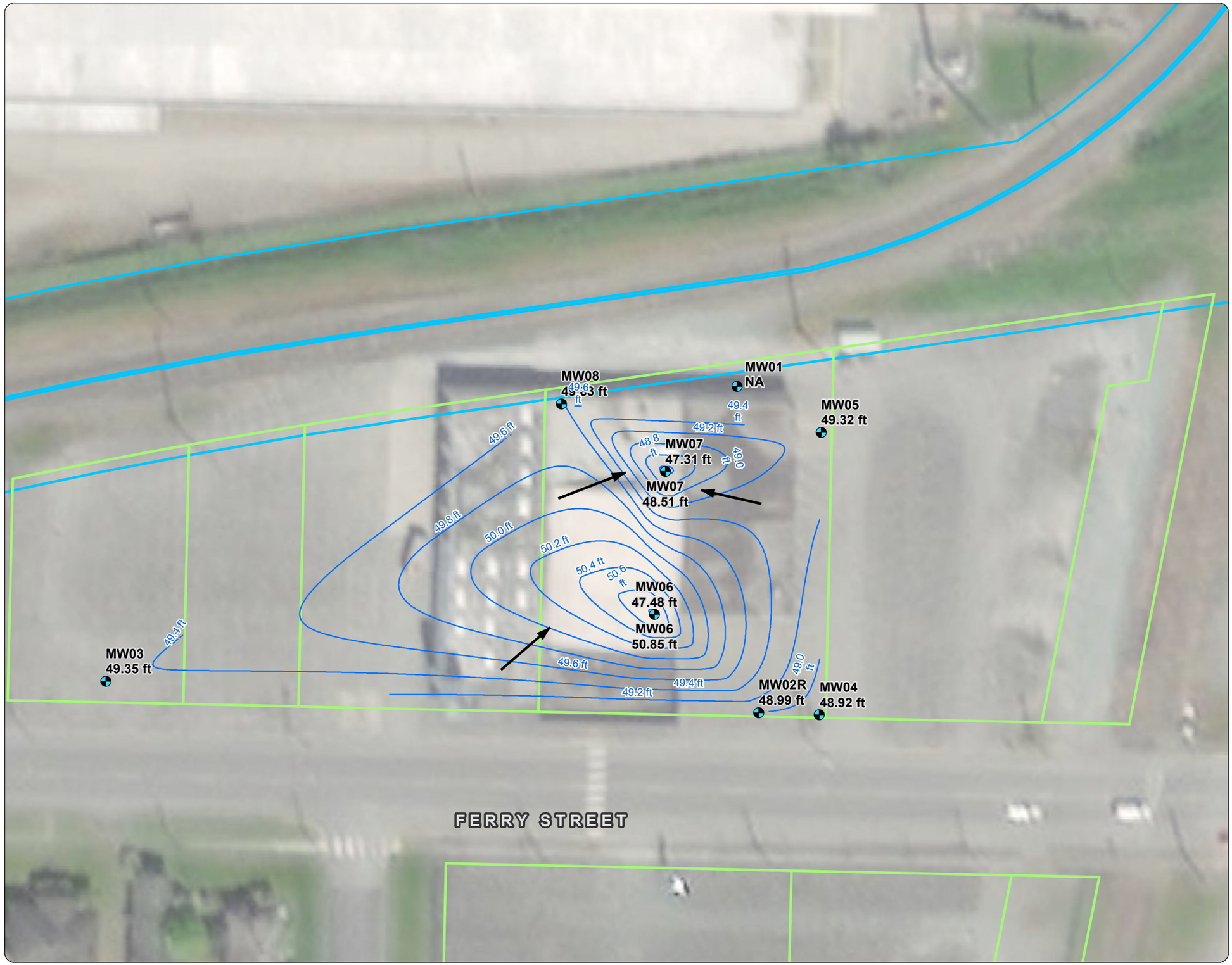
Approved By: C. Wise
Produced By: abixby
Project: 0747.01.11

Figure 3-3
Groundwater Elevation Contours - December 2018

VSF Properties, LLC
North Cascade Ford Property
Sedro-Woolley, Washington



Legend

- Monitoring Well Location
- Property Parcel
- BNSF-owned Parcel
- Groundwater Elevation Contour (feet NAVD 88; 0.2-foot interval)
- Groundwater Flow Direction

Notes:
BNSF = Burlington Northern Santa Fe Railway.
ft = feet.
NA = not available. Thick, viscous free product adhered to the oil-water interface probe sensor and prevented the probe from reading the water level.
NAVD = North American Vertical Datum of 1988.
Water levels measured on March 28, 2019.
The surveyed Property parcel boundaries do not coincide with the adjacent parcel boundaries obtained from Skagit County; therefore, there is an overlap between the Property and BNSF parcels.

