HAZARDOUS MATERIALS DISCIPLINE REPORT SR 3 FREIGHT MOBILITY PROJECT MASON AND KITSAP COUNTIES, WASHINGTON

HWA Project No. 2019-169-22

Draft April 13, 2021

Finalized December 28, 2023

Prepared for:

Washington State Department of Transportation



TABLE OF CONTENTS

			<u>Page</u>
1.	EXECU	TTIVE SUMMARY	1
	1.1	WHAT IS THE BUILD ALTERNATIVE (PROPOSED ACTION)?	1
	1.2	WHAT IS THE AFFECTED ENVIRONMENT?	1
	1.3	WHAT ARE POTENTIAL HAZARDOUS MATERIALS IMPACTS?	2
2.	STUDIES, COORDINATION AND METHODS		
	2.1	DESCRIPTION OF THE BUILD ALTERNATIVE (PROPOSED ACTION)	3
	2.2	WHAT IS THE PURPOSE OF THIS PROJECT?	5
	2.3	WHY IS THE NEW ALIGNMENT PROJECT NEEDED?	5
		2.3.1 Increase Mobility	5
		2.3.2 Reduce Congestion	6
		2.3.3 Improve Safey	7
		2.3.5 Support of Local Plans	7
3.	STUDIES, COORDINATION AND METHODS		
	3.1	PROJECT BACKGROUND	8
		3.1.1 2011 Hazardous Materials Discipline Report	8
		3.1.2 Anticipated Excavation Depths	9
		3.1.3 Proposed Property Acquisition	
	3.2	Analysis Study Objectives	9
		METHODOLOGY	
4.		CTED ENVIRONMENT	
		PHYSICAL SETTING	
		CURRENT USE OF PROJECT AREA AND ADJACENT PROPERTIES	
		GEOLOGIC/HYDROGEOLOGIC SETTING	
		HISTORICAL TOPOGRAPHIC MAPS	
		HISTORICAL AERIAL PHOTOGRAPH REVIEW	
		REGULATORY AGENCY DATABASE RECORDS AND FILE REVIEWS	
		PROJECT AREA RECONNAISSANCE	
5.		RONMENTAL IMPACTS	
	5.1	SIGNIFICANT UNAVOIDABLE ADVERSE EFFECTS	
	6	LIMITATIONS	
	7	CERTIFICATION STATEMENT	
	8	LIST OF REFERENCES	21

LIST OF FIGURES AND TABLE (EMBEDDED IN TEXT)

Figure 1 SR 3 Freight Corridor Project Vicinity Figure 2 SR 3 Proposed Highway Cross-section

LIST OF FIGURES AND TABLE (FOLLOWING TEXT)

Figure 3 Area of Potential Effect

APPENDICES

APPENDIX A Historical Topographic Maps APPENDIX B Historical Aerial Photographs

1. EXECUTIVE SUMMARY

1.1 WHAT IS THE BUILD ALTERNATIVE (PROPOSED ACTION)?

The proposed State route (SR) 3 Freight Corridor – New Alignment project would construct a two-lane 6.5 mile limited access highway with a design speed of 50 miles per hour (mph) on a new alignment approximately 3,000 feet to the east of existing SR 3. The major portion of the highway would run through Mason County while the northern end would be located in Kitsap County. The proposed alignment would begin at MP 22.81 on SR 3 and connect back to the existing SR 3 alignment at MP 29.49 (herein referred to as the Project Area, see Figure 1). The south end connection to existing SR 3 is proposed just south of the intersection with SR 302, and the north connection is just north of SW Lake Flora Road. The proposed bypass highway would carry regional through traffic from Shelton to Bremerton and would be the mainline for SR 3. The existing SR 3 would become a "Business Loop" serving downtown Belfair with connections to SR 106, SR 300, and the Old Belfair Highway.

The purpose of constructing a Freight Corridor around the Belfair urban area is to provide a reliable high speed regional route between Kitsap and Mason Counties. The Freight Corridor project ensures the efficient movement of freight, commuter trips and other regional traffic between Shelton and Bremerton in a manner that bypasses the urban center of Belfair. The project would provide a solution to the immediate and long-range regional transportation mobility needs of the SR 3 corridor through the design year of 2050 by reducing congestion and lowering the existing crash rate on SR 3 through Belfair. It would provide an alternate route during recurring highway closures resulting from vehicular crashes and other incidents. It would provide safe and reliable regional access to jobs, goods, and services; accommodate seasonal influxes of tourist traffic; and improve efficiencies for all public service providers.

1.2 WHAT IS THE AFFECTED ENVIRONMENT?

The majority of the Project Area is located within undeveloped areas that are heavily vegetated with forests. Developed properties along the Project Area generally consist of residential properties, some public facilities, and minimal commercial properties.

The Project Area topography varies across the span of the approximately six mile proposed roadway, but the area is generally flat and the overall topography of the vicinity slopes to the southwest. The elevation of the proposed Project Area roadway ranges between approximately 300 and 400 feet above mean sea level. The proposed roadway crosses over multiple small, unnamed creeks. The largest body of water in the vicinity of the Project Area is Lynch Cove (Hood Canal), located one mile or more to the west and southwest of the Project Area. Devereaux Lake and Case Inlet are located approximately 0.2 and 0.5 mile west and southwest of the Project Area, respectively.

According to the Washington State Department of Ecology (Ecology) "Dirt Alert" interactive mapping tool, the Project Area is not located within the boundaries of the Tacoma Smelter Plume impacted areas.

In February and March 2021, an online review was performed of Ecology's Facility/Site database and Cleanup Site Search database, and the Environmental Protection Agency's (EPA's) EnviroFacts database and EnviroMapper search tool, which provide access to certain information on Ecology and EPA regulated facilities. The regulatory database searches were completed to identify listings of specific properties where known or suspected adverse environmental conditions might exist, and locations where past adverse environmental conditions may have existed. The search included the Project Area and other properties within a half of a mile to a mile radius from the Project Area based on WSDOT guidance and ASTM standards.

1.3 WHAT ARE POTENTIAL HAZARDOUS MATERIALS IMPACTS?

Environmental regulatory database listed-properties identified within areas of potential influence to the project were categorized based on their potential risk to the project. A risk category system was used based on WSDOT's *Guidance & Standard Methodology for WSDOT Hazardous Materials Discipline Reports* (WSDOT, 2019). The following risk categories were used to rank properties based on relative risk of adverse impacts to the Project Area – No Impact, Low Impact, Moderate Impact and High Impact.

The 2021 regulatory database search identified several regulatory-listed properties within a half mile to a mile of the Project Area corridor including sites at the North Mason High School and a site on property near the north end of the corridor. No EPA National Priority List (NPL), proposed NPL, Federal Superfund Liens, delisted NPL, Superfund Enterprise Management System (SEMS) or SEMS Archive sites were identified within one mile of the Project Area corridor during the 2021 database search.

Based on this 2021 data collection, as well as a January 2021 field reconnaissance and evaluation activities; no regulatory sites of concern or evidence of potential hazardous materials conditions at or potentially impacting the soil and/or groundwater of the Project Area were identified.

2. STUDIES, COORDINATION AND METHODS

WSDOT proposes to construct a new route for SR 3 while maintaining the existing state highway through Belfair as a business loop. This report discusses the identification of potential hazardous materials sites within the Project Area and evaluates any potential impacts on the SR 3 Freight Corridor Project.

The following sections of this report describe the analysis approach which included data collection and review activities; reconnaissance; and a presentation of findings and conclusions.

2.1 DESCRIPTION OF THE BUILD ALTERNATIVE (PROPOSED ACTION)

The proposed SR 3 Freight Corridor – New Alignment project would construct a two-lane 6.5 mile limited access highway with a design speed of 50 miles per hour (mph) on a new alignment approximately 3,000 feet to the east of existing State Route (SR) 3. The major portion of the highway would run through Mason County while the northern end would be located in Kitsap County. The proposed alignment would begin at MP 22.81 on SR 3 and connect back to the existing SR 3 alignment at MP 29.49 (see Figure 1). The south end connection to existing SR 3 is proposed just south of the intersection with SR 302, and the north connection is just north of SW Lake Flora Road. The proposed bypass highway would carry regional through traffic from Shelton to Bremerton and would be the mainline for SR 3. The existing SR 3 would become a "Business Loop" serving downtown Belfair with connections to SR 106, SR 300, and the Old Belfair Highway.

The typical cross-section of the proposed improvement is shown in Figure 2 and its construction elements would include the following:

- Two 12-foot travel lanes with 8-foot shoulders.
- Stormwater treatment facilities natural dispersion and infiltration, compost-amended vegetated filter strips, and treatment wetlands.
- Developing compensatory wetland mitigation site(s).
- Acquiring right of way and implementing managed access.
- Reconfiguring county road intersections.
- Two roundabouts to connect the south end of the new corridor to the existing SR 3 corridor at SR 302.
 - The western roundabout would provide access to the existing SR 3 corridor.
 - The eastern roundabout would provide access to SR 302 and the proposed SR 3
 Freight Corridor.
- A roundabout at the north end of the alignment to connect the existing SR 3 corridor to the new corridor at Lake Flora Road.
- Right-in-right-out access to provide access to North Mason High School and Belwood Lane.

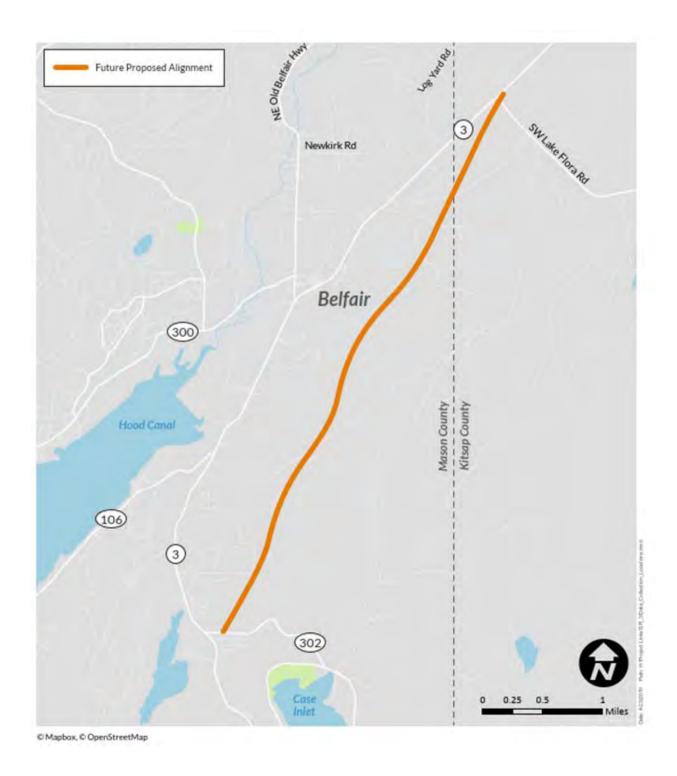


Figure 1. SR 3 Freight Corridor Project Vicinity

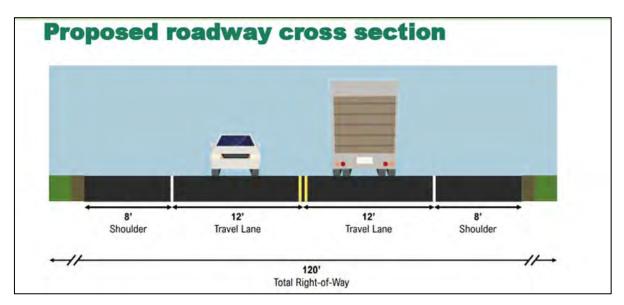


Figure 2. SR 3 Proposed Highway Cross-section

2.2 WHAT IS THE PURPOSE OF THIS PROJECT?

The purpose of constructing a Freight Corridor around the Belfair urban area is to provide a reliable high-speed regional route between Kitsap and Mason Counties. The Freight Corridor project ensures the efficient movement of freight, commuter trips and other regional traffic between Shelton and Bremerton in a manner that bypasses the urban center of Belfair. The project would provide a solution to the immediate and long-range regional transportation mobility needs of the SR 3 corridor through the design year of 2050 by reducing congestion and lowering the existing crash rate on SR 3 through Belfair. It would provide an alternate route during recurring highway closures resulting from vehicular crashes and other incidents. Implementation of this project would provide safe and reliable regional access to jobs, goods, and services; accommodate seasonal influxes of tourist traffic; and improve efficiencies for all public service providers.

2.3 WHY IS THE NEW ALIGNMENT PROJECT NEEDED?

The following information discussed in Section 2.3 was provided by SCJ Alliance, as obtained from the *SR 3 Freight Corridor Transportation Discipline Report* (Parametrix, 2023). A new Freight Corridor around Belfair is needed to improve regional mobility for freight, passenger vehicles and transit. The improvements would increase mobility, reduce congestion through Belfair, and improve safety.

2.3.1 Increase Mobility

SR 3 in the Belfair urban area experiences chronic traffic congestion and declining operational Levels of Service (LOS) for traffic. Because SR 3 is the major north-south link between Mason

and Kitsap Counties, Belfair is a choke point on this regional highway and serves as the only freight route through southwest Kitsap and northeast Mason Counties. SR 3 is designated as a critical rural freight corridor and is part of the National Highway Freight Network (NHFN). SR 3 is also identified as a National Highway System (NHS) route and as a Highway of Statewide Significance (HSS). The National Highway System route designation extends from the Hood Canal Bridge in the north to Shelton in the south, passing through the Belfair urban area, the City of Bremerton, the Puget Sound Industrial Center - Bremerton (PSIC - B), and connecting with SR 16.

SR 3 carries most of the daily commute trips from SR 106, SR 300 and populated coastal areas in Mason County north to Bremerton and via SR 16 to points in Pierce and King Counties. Regional traffic using SR 3 must pass through the commercial area of Belfair having numerous access points with high turning volumes. Southbound traffic destined for Shelton, Grays Harbor, and Olympia also must pass through Belfair.

2.3.2 Reduce Congestion

A combination of freight, commute, and recreational traffic volumes cause severe congestion through the Belfair urban area. Congestion is occurring during peak commute hours (7:00-9:00 AM and 4:00-6:00 PM), weekends, holidays, and during the tourist season (May-September).

SR 3 had an average of 19,000 vehicles per day in 2018 south of Lake Flora Road. Highway LOS analysis shows the one-mile segment of SR 3 north of Lake Flora Road, the signalized intersection at NE Clifton Lane, and the unsignalized intersection at Old Belfair Highway, are all failing LOS standards (see also the SR 3 Freight Corridor Transportation Discipline Report).

Several studies conducted over the last decade have shown that traffic congestion and safety concerns will overwhelm SR 3 in the near future. The operational analysis of the project area indicates that the roadway currently operates below minimum acceptable service standards on this portion of the highway. Without the Freight Corridor, operational performance for freight and regional through traffic on the portion of existing SR 3 through Belfair will continue to decline to the point of chronic failure by 2045. If no action is taken, travel times in the project area are expected to get worse as future traffic volumes increase.

The current highway does not support regional transportation needs. This route experiences seasonal fluctuations from tourist traffic and recreational users and is the most direct and expedient alternate land route for traffic from Bremerton to Interstate 5 if SR 16 or the Tacoma Narrows Bridge becomes blocked. Southbound traffic destined for Shelton, Grays Harbor, and Olympia must pass through Belfair. As land located in the corridor continues to be developed, and regional trips continue to increase, traffic congestion through Belfair will be exacerbated. The Bremerton Economic Development (BED) Study for US 101, SR 3 and SR 16 in Mason and Kitsap Counties (WSDOT 2012a) showed the Freight Corridor project was the top priority project for the local communities and stake holders.

If the Freight Corridor project is not built, the SR 3 would be an important regional facility that will fail to provide efficient regional and local traffic mobility. A bypass would improve the roadway system around Belfair and would reduce travel time.

2.3.3 Improve Safey

Crash records in the study area indicate that the type and severity of crashes appears to be consistent with congested urban conditions. Rear-end and property damage only (PDO) or non-injury crashes account for the greatest number of crashes. The number of crashes tends to increase under congested conditions, but the severity of those crashes is generally lower, due to lower speeds. In the study area, between January 2018 and December 2022, 402 crashes were reported. Two were fatal crashes and eight were serious injury crashes. One serious injury crash was at the Lake Flora Rd intersection (MP 28.78). The remaining two fatal crashes and seven serious injury crashes were non-intersection crashes. During this time, 330 crashes occurred between the study intersections with the majority occurring between Lake Flora Road to NE Clifton Lane (42%) and between NE Clifton Lane to SR 106 (40%).

2.3.5 Support of Local Plans

The area is developing based on local agency comprehensive plans and zoning. However, the area lacks a completed transportation network appropriate for the community. The Bremerton Economic Development (BED) Study showed the SR 3 Freight Corridor is the top priority project for the local communities and stakeholders. The Freight Corridor has been included in the transportation elements of the Mason County and the City of Bremerton comprehensive plans.

