



# Existing Conditions Summary

Whitefish Rail Crossing Study

Description of data collection and analysis efforts and summary of existing crossing characteristics

*Whitefish, MT*  
November 7, 2025



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# 1 Introduction

## 1.1 Project Overview

The purpose of this rail crossing study is to identify infrastructure and operational solutions along a three-mile corridor within the City of Whitefish encompassing three existing public vehicular at-grade crossings and one public grade-separated crossing of the railroad along the BNSF Railroad's Kootenai River Subdivision. This study also includes a review of grade separated crossings on each side of the Whitefish River railroad bridge. The goal of these improvements is to improve overall safety for railroad and vehicular operations, mobility and traffic flow at the crossings by:

- Eliminating or reducing incidents of blocked crossings
- Reducing future safety risks for trains, vehicles, bicycles and pedestrians at the crossings
- Improving access for emergency services and the community at large

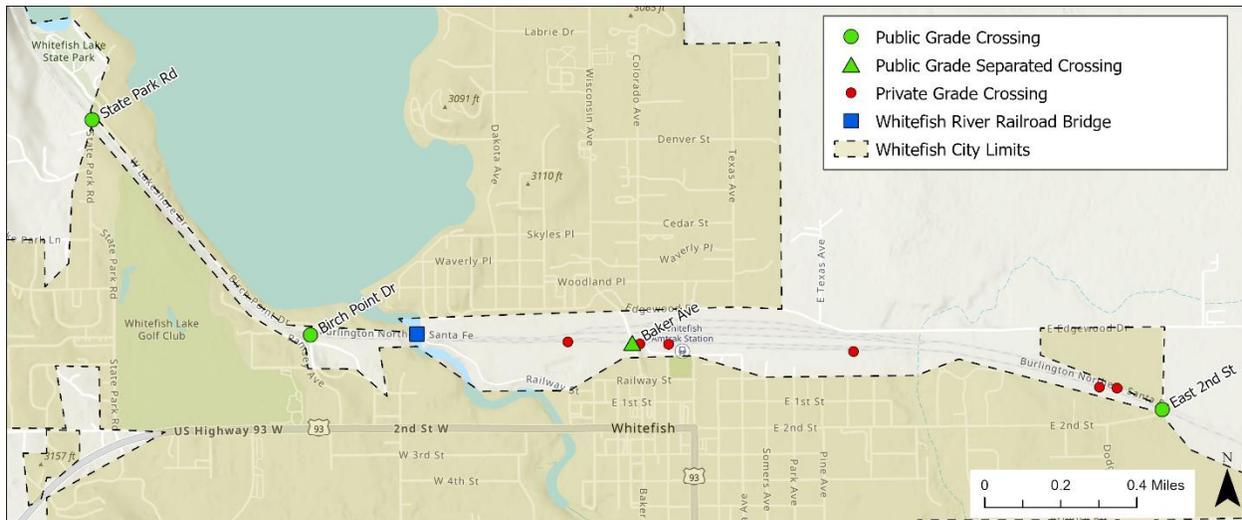
This report includes a summary of the existing condition in the corridor based on a review of multiple available data sources. A field review of the crossings was also conducted to collect photographs and identify issues and solutions not necessarily present in other data sources. This review was held in coordination with representatives from BNSF, the City of Whitefish, and HDR.

## 1.2 Study Area Overview

This study investigates highway-rail crossings within the limits of the City of Whitefish with a focus on the publicly owned at-grade and grade separated crossings. This corridor-wide approach to investigating and reporting existing conditions was used to create a holistic picture of the interaction between rail and road infrastructure in the greater Whitefish area. This corridor focused approach will aid in the identification of existing issues and potential solutions that may fall outside the bounds of the existing crossing infrastructure. The extents of the study area and the crossing locations are shown in Figure 1-1. This figure also displays the locations of private crossings in the corridor. Many of these private crossings are located within the BNSF rail yard or provide access to private residences located on the western edge of the city borders. Also shown on the map is the location of the Whitefish River Railroad bridge. This structure currently marks the limits of the rail yard. A paved grade separated pathway is located on the east bank of the river and an unpaved, unofficial grade separated pathway is located on the west bank of the river. Neither of these pathway crossings currently have USDOT crossing identification numbers on record.



Figure 1-1. Study Area



### 1.2.1 Highway-Rail Crossing Typology

The corridor includes a variety of highway-rail crossing types. The following section defines these crossings for the purpose of this study:

- Highway-rail grade crossing:** This is defined as the intersection between a highway and one or more railroad tracks at the same grade. Highway-rail grade crossings, also simply referred to as at-grade crossings can consist of multiple sub-types:
  - Public grade crossings** are locations where a public highway, road, or street, including associated sidewalks or pathways, crosses one or more railroad tracks at grade. In addition, these include pathway crossings that are not associated with a highway, road, or street. If a public authority maintains the roadway or pathway on both sides of the crossing, the crossing is considered a public crossing. Typically, there is an agreement between the public authority and railroad for the crossing.
  - Private grade crossings** are locations where the roadway is not maintained by the public authority on both sides of the crossings. Private crossings typically have a private crossing agreement maintained between the property owner and the railroad.
  - Grade separated crossing:** This is defined as the intersection between a highway and one or more railroad tracks not at the same grade. A grade separated crossing can be an **overpass**, where the highway crosses above the railroad tracks, or an **underpass**, where the highway crosses below the railroad tracks. Typically, there is an agreement between the public authority and railroad for the crossing.

The Whitefish Rail Study corridor includes both public and private crossings. However, the public crossings are the primary concern of the study. Private crossings will only be discussed as they relate to broader impacts of rail operations or proposed improvements.

The BNSF Whitefish Yard is located within the study corridor. The crossing contains an even more specific type of grade crossing. A **yard crossing** is a private roadway-rail at-



grade crossing that is located within the physical confines of a railroad yard and is solely maintained and used by or under the direction of BNSF employees.

## 1.2.2 Corridor Extents and Included vs. Excluded Crossings

As noted above, the primary focus of this study is the three public at-grade crossings and one public grade-separated crossing located within the study area. These crossings, including their crossing identification number, milepost marker, roadway authority, and crossing type are summarized in Table 1-1.

**Table 1-1. Study Crossings**

059332L	E 2 <sup>nd</sup> Street	1225.618	BNSF	City of Whitefish	Public At-Grade
059273L	Baker Avenue	1217.939	BNSF	MDT	Public Grade Separated
059255N	Birch Point Drive	1220.234	BNSF	City of Whitefish	Public At-Grade
059256V	State Park Road	1221.069	BNSF	Flathead County	Public At-Grade

The corridor includes six at-grade yard crossings and one private BNSF-owned at-grade crossing. These seven BNSF-owned and maintained at-grade crossings are excluded from the study. Due to their location on remote BNSF property or in the Whitefish yard, these crossings should only be used by BNSF employees and not accessible by the public. Their existing conditions should not affect public use or safety.

The corridor also includes two private at-grade crossings, and one private grade separated crossing on the west side of Whitefish Lake. These private crossings are excluded from the study. Existing conditions at these crossings should not affect public use or safety.



## 2 Data Collection

This section provides an overview of the existing conditions data collected for the corridor. This effort draws from a number of different data sources which are broadly grouped by category. A summary of this information specific to each crossing is provided in Section 3, Individual Crossing Summaries.

### 2.1 Rail Crossings

The primary data source for the Whitefish rail crossings was the Federal Railroad Administration's (FRA's) grade crossing inventory. This federal data source is maintained by the FRA and is routinely updated by both state departments of transportation, including MDT, and the railroads that own the track at each crossing. The inventory is typically updated every three years and includes information on daily highway and train volumes, operating and maximum train speeds, jurisdictional information, and information on warning devices, signage, and striping present at each crossing. This section includes a summary of the key data points contained in the inventory. A summary of this information is shown in Table 2-1.

#### Crossing Ownership and Subdivision

The Whitefish corridor crossings included in this study report are on the same contiguous rail line and are part of BNSF's Kootenai River Subdivision. One crossing – E 2<sup>nd</sup> Street – is on the east side of the BNSF Whitefish yard. One crossing passes over the Whitefish Yard and the other two are west of the Whitefish Yard.

#### Crossing Warning Devices

All three at-grade crossings are equipped with active warning devices. Both State Park Road and E 2<sup>nd</sup> Street are equipped with gates, flashing lights, and bells and are designated as 24-hour Quiet Zone Crossings (see below for more details). Birch Point Drive is equipped only with flashing lights and bells. Constant warning time (CWT) train detection is equipped at all three crossings.

#### Crossing Surface

All three at-grade crossings currently have precast concrete crossing panel surfaces at the tracks with asphalt pavement approaches. The State Park Road crossing is thirty-two feet-wide and consists of four eight-foot-long precast concrete panels in good condition. The Birch Point Drive crossing is 16-foot-wide and consists of two eight-foot-long precast concrete panels in good condition. The E 2<sup>nd</sup> Street crossing is 32 feet wide and consists of four eight-foot-long precast concrete crossing panels in good condition. Further discussion of the condition of the track panel and roadway approach are included in Table 2-1.



## Quiet Zone Designation

The crossings at State Park Road and E 2<sup>nd</sup> Street are each currently designated as 24-hour quiet zones. Each has been implemented as a separate single-crossing quiet zone. Within quiet zone crossings, the routine sounding of horns on approach is restricted as noted in BNSF Operating requirements. Horn sounding is still allowed in the case of emergencies or malfunction of the at-grade crossing signals or equipment. Notably, horns used for signaling movements in rail yards are not restricted within quiet zones. BNSF representatives indicated during the field visit that these horn soundings are kept to a minimum when possible.

The quiet zone designation process is prescribed by the FRA's Train Horn Rule and typically requires the implementation of additional safety improvements to counteract the increased risk of limiting train horn sounding. These improvements typically include non-traversable medians or channelization devices used to prevent motorists from circumventing the gates when activated.

At the State Park Road crossing, channelization devices (i.e., approximately one-foot-wide mountable concrete medians with Type 3 diagonal object marker signs) extend approximately fifty-five feet to the north and one hundred feet to the south of the crossing. At the E 2<sup>nd</sup> Street crossing, non-traversable raised concrete medians approximately five feet wide with yellow painted curbs, divided median signs and tubular markers extend approximately one hundred feet to the north and south.

The crossing at Birch Point Drive is currently not a quiet zone. However, the city is currently planning for implementation of a third quiet zone at this location through the implementation of non-traversable medians and two-quadrant gates.

## Crossing Maintenance

Routine maintenance of the crossing asphalt roadway approaches, signage, pavement markings, and other roadway infrastructure is conducted by the City of Whitefish. Routing maintenance of the track panel surface and adjacent railroad crossing warning devices (gates, lights, supporting masts, etc.) are conducted by BNSF Railway.