0 25 50
Feet

Source: Aerial photograph (2015) obtained from Skagit County iMap. Property parcel boundaries surveyed by Wilson Engineering, LLC. Adjacent parcel boundaries obtained from Skagit County.

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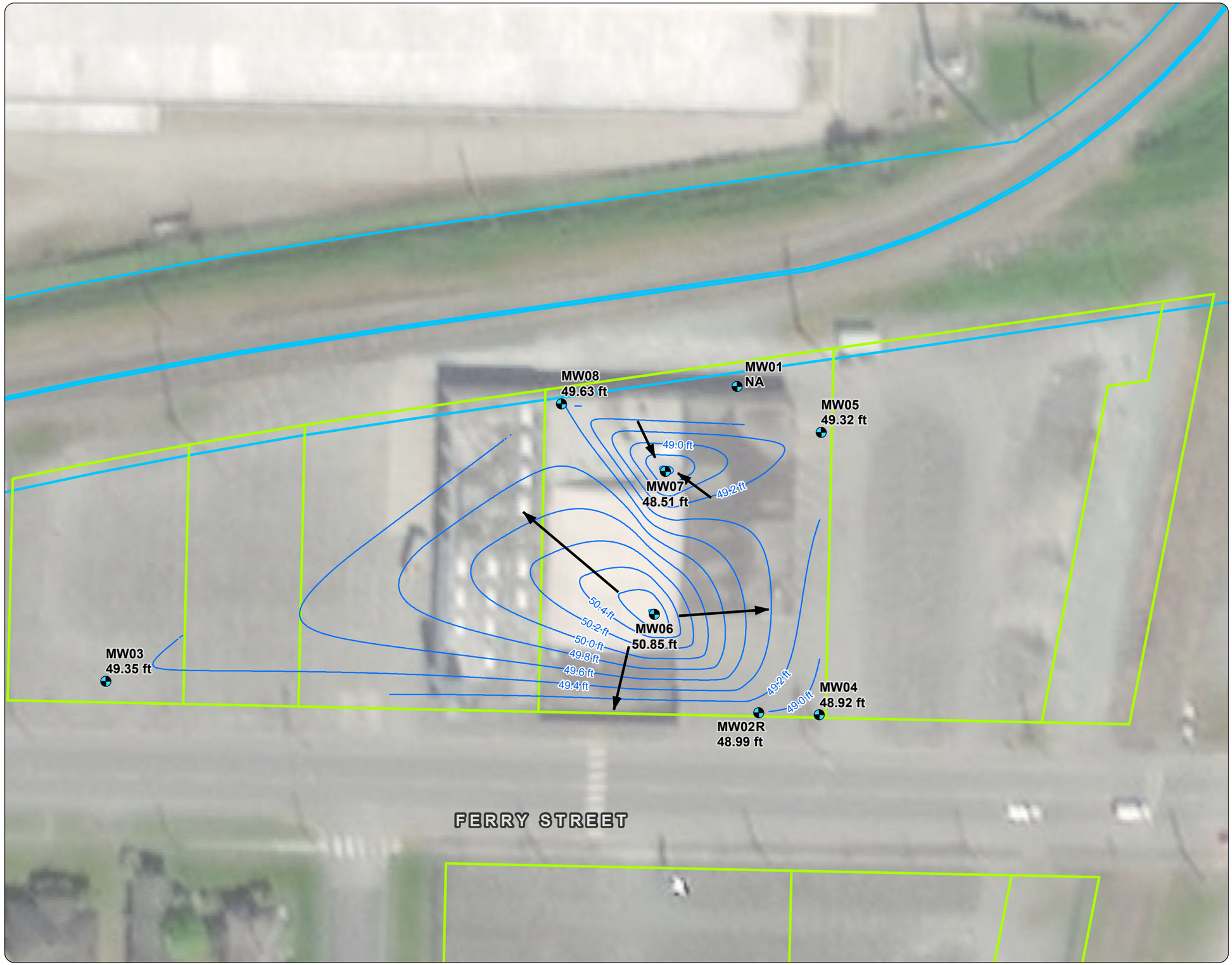
Figure 3-4
Groundwater Elevation Contours - March 2019