3. STUDIES, COORDINATION AND METHODS

3.1 PROJECT BACKGROUND

3.1.1 2011 Hazardous Materials Discipline Report

In 2011 WSDOT prepared an *SR 3 Belfair Bypass Project Hazardous Materials Discipline Report* (WSDOT, 2011a). Per the WSDOT guidance at that time, the project was considered to require a lesser level of evaluation and therefore a low-level Hazardous Materials Discipline Report was completed.

At the time of the 2011 report, the SR 3 project corridor varied slightly from the present day Project Area. These differences included signalized intersection features at the northern and southern portions of the project proposed in 2011, versus the present day proposed roundabouts. In 2011 the northern terminus intersection was located south of Southwest Lake Flora Road whereas the current proposed intersection is located to the north of this road. When comparing the 2011 to the current proposed project plans there is minimal variation with regards to the midsection of the project corridor. The most significant difference is a 300-foot bridge over a ravine proposed in 2011 is no longer included in the current project plans. Ninety-two parcels would have been impacted by the 2011 project (compared to 117 parcels in the present day proposed project) with "a few acquisitions of note" and indication that four single family residences and an espresso stand could be displaced or demolished.

The 2011 report conducted an online review of Ecology listed properties to evaluate the 2011 project area for the potential of hazardous materials that could affect the project. A total of 17 hazardous materials sites were identified within a one mile radius of the 2011 project area with none of the sites considered likely to impact the project. A review of historical aerial photographs was also performed as part of the 2011 report. The report indicated the 2011 project area had minimal development in 1955, a school was constructed in the 1960s near the southern terminus of the project, and gravel pits and undeveloped forest land were noted prior to the 1980s. An increase in development was noted in the vicinity of SR 3 during the 1980s to 2009, including a property identified as the Belfair Auto Wrecking yard.

The 2011 report identified the Belfair Auto Wrecking yard as a property that was not listed on any Ecology regulatory databases, but WSDOT considered the past land use activities related to auto repair and auto wrecking a potential risk to soil and/or water contamination. The 2011 report noted that a small strip of the wrecking yard property that was adjacent to SR 3 would be acquired as part of the 2011 project. However, the 2011 report indicated that contamination at this property was likely located "further back on the property" (i.e., not on the proposed 2011 project area).

As part of this Hazardous Materials Discipline Report (herein referred to as HazMat Report), in 2021 HWA searched Ecology and EPA databases for regulatory listed properties in the vicinity of the Project Area (see Section 4.6 for details). The Belfair Auto Wrecking property was not identified on any regulatory databases that would indicate a release to the environment has

occurred at this property. In addition, the Belfair Auto Wrecking property is located over 1,100 feet west of the present day Project Area corridor and is not identified as a potential acquisition property for the present day SR 3 Project. Based on the distance of the Belfair Wrecking Yard property from the current Project Area, it is HWA's opinion that potential contamination from this property would not likely impact the Project Area.

The 2011 report concluded no significant unavoidable adverse impacts were expected to result from the proposed 2011 project. The portion of the Belfair Auto Wrecking yard that was to be acquired by WSDOT and other proposed property acquisitions were not considered to be a liability for WSDOT with respect to hazardous materials cleanup. The report indicated that WSDOT should consider the possibility of encountering asbestos, lead-based paint, or undocumented underground storage tanks (USTs) with regards to structures that could be demolished and all appropriate regulations must be followed prior to disturbing and when handling these materials.

3.1.2 Anticipated Excavation Depths

It is understood that the proposed project will include minimal construction along existing roadways and the majority of the construction will occur on undeveloped land. Project construction will include cut and fill areas along the proposed project corridor. The majority of the anticipated project excavation depths are approximately five feet or less below existing grades. Deeper excavations are proposed between Station 1138+00.00 to Station 1140+90.00 (approximately five to eight feet), Station 1215+50.00 to Station 1222+10.00 (approximately five to 10 feet), Station 1237+10.00 to Station 1238+50.00 (five to 13 feet), Station 1286+70.00 to Station 1287+80.00 (five to eight feet), Station 1288+60.00 to Station 1289+50.00 (five to 10 feet), and Station 1291+10.00 to Station 1291+58.87 (five to eight feet). As of the date of this report, evaluation of stormwater and other utilities was being conducted to determine if replacement of existing facilities is needed.

3.1.3 Proposed Property Acquisition

The SR 3 Project will require full acquisition of eight tax parcels, three of which include residential buildings, and five of which do not include structures. Partial acquisitions are also proposed for up to 80 tax parcels. As of the 2021 review, none of the proposed property acquisition parcels were 1) identified on Ecology or EPA regulatory databases, which would indicate a release to the environmental had occurred (see Section 4.6 for regulatory database review details), or 2) observed during the January 2021 reconnaissance to have land use of potential environmental concern.

3.2 ANALYSIS STUDY OBJECTIVES

The objectives of this HazMat Report include:

1. Providing an updated report to the 2011 low level Hazardous Materials Discipline Report to reflect changes to the proposed Project Area corridor, and changes in federal, state, and local regulations.

- 2. Identifying existing and potential hazardous materials and/or adverse environmental conditions:
- 3. Assessing the impacts that existing and potential hazardous materials might have on the project or on potential for environmental liability associated with property acquisition; and.
- 4. Identifying measures to mitigate potential impacts (if any).

3.3 METHODOLOGY

The analysis methodology for the project included:

- A 2021 review of federal, state, and local agency online environmental regulatory databases for the Project Area and adjoining properties, focusing on the identification of any record of the presence of hazardous substances, USTs, or hazardous substance spills;
- A 2021 review of historical documentation including:
 - o Historical aerial photographs
 - Historical topographic maps
- A 2021 review of existing reports documenting previous environmental investigations of the Project Area and/or adjoining properties (as available online from Ecology and if deemed necessary)
- A 2021 visual reconnaissance of the Project Area and adjacent properties from public Right of Way (ROW) or publicly accessible properties (windshield survey) to document ground surface conditions, recent activities, and identify existing and/or potential hazardous materials conditions within an area of potential effect (APE). The APE for the corridor is illustrated in Figures 3a through 3g;
- Interview agency officials, as appropriate and if deemed necessary;
- Evaluate the information, data, and observations collected during the above activities to identify potential hazardous materials conditions at the Project Area and/or adjoining properties;
- Assess the impacts that hazardous materials conditions might have on the project (if present), and describe appropriate mitigation measures (if deemed necessary); and, Prepare draft and final Hazardous Materials Discipline Report describing data collection, field activities, data evaluation, findings, and conclusions. The draft report was prepared in 2021, review comments from WSDOT were received December 14, 2023, and the report was finalized December 28, 2023.

4. AFFECTED ENVIRONMENT

4.1 PHYSICAL SETTING

The majority of the Project Area is located within undeveloped areas that are heavily vegetated with forests. Developed properties along the Project Area generally consist of residential properties, some public facilities, and minimal commercial properties.

The Project Area topography varies across the span of the approximately six mile proposed roadway, but the area is generally flat and the overall topography of the vicinity slopes to the southwest. The elevation of the proposed Project Area roadway ranges between approximately 300 and 400 feet above mean sea level. The proposed roadway crosses over multiple small, unnamed creeks. The largest body of water in the vicinity of the Project Area is Lynch Cove (Hood Canal), located one mile or greater to the west and southwest of the Project Area. Devereaux Lake and Case Inlet are located approximately 0.2 and 0.5 mile west and southwest of the Project Area, respectively.

According to the Ecology "Dirt Alert" interactive mapping tool, the Project Area is not located within the boundaries of the Tacoma Smelter Plume impacted areas.

4.2 CURRENT USE OF PROJECT AREA AND ADJACENT PROPERTIES

The majority of the Project Area is undeveloped lands, some of which have been logged in the past, with small sections that include existing roadways and/or logging roads. Three proposed acquisition parcels located within the Project Area include residential structures within or in very close proximity of the proposed roadway area. Adjacent properties along the majority of the project corridor include undeveloped lands, some of which have been logged, residential properties, a wastewater treatment plant, and minimal commercial properties. During the January 2021 reconnaissance of the Project Area corridor (see Section 4.7 for details), commercial properties observed to be adjacent to the Project Area included: Bones Cycle/Coach Crafters, addressed at 20370 East SR 3 and located in the vicinity the southern terminus of the Project Area; and Olympic View Excavators and Davis Welding and Repair, both addressed at 10037 SR 3 and located in the vicinity of the northern terminus of the Project Area.

4.3 GEOLOGIC/HYDROGEOLOGIC SETTING

General geologic information for the Project Area was obtained from the *Geologic Map of the Belfair 7.5-Minute Quadrangle, Mason, Kitsap, and Pierce Counties, Washington* (Polenz et al., 2009). According to this map, near-surface deposits beneath the Project Area consists primarily of glacial deposits, including recessional outwash, ice-contact glacial drift, glacial till, and advance outwash. Glacial till covers the greatest lateral extent of the Project Area. Advance and recessional outwash typically consists of stratified, clean, sands and gravels. Ice contact stratified drift typically consists of massive to stratified, sand and gravel. All three units can contain

localized areas of clay and silt. Glacial till typically contains unsorted clays, silts, sands, and gravels. There are localized areas of peat and landslide deposits beneath the Project Area. The peat is organic-rich and is primarily located in wetland settings. Landslide deposits consist of reworked local soil deposits.

The Project Area is located adjacent to or near multiple named and unnamed surface water bodies, including Hood Canal and Devereaux Lake, located to the west of the south end of the Project Area. Numerous small apparent wetlands are also located in the south and central portions of the Project Area. Two east-trending ravines are located to the east of the central Project Area. Ecology well log data base indicates that static groundwater levels range from approximately 59 to 153 feet below ground surface. The observed apparent wetland areas are likely perched on relatively impermeable glacial till deposits.

4.4 HISTORICAL TOPOGRAPHIC MAPS

Historical topographic maps of the Project Area and vicinity were reviewed spanning the years from 1936 to 2014, available from EDR (EDR, 1/28/2021). Copies of the EDR topographic maps are included in Appendix A.

During the 1930s the southern terminus of the Project Area consisted of a roadway identified as 147 (present day SR 3), and the present day State Highway 302 was a roadway with no visible identifier on the topographic maps reviewed. A roadway in the same general location of the existing Southwest Lake Flora Road was also present at the northern terminus of the Project Area. Power lines were present to the south of the northern and central portions of the Project Area, and to the north of the southern portion of the Project Area. Rural residential properties were located in the vicinity of the Project Area. The only significant changes noted during the 1950s were the addition of railroad tracks to the northwest of the Project Area, the Port of Bremerton Airport to the northeast, and a slight increase in development, mostly residential and near the southern terminus. An increase in residential development may have resulted in an increase in heating oil tanks or other small-scale activities with potential to cause contamination, although these potential impacts are not typically classified as concerns in this type of analysis. No significant changes were noted to the Project Area and vicinity from the 1960s to the 1970s except for the addition of the North Mason High School on the 1968 topographic map and another slight increase in development on the adjacent and nearby properties. From the 1990s to 2014, the only significant change noted was the adjustment of Southwest Lake Flora Road to its present day configuration.

No other evidence was observed within the Project Area of surface features typically associated with environmental contamination that are visible in topographic maps. None of the topographic maps reviewed indicate adjacent property development features that are generally thought to cause environmental impacts.

4.5 HISTORICAL AERIAL PHOTOGRAPH REVIEW

Historical aerial photographs of the Project Area and vicinity were reviewed, at approximately 5 to 10-year intervals spanning from 1939 to 2017, available from EDR (EDR, 1/26/2021). Copies of the EDR aerial photographs are included in Appendix B.

From 1939 to 1951, the majority of the Project Area was undeveloped land with roadways that appear to be unpaved and located in the same general vicinity as the present day SR 3, State Highway 302, and Southwest Lake Flora Road. Some central portions of the Project Area were also bisected by unpaved roadways. By the 1950s the existing railroad tracks can be seen to the northwest of the project corridor. By the 1960s the power lines can be seen to the south of the north and central portions of the Project Area, and to the north of the southern portion. Logging activities are also visible in the vicinity of and on various sections of the central portion of the Project Area. An increase in development is also visible in the vicinity of the Project Area, including the North Mason High School near the southern terminus and more significant development visible along the SR 3 roadway that is to the west of the central portion of the Project Area. Other than an increase in logging roads on and in the vicinity of the central portion of the Project Area, and an increase in development on nearby properties; no significant changes are visible during on the 1970s and 1980s aerial photographs reviewed. During the 1990s, no significant changes are noted with regards to the Project Area, and additional development along SR 3 to the west and logging activities in the vicinity of the northern terminus of the Project Area are visible. From the early 2000s to 2017, the majority of the Project Area itself remains undeveloped land. During this time increases in development along SR 3 and residential development in the vicinity of the Project Area's southern terminus are visible. The wastewater treatment plant near the east side of the central portion of the Project Area is first visible on the 2013 aerial photograph reviewed.

No other evidence was observed within the Project Area of surface features typically associated with environmental contamination that are visible in aerial photographs.

4.6 REGULATORY AGENCY DATABASE RECORDS AND FILE REVIEWS

In February and March 2021, an online review was performed of Ecology's Facility/Site database and Cleanup Site Search database, and the EPA's EnviroFacts database and EnviroMapper search tool, which provide access to certain information on Ecology and EPA regulated facilities. The regulatory database searches were completed to identify listings of specific properties where known or suspected adverse environmental conditions might exist, and locations where past adverse environmental conditions may have existed. The search included the Project Area and other properties within a half of a mile to a mile radius from the Project Area based on WSDOT guidance and ASTM standards. Based on the duration of time that has occurred since the draft HazMat Report was prepared and the WSDOT comments were received (2.75 years), the potential exists that the regulatory status of properties within and near the Project Area may have changed.

Environmental regulatory database listed-properties identified within areas of potential influence to the project were categorized based on their potential risk to the project. A risk category system

was used based on WSDOT's *Guidance & Standard Methodology for WSDOT Hazardous Materials Discipline Reports* (WSDOT, 2019). The following risk categories were used to rank properties based on relative risk of adverse impacts to the Project Area.

- **No Impact:** These sites were eliminated from further consideration due to the nature or status of the database listing (e.g., no reported or suspected releases), media affected, or the distance and/or location of the property relative to the Project Area.
- **Low Impact**: These sites have a low likelihood to impact the Project Area because there was no evidence to suggest that groundwater from the site of concern is impacted, or offsite migration of the contamination is not expected to impact the Project Area.
- **Moderate Impact:** These sites have a moderate likelihood to impact the Project Area because of the type or extent of contaminant, and/or groundwater from the site of concern is impacted and has a reasonable potential to migrate to, and impact the Project Area, but there is no conclusive evidence.
- **High Impact:** These sites may be substantially contaminated and could create a major liability for the City either during construction or by acquiring all or a portion of the site. If the site has undergone a detailed investigation and a feasibility study, the impacts and remediation costs may be predicted. Nonetheless, the site is identified as a high impact site because of its potentially substantial impact or liability. In general, high impact sites are properties that may have large volumes of contaminated soil, groundwater, or sediment, or may have multiple, complex types of contaminants that require special handling and disposal that is expensive to manage.

The 2021 regulatory database search identified several regulatory-listed properties within a half mile to a mile of the Project Area corridor. No EPA National Priority List (NPL), proposed NPL, Federal Superfund Liens, delisted NPL, Superfund Enterprise Management System (SEMS) or SEMS Archive sites were identified within one mile of the Project Area corridor.

North Mason High School: addressed at 50 East Mason School Road and located adjacent to the southern terminus of the Project Area, was identified on Ecology's UST database. According to the Ecology UST Site Summary for the North Mason High School, this property had five USTs that were installed in 1968 and removed by 1996. The USTs were noted to consist of: 1) a 1,000-gallon leaded gasoline UST, 2) a 12,000-gallon diesel UST, 3) a 300-gallon waste oil UST, 4) a 500-gallon unleaded gasoline UST, and 5) a 2,000-gallon unleaded gasoline UST. The diesel and gasoline USTs were noted to be for "motor fuel for vehicles" while the waste oil UST was utilized for recycled waste oil. No releases were identified with regards to these USTs and no information on the location of these USTs was provided in the Ecology online records. From review of a 1968 historical aerial photograph depicting the layout of the North Mason High School, it appears that the footprint of the school property was located approximately 700 or more feet north of the proposed Project Area corridor. Therefore, it is not anticipated that these USTs are likely to be located within or adjacent to the Project Area corridor. Based on the lack of identified releases with regards to the North Mason High School USTs and the low likelihood

of these USTs being located within or adjacent to the Project Area, the North Mason High School is considered to be of no impact to the proposed SR 3 Project.