Data Collection

Table 2-1. Roadway/Rail Crossing Inventory Summary

DOT Xing ID	Street	Crossing Material	Crossing Condition	Warning Devices	Train Detection	Max Train Speed (mph)	Road Speed (mph)	Quiet Zone
059332L	E 2nd Street, RR MP 1217.939	Concrete track panels; Bituminous roadway approach	Good, no damaged panel sections. Roadway also in good condition	Gates, flashing, Lights, & Bells (x2)	CWT w/CTC-2MT/with PTC Overlay	20 Passenger & Freight	25 <sup>a</sup>	Yes (24hr)
059273L	Baker Avenue, RR MP 1219.407	Concrete bridge over railroad yard, 2 lanes, shoulders separate bike/ped both sides	Bridge condition noted as good by MDT	N/A over 2MT and Yard	N/A	20 Passenger & Freight	25	N/A
059255N	Birch Point Drive, RR MP 1220.234	Concrete track panels; Bituminous roadway approach	Good, no damaged panel sections. Roadway generally in good condition, but gaps/cracks at connection between panel and roadway will likely need to be	Lights & Bells (x2)	CWT w/CTC-MT/ with PTC Overlay	35 Passenger & Freight	35	No



Data Collection

059256V	State Park Road, RR MP 1221.069	Concrete track panels; Bituminous roadway approach	addressed within ~5 years Good, no damaged panel sections. Roadway approach in poor condition. Will likely need overlay within ~5 years	Gates, Lights, & Bells (x2) on masts + Overhead cantilever support for Lights (x1)	CWT w/CTC-MT with PTC overlay	55 Passenger/50 Freight	35	Yes (24hr)
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<sup>a</sup> Posted speed limit unable to be confirmed. MDT statutory speed limit of 25 MPH for urban districts assumed.



## 2.2 Roadway Infrastructure

Information on roadway infrastructure was collected from a combination of the FRA grade crossing inventory, existing planning documents, and field visits. Table 2-2 summarizes functional classification, roadway authority, and posted speed information as available. Information on vehicular travel patterns as well as estimates of average daily traffic were collected from the Replica platform. Replica provides a nationwide travel demand model including trip tables estimating origins, destinations, mode, and trip purpose.

Traffic volumes are recorded from two sources: Montana Department of Transportation (MDT) Traffic Annual Average Daily Traffic (AADT) Maps, and Replica Data. MDT data was pulled from the closest available count stations to each roadway crossing using 2024 data. Replica data represents trips passing through the crossing location on an average Thursday in 2024, sourcing several third-party public and private data sources. For most crossings, the two data sources are relatively similar. State Park Road, however, has a large discrepancy between the two data sources, with the MDT value nearly five times higher than what Replica estimates. This is likely due to the fact that Replica data represents the results of an activity-based travel demand model. This type of model predicts trips based on trip purposes such as travel to work, travel to commercial areas, etc. However, recreational trips such as travel to Whitefish Lake State Park on the north side of the crossing have historically been undercounted. In the Replica estimate, recreational trips account for only 13% of all trips over the crossing.

The following table summarizes traffic volumes from these two sources for the four public roadway crossings. Additional details for each crossing are provided on the following pages.

**Table 2-2. Roadway Infrastructure Summary**

Roadway	Functional Classification	Roadway Authority	Highway Lanes	Distance to Nearest Crossing	Posted Speed (mph)	2024 AADT (MDT)	2024 ADT (Replica)
State Park Road	Major Collector	City of Whitefish	2	1.7 miles (Birch Point Road; Does not provide alternate access)	25	983	201
Birch Point Drive	Local	City of Whitefish	2	1.3 miles (Baker Avenue; Does not provide alternate access)	25 <sup>a</sup>	224	202
Baker Avenue	Minor Arterial	MDT	2	1.9 miles northside; 1.6 miles south side (E 2 <sup>nd</sup> Street)	35	14,386	15,833
E 2 <sup>nd</sup> Street	Major Collector	City of Whitefish	2	1.9 miles northside; 1.6 miles south side (Baker Avenue)	25 (15 MPH advisory speed at crossing)	839	717

<sup>a</sup> Posted speed limit unable to be confirmed. MDT statutory speed limit of 25 MPH for urban districts assumed.

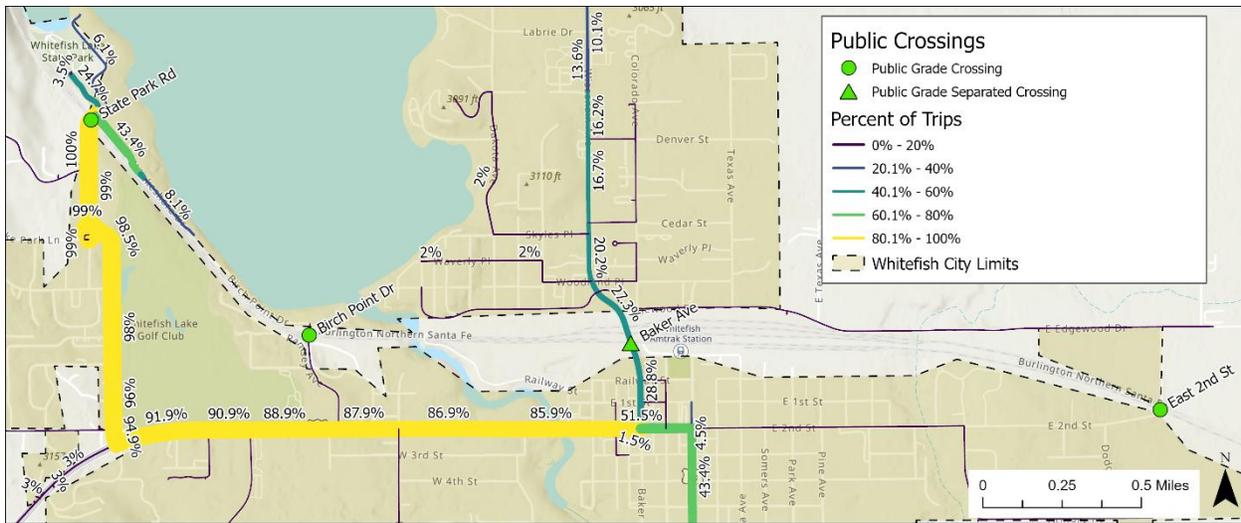


### State Park Road

State Park Road is an asphalt roadway with cracking on the both north and south approaches to the railroad crossing. There are concrete crossing panels at the railroad tracks. There is existing sidewalk to the south of the crossing, which is marked with “Pavement Ends” signage approximately 130-feet south of the crossing. According to Replica data, about 1% and 5% of the total traffic at the crossing are bicyclists and pedestrians, respectively. There is access to the state park to the north of the crossing via State Park Road which ends approximately 78-feet north of the track crossing at the intersection with West Lakeshore Drive. There is residential access to the south of the crossing via Churmage Lane and north from West Lakeshore Drive. The intersection for Whitefish State Park is 180-feet north of the tracks. The signed Quiet Crossing Traffic control consists of a 1-foot-wide channelization device in the center of State Park Road with reflective object markers, signing and striping for the railroad crossing, and stop bar striping. Adjacent parcels are residential on both sides, a BNSF-owned parcel to the southwest, a Flathead County-owned parcel to the southeast, a City of Whitefish-owned parcel to the north, and the state park to the northwest.

Figure 2-1 displays the estimated travel patterns for State Park Road crossing users. The largest percentage of trips use State Park Road and 2<sup>nd</sup> Street to travel into central Whitefish. Only an estimated 3% of trips travel to and from the west of central Whitefish. Once in Whitefish, the trips generally split with approximately 43% traveling south on Highway 93 and 28% of trips traveling north over the Baker Avenue grade separation.

Figure 2-1. Travel Patterns – State Park Road



### Birch Point Drive

Birch Point Drive is an asphalt roadway with some cracking on the approach to the railroad crossing and potholing on the north approach. There are concrete crossing panels at the railroad tracks. There are no pedestrian facilities, but Birch Point is signed as a bike route and there is evidence of cyclist usage on the south side of the crossing. Per Replica data, about 8% and 18% of the total traffic is cyclists and pedestrians, respectively. There is a gravel driveway on the south side of the crossing that provides



access to the residential area to the southeast. On the north side of the crossing, Birch Point continues in both directions along the lake, ending in a cul-de-sac to the east and at a gate to the west. There is a private road sign near the end of the roadway to the west, but the City of Whitefish does not consider this a private road, and it is open to public access. Boat trailers often use the area to the northeast for parking, which can extend into railroad right-of-way. Traffic control is limited; there is no striping, and there is railroad signage in advance of the crossing on the north side. Adjacent parcels are residential.

Figure 2-2 displays the estimated travel patterns for Birch Point Drive crossing users. The largest percentage of trips use Birch Point Drive and 2<sup>nd</sup> Street to travel into central Whitefish. Approximately 7% of users travel west of central Whitefish. Similar to trips using the State Park Road crossing, trips into and out of central Whitefish split with approximately 43% traveling south on Highway 93 and 33% of trips traveling north over the Baker Avenue grade separation.

Figure 2-2. Travel Patterns – Birch Point Drive



### Baker Avenue

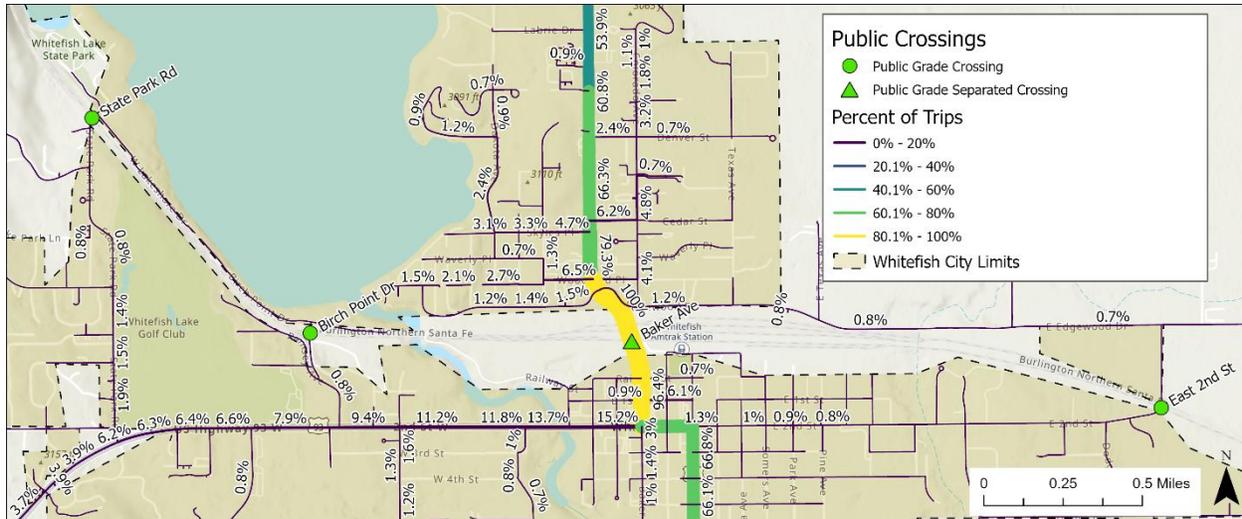
Baker Avenue is a bridge above the railroad crossing, which becomes Wisconsin Avenue north of the crossing. There are existing pedestrian paths on both sides of the bridge, and there are shared use paths about 450 feet south and about 200 feet north of the crossing. This is the highest traffic volume crossing in the study area. According to Replica data, about 0.5% of the total traffic is cyclists and no pedestrians were recorded. Traffic control on the bridge includes centerline striping and lighting on both sides of the bridge. On the north side of the crossing, the intersection of Edgewood and Wisconsin is signalized. On the south side, the intersection of Railway Street and Baker Avenue is stop controlled on Railway. Adjacent parcels include BNSF property around and under the crossing and private BNSF parking on the south side, residential to the north, and commercial properties on both sides.