VSF Properties, LLC
North Cascade Ford Property
Sedro-Woolley, Washington



Legend

- Monitoring Well Location
- Property Parcel
- BNSF-owned Parcel
- Groundwater Elevation Contour (feet NAVD 88; 0.2-foot interval)
- Groundwater Flow Direction

Notes:
BNSF = Burlington Northern Santa Fe Railway.
ft = feet.
NA = not available. Thick, viscous free product adhered to the oil-water interface probe sensor and prevented the probe from reading the water level.
NAVD = North American Vertical Datum of 1988.
Water levels measured on March 28, 2019.
The surveyed Property parcel boundaries do not coincide with the adjacent parcel boundaries obtained from Skagit County; therefore, there is an overlap between the Property and BNSF parcels.

0 25 50
Feet

Source: Aerial photograph obtained from Esri ArcGIS Online; Property parcel boundaries surveyed by Wilson Engineering, LLC. Adjacent parcel boundaries obtained from Skagit County.

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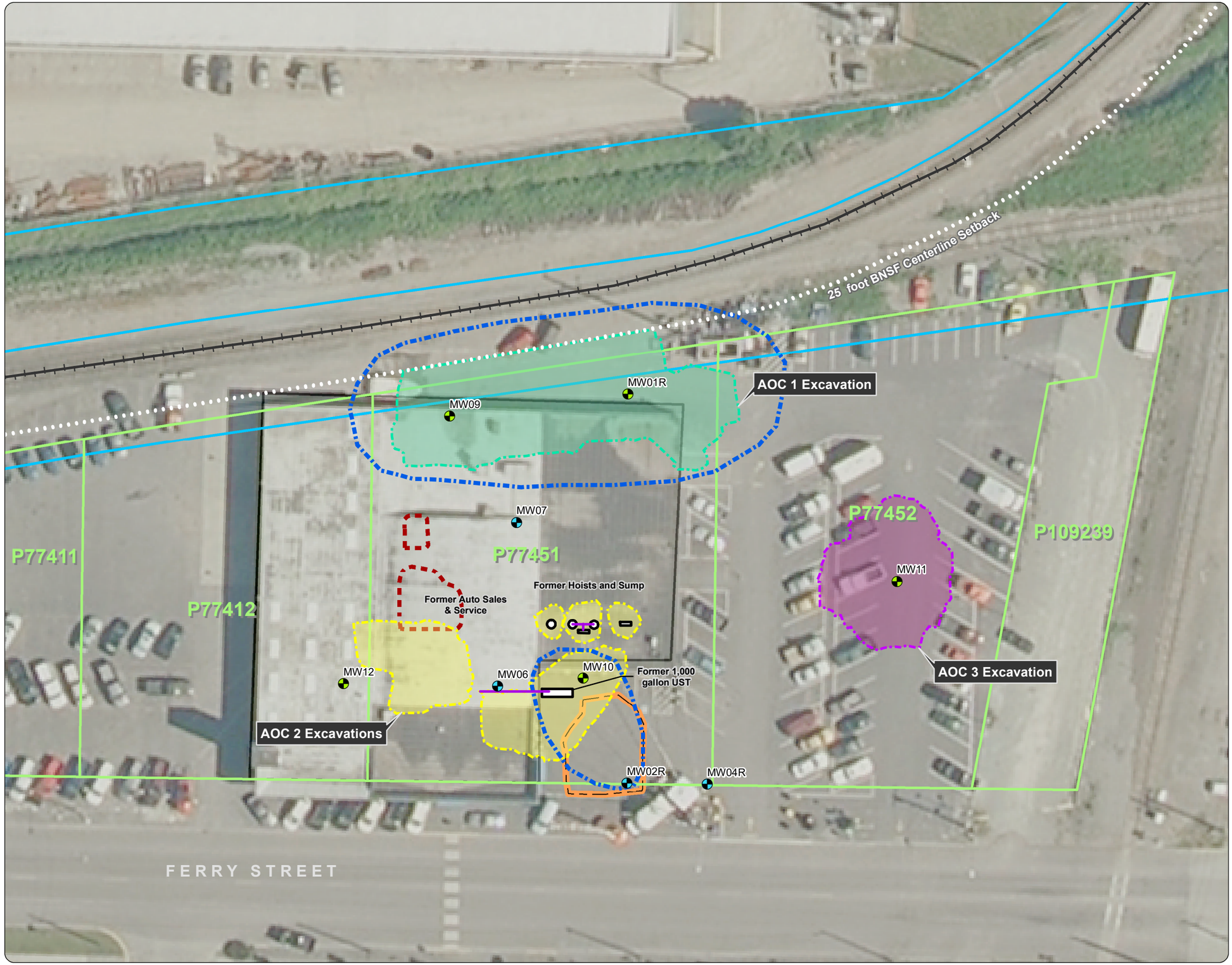
Figure 4-1
Proposed Compliance Monitoring Well Network