Doug Lent Inc.: addressed at 8700 SR 3, was identified on Ecology's UST database. Although Ecology's Facility/Site database maps the Doug Lent Inc. property as adjacent to the northern portion of the Project Area, based the address, this property is actually associated with the Port of Bremerton Airport property located over 1,500 feet north and northeast of the Project Area. Based on the nature of this database listing, UST listing with no identified releases, and the location of the property associated with this database listing; the Doug Lent property is considered to be of no impact to the proposed SR 3 Project.

During the 2021 review, several other Ecology regulatory-listed properties were identified within a half mile of the Project Area corridor. However, based on the nature or status of the database listings, media affected, and the distance and/or location of these properties relative to the Project Area corridor; these Ecology regulated properties were considered unlikely to have an adverse impact on the Project Area corridor and all were considered to be no impact properties.

4.7 PROJECT AREA RECONNAISSANCE

A visual reconnaissance of the Project Area and adjacent properties was performed on January 21, 2021 and January 28, 2021. The reconnaissance included a windshield survey from public ROWs or accessible public properties, and reconnaissance on primitive roads on private properties. Access to private property roadways on January 28, 2021 was provided under approval by the property owners. The reconnaissance was performed to observe and record the physical settings and conditions at ground surface as they may relate to environmental contamination, illegal dumping or disposal activities, and/or improper storage of hazardous or regulated materials.

Sections 4.1, 4.2, and 4.3 (above) describe the setting, characteristics, and use of the project corridor and adjacent properties. Reconnaissance confirmed these conditions, with residential and undeveloped properties adjacent to the majority of the project corridor.

Minimal commercial properties were observed adjacent to the project corridor. Commercial properties observed in 2021 consisted of:

- Bones Cycle/Coach Crafters, addressed at 20307 East SR 3 and listed as a motorcycle repair and service business in the Bremerton, Washington business directory, was observed on the east side of State Route 3, at milepost 23, near the southern terminus of the Project Area. No above-ground tanks or other issues of concern were observed at the Bone Cycle/Coach Crafters property during the 2021 reconnaissance.
- Olympic View Excavation and Davis Welding and Repair, both addressed at 10037 SR 3
 and located in the vicinity of the northern terminus of the Project Area. No issues of
 concern were observed on this commercial property during the 2021 reconnaissance.

A wastewater treatment plant was observed in Mason County, approximately 0.75 miles east of the intersection of State Route 3 and Romance Hill Road, east and upslope from, the project corridor. No issues of concern were observed with regards to the treatment plant. Two churches and a public school, the North Mason High School, were also observed in the vicinity of the southern terminus of the Project Area.

Apparent wetlands observed during the January 2021 reconnaissance included, but are not limited to an area about 100 feet east of the northeast corner of State Route 3 and State Route 202, and two areas along the central portion of the Project Area. Additional wetlands have been mapped along the Project Area by Parametrix but were not observed during the January 2021 reconnaissance. Small drainages are anticipated to be encountered intersecting the Project Area but were not observed during the 2021 reconnaissance. No issues of note related to potential contamination or dumping were observed in, or adjacent to, apparent wetland or surface water areas. The term "wetland" is used herein to describe mapped or observed marshy or wet area; HWA is not qualified to delineate or define wetland to any regulatory standard.

The undeveloped locations along the Project Area primarily consisted of heavily forested land, with some areas of previously logged land with varying degrees of forest regrowth. No issues of note related to potential contamination or dumping were observed in, or adjacent to, undeveloped areas during the 2021 reconnaissance.

5. ENVIRONMENTAL IMPACTS

A hazardous materials analysis of the Project Area was performed to identify and report the potential presence of hazardous materials conditions that might be encountered or negatively affect the SR 3 Project.

Based on the data collection, field reconnaissance, and evaluation activities; no regulatory sites of concern or evidence of potential hazardous materials conditions at or potentially impacting the soil and/or groundwater of the Project Area were identified. However, the draft HazMat Report was completed March 12, 2021, and the WSDOT comments were received on December 14, 2023 (2.75 years after completion of the draft report). Therefore, the potential exists that the property use and regulatory status of properties within or near the Project Area may have changed, which could affect the environmental impacts to the Project Area.

5.1 SIGNIFICANT UNAVOIDABLE ADVERSE EFFECTS

No significant unavoidable adverse effects (i.e., contamination-related impacts from past or current land use) that cannot be reasonably mitigated for are anticipated for this project. However, the potential exists for an accidental release of hazardous materials to the environment, from release of hazardous materials utilized during the construction process, which could result in risks to human health or the environment, create potential liabilities, increase project costs, and/or cause schedule delays. This potential is minimal, and is typically mitigated via best management practices during construction, as specified in project contract documents.

Unintentional releases can occur from the improper transfer and storage of fuels, spills that occur during refueling of equipment, or heavy equipment malfunction (e.g., hydraulic or fuel line ruptures). There is also the potential for waste materials from heavy equipment, such as oil and grease, to enter stormwater runoff from the Project Area. Contaminated stormwater runoff has the potential to affect soil and/or groundwater where impermeable surfaces are not present. Hazardous materials, including but not limited to, paints, acids for cleaning, solvents, raw concrete, and concrete-curing compounds could be utilized during construction activities and may enter the environment if not managed correctly. A Spill Plan would address the use, handling, storage, and disposal of hazardous materials that could be utilized during project construction activities. The Spill Plan would also address the prevention of and response to potential releases of hazardous materials used or encountered during project staging and construction.

The proposed SR 3 Project includes full acquisition of three tax parcels that include residential structures that could be demolished as part of the project. Older structures may contain hazardous building materials including asbestos containing materials (ACMs), lead based paint, mercury, etc. Hazardous building material inspections, testing, and abatement (if deemed necessary) should be conducted prior to demolition of structures. Heating oil USTs may also be encountered during construction or demolition. Ecology's UST reporting and removal

regulations should be followed if abandoned or unreported USTs are encountered during project construction.

6 LIMITATIONS

The conclusions expressed by HWA GeoSciences Inc. are based solely on material referenced in this report. Observations were made under the conditions stated. Within the limitations of scope, schedule and budget, HWA attempted to execute these services in accordance with generally accepted professional principles and practices in the area at the time the report was prepared. No warranty, express or implied, is made. HWA's findings and conclusions must not be considered as scientific or engineering certainties, but rather as our professional opinion concerning the significance of the limited data gathered and interpreted during the course of the assessment.

This study and report have been prepared on behalf of WSDOT and is solely for use in an environmental evaluation. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. Nor are we responsible for impacts due to changes in property use and regulatory status of properties within or near the Project Area that may have occurred since the submission of the draft HazMat Report in March 2021. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report.

Unless specifically stated in the report, HWA has not performed specific testing or analysis to determine the presence or absence of any chemical, physical, radiological, or biological hazard or condition, including, but not limited to: underground storage tanks, wetlands, asbestos containing materials, lead-based paint, lead in drinking water, radon, metals, petroleum hydrocarbons, volatile organics, pesticides, or PCBs.

7 CERTIFICATION STATEMENT

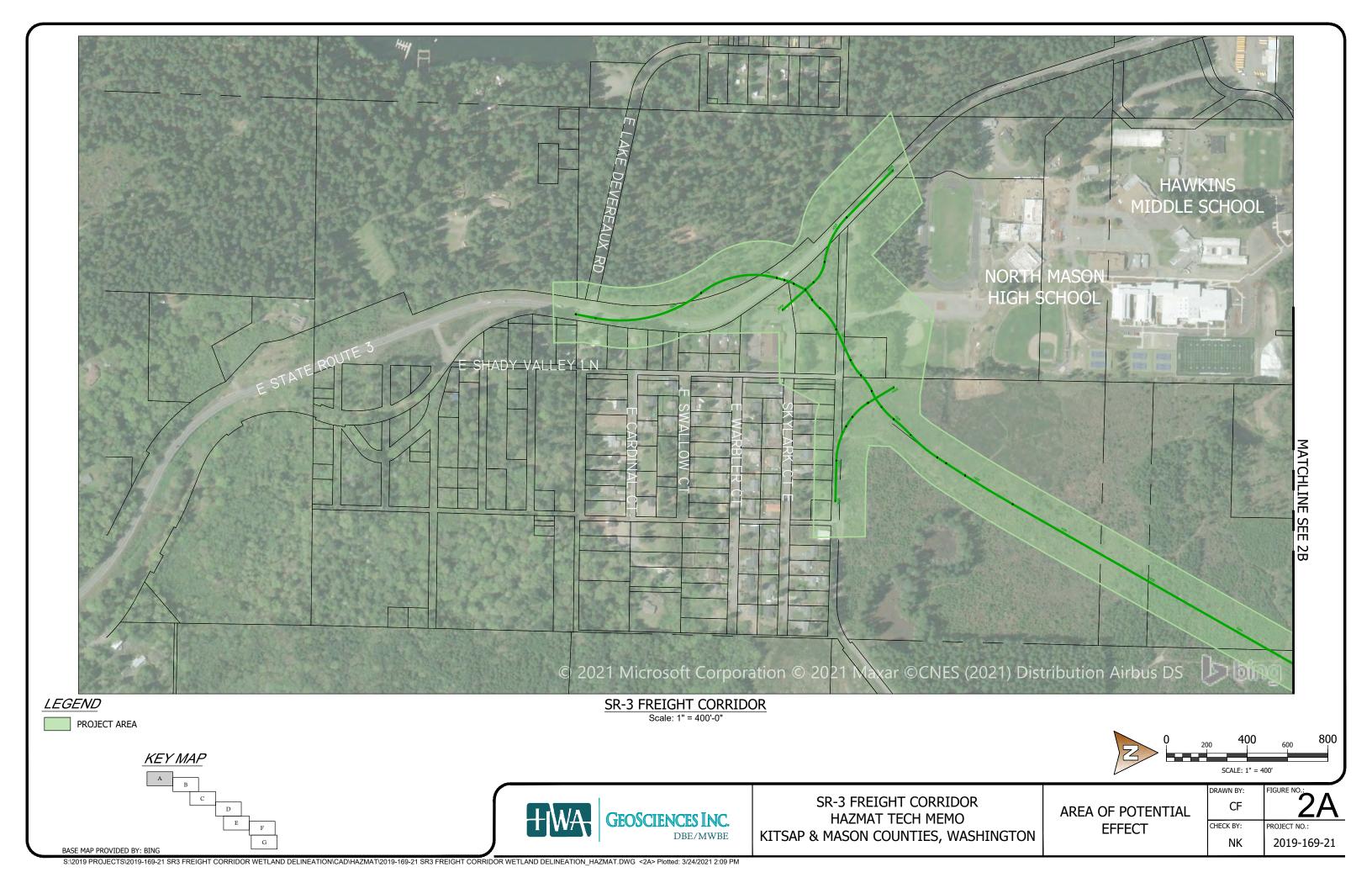
HWA employees Mr. Arnie Sugar and Ms. Nicole Kapise, both Environmental Professionals as defined in ASTM Practice E-1527-21, conducted this Hazardous Materials Technical Memorandum. It is HWA's opinion that this Hazardous Materials Discipline Report has taken into account all potentially significant impacts that could affect the Project Area and that the report documents conditions that may present adverse environmental impacts. Where readily available data was limited with regards to environmentally regulated properties or specific issues, the Environmental Professionals provided their best professional opinion on the impact to the Project Area.

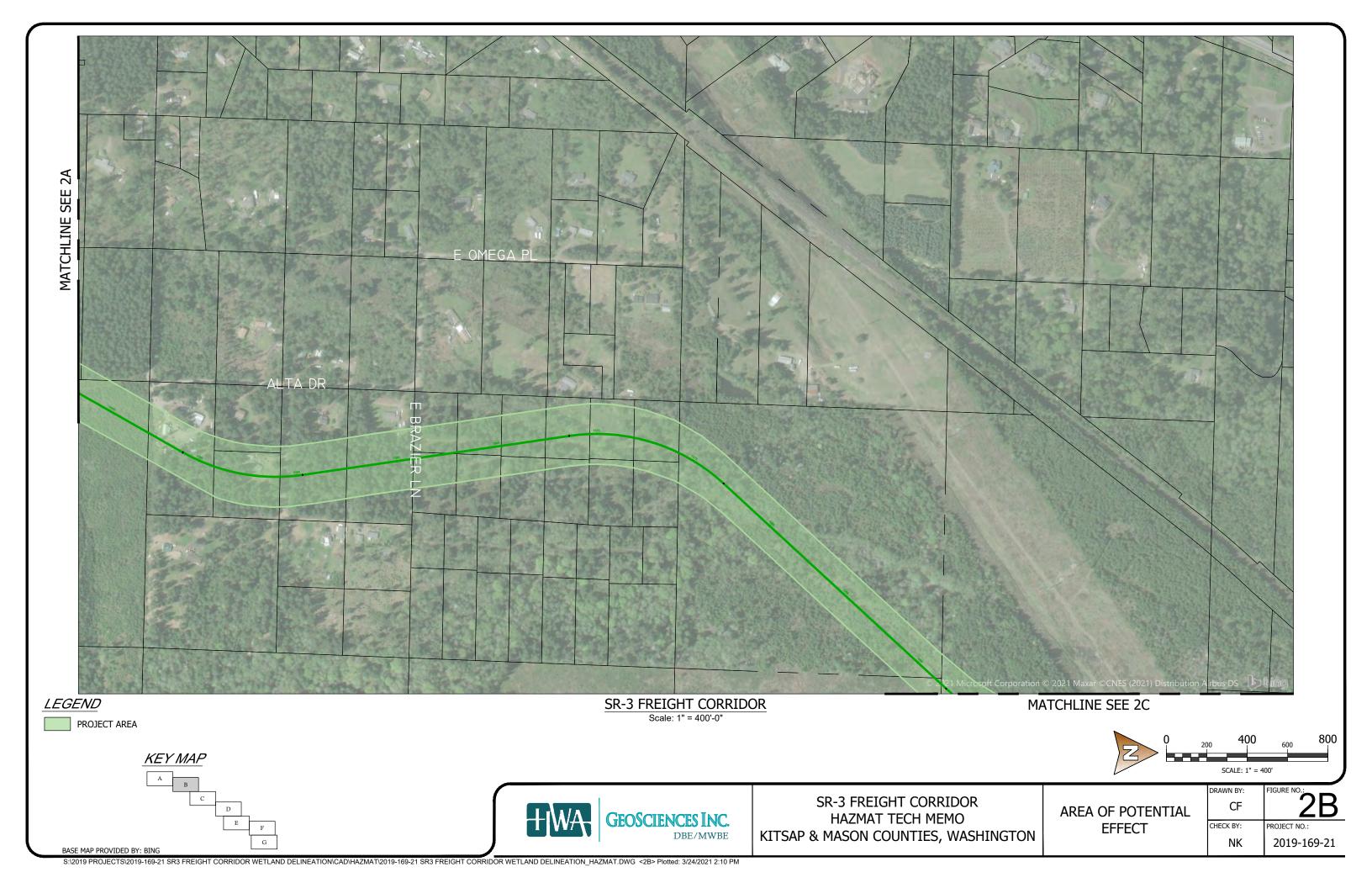
8 LIST OF REFERENCES

- ASTM International. 2021. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, E 1527-21.
- EDR. 2021a. The EDR Aerial Photo Decade Package, SR3 Freight Corridor, Belfair, WA 98528. EDR Inquiry #6342235.1. January 26, 2021.
- EDR. 2021a. The EDR Historical Topo Map Report with QuadMatchTM, SR3 Freight Corridor, Belfair, WA 98528. EDR Inquiry #6345845.2. January 28, 2021.
- Environmental Protection Agency (EPA). February/March, 2021. *EnviroFACTS Online*. Available Online: https://enviro.epa.gov/.
- EPA. February/March, 2021. *EnviroMapper Online*. Available Online: https://enviro.epa.gov/enviro/em4ef.home.
- EPA. February/March, 2021. *Superfund Enterprise Management System Search*. Available Online: https://www.epa.gov/enviro/sems-search.
- Kitsap County. February/March 2021. *Kitsap County Online Parcel Search*. Available Online: https://psearch.kitsapgov.com/psearch/
- Mason County. February/March 2021. *Kitsap County Online Parcel Search*. Available Online: https://gis.co.mason.wa.us/mason/
- Parametrix. 2023. SR 3 Freight Corridor Transportation Discipline Report. December 2023.
- Polenz et al. 2009. Geologic Map of the Belfair 7.5-Minute Quadrangle, Mason, Kitsap, and Pierce Counties, Washington.
- Washington Department of Ecology (Ecology). February/March, 2021. *Cleanup Site Search*. Available Online: https://apps.ecology.wa.gov/gsp/SiteSearchPage.aspx
- Ecology. February/March, 2021. *Facility/Site Database*. Available Online: https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Facility-Sitedatabase
- Ecology. February/March, 2021. *Toxics Cleanup Program Web Reporting*. Available Online: https://fortress.wa.gov/ecy/tcpwebreporting/.
- Washington State Department of Transportation (WSDOT). 2020. *Environmental Manual*, *Publication M31-11.23*. October 2020.
- WSDOT. 2019. Guidance and Standard Methodology for WSDOT Hazardous Materials Discipline Reports. June 2019.
- WSDOT. 2017. Right Size Your Hazardous Materials Analysis Report. July 2017.