Figure 2-3 displays the estimated travel patterns for Baker Avenue grade separation users. Users exhibit a very strong north-south travel pattern with more than half of all



users continuing north on Wisconsin Avenue or south on Highway 93. Smaller percentages of these trips extend into other areas of Whitefish on both sides of the BNSF rail line.

Figure 2-3. Travel Patterns – Baker Avenue



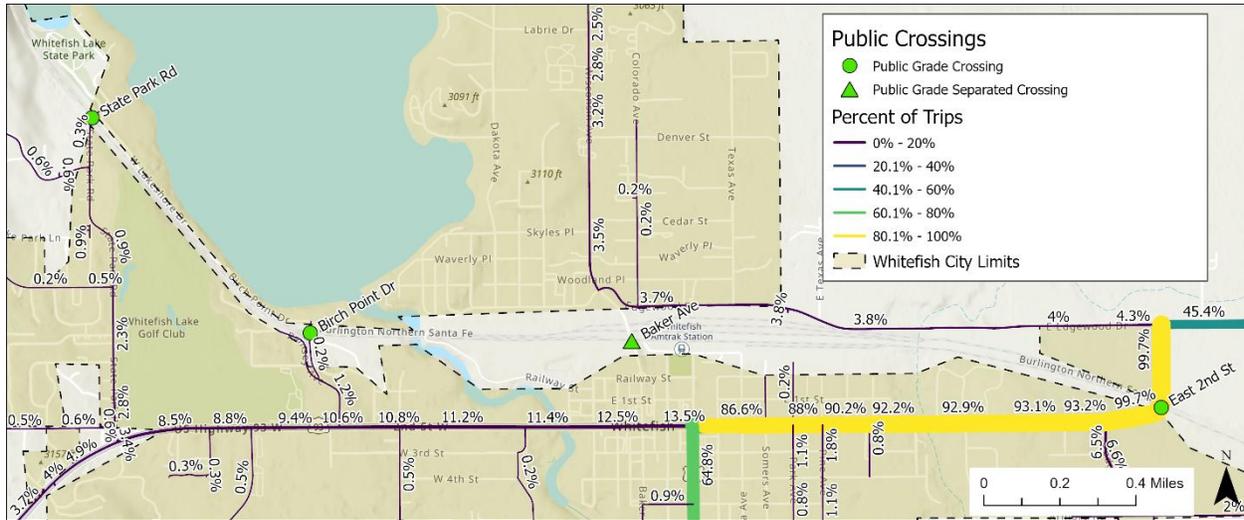
### E 2<sup>nd</sup> Street

E 2<sup>nd</sup> Street is an asphalt roadway with a concrete crossing panel at-grade crossing at the railroad tracks. The pavement is in good condition, but there is wear on the existing striping. There are no pedestrian or bike facilities, but Replica data shows that about 2% and 4% of the total traffic is bicyclists and pedestrians, respectively. There is a gravel railroad access road parallel to the railroad tracks on the north side used for railroad crew changes, signal and track work where access must be maintained. There are proposed developments to the northwest and northeast that have preliminary approved plans with roadway access to E 2<sup>nd</sup> Street. There is a park on the south side of the crossing with parking lot access from E 2<sup>nd</sup> Street. Traffic control includes center medians with yellow painted curbs, divided median signs and tubular markers. There is signing and striping for the railroad crossing, no parking signage on the south side along E 2<sup>nd</sup> Street, and advisory speed signage in advance of the curve at the crossing in both directions. Adjacent parcels are residential to the southwest, non-qualified agricultural on the northwest and northeast parcels where there is proposed development, and a City of Whitefish owned parcel for the park, and an MDT owned airstrip to the southeast.

Figure 2-4 displays the estimated travel patterns for E 2<sup>nd</sup> Street crossing users. On the north side of the rail line, approximately 45% of crossing users continue east on E Edgewood Drive while 4% travel west on E Edgewood Drive. South of the rail line, 65% of users travel south via E 2<sup>nd</sup> Street and Highway 93. Another 14% of users continue west on E 2<sup>nd</sup> Street.



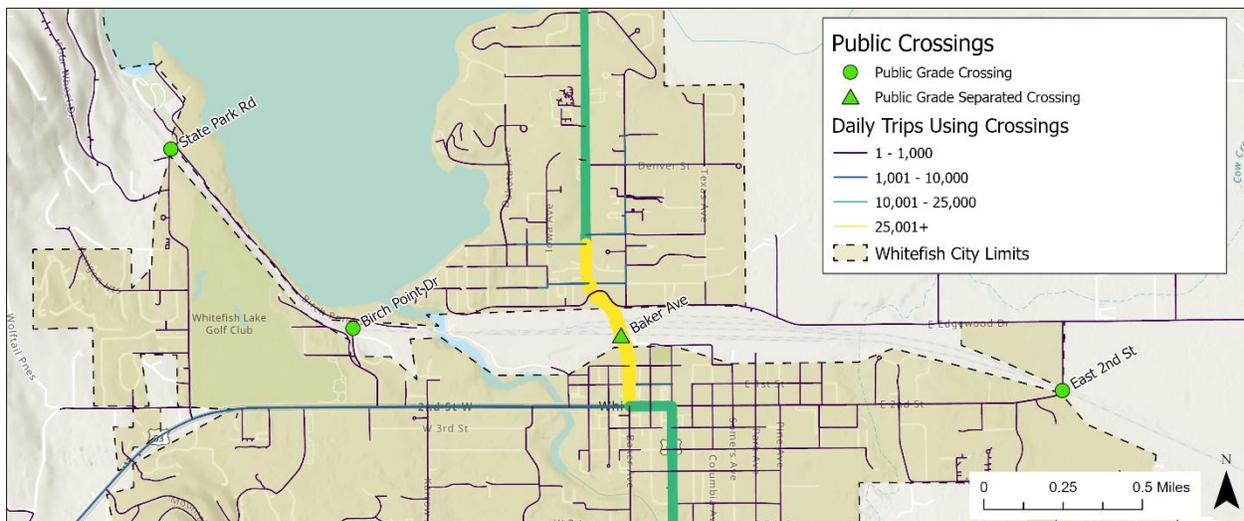
Figure 2-4. Travel Patterns – E 2nd Street



### Full Corridor Travel Patterns

The result of combining the travel patterns for all four crossings is shown in Figure 2-5. This figure highlights the importance of Baker Avenue as the primary north-south crossing point over the rail line. E 2<sup>nd</sup> Street is the only other crossing that provides access to the northern parts of the city but is primarily used for trips to and from areas to the east of Whitefish.

Figure 2-5. Travel Patterns – All Crossings





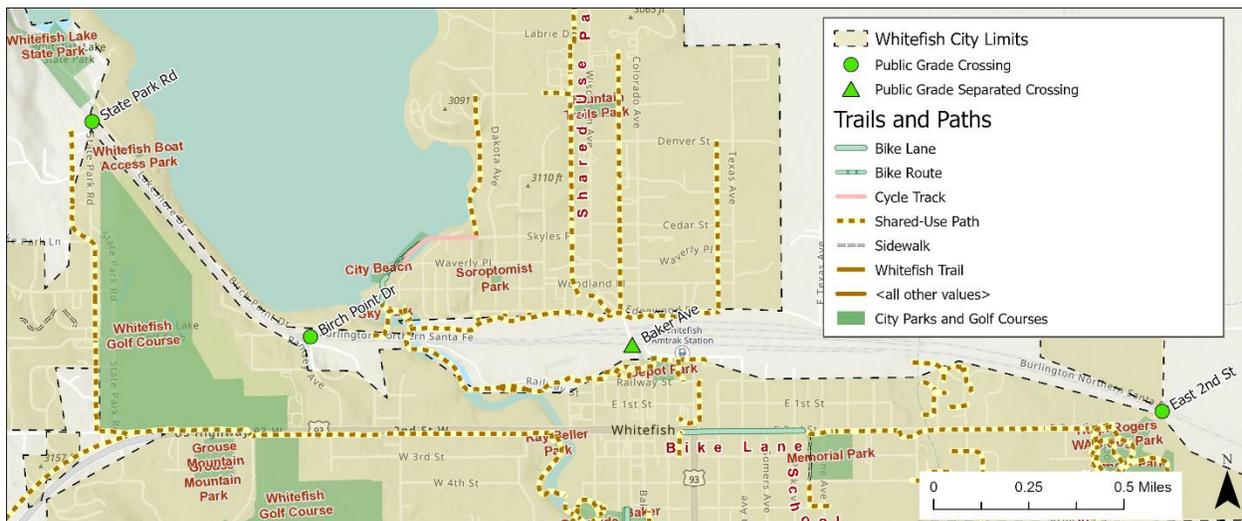
## 2.3 Regional Parks and Trails

The City of Whitefish contains a number of designated parks as well as a network of bike lanes, sidewalks, and shared-use paths that provide connections between these parks and the rest of the city. These parks and trails in relation to the corridor study are shown in Figure 2-6-6.

Notably, Whitefish Lake State Park is accessible only via the State Park Road crossing and is otherwise landlocked by the lake and the rail line. During the field review, a potential new trail connection along the railroad right-of-way adjacent to the lakefront was discussed. This connection is currently not possible because the roadways adjacent to the lakefront (Birch Point Drive and W Lakeshore Drive) do not connect.

Another notable trail connection is the current underpass of the trail east of the Birch Point Drive crossing. This trail traverses under the Whitefish River rail bridge and connects areas of the city to the north and south of the rail line. The portion of the trail under the bridge is currently dirt/gravel. While functioning as a grade separated crossing, this location does not have a designated USDOT grade crossing identification number. A similar trail is located on the east bank of the river but is currently a more permanent paved trail.

Figure 2-6. Parks and Trails



## 2.4 Rail Infrastructure and Operations

BNSF’s Whitefish railroad yard is located inside the greater Whitefish corridor. The presence of the yard greatly influences vehicle and train interaction at the study’s included crossings. This section will discuss railroad infrastructure and operations, including specific details about the yard, through the corridor.

BNSF noted during the diagnostic meeting that they have no planned rail or yard expansion plans in the study area.