North Cascade Ford Property
Sedro-Woolley, Washington



Legend

- Existing Monitoring Well
- Proposed Monitoring Well
- Product Line
- AOC 1 Excavation (MFA, 2020)
- AOC 2 Excavation (MFA, 2020)
- AOC 3 Excavation (MFA, 2020)
- Estimated Extent of Petroleum Impacts in Groundwater
- UST Interim Action (MFA, 2016)
- Hoist Removal Excavation (ZGA, 2017)
- Former Building Footprint
- Property Parcel
- BNSF-owned Parcel

Notes:
All features are approximate.
All structures on the property were removed prior to remedial action.
The excavations areas are set back from the BNSF railroad centerline by 25 feet.
The surveyed Property parcel boundaries do not coincide with the adjacent parcel boundaries obtained from Skagit County; therefore, there is an overlap between the Property and BNSF parcels.
AOC = area of concern.
BNSF = Burlington Northern Santa Fe.
Property = North Cascade Ford Property.
UST = underground storage tank.
ZGA = Zipper Geo Associates.

Sources:
Aerial photograph obtained from ArcGIS Online.
Excavation extents surveyed by Pacific Geomatic Services, Inc. in March 2020.
Property parcel boundaries surveyed by Wilson Engineering, LLC.
Adjacent parcel boundaries obtained from Skagit County.

0 20 40
Feet

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TABLE

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Table 4-1
Sampling and Analysis Summary
VSF Properties, LLC, North Cascade Ford Property
Sedro-Woolley, Washington

AOC	Well ID	Type of Monitoring Well		Monitoring Well Network Area		Analytical Schedule				
		Existing	New	Dissolved Phase	Water Level Only	DRO	ORO	GRO	BTEX	Naphth.
1	MW01R	--	X	X	--	X	X	X	--	--
	MW07	X	--	--	X	--	--	--	--	--
	MW09	--	X	X	--	X	X	X	--	--
2	MW02R	X	--	X	--	X	X	X	--	--
	MW04	X	--	--	X	--	--	--	--	--
	MW06	X	--	--	X	--	--	--	--	--
	MW10	--	X	X	--	X	X	X	--	--
	MW12	--	X	X	--	X	X	X	--	--
3	MW11	--	X	X	--	X	X	X	X	X

NOTES:
-- = not applicable.
AOC = area of concern.
BTEX = benzene, toluene, ethylbenzene, and total xylenes by USEPA Method 8021.
DRO = diesel-range organics; analysis by NWTPH-Dx method.
GRO = gasoline-range organics; analysis by NWTPH-Gx method.
ID = identification.
NWTPH = Northwest Total Petroleum Hydrocarbons.
ORO = oil-range organics; analysis by NWTPH-Dx method.
SIM = selected ion monitoring.
Naphth. = total naphthalenes; analysis by USEPA Method 8270 SIM.
USEPA = U.S. Environmental Protection Agency.
X = yes.