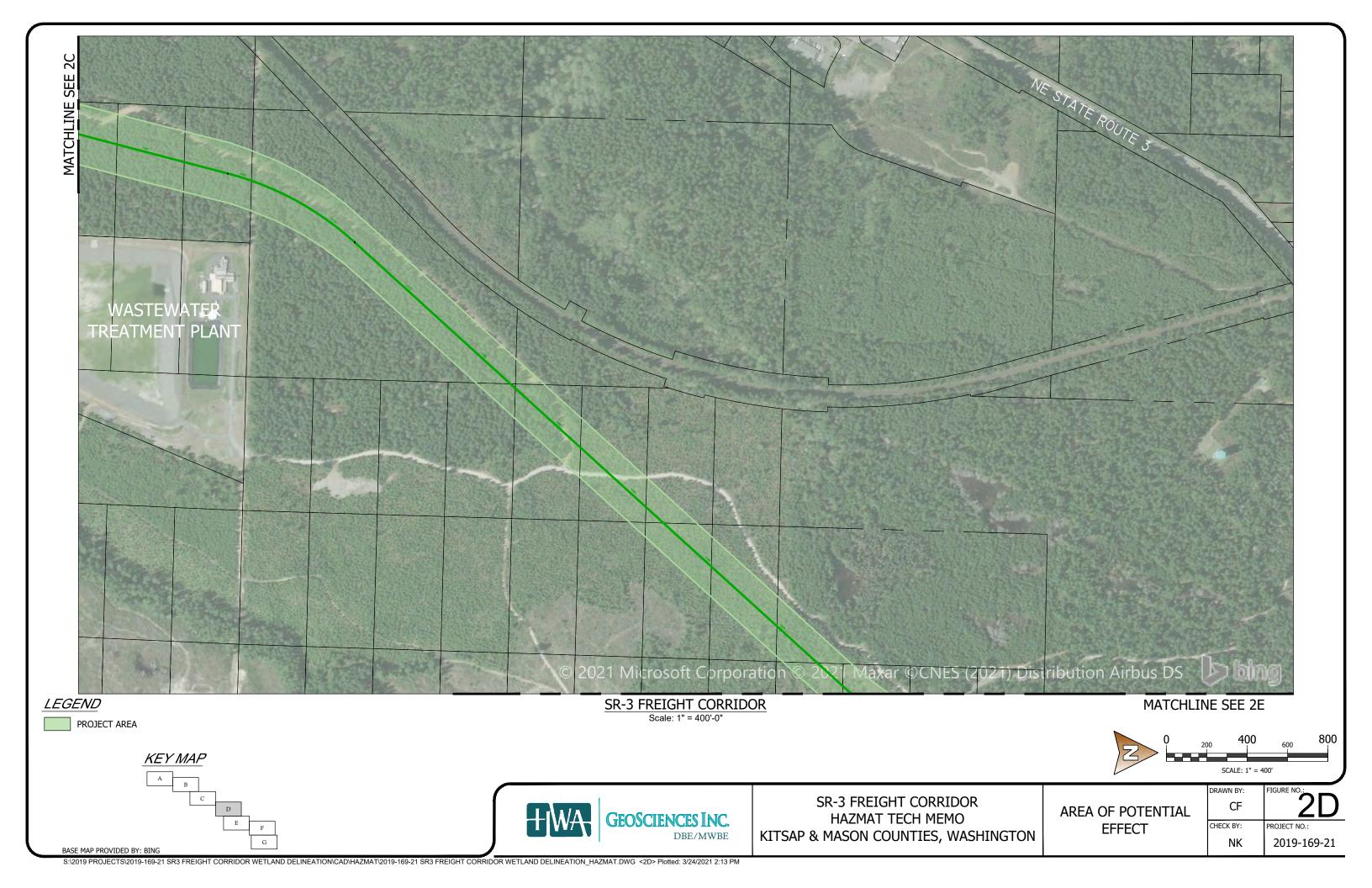
FIGURES

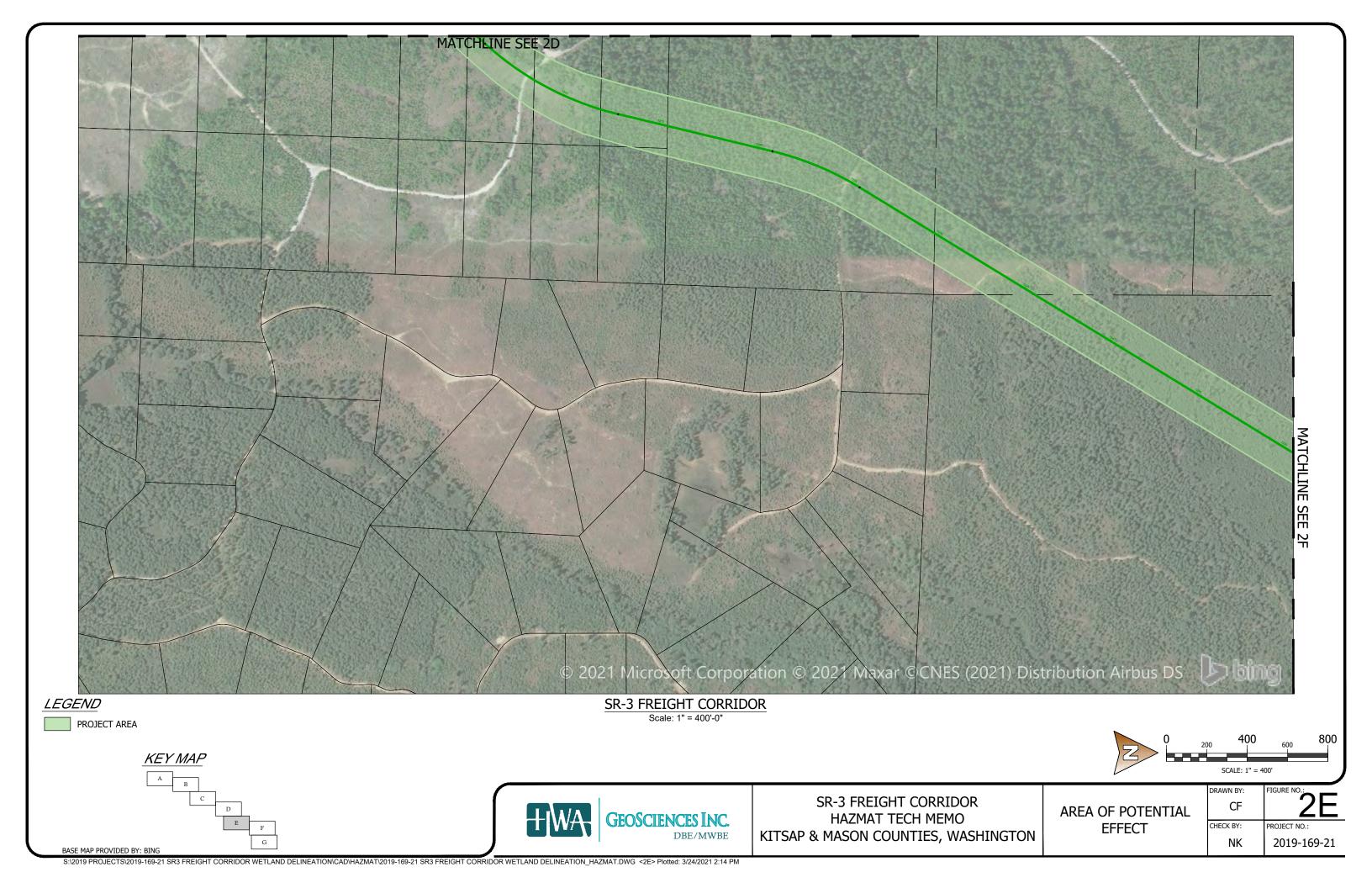


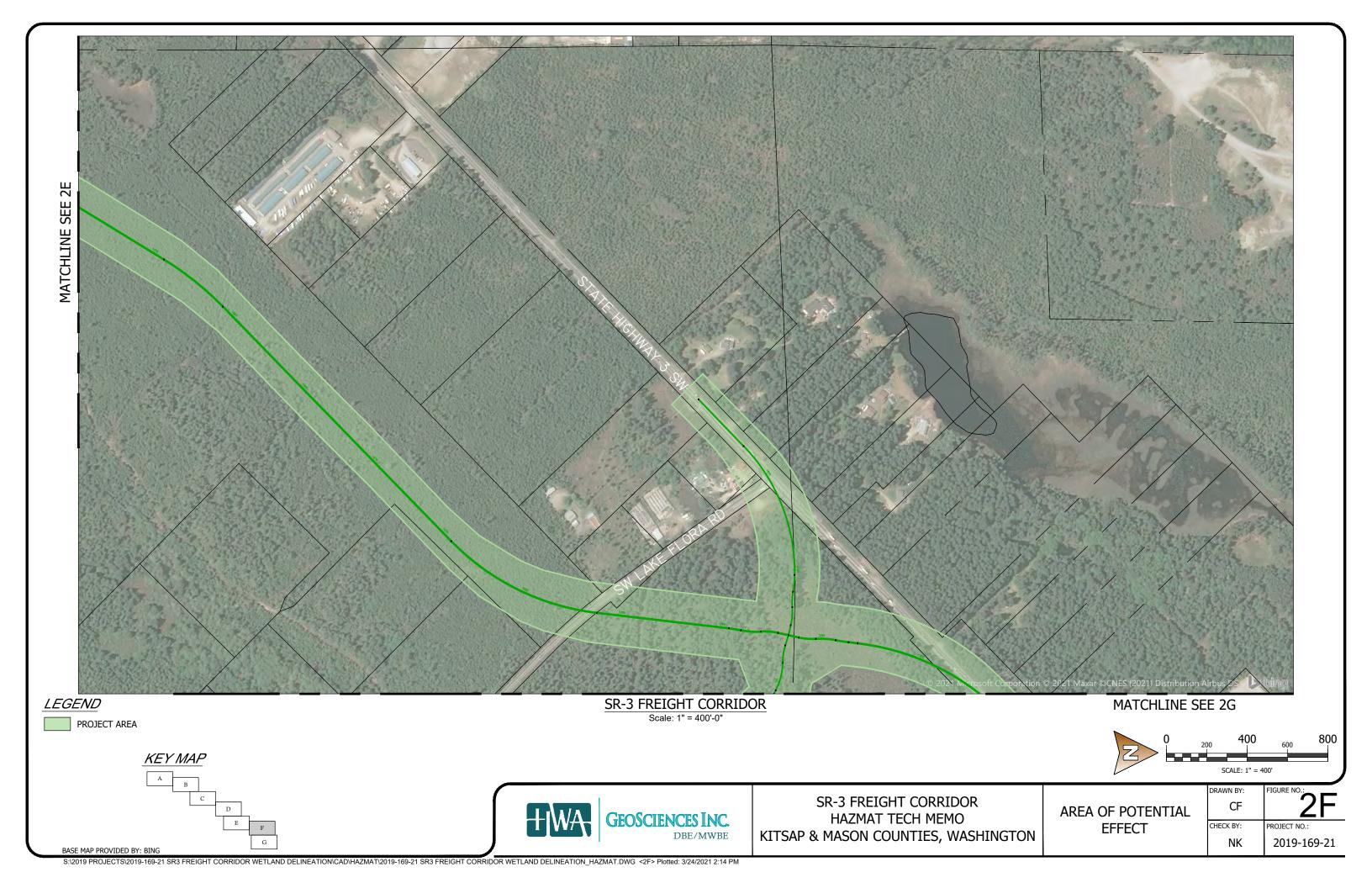


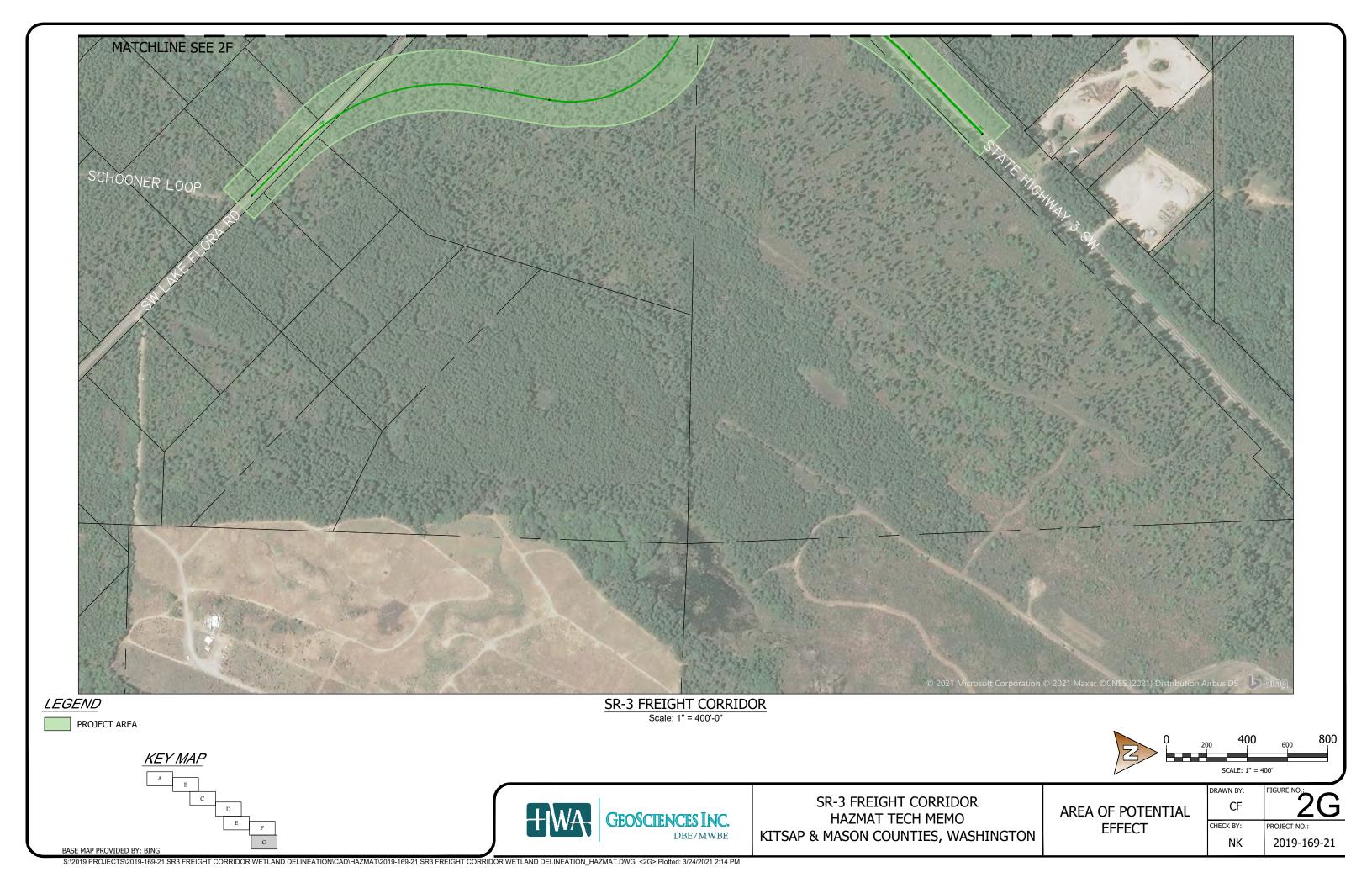












APPENDIX A HISTORICAL TOPOGRAPHIC MAPS

SR3 Freight Corridor SR3 Freight Corridor Belfair, WA 98528

Inquiry Number: 6345845.2

January 28, 2021

EDR Historical Topo Map Report

with QuadMatch™



EDR Historical Topo Map Report

01/28/21

Site Name: Client Name:

SR3 Freight Corridor
SR3 Freig



EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by HWA GeoSciences, Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:	Coordinates:

P.O.# NA Latitude: 47.446489 47° 26' 47" North

Project: 2019-169 TEV40.04 **Longitude:** -122.81591 -122° 48' 57" West

 UTM Zone:
 Zone 10 North

 UTM X Meters:
 513878.53

 UTM Y Meters:
 5254799.18

Elevation: 383.25' above sea level

Maps Provided:

2014 1938

1999 1936, 1938

1994

1994, 1997

1978

1968

1953

1940

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2021 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2014 Source Sheets