## 2.4.1 BNSF's Whitefish Yard

BNSF's Whitefish Yard extends for about 12,000 feet (2.3± miles) from railroad MP 1217.5 to the east of the E 2<sup>nd</sup> Street crossing to MP 1219.9 where the two main tracks converge to a single track approximately 190-feet east of the Whitefish River railroad bridge. BNSF notes that the yard can fit an approximately 9,500-foot-long train given the configuration of track crossovers and turnouts along the main tracks.

Two main tracks – the two southern tracks – run through nearly the entirety of the yard before becoming a single main track at the west end. At its widest point the yard contains 11 yard tracks in addition to the two main tracks. In addition, there are tracks to access the fueling and maintenance area west of the Baker Ave. overpass and south of the main tracks. The maximum track speed on the mainline tracks through the yard is 20 mph. Trains cannot exceed this speed until their tail end leaves yard limits. Typically trains move slower than 20 mph in the yard as most trains come to a complete stop for a crew change.

The yard's main function is to allow for crew changes. As a freight train passes through the Whitefish yard it will typically stop, the existing crew will disembark the train and use a shuttle to the yard terminal, and a new crew will board the train and continue in the original direction of travel. Crew changes occur for both eastbound and westbound trains.

Freight train lengths along the corridor vary considerably. Trains are typically between 5,000 and 8,000 feet long. This corridor does serve some combination trains that can be up to 13,000' long. BNSF staff noted that this year the number of long combination trains is lower than in previous years.

In addition to the through freight trains, the yard serves an average of three local switching/BNSF customer service trains a day – two eastbound and one westbound. Switching operations typically occur at the east end of the yard. This end of the yard has more tracks available. An industry spur line that serves the Kalispell area ties into the east side of the yard and contributes to that side being the busier of the two for switching train operations. With the local train movement, the yard has fueling and light rolling stock maintenance facilities along with a track maintenance crew, equipment and material storage.

## 2.5 Whitefish Yard Operations and Crossing Blockages

Switching and train-building operations on the east end of the yard occasionally block the E 2<sup>nd</sup> Street crossing. While moving cars back in forth switching railroad cars between trains or building trains for customers on the Kalispell industry spur line, BNSF will pull trains back-and-forth through the crossing and block E 2<sup>nd</sup> Street. These operations are necessary for yard operations and cannot, as currently conducted, occur in another area. While occasional blockages of the E 2<sup>nd</sup> Street crossing are necessary for yard operations, BNSF notes that it directs its crews to make as much of an effort as is possible to clear the crossing before stopping any trains.

BNSF has adjusted its crew change operations in an attempt to limit crossing blockages. The yard terminal is located just east of the Baker Street overpass roughly in the center



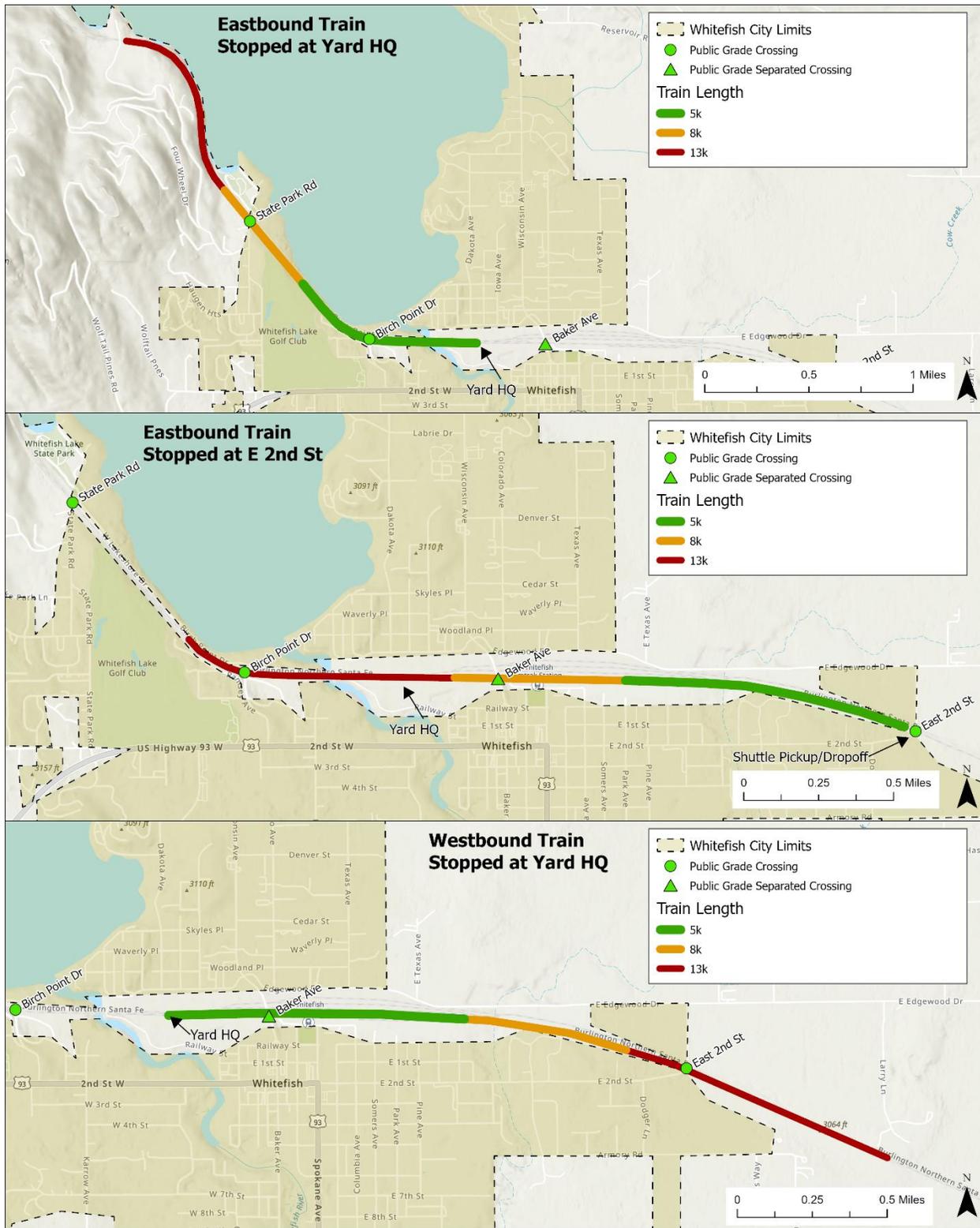
of the yard. BNSF now directs its crews to pull eastbound trains up to near E 2<sup>nd</sup> Street and will shuttle crews to and from the terminal and train engine. By pulling eastbound trains through to near E 2<sup>nd</sup> Street, trains that are stopped for crew changes are less likely to block the Birch Point Drive and State Park Road crossings.

A train's ability to block crossings during crew changes depends on its length and direction of travel. Accounting for BNSF's updated crew change operations, eastbound trains need to be about 11,700-feet-long to be pulled up near E 2<sup>nd</sup> Street and block the Birch Point Drive crossing. A westbound train would need to be about 9,000 feet long to be pulled up to the yard terminal and block the E 2<sup>nd</sup> Street crossing. E 2<sup>nd</sup> Street is the crossing most frequently blocked during crew changes.

Figure 2-7-7 visually displays the impacts of different train consist lengths on crossing blockages eastbound and westbound. Trains are shown at lengths of 5,000 feet, 8,000 feet, and 13,000 feet. The top graphic displays previous operations with an eastbound train stopping at the BNSF yard headquarters (or terminal) for the purposes of crew changeovers. In this case, trains of all lengths blocked the Birch Point Drive crossing, trains at 8,000 feet and over blocked the State Park Road crossing. During the field review, BNSF noted that these crew changes had been adjusted to reduce some of these crossing blockages by conducting the crew changes closer to the E 2<sup>nd</sup> Street crossing as shown in the middle graphic. The bottom graphic displays similar operations for westbound trains.



Figure 2-7. Train Lengths and Crossing Blockages





## 2.5.1 Rail Operations and Infrastructure in the Extended Corridor

Daily train counts through the corridor can vary. They can be as high as approximately 40 trains and as low as approximately 24, including Amtrak trains. Daily train counts tend to peak during the pre-to-early winter holiday season and grain harvest seasons (September-October).

Train speeds vary across the corridor. At the east end of the corridor through the E 2<sup>nd</sup> St. crossing and under the Baker Ave. Crossing and in the Yard, the maximum train speed is 20 mph. At the west end of the corridor starting at the end of two main tracks and across the Whitefish River Bridge, including the Birch Point Drive, speeds are restricted to 35 MPH for both passenger and freight trains. Across the State Park Road Crossing, train speeds are noted as 55 mph for passenger trains and 50 mph for freight trains. See Table 2-2 for train speeds at each crossing.

Trains do not need to be sitting directly on a crossing to cause the crossing gates to lower and block traffic. Each crossing with a train detection system has a home circuit that will detect trains up to 100 feet from the crossing in each direction. If a train is detected within those 100 feet, gate arms will lower or remain lowered and will block traffic until the train completely clears the 100 feet.

There are two railroad operations control points located in or right outside of the corridor. The first control point is located approximately 1,700 feet east of the E 2<sup>nd</sup> Street crossing and is also the subdivision dividing point (Hi-line/Kootenai River Subdivisions) and the east end yard limit. The yard lead track to the north of the two main tracks connects into the north main track just west of this control point, about 1,300' east of the crossing. Two main tracks pass the control point. The second control point is located on the west end of the Whitefish yard, about 250 feet east of the east end of the Whitefish River railroad bridge. At this control point the north main track connects with the south main track and the rest of the corridor going west continues as a single main track.

Outside of the yard and the location east of the E 2<sup>nd</sup> Street crossing described in the previous paragraph, there are no other control points along the corridor. However, there are some switches to access yard tracks with control under the Whitefish Yard Master with accessibility governed by BNSF Operating Rules.

### Amtrak Operations

Amtrak's Empire Builder line passes through the study corridor. The corridor sees two Amtrak trains daily – one eastbound and one westbound train. These Empire Builder passenger trains which are combined in Spokane, Washington to a single train going east to Chicago and split in Spokane between Portland, or Seattle, WA going westbound. The Whitefish station sees an average of 170 passengers board or detrain daily.

Amtrak trains are given the greatest priority to travel through this corridor unimpeded. BNSF noted that they will clear the main track next to the passenger depot for the incoming Amtrak train each morning and evening and while this leads to some freight congestion related issues, it rarely leads to significant impacts or delays to Amtrak trains.



## Seasonal Variations

Weather and seasonal traffic affect train operations.

The greater Whitefish area becomes generally busier in the summer. BNSF noted that they receive increased complaints for blocked crossings in the summer. In an attempt to limit these complaints, BNSF will adjust certain train operations in the summer months. They will stop trains before crossings while main tracks in the yard are still occupied and pull eastbound trains all the way up to the E 2<sup>nd</sup> Street crossings during crew changes as previously discussed.

Whitefish receives an average of 63 inches of snow a year. This snowfall has the potential to impact railroad operations. Snowfall and snow removal practices can impact gates at crossings. If snow is piled up high enough directly under vehicle gates at grade crossings, gates may be damaged or not able to function correctly and may not effectively block vehicle traffic when incoming trains are detected.

Snow removal practices at grade separated crossings, specifically highway overpasses, can also negatively impact railroad operations. If, during snow removal, snow is pushed over the sides of an overpass it can block or damage tracks, switches, or other equipment. Specifically at the Baker Avenue overpass BNSF switching crews work near the north side of the overpass and could be negatively impacted by falling snow. Both the city and BNSF noted that this is not currently an issue at the Baker Avenue overpass as the city crew that clears snow along the paths at the edges of the overpass are cognizant not to dump snow over the sides of the overpass.

## Rail Operations and Public Interactions

BNSF regularly receives public complaints about blocked grade crossings. They noted that they currently receive roughly one blocked crossing complaint a week. Every time a complaint is received BNSF must investigate the crossing in person. These blockages are typically due to regular operations such as train switching or crew changes and the trains are typically clear of the crossing by the time the BNSF employee has arrived at the location of the complaint.

BNSF noted that they receive complaints most often for the E 2<sup>nd</sup> Street and Birch Point Drive crossings, which are regularly blocked during crew changes.

## Train Operations and Quiet Zones

While 24-hour quiet zones exist at the State Park Road and E 2<sup>nd</sup> Street crossings, trains are not banned from making sound at either crossing. Due to certain yard operations or safety concerns trains may still use their bells or whistles at or near these crossings and in the main body of the Whitefish Yard.

The E 2<sup>nd</sup> Street crossing is at the very east end of the Whitefish yard and noise, horns, and bells from yard operations are heard at the crossing. Some specific examples include trains blowing a single horn when starting to pull forward, horns used for system brake tests, backing movements, or using horns and bells to communicate during switching operations. The city noted that while trains do still occasionally blow horns near



the E 2<sup>nd</sup> Street crossing, they do not receive noise complaints about that crossing or the State Park Road crossing.

## 2.6 Structures

There are three structures of note along the rail corridor: the roadway overpass at the Baker Avenue grade separated crossing, the railroad bridge over the Whitefish River between the Baker Avenue and Birch Point Drive crossings, and the roadway overpass at the private grade separated crossing near Two Bear Trail. The crossing near Two Bear Trail is excluded from the study and that structure is not investigated in this report.

### 2.6.1 Baker Avenue Roadway Overpass

The Baker Avenue roadway overpass is an approximately 412-foot-long bridge that crosses BNSF's Whitefish yard north-to-south. The five-span steel I-girder bridge crosses 12 railroad tracks – two mainline tracks and 10 yard tracks. The bridge crosses the tracks at a skew. At this location the railroad tracks run nearly exactly east-west, and the roadway overpass is skewed approximately 17 degrees counterclockwise from north.

The roadway overpass was built in 1994. It contains five spans, has a maximum span length of 112.75 feet, for a total bridge length of 411.90 feet. The structure has no approach spans. The structure is owned by the Montana Department of Transportation (MDT), and its Structure ID is 06862. MDT is also responsible for the structure's maintenance. It is considered an on-system bridge.

The structure's operating rating is 64 tons, and its inventory rating is 36 tons. The design vehicle for the structure is HS 20-44. The last structure rating was conducted in 2017, and the most recent inspection did not recommend re-rating the structure.

The bridge is inspected every 24 months. The last inspection occurred on August 11, 2024. The inspection's structure rating overall was a seven (above minimum criteria). It was given a sufficiency rating of 83 and a FHWA Condition rating of two (fair).

The inspector noted a few specific items for work candidates. Work at the north pavement joint, north abutment bearing, north approach guardrails, and general cleaning around all bearings was recommended. None of these recommendations were assigned a priority above medium. The next bridge inspection is expected to occur in 2026.

#### Substructure

The bridge substructure includes two abutments and four intermediate piers supported by 14-inch diameter driven steel piles. At the piers, piles are embedded in a buried concrete cap at the bottom of the steel reinforced cast-in-place piers. At the top of the concrete pier walls are caps that support the bearings and bridge superstructure. At the abutments, piles are embedded in the concrete cap that support the bearings and bridge superstructure. The reinforced concrete abutments include integral wingwalls. The most recent inspection rated the substructure condition seven (good).



## Superstructure

The bridge superstructure consists of five spans. The deck is supported by seven steel beams, and each composite beam runs the whole length of the bridge. The steel beams are braced by intermediate diaphragms every 20.25 feet to 23.33 feet. The superstructure includes fixed bearings at the southern abutment and moveable bearings at all other abutments and intermediate piers. The most recent inspection rated the superstructure condition seven (good).

## Deck

The bridge deck consists of a monolithic, cast-in-place concrete deck. The deck is 63 feet wide and 25,950 square feet in area.

The deck is divided into two driving lanes, two shoulders, and two shared-use paths. The roadway consists of one twelve-foot-wide lane and a ten-foot-wide shoulder in the northbound and southbound directions. Concrete medians on each side of the bridge separate the road shoulders from eight-foot-wide shared-use paths located on the outside of the bridge deck. At the outside edge of the bridge at either side is a two-foot eight-inch-high cast-in-place concrete jersey barrier rail with a six-foot four-inch-high embedded fence, which curves towards inwards at its top, providing added protection for bridge users.

Three streetlights are attached to the bridge deck. They sit on CIP concrete supports that extend out from the outside edge of the concrete bridge barriers.

The most recent inspection rated the deck condition six (satisfactory). The inspector noted widespread delamination and cracking on the top of the deck.

## Grade Separation

The minimum vertical clearance between the roadway overpass and railroad is 24.27 feet and is located at Track 12, the northernmost track at the crossing. The minimum horizontal clearance between the centerline of an outside rail and a bridge pier is 8.22 feet and occurs on the north side of Track 12. The minimum horizontal clearance between the centerline of an outside rail of a main track and a bridge pier is 11.67 feet and occurs on the south side of Track 1.

### 2.6.2 Whitefish River Railroad Bridge 1220.0

The Whitefish River railroad bridge is an approximately 345-foot-long 6-span bridge that supports the BNSF's single main line as it crosses the Whitefish River. The bridge is located at the very west end of the Whitefish rail yard. The steel deck-plate-girder superstructure consists of six spans supported by five piers.

## Substructure

The railroad bridge's superstructure consists of five piers support the six spans. Four piers consist of cast-in-place concrete bases with steel tower framed columns and bracing. There is no skew to the piers or columns.



BNSF designates the east Abutment as Abutment 1, the continues the number through the piers to the west Abutment which is Abutment 7. The easternmost pier, Pier 2 counting from east to west, consists of two in-line cast-in-place concrete bases with a steel beam column extending up to the bridge superstructure from each base. Transverse steel bracing connects the two in-line columns and longitudinal bracing connects the pier to the next pier to the west. The steel columns have transverse batter but no longitudinal batter. The transverse bracing has two levels of horizontal sash braces and cross braces. The longitudinal bracing connecting Pier 2 to the next pier 3 to the west consists of a sash brace and two cross braces. Pier 2 and 3 create a tower pier.

The next two piers to the west, 4 and 5, are similar to Pier 2 and 3. Unlike Pier 2 they have single cast-in-place concrete bases with 90-degree triangular noses pointed upstream. Like Pier 2 they have steel beam columns and bracing extending from their concrete bases. The columns and bracing are nearly identical. Pier 2 is connected to Pier 3 and Pier 4 is connected to Pier 5.

The westernmost pier, Pier 6, is a cast-in-place concrete wall that extends from the existing ground surface. All faces of the pier are flat and there are no steel columns or bracing extending from it.

Abutments consist of cast-in-place concrete caps and wingwalls. Wingwalls, built from driven h-piles supporting stacked concrete barrier pieces, are on both ends of the bridge and were likely constructed after the existing bridge to better support the track embankment.

### Superstructure

The bridge superstructure consists of a timber ballasted deck supported by steel deck plate girders. Steel-grated walkways with handrails are present on both sides of the bridge.

The deck is supported by continuous timbers that sit directly on the top flanges of the deck plate girders. Steel transverse bracing, consisting of horizontal and cross-bracing, connects the two girders through the length of the bridge.

### Grade Separated Crossings

Multiple pedestrian/bike trails and a private road cross under the Whitefish River railroad bridge. None of these grade-separated underpass crossings have FRA crossing IDs.

On the east side of the bridge, between the east abutment and Pier 2, a private road and bike/pedestrian trail cross under the railroad bridge. Railway Street, a private road that winds through the Whitefish yard before crossing under the railroad bridge, provides access to the railroad yard and a single residence located south of the bridge. It is only accessible to BNSF employees and the residents of the one specified property. At the crossing, Railway Street has a metal barrier on its west side and a concrete median barrier on its east side and is about 13 feet wide. The clearance between the roadway and bridge low chord is unknown but appears to be at least 12 feet by visual observation.

Immediately west of Railway Street, between the road and Pier 2 of the railroad bridge, is a shared-use trail. The trail is at a lower grade than Railway Street and a stone masonry



retaining wall supports the hillslope on the east side of the trail. On the west side of the trail, under the bridge and extending at least 20 feet past the sides of the bridge, is a metal fence that restricts trail users from accessing the area under the bridge. A canopy that extends about 15 feet past the edges of the bridge protects the trail from any falling debris. The trail clearance under the canopy appeared to be approximately 8 feet.

On the west side of the bridge, between the west abutment and Pier 6, is a shared-use trail that crosses under the railroad bridge. The trail underpass is, according to the city, approved as part of a nearby development and partially constructed. The trail is currently graded and has compacted dirt surface. There is no canopy under the railroad bridge. The clearance between the trail and bridge low chord is approximately 16 feet 10 inches.

### Other Observations

Embedded and cut-off timber piles are visible at ground level under the bridge. Three piers – piers 3, 4, and five counting from east to west – were inundated by the Whitefish River during the July 23, 2025 site visit.

According to the FEMA FIRM panel 30029C1090J for this area of the Whitefish River, the river's regulatory floodway encompasses Piers 2, 3, 4, and 5. The bridge abutments and Pier 6, the westernmost pier, are not located in the floodway. The inside, east, edge of Pier 6 is estimated to be 12 feet from the edge of the floodway based on the vegetation.

## 2.7 Safety

Rail crossing crash data within the previous five years is typically used as a measure of safety. A review of the FRA data on accidents/incidents as reported by railroads shows only two crashes on record at the crossing in this corridor, both of which are outside of the five-year window:

- **February 19, 2018 – Birch Point Drive (059255N)** – Narrative: Driver failed to yield at the crossing and a BNSF snowplow hit the rear of the pickup. User's Age unknown. No injuries or fatalities reported.
- **August 26, 1990 – E 2<sup>nd</sup> Street (059332L)** – Narrative: None provided. Crash was between a westbound train and a northbound passenger vehicle stalled or stuck on the crossing. One injury reported.