Belfair 2014 7.5-minute, 24000



Lake Wooten 2014 7.5-minute, 24000



Wildcat Lake 2014 7.5-minute, 24000

1999 Source Sheets



Belfair 1999 7.5-minute, 24000 Aerial Photo Revised 1999



Lake Wooten 1999 7.5-minute, 24000 Aerial Photo Revised 1990

1994 Source Sheets



Belfair 1994 7.5-minute, 24000 Aerial Photo Revised 1990



Lake Wooten 1994 7.5-minute, 24000 Aerial Photo Revised 1990

1994, 1997 Source Sheets



Wildcat Lake 1997 7.5-minute, 24000 Aerial Photo Revised 1968

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1978 Source Sheets



Wildcat Lake 1978 7.5-minute, 24000 Aerial Photo Revised 1968

1968 Source Sheets



Belfair 1968 7.5-minute, 24000 Aerial Photo Revised 1968



Lake Wooten 1968 7.5-minute, 24000 Aerial Photo Revised 1968



Wildcat Lake 1968 7.5-minute, 24000 Aerial Photo Revised 1968

1953 Source Sheets



Belfair 1953 7.5-minute, 24000 Aerial Photo Revised 1951



Wildcat Lake 1953 7.5-minute, 24000 Aerial Photo Revised 1951



Lake Wooten 1953 7.5-minute, 24000 Aerial Photo Revised 1951

1940 Source Sheets



Point Misery 1940 15-minute, 62500 Aerial Photo Revised 1936

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1938 Source Sheets

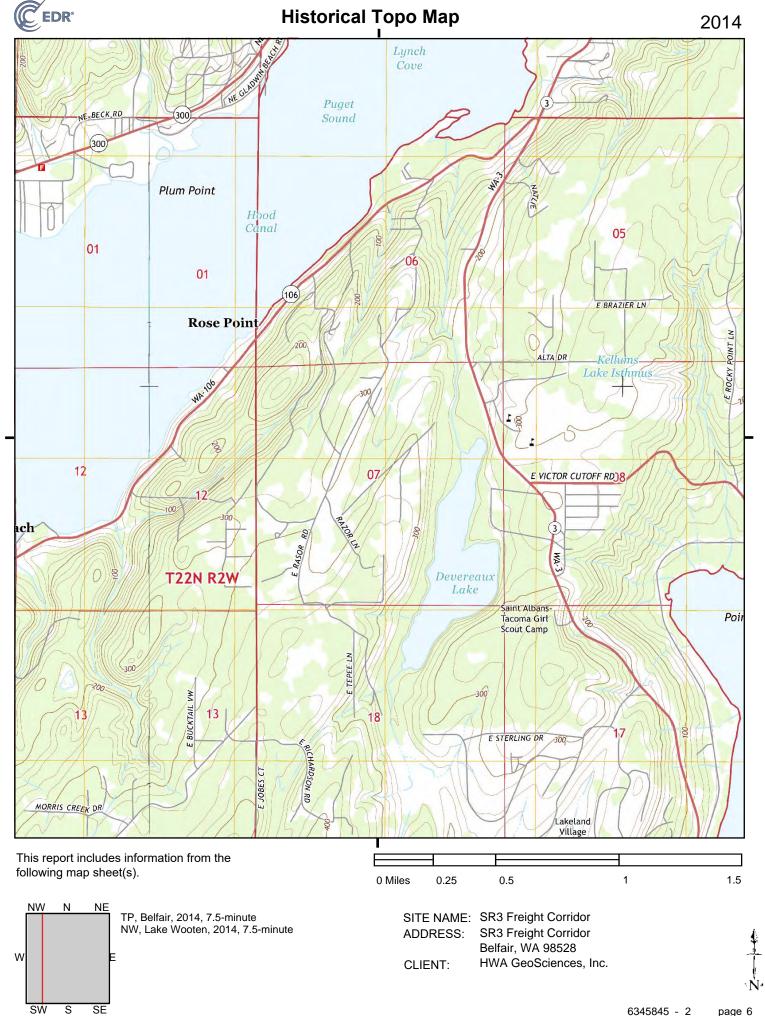


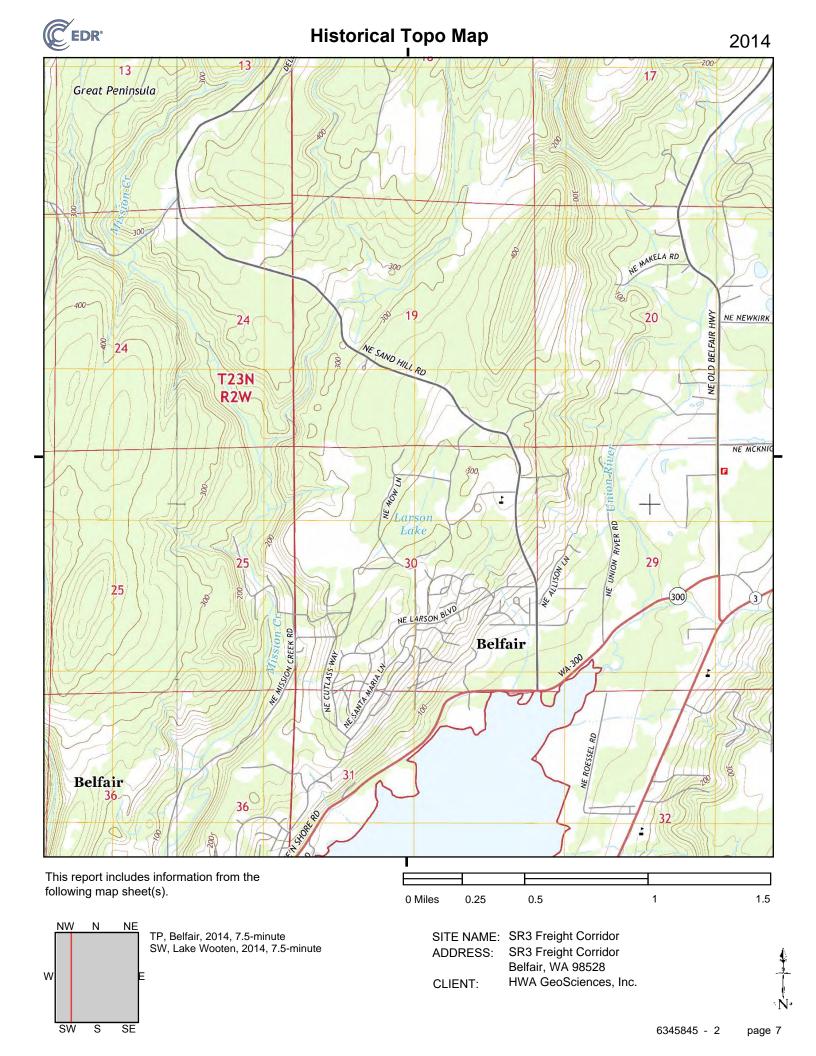
Allyn 1938 15-minute, 62500 Aerial Photo Revised 1937

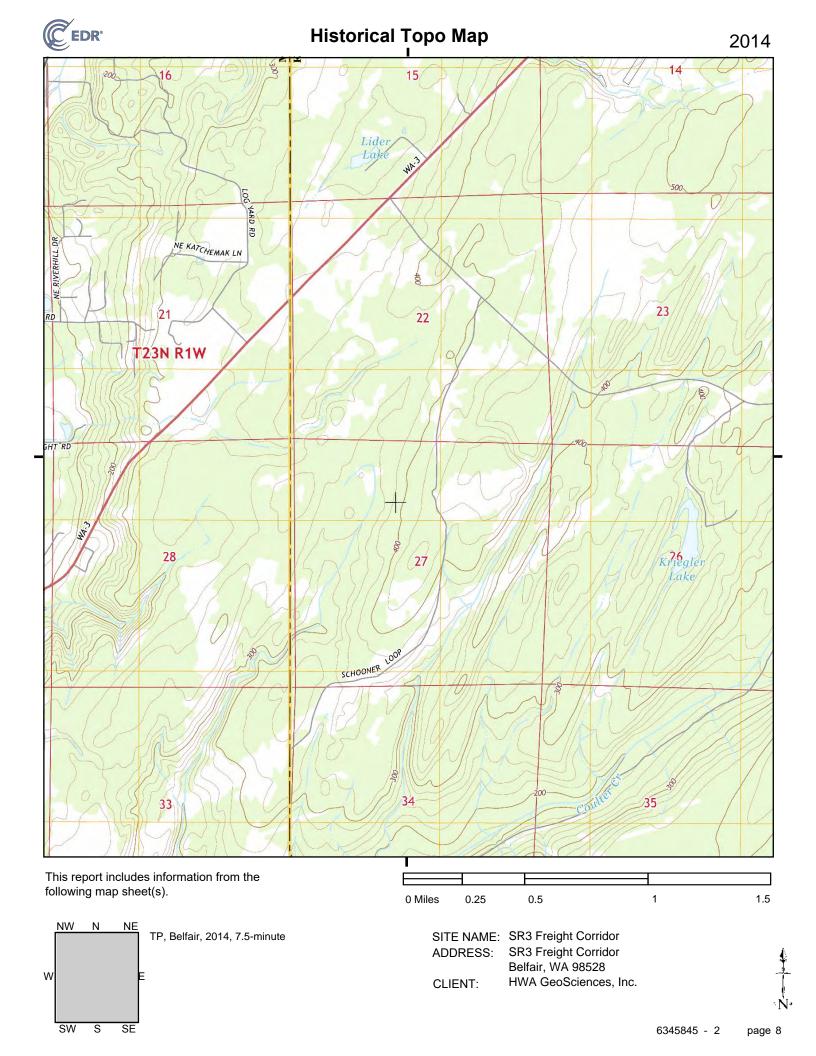
1936, 1938 Source Sheets

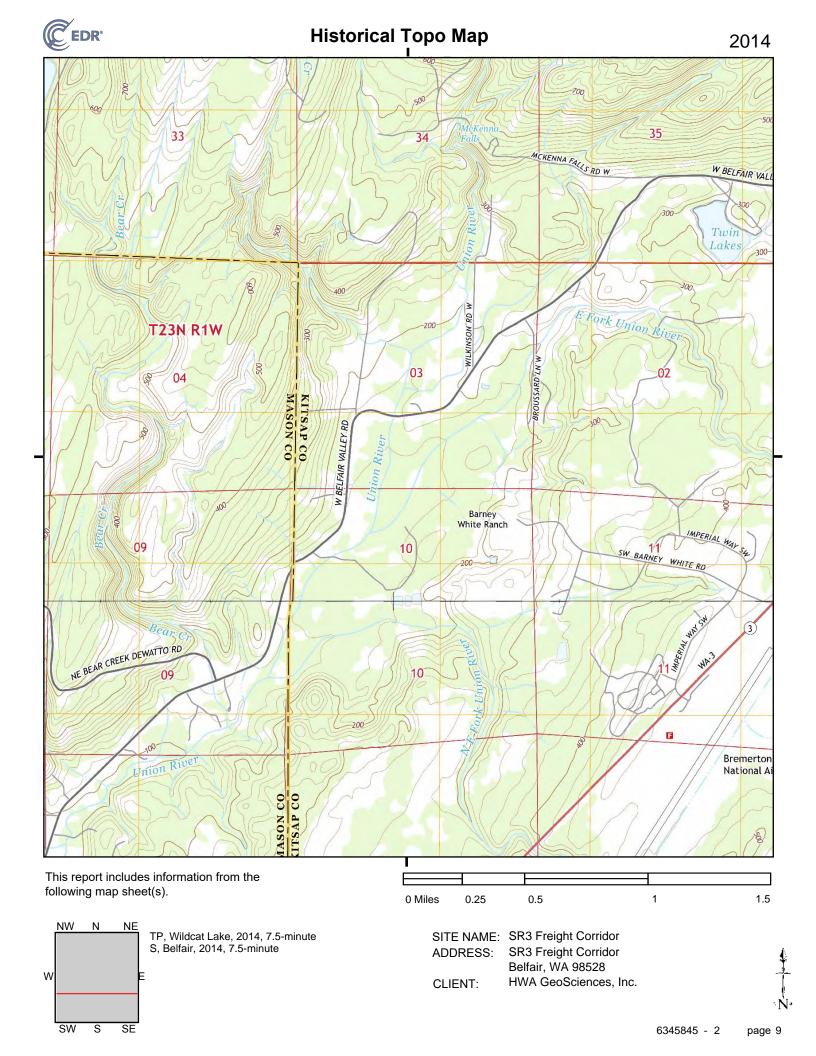


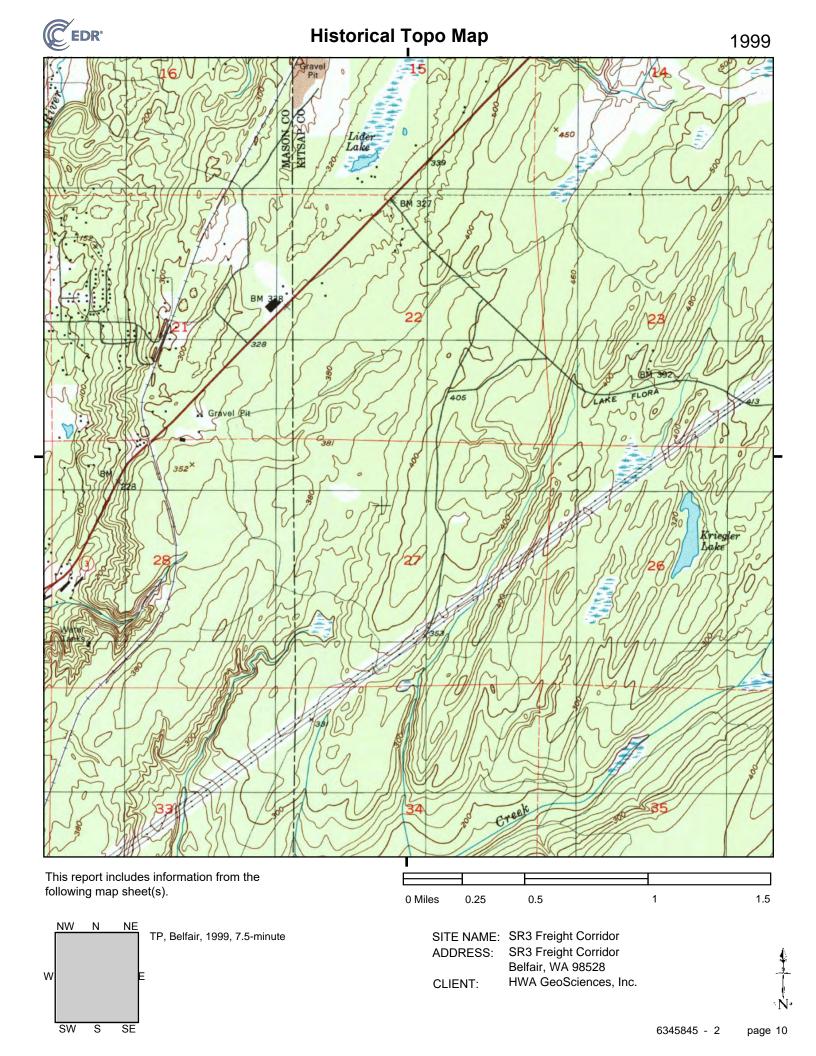
Point Misery 1936 15-minute, 62500 Aerial Photo Revised 1936