Near miss data is often collected by railroads for internal review purposes. BNSF did not provide near miss data for the study but indicated during the field diagnostic meeting that conditions are generally considered safe in this corridor with only occasional trespassing issues near the pedestrian pathway on the east side of the Whitefish River. Note that the FRA Railroad Injury and Illness show only one trespass incident in the study area within the previous 10 years. This incident occurred in 2024 immediately west of the Whitefish River rail bridge and involved an AMTRAK passenger train striking a trespasser who ran in front of the train. The trespasser sustained nonfatal injuries.



## Risk Index Calculations

Another means of calculating crossing risk is using the FRA's accident prediction formulas. This formula uses inputs from the grade crossing inventory such as highway and rail volumes and speed, crash history, and other crossing characteristics such as number of rails, skew, and warning devices present. The resulting value indicates the estimated number of crashes expected annually for each individual crossing. The formulas were recently updated by the FRA to incorporate more state-of-the-art statistical techniques. The results of this analysis are summarized in Table 2-3. Estimates at all three grade crossings are exceptionally low and have been adjusted to show the estimated number of crashes every 100 years. As a point of comparison, the average number of crashes predicted every 100 years for all 1,343 crossings in Montana is 0.47 per 100 years and the highest predicted number of crashes is 21.7 per 100 years.

**Table 2-3. Estimated Annual Crashes**

Crossing	Total Crashes per 100 Years	Fatal/Injury Crashes per 100 Years	PDO Crashes per 100 Years
State Park Road	0.49	0.24	0.24
Birch Point Drive	0.44	0.18	0.25
Baker Avenue	n/a	n/a	n/a
E 2 <sup>nd</sup> Street	0.25	0.09	0.16

## 2.8 Demographics and Environmental

### 2.8.1 Socioeconomic Environment

This section summarizes information on the socioeconomic setting of the project area. Information reported within this section is summarized from the U.S. Census Bureau (USCB) American Community Survey (ACS) 2023 5-Year Estimates (USCB 2025). General population demographic and economic information are provided below in Table 2-3 and is assumed to be reflective of the overall project area.

**Table 2-4. Population and Demographic Statistics for City, County, and State**

Category	City of Whitefish	Flathead County	Montana
<b>Population</b>	8,422	108,445	1,105,072
<b>Race</b>			
<b>One Race</b>	8,183	102,445	1,039,004
<b>White</b>	8,050	99,139	946,776
<b>Black or African American</b>	0	275	6,015
<b>American Indian or Alaska Native</b>	102	1,115	63,108
<b>Asian</b>	0	924	9,197
<b>Native Hawaiian or Pacific Islander</b>	0	0	485
<b>Two or More Races</b>	239	6,000	66,068
<b>Percentage of Minority Population (Non-White)</b>	95.6%	91.4%	85.7%
<b>Total Housing Units</b>	5,079	50,948	552,939
<b>Unemployment Rate</b>	2.0%	3.0%	3.8%
<b>Median Household Income (Last 12 Months)</b>	\$71,110	\$71,327	\$69,922



<b>People Below Poverty Level (Last 12 Months)</b>	8.9%	9.6%	12.0%
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Source: U.S. Census Bureau, American Community Survey (ACS) 2023 5-Yr Estimates, 2025

## 2.8.2 Land Use

This section summarizes information on land use in the project area. Information reported within this section is summarized from the Montana National Heritage Program (MTNHP) Map Viewer. It is worth noting that the following summary of information obtained from MTNHP Map Viewer pertains to the hexagonal areas that the application uses to summarize data, and not strictly the study area or railroad right-of-way. These hexagonal shapes cover an area of land larger than the actual project study area and information summarized in this section should be viewed as a general representation of land use in the area near the project location.

Land in the project area vicinity is predominantly developed land (55%), with a variety of uses, including: roads (18%), low intensity residential (15%), developed open space (14%), commercial/industrial (4%), high intensity residential (2%), and railroad (2%). Agriculture accounts for another 10% of human land use in the area (MTNHP 2025).

Other, non-human land uses in the area consist of wetland and riparian areas (15%, with 13% coming from open water – Whitefish River/Lake), grasslands (11%), forests/woodlands (7%), shrublands/steppes/savannas (1%), and harvested forest (1%) (MTNHP 2025).

Land use within a 200-foot buffer of the railroad throughout the entire project corridor (from the crossing at E 2<sup>nd</sup> Street to the crossing at State Park Road) is predominantly railroad, supplemented primarily by commercial/industrial areas, roads, and grasslands.

## 2.8.3 Farmland

The U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) has issued regulations in 7 CFR 658 that implement the provisions of the Farmland Protection Policy Act (FPPA) requiring federal agencies to take into account the effect their programs have on the preservation of farmland. The FPPA's stated purpose is:

...to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government and private programs and policies to protect farmland.

Farmland subject to the requirements of the FPPA includes only prime or unique farmland or farmland of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forestland, pastureland, cropland or other land, but not water or urban developed land.

The USDA National Resources Conservation Service (NRCS) Web Soil Survey application was used to review soil information within a 200-foot buffer of the railroad throughout the entire project corridor. Of the soils present within this area, five soils



within the project area are classified as prime farmland or farmland of statewide importance. They are:

- De – Depew silty clay loam, 0% to 3% slopes – Farmland of statewide importance
- Ha – Half Moon silt loam, 0% to 3% slopes – All area are prime farmland
- Hc – Half Moon very fine sandy loam, 0% to 3% slopes – All area are prime farmland
- Ws – Whitefish cobbly silt loam, 7% to 12% slopes – Farmland of statewide importance
- Wv – Whitefish gravelly silt loam, 0% to 7% slopes – All areas are prime farmland

While land near the crossings throughout the corridor is predominantly developed, small pockets of grassland areas are shown on the MTNHP map viewer and could contain the farmlands listed above, which would make them subject to FPPA requirements.

### 2.8.4 Visual Environment

The project area environment changes across the study area crossings throughout the project corridor. The visual character of each crossing is dominated by railroad right-of-way and tracks, in addition to roadways at the four crossings. The crossings at E 2<sup>nd</sup> Street and Birch Point Drive are supplemented by views of low intensity residential properties, lightly forested areas, and distant mountains. The crossing at State Park Rd also shares views of low intensity residential properties and lightly forested areas but does not have mountain views as the crossing is located within a forested area, where views of the mountains surrounding the valley are blocked. The crossing at Baker Ave is a roadway overpass, providing a vantage point to a wider view of the surrounding area. The visual character of the Baker Ave crossing is still dominated by the railroad yard and associated parking lot and nearby commercial/industrial buildings but offers views of lightly forested residential areas adjacent to the railroad and significant views of the mountains in the distance. The railroad bridge crossing over the Whitefish River is dominated by views of the river and riparian areas, the recreational trail that runs along the river, and residential properties.

While railroad property can inherently affect the visual aesthetic of a given area, the study area crossings do not appear out-of-place among the overall visual character of the City of Whitefish and do not seem to significantly adversely affect the visual quality of the surrounding area.

### 2.8.5 Air Quality

Flathead County is not located within a non-attainment area for any air pollutants, but the City of Whitefish is located within a PM<sub>10</sub> Maintenance area. (EPA 2025a) Air quality in the City of Whitefish can be considered generally high, with seasonal pollution due to wildfire smoke.

### 2.8.6 Noise

The existing noise environment at the study area crossings is that of the existing railroad and railyard, as well as roadways at the applicable crossings. Noise sensitive receptors



exist near the study area crossings, with all crossings existing near residential properties. Periodic noise from passing trains and cars is typical for noise sensitive receptors adjacent to the crossings.

## 2.8.7 Section 4(f) Resources

Section 4(f) of the Department of Transportation Act of 1966 was enacted to protect publicly owned parks, recreation areas, wildlife and waterfowl refuges, and public and private historic sites of local, state, and national significance. Federally funded transportation projects cannot impact Section 4(f) protected properties unless there are no feasible and prudent avoidance alternatives and all possible planning to minimize harm has occurred. The following sections describe the historic and recreational features and properties located within the project area that are likely protected under Section 4(f).

### Historic Sites (Cultural Resources)

Section 106 of the National Historic Preservation Act requires federal agencies to “take into account the effects of their undertakings on historic properties.” The purpose of the Section 106 process is to identify historic and archaeological properties that could be affected by the undertaking; assess the effects of the project; and investigate methods to avoid, minimize, or mitigate adverse effects on historic properties. These historic resources properties, if either listed on or eligible for the National Register of Historic Places (NRHP), are also generally afforded protection under Section 4(f).

This section presents the results from the State Historic Preservation Office’s (SHPO) records search for the project area. Table 2-4 presents the historic sites in the vicinity of the project area. Of the sites listed in Table 2-4, only one site—24FH0350—is located within the project area. Site 24FH0350 is essentially the entire extent of the rail corridor ROW through the City of Whitefish and the project area and has previously been determined as eligible for listing on the National Register of Historic Places (NRHP). A cultural resources survey has not been conducted for this project, and other cultural resources and/or historical sites may be identified and documented if one is completed in the future.



Table 2-5. Historic Sites in the Project Vicinity

Site	Township/Range	Section	Site Type	Time Period	Owner	National Register Status
24FH0350	31N / 22W	26	Historic Railroad	Historic More Than One Decade	Private	Eligible
24FH0350	31N / 22W	35	Historic Railroad	Historic More Than One Decade	Private	Eligible
24FH0350	31N / 21W	32	Historic Railroad	Historic More Than One Decade	Private	Eligible
24FH0497	31N / 22W	35	Historic Industrial Development	Historic More Than One Decade	Private	Eligible
24FH0572	31N / 22W	35	Historic Residence	1930-1939	Private	Undetermined
24FH0573	31N / 22W	35	Historic Recreation/Tourism	1930-1939	Other	Undetermined
24FH0574	31N / 22W	35	Historic Residence	1930-1939	Private	Undetermined
24FH0575	31N / 22W	35	Historic Residence	1940-1949	Private	Undetermined
24FH1021	31N / 22W	26	Precontact Lithic Material Concentration	No Indication of Time	No Data	Undetermined
24FH1230	31N / 22W	35	Historic Structure	Historic Period	Private	Ineligible
24FH1231	31N / 22W	35	Historic Structure	Historic Period	Private	Ineligible
24FH1232	31N / 22W	35	Historic Structure	Historic Period	Private	Ineligible
24FH1233	31N / 22W	35	Historic Structure	Historic Period	Private	Ineligible
24FH1234	31N / 22W	35	Historic Structure	Historic Period	Private	Ineligible

Source: Montana State Historic Preservation Office (SHPO), 2025



## Public Park, Recreation Lands, and Wildlife and Waterfowl Refuges

Reviewing the City of Whitefish Public GIS Portal, recreational resources in the vicinity of the project include (Whitefish 2025):

- Hugh Rogers WAG Dog Park and Armory Park near the E 2nd Street study area crossing.
- Depot Park near the railyard and Baker Avenue Overpass study area crossing.
- A trail system that consists of Depot Park Shared-Use Path, which connects to the Baker Avenue Underpass South trail, which connects to the Whitefish River Trail, which follows the river and connects with the City Beach on Whitefish Lake. This trail system goes underneath the Baker Avenue Overpass study area crossing as well as underneath the railroad bridge over the Whitefish River.
- A shared-use path system north of the Baker Avenue Overpass study area crossing.
- Whitefish Golf Course in the vicinity of the State Park Road study area crossing.
- A shared-use path along State Park Road that ends to the south just before the State Park Road study area crossing.
- Whitefish Lake State Park in the vicinity of the State Park Road study area crossing.
- Whitefish River and Whitefish Lake

No designated recreation areas or trails exist in the immediate vicinity of the Birch Point Drive study area crossing.

### 2.8.8 Land and Water Conservation Fund Section 6(f)

The National Land and Water Conservation Fund Act (LWCF) was enacted to preserve, develop, and assure the quality and quantity of outdoor recreation resources. Section 6(f) of the LWCF provides funding through grants to local and state governments for buying or developing public use recreational lands. Where MDT projects result in conversion of land acquired or developed using LWCF funding, they must comply with the requirements of Section 6(f) that require replacement property of equal or greater value and similar usefulness and location as the converted property in accordance with 36 CFR 59.3.

The Montana Fish, Wildlife & Parks (MTFWP) LWCF Sites by County (MTFWP 2025a) lists and the Trust for Public Land (TPL) LWCF Past Projects Map (TPL 2025) were reviewed to identify projects near the City of Whitefish receiving LWCF funding located within the project area vicinity. Four LWCF sites were identified in the vicinity of the project. These sites are summarized in Table 2-6.



Table 2-6. LWCF Sites within the Project Area

Project Number	Site Name	Sponsor	Project Type	Year	Funding Amount
30-00350	Whitefish Lake State Recreation Area	State of Montana	Development	1976	\$45,725
30-00404	Soroptimist Park	City of Columbus	Acquisition & Development	1977	\$21,898
30-00652	Kay Beller Park	City of Whitefish	Development	2001	\$74,850
30-00742	Whitefish-Haskill Basin Trailhead	City of Whitefish	Development	2016	\$150,000

Source: Trust for Public Land (TPL) LWCF Past Projects Web Map 2025; Montana Fish, Wildlife, and Parks (MTFWP) LWCF Past Awards 2025

It is worth noting that other LWCF-funded projects/sites exist in the project area but are not close enough in proximity to the project to be included in this report. Additionally, there was a disconnect in data/information between the TPL map and the MTFWP lists of past projects, with two projects only appearing on one of the sources. For clarity, only projects occurring in both sources were included in this report.

## 2.8.9 Surface Waters and Wetlands

### Surface Waters

The USGS National Map Viewer was used for information on surface waters in the project area. Multiple named surface waters intersect with or are adjacent to the project corridor and study area crossings. Cow Creek crosses through the project corridor west of the E 2<sup>nd</sup> Street study area crossing between Wild Rose Lane and Larch Avenue. Cow Creek generally flows from north to south and into the Whitefish River. The Whitefish River, flowing from north to south, also flows through the project corridor, underneath the railroad tracks to the east of the Birch Point Drive study area crossing. Whitefish Lake is adjacent to the project corridor, especially near the State Park Road study area crossing. (USGS 2025)

Whitefish Lake and Whitefish River are both located in the Pend Oreille watershed basin (HUC 6-170102) and the Stillwater subbasin (HUC 8-17010210). Both waterbodies are listed impaired by the Montana Department of Environmental Quality (DEQ) State's 303(d) list. Whitefish Lake is listed as an A-1 use class waterbody with a category 5 impairment contributed to mercury and polychlorinated biphenyls (PCBs) from an unknown source. Whitefish River is listed as a B-2 use class waterbody with a category 5 impairments contributed to oil and grease, PCBs, and temperature, attributed to accidental releases/spills, industrial point source discharges, silviculture activities, land development or redevelopment, and wet weather discharges. (MTDEQ 2025a)

Whitefish River is located within a FEMA identified floodplain, designated as a Special Flood Hazard Area (SFHA). SFHAs are defined as the area that will be inundated by the flood event having a 1% chance of being equaled or exceeded in any given year, also referred to as the base flood or 100-year flood. This floodplain is labeled as a Zone AE SFHA. Sections of the shoreline above the ordinary high-water mark (OHWM) of Whitefish Lake are also listed as Zone AE SFHA. (FEMA 2025)



## Wetlands

According to the USACE and EPA definition, wetlands are defined as "...areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." To be considered a wetland, an area must have hydrophytic vegetation (vegetation adapted to wetland conditions), hydric soils, and wetland hydrology.

The MTNHP Map Viewer was reviewed for wetland and riparian areas within the project corridor, specifically focusing around the study area crossings. The study area crossing at E 2<sup>nd</sup> Street shows freshwater emergent wetlands (PEMA and PEMC) at all corners of the crossing, adjacent to both the roadway and railroad. Small wetland areas are also shown in the area northwest of the Baker Avenue Overpass along the rail yard and recreational trail to the north of the yard. Riparian and wetland areas on either side of the Whitefish River are shown in the database, including through the project corridor and underneath the railroad bridge over the river. There is also a freshwater emergent wetland area shown to the north/northwest of the State Park Road crossing along the railroad tracks. (MTNHP 2025)

It is important to note that the MTNHP database is meant as a guideline to areas that may contain the necessary criteria to be considered wetlands, but ultimately, a field investigation would be needed to verify the existence and extent of any wetlands that may be impacted by future projects, and that the U.S. Army Corps of Engineers (USACE) is ultimately responsible for all jurisdictional determinations regarding wetlands and riparian areas.

### 2.8.10 Well Records

The Montana Groundwater Information Center (GWIC) well mapper application maintained by the Montana Bureau of Mines and Geology (MBMG) was reviewed to identify any public or private wells in the project area and vicinity (MBMG 2025). The GWIC identifies many wells near the project corridor and railroad ROW. Of these, four wells are in close enough proximity to the study area crossings to be worth noting. Two of the wells are located near the Baker Avenue Overpass study area crossing, with one located to the southwest of the overpass near Railway Street, along the share-use path going underneath the overpass, and the other is located to the northwest of the overpass near Wilson Chiropractic Clinic. The other two wells are located near the State Park Street study area crossing, both on private property to the east/northeast of the crossing.

Based on available information, it does not appear that there are any wells located in close enough proximity to the study area crossings to anticipate impacts to any identified wells.



## 2.8.11 Hazardous Materials

### Spills

The EPA EnviroMapper web application was reviewed for information on potential spills or discharges in or near the project corridor. The application depicts one Resource Conservation Recovery Act (RCRA) site near the project corridor with the facility name “BNSF RAILWAY CO”. This site is located at the Whitefish Amtrak Station. The web application depicts two National Pollution Discharge Elimination System (NPDES) sites at the same location. Other NPDES sites exist in the project vicinity, but none in close proximity to the project corridor, study area crossings, or railroad. (EPA 2025b)

### Underground Storage Tanks (USTs)

The EPA UST Finder web application was reviewed for information on USTs that may be present in the project corridor. While there are multiple USTs throughout the City of Whitefish, none are in close proximity to the project corridor, study area crossings, or railroad. (EPA 2025c)

### Other Sites/Resources

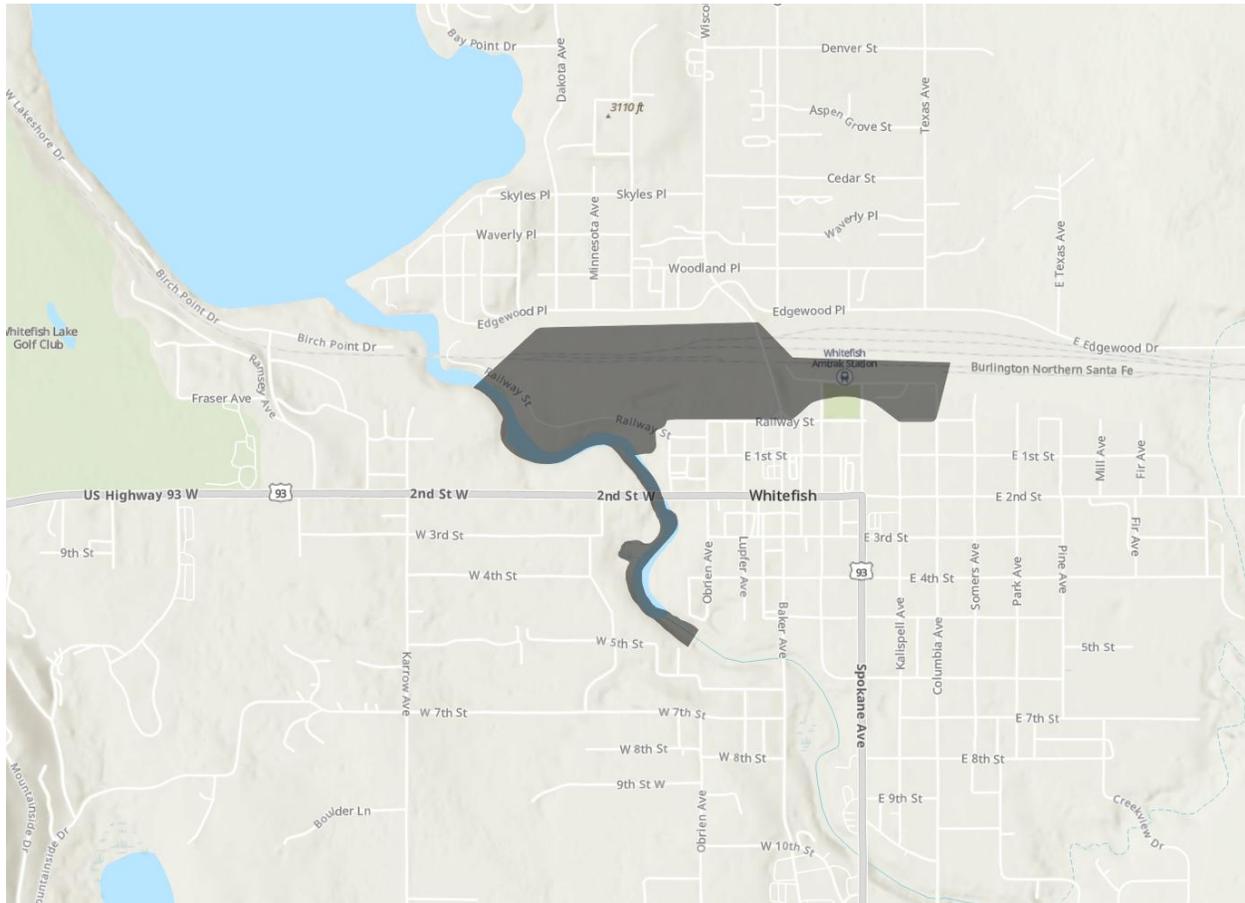
The EPA EnviroMapper depicts two Brownfields Properties in the city of Whitefish but none near the project corridor or rail yard.