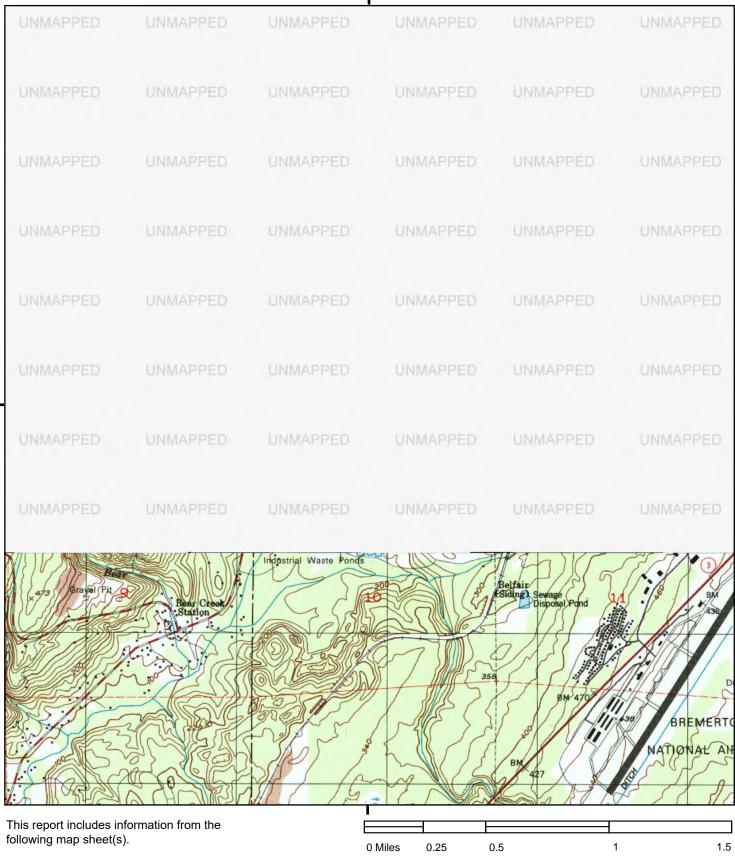


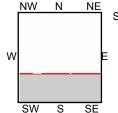






Historical Topo Map





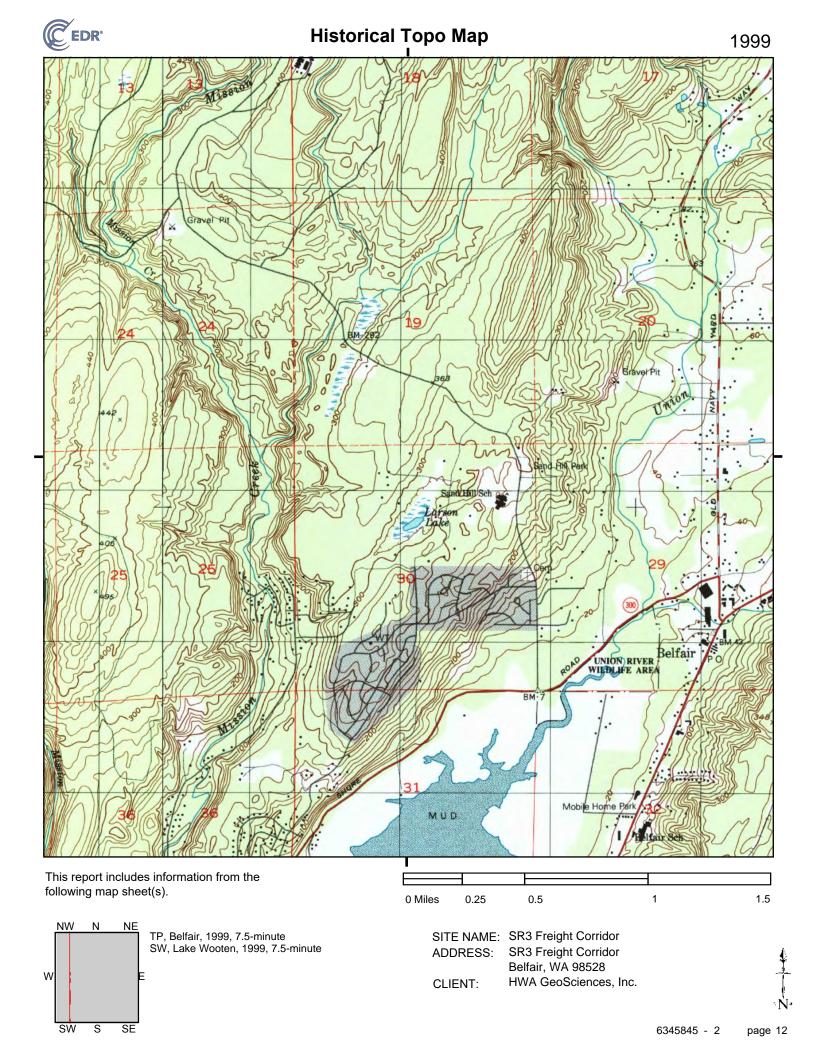
S, Belfair, 1999, 7.5-minute

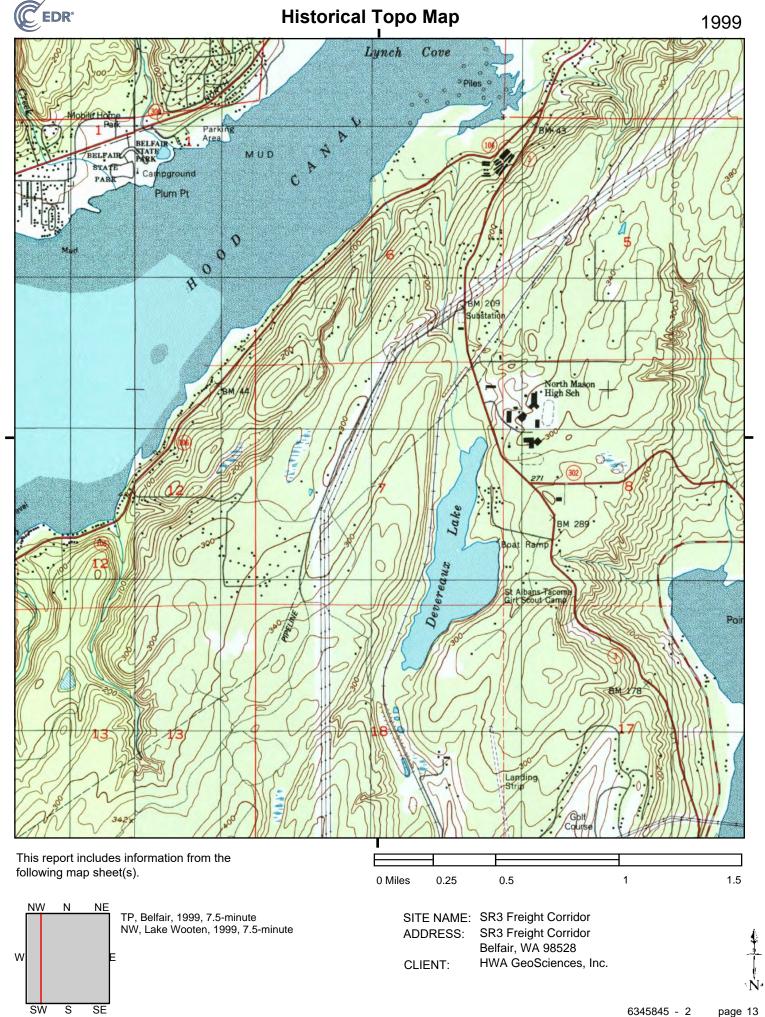
SITE NAME: SR3 Freight Corridor ADDRESS: SR3 Freight Corridor

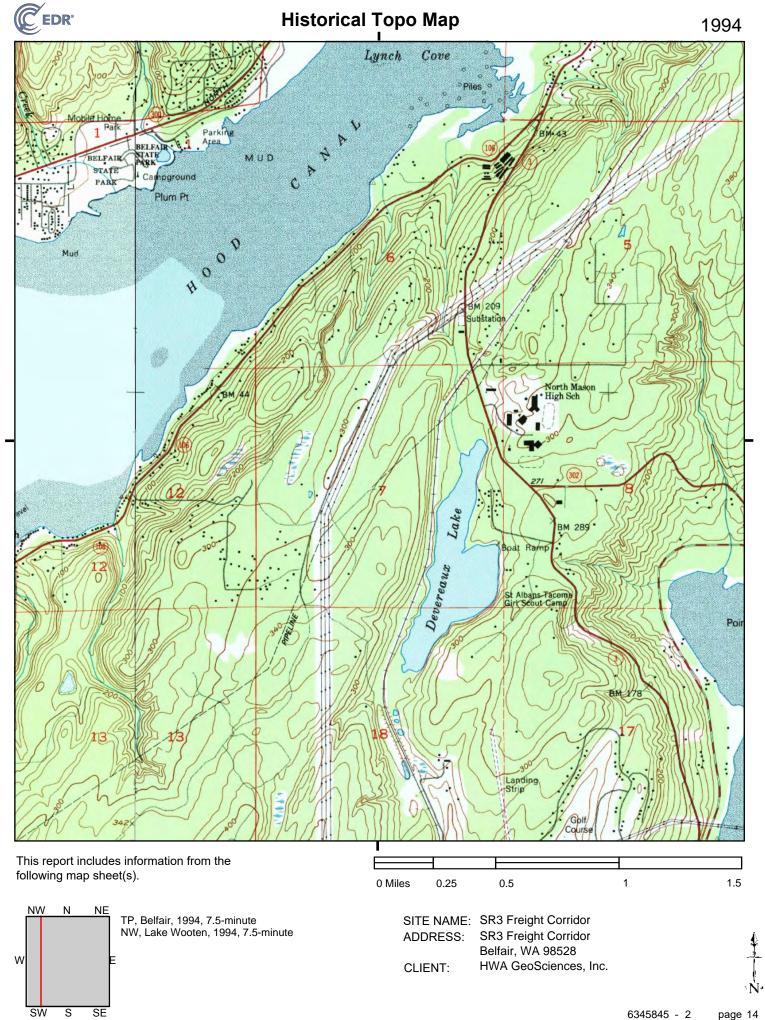
CLIENT:

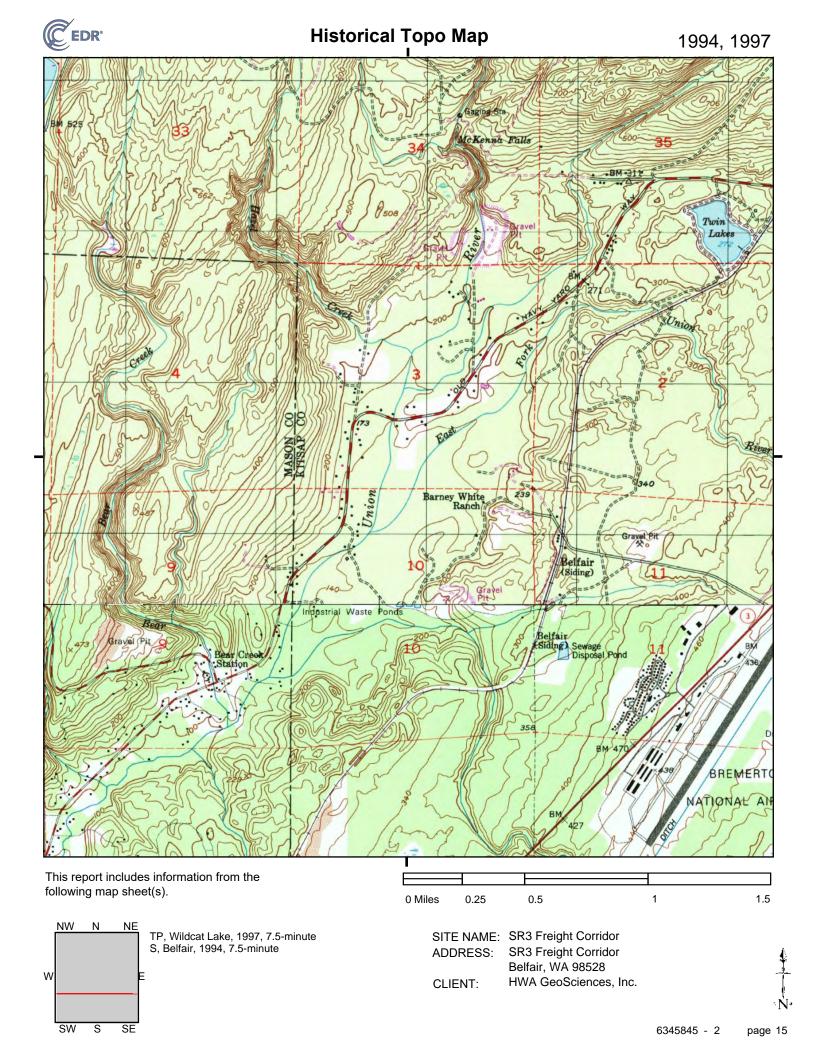
Belfair, WA 98528 HWA GeoSciences, Inc.

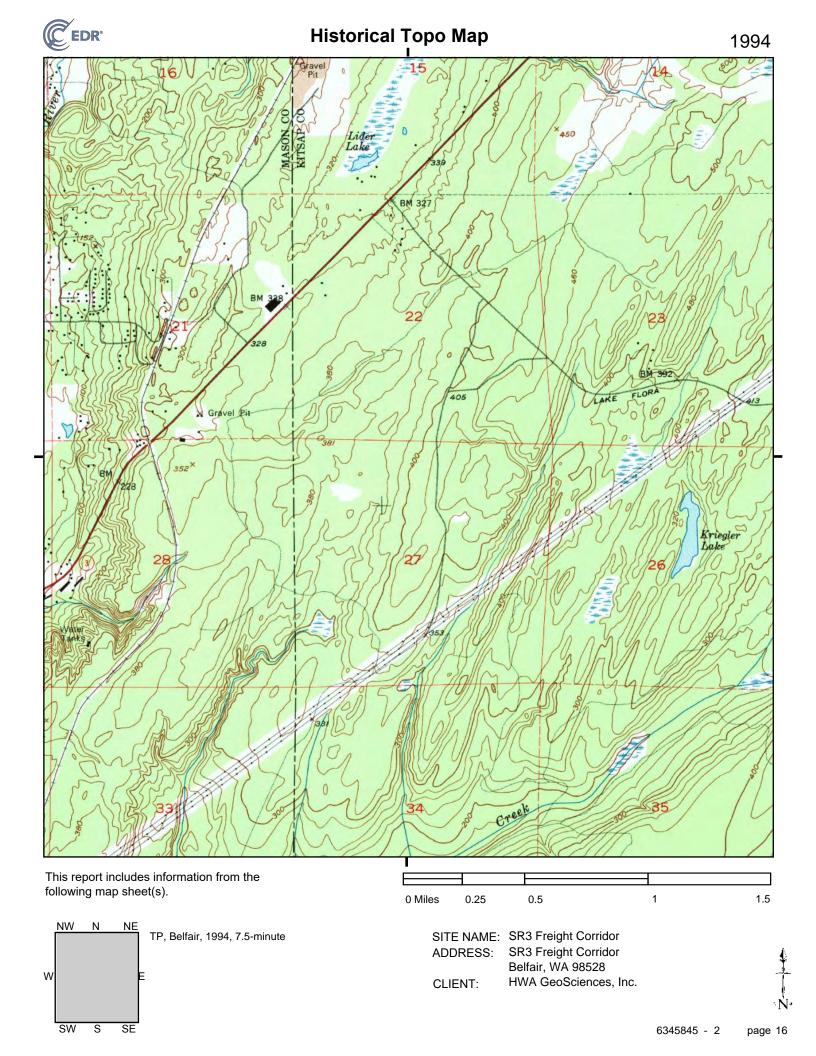


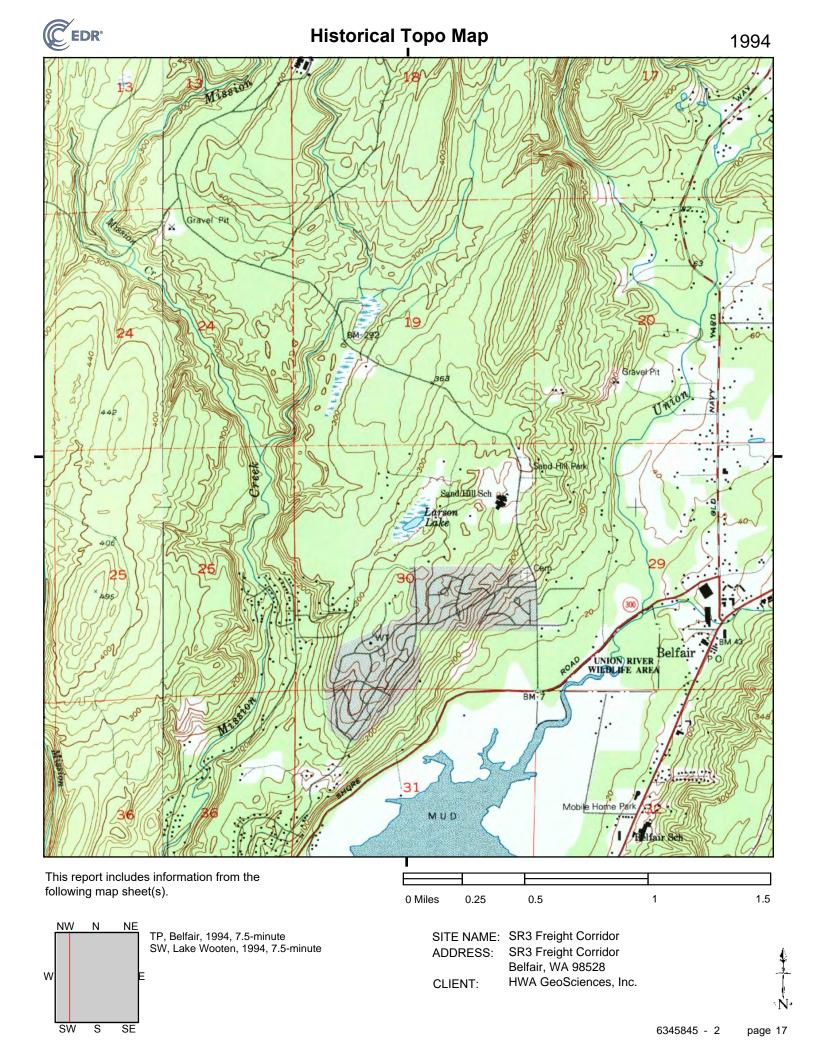








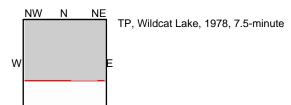






This report includes information from the following map sheet(s).

S

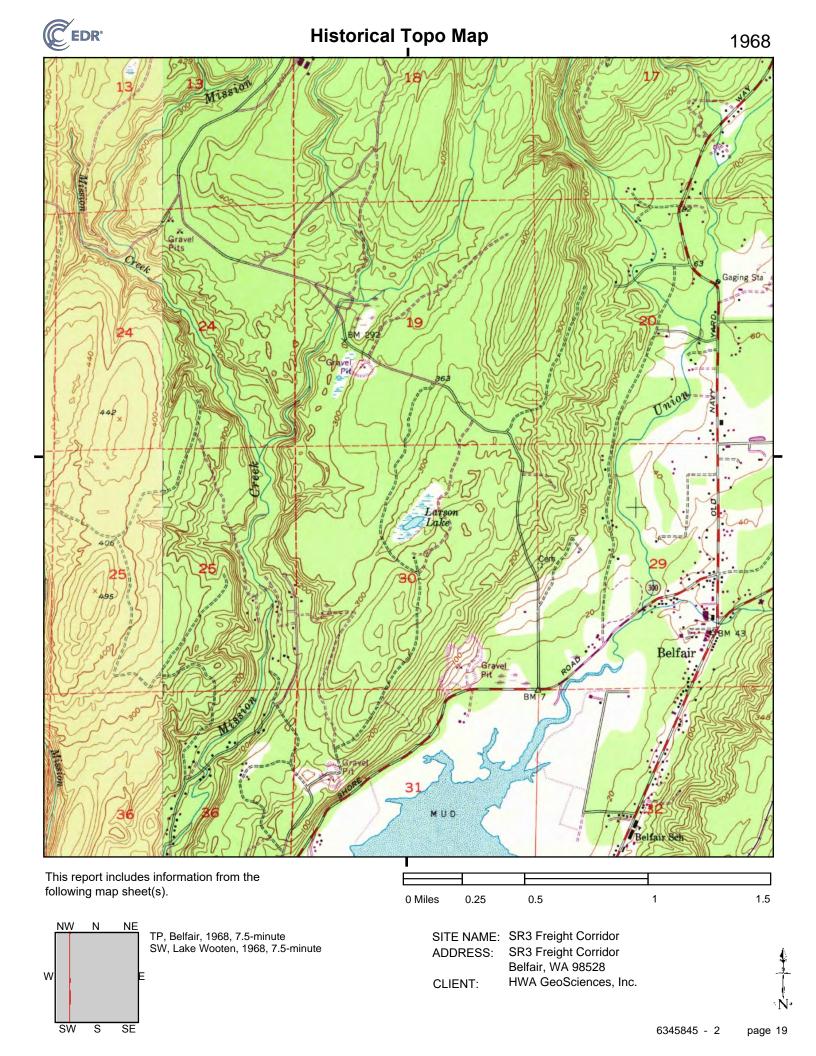


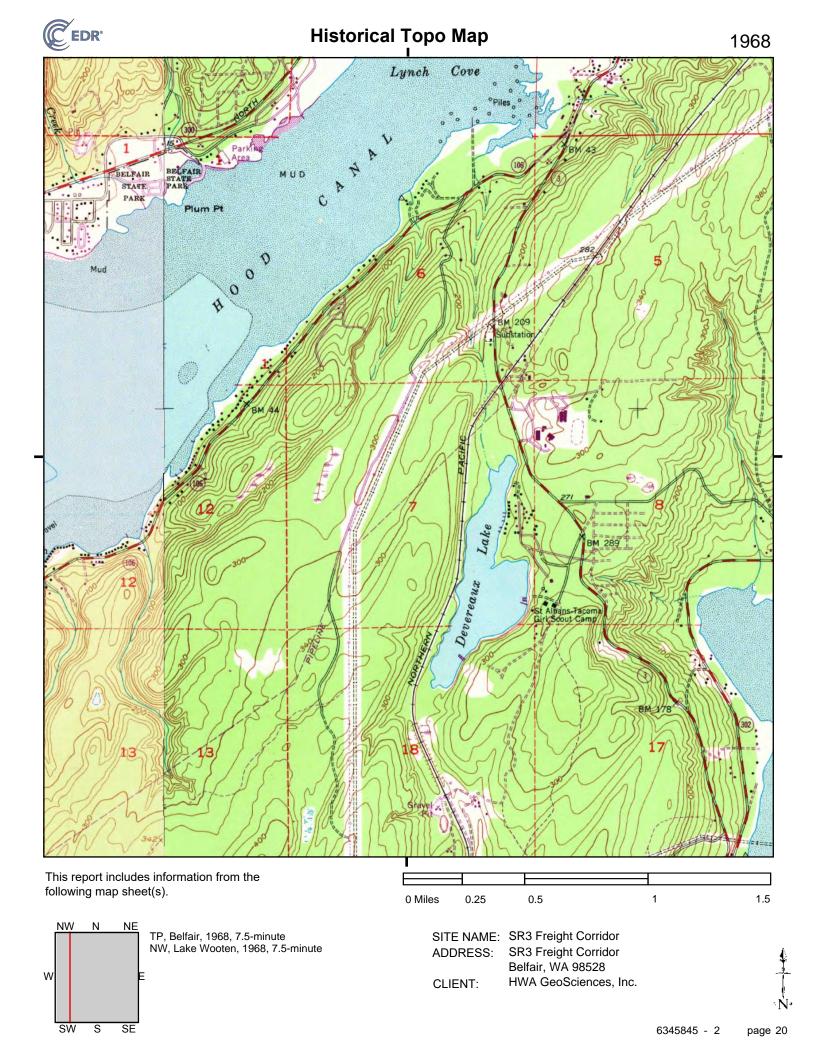
0 Miles 0.25 0.5 1 1.5

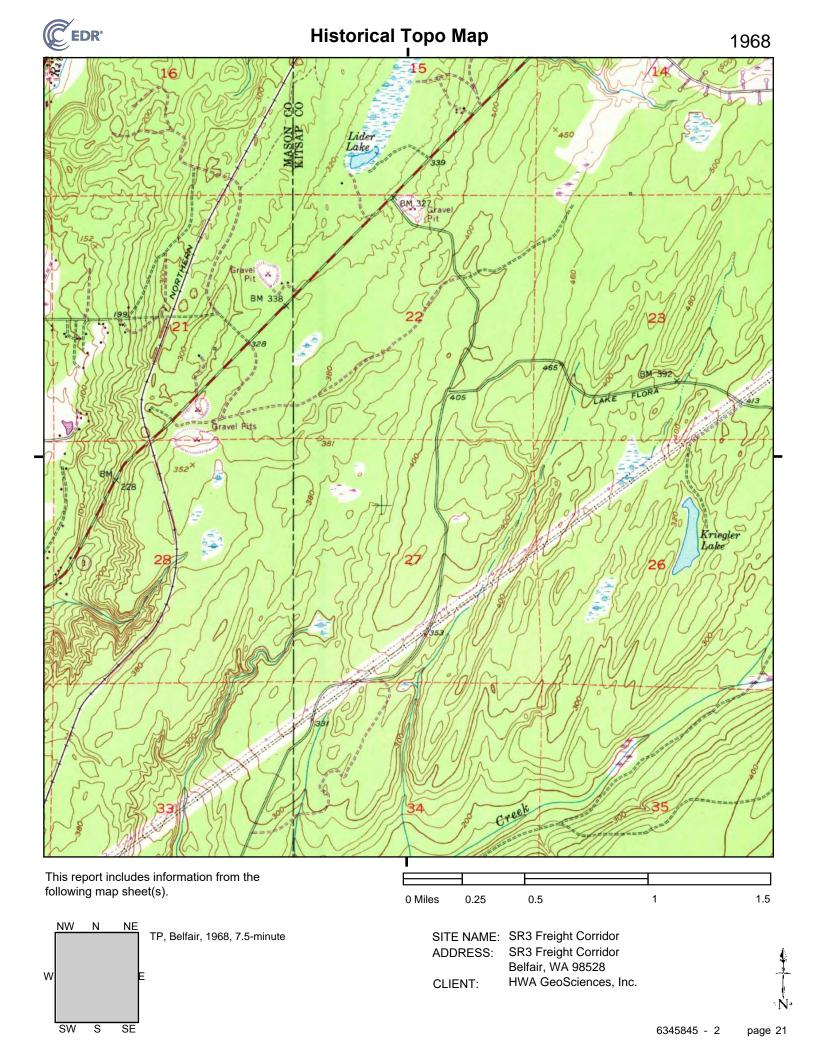
SITE NAME: SR3 Freight Corridor ADDRESS: SR3 Freight Corridor Belfair, WA 98528

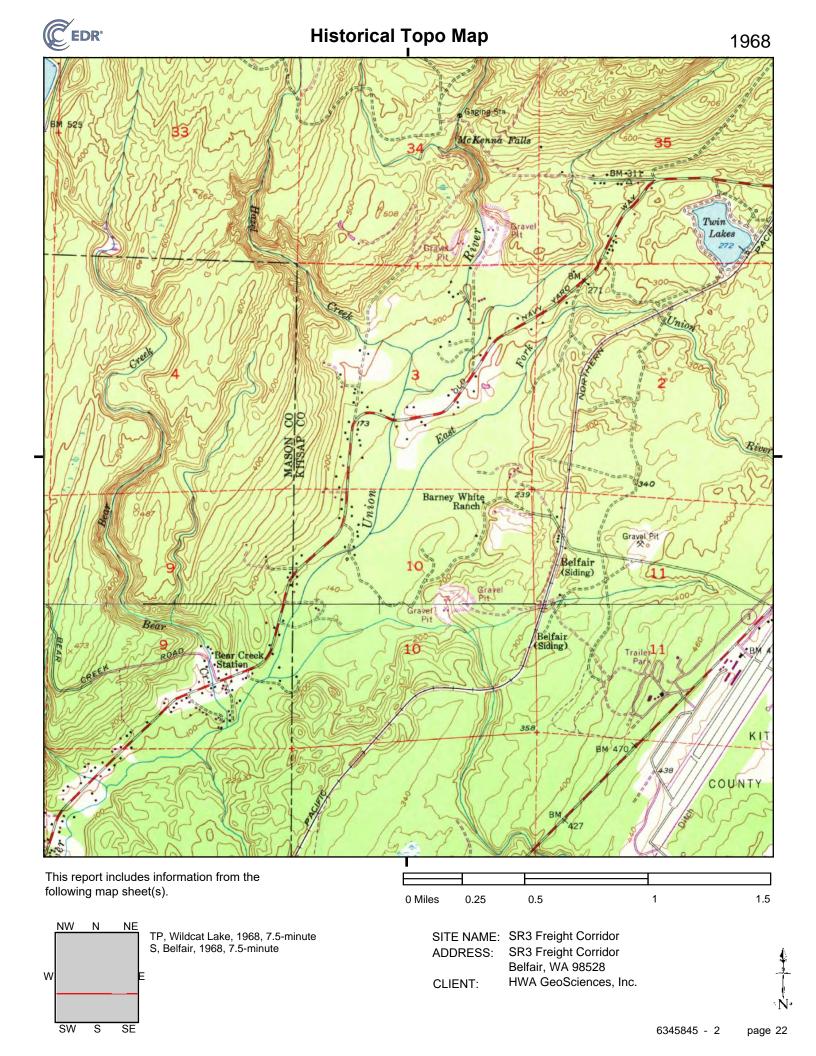
CLIENT: HWA GeoSciences, Inc.

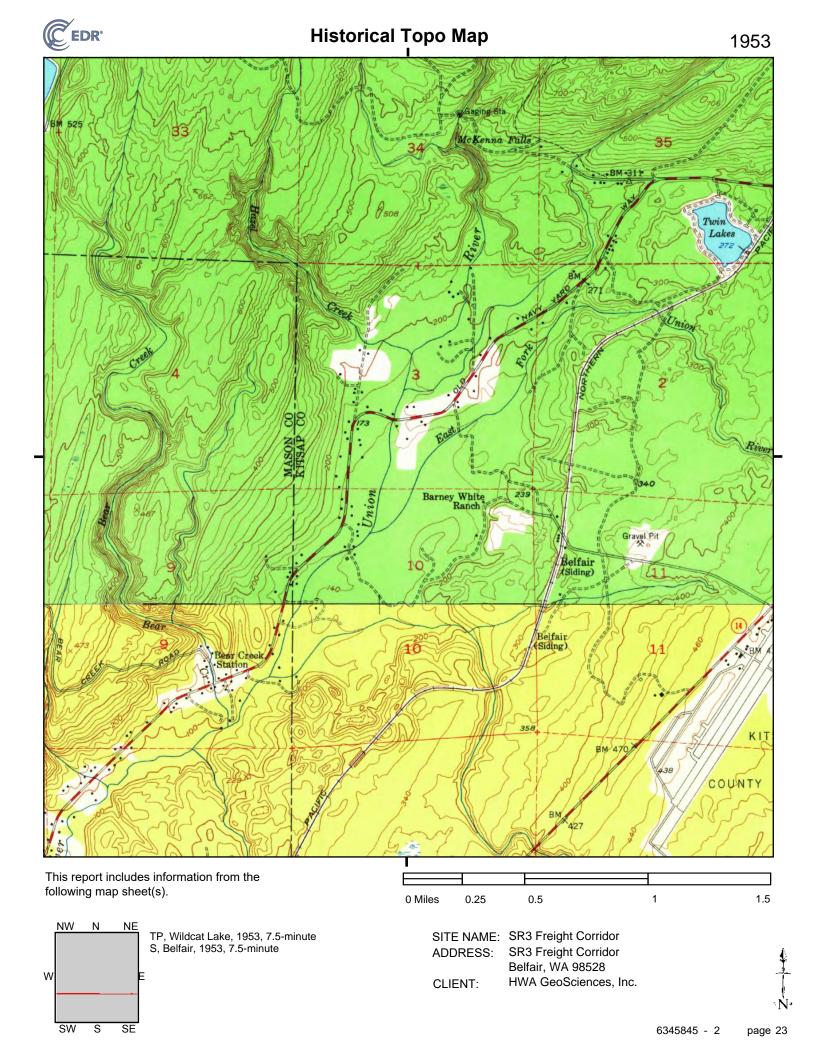


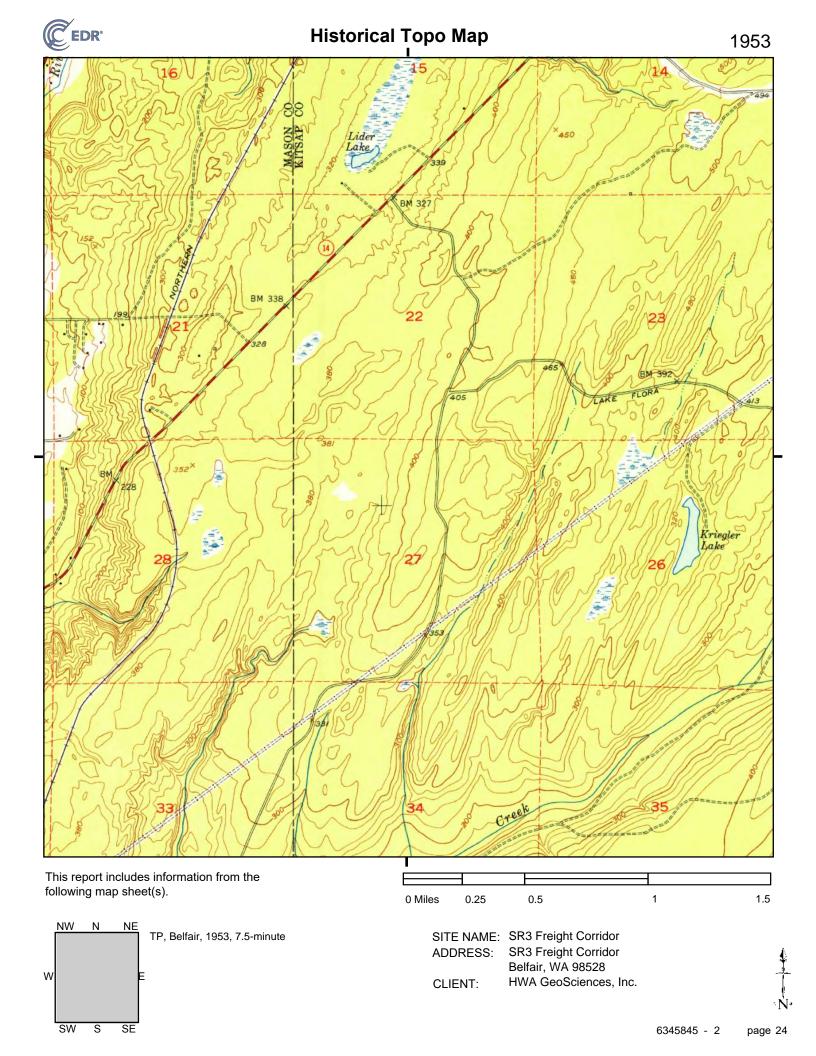


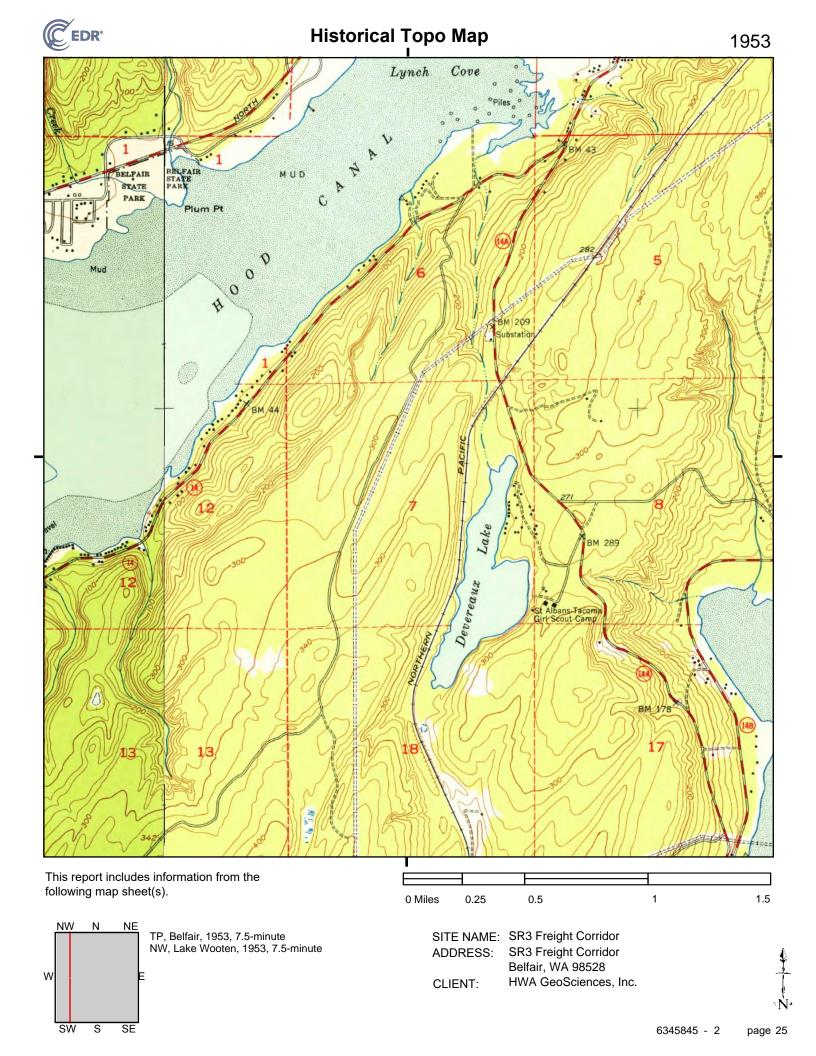


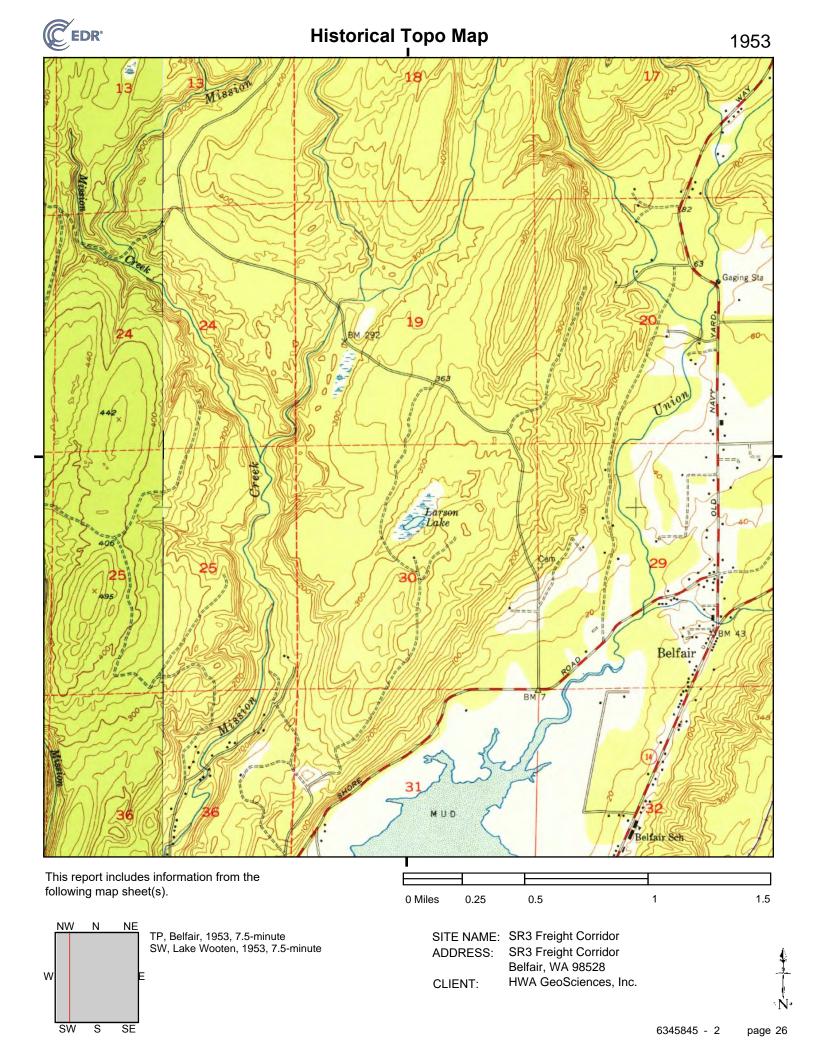




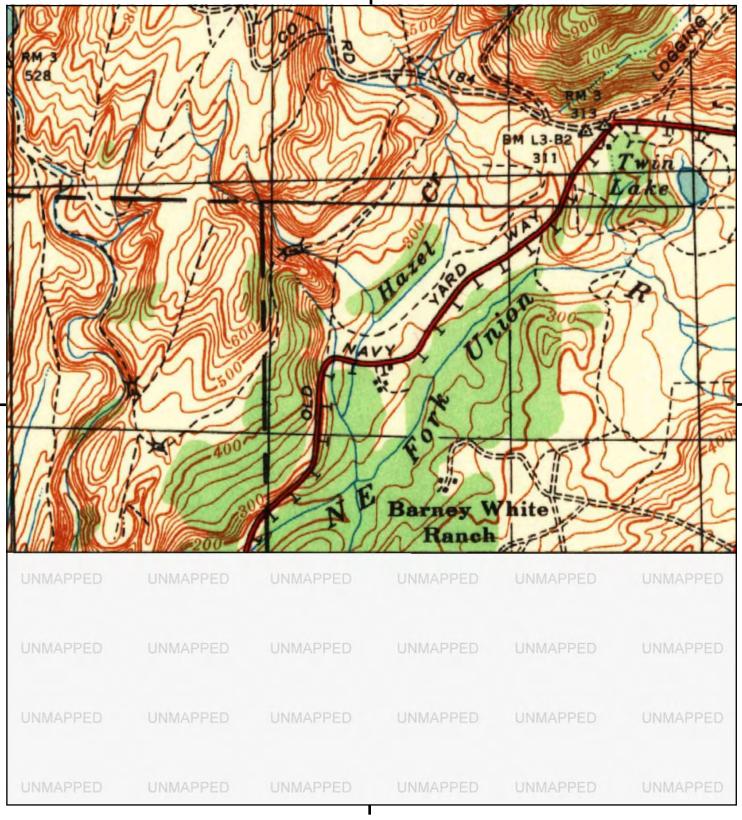




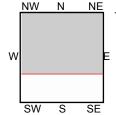








This report includes information from the following map sheet(s).



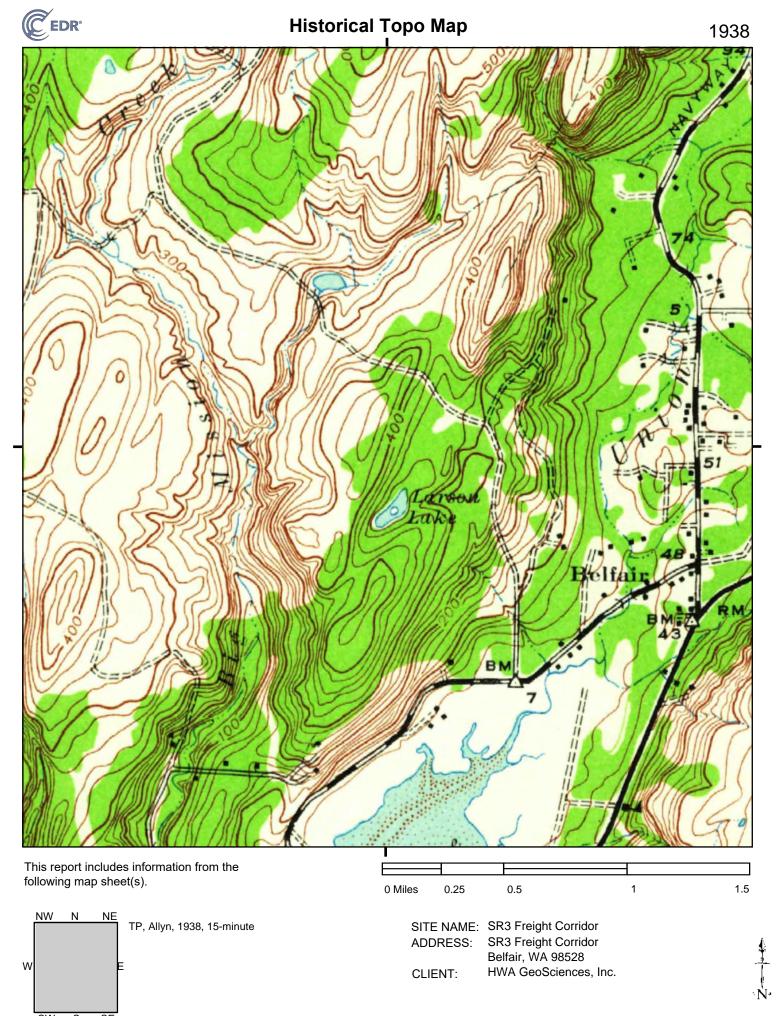
TP, Point Misery, 1940, 15-minute

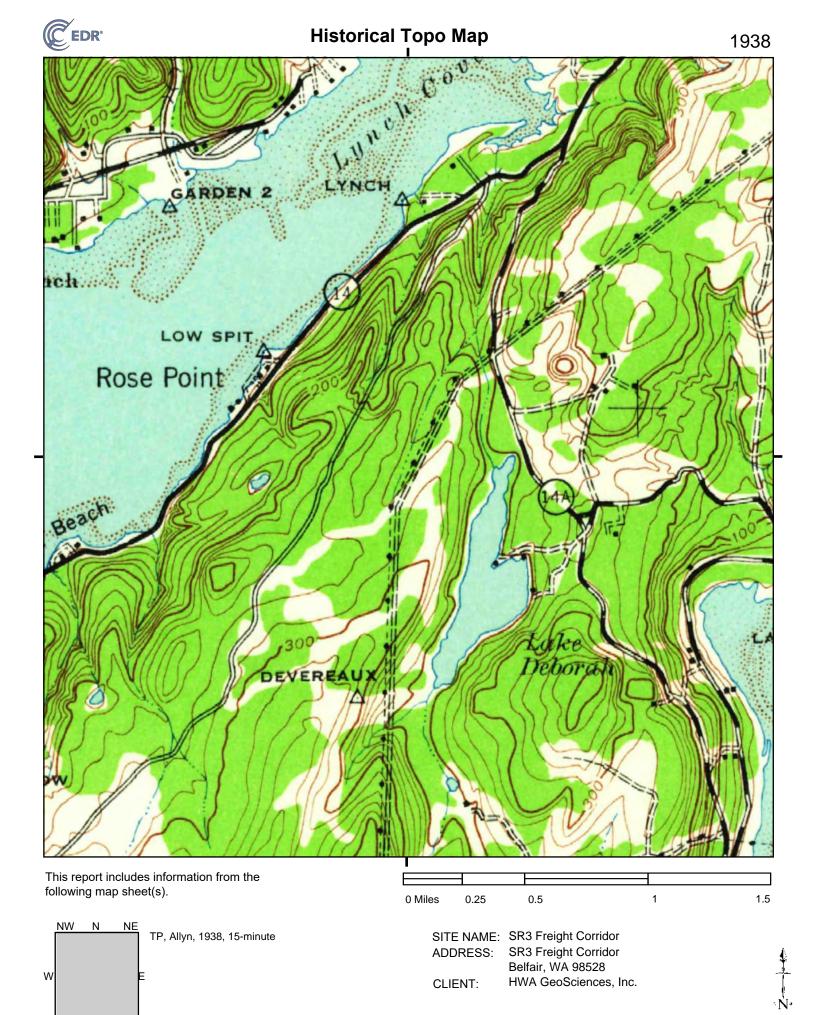
0 Miles 0.25 0.5 1 1.5

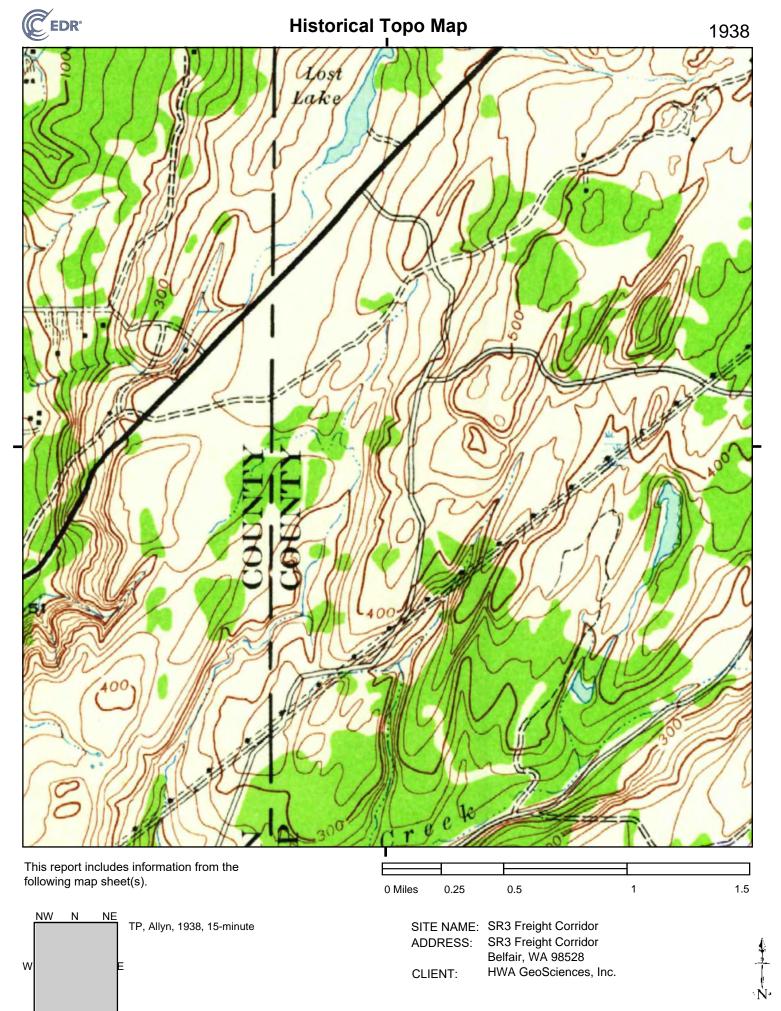
SITE NAME: SR3 Freight Corridor ADDRESS: SR3 Freight Corridor

Belfair, WA 98528

CLIENT: HWA GeoSciences, Inc.







0 Miles

0.25

NW N NE
TP, Point Misery, 1936, 15-minute
SW, Allyn, 1938, 15-minute
E

This report includes information from the

following map sheet(s).

SITE NAME: SR3 Freight Corridor ADDRESS: SR3 Freight Corridor

0.5

Belfair, WA 98528

CLIENT: HWA GeoSciences, Inc.

1.5

APPENDIX B HISTORICAL AERIAL PHOTOGRAPHS

SR3 Freight Corridor

SR3 Freight Corridor Belfair, WA 98528

Inquiry Number: 6342235.1

January 26, 2021

The EDR Aerial Photo Decade Package



Date EDR Searched Historical Sources:

Aerial Photography January 26, 2021

Target Property: SR3 Freight Corridor

Belfair, WA 98528

<u>Year</u> 1939	Scale Aerial Photograph. Scale: 1"=1000'	<u>Details</u> Flight Year: 1939	<u>Source</u> USGS
1951	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1951	USGS
1968	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1968	USGS
1977	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1977	NOAA
1980	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1980	USDA
1990	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1990	USGS/DOQQ
2006	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2006	USGS/NAIP
2009	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2009	USGS/NAIP
2013	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2013	USGS/NAIP
2017	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2017	USGS/NAIP