The Montana DEQ “Discover DEQ Throughout Montana” web application was reviewed for other hazardous materials sites, spills, storage facilities, etc. This database depicts several petroleum tank substance releases in the project vicinity, but none near study area crossings or rail corridor. Three abandoned mine areas also exist within the project area, with one of the abandoned mine areas depicted near the Birch Point Drive study area crossing to the southeast.

A State Superfund (SSU) Facility Area, the Burlington Northern Whitefish Facility, exists on a large portion of the BNSF rail yard and into the Whitefish River. This site is an active, approximately 78-acre locomotive fueling and repair facility which has operated since the 1890s. Releases associated with fueling, repair operations, powerhouse generation, wastewater transportation to the lagoons located in the freight fueling area and other railroad operations have resulted in soil and shallow groundwater contamination by petroleum products (primarily diesel), polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), and heavy metals. The facility is bordered by commercial and residential areas to the southeast and the Whitefish River to the southwest. Neither shallow groundwater nor water from the river near the facility is used for drinking water. Reclamation of the facility and effected extents of Whitefish River have been ongoing since 1973, with the most intense actions being taken in the late 1990s and early 2000's. (MTDEQ 2025b) See Figure 2-8 for facility extents.



**Figure 2-8. Burlington Northern Whitefish SSU Facility Area**



### 2.8.12 Airports

Whitefish Airport exists within the immediate project area. The airport is a 4.24-acre site with a grass airstrip that encompasses both city and county land and sits adjacent to Hugh Rogers WAG Dog Park and Armory Park to the east of the E 2<sup>nd</sup> Street railroad crossing along the south side of the railroad tracks that is owned by the City of Whitefish. The land is owned by MDT but leased out to a local airplane pilot. A conditional use permit was applied for by the local pilot with plans to construct a 5,400 square-foot, 23-foot-tall hangar on the property. The permit was originally approved by the Whitefish City Council on July 1, 2024, but was later revoked by the Council on February 18, 2025, in a 4-0 vote. Reasons for the revocation included complaints from the public and homeowners adjacent to the airstrip which was being used to support a sky-diving business. (Pilot 2024; Beacon 2025)

Although the permit for the construction of the hangar was revoked, the airstrip continues to exist in its historic capacity and will likely remain so for the foreseeable future. The west end of the runway appears to be approximately 200-feet from the roadway. The FAA glide path requirements are in the process of being obtained from MDT's Aviation Division.



## 2.8.13 Protected Species

Information reported within this section was obtained from a combination of the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) tool, the MTNHP database, and the USFWS Environmental Conservation Online System (ECOS) database. A preliminary resource list was obtained using the IPaC tool, while a final resource list and consultation can be completed once the scope of the project and potential impacts are identified. The species in this section were identified through the tool as having the potential to occur in the project area.

### Canada Lynx (*Lynx canadensis*)

#### *Species Status, Distribution, and Habitat Requirements*

The Canada lynx (*Lynx canadensis*) was listed as threatened under the ESA in 2000 (65 FR 16053 16086), and critical habitat was designated on November 9, 2006, and revised on February 24, 2009, and again on September 12, 2014. Critical habitat includes substantial areas of boreal forests in northwestern Montana and the Greater Yellowstone Ecosystem, including large portions of the Flathead National Forest.

In general, lynx distribution in North America is closely associated with the distribution of North American boreal forest. Canada lynx west of the Continental Divide generally occur in subalpine forests at elevations between 4,000 and 7,000 feet in stands of lodgepole pine or mixed stands of subalpine fir, lodgepole pine, Douglas-fir, grand fir, western larch and hardwoods (Ruediger et al. 2000). In nearby northern Idaho, western redcedar and western hemlock habitat types support relatively high densities of snowshoe hares, and lynx appear to regularly use these habitat types (Ruediger et al. 2000).

Among the general forest types, lynx are most likely to persist in areas that receive deep snow and have high-density populations of snowshoe hares, the principal prey of lynx. Disturbances that create early successional stages such as fire, insect infestations, and timber harvest, provide foraging habitat for lynx by creating forage and cover for snowshoe hares (Ruediger et al. 2000). Without high densities of snowshoe hares, lynx are unable to sustain populations despite utilizing a multitude of other prey when snowshoe hare numbers are low.

#### *Occurrence in Project Area*

The MTNHP database includes a significant number of Canada lynx observations in a 10-mile radius around the City of Whitefish, with four observations in 2025 as of the writing of this report (MTNHP 2025). In the more immediate project area, one observation of Canada lynx occurred on January 1, 2015 (MTNHP 2025). According to the MTNHP predicted habitat suitability model, the project area has mostly low habitat suitability, with a small pocket of moderate habitat suitability near the State Park Road study area crossing. Despite a lack of recent observations in the immediate project area and the lack of suitable forest habitat, due to the abundance of suitable habitat in the nearby Flathead National Forest, and the number of recent observations in the broader 10-mile radius around the City of Whitefish, Canada lynx occurrence in the project area is possible. While the project corridor does not overlap critical habitat, there is Canada



lynx critical habitat near the project, less than five miles to the north and less than 10 miles to the west. (MTNHP 2025)

## Grizzly Bear (*Ursus arctos horribilis*)

### *Species Status, Distribution, and Habitat Requirements*

The grizzly bear was listed as threatened under the ESA in 1975 in the conterminous 48 states (40 FR 31734). Habitat loss and human encroachment are the primary reasons for decline in grizzly bear populations (Reel et al. 1989). On June 30, 2017, the Greater Yellowstone Ecosystem (GYE) population of grizzly bears was removed from the federal list of endangered and threatened species. The USFWS June 30, 2017, final rule delisting the Greater Yellowstone Ecosystem grizzly bear population was vacated and remanded by the U.S. District Court in Missoula, MT on September 24, 2018. Therefore, grizzly bears throughout the lower 48 states are listed as threatened except where designated as an experimental population.

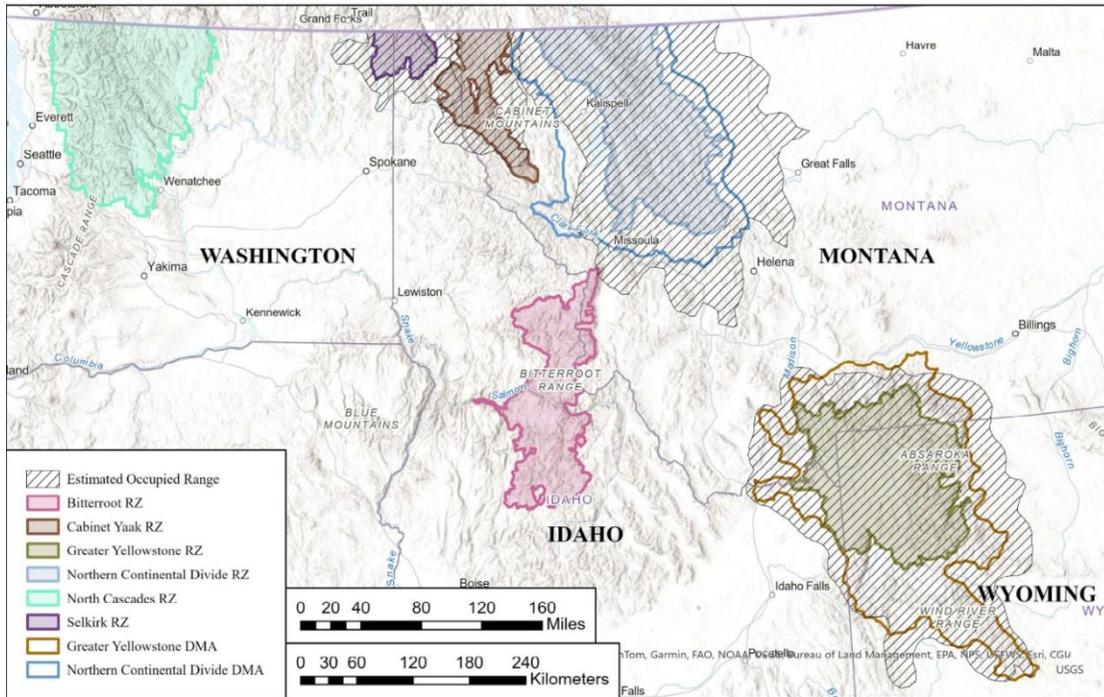
Grizzly bears are wide-ranging mammals requiring large areas of undisturbed habitat. Grizzlies occupy a wide range of habitat types and elevations throughout the year and will opportunistically occupy areas that can best meet their food requirements. Grizzlies prefer habitat that is forested and provides good cover (USFWS 1993). Home ranges can vary considerably from approximately 11 to 2,000 square kilometers (7 to 1,245 square miles) and are dependent upon food distribution (Reel et al. 1989). No critical habitat for grizzly bear has been designated.

Presently, there are six grizzly bear recovery zones (RZ), two of which have a designated monitoring area (DMA): Greater Yellowstone Ecosystem (GYE) (contains a DMA), Northern Continental Divide Ecosystem (NCDE) (contains a DMA), Cabinet-Yaak Ecosystem (CYE), Selkirk Ecosystem (SE), Bitterroot Ecosystem (BE), and North Cascades Ecosystem (NCE). The project area is located between the NCDE and CYE recovery zones, less than 15 miles from the NCDE border to the north/northeast and within the NCDE DMA. See Figure 2-9 for RZ and DMA boundaries.



Figure 2-9. Grizzly Bear Recovery Zones and Estimated Occupied Range

### Grizzly Bear Recovery Zones and Estimated Occupied Range



Estimated occupied range is current as of 2024 for the Greater Yellowstone, Northern Continental Divide, Cabinet-Yaak, and Selkirk Ecosystems. There are currently no known populations in the North Cascades and Bitterroot Ecosystems. Current estimated occupied range does not include low-density peripheral locations and represents a minimum known area of occupancy, not extent of occurrence. DMA= demographic monitoring area, RZ= recovery zone.

Source: USFWS Environmental Conservation Online System (ECOS), 2025

#### Occurrence in Project Area

The MTNHP database includes a significant number of grizzly bear observations in a 10-mile radius around the City of Whitefish, dating back to 1895 and as recently as May 26, 2025 (MTNHP 2025). In the more immediate project area, three observations of grizzly bear have occurred, the most recent being observed on October 8, 2011 (MTNHP 2025). According to the MTNHP predicted habitat suitability model, the immediate project area contains a blend of low and moderate habitat suitability, with a pocket of optimal habitat suitability to the north of the project area and east of Whitefish Lake. Despite a lack of recent observations in the immediate project area, the presence of moderate habitat suitability in the immediate project area and optimal suitability in the great project area, the close proximity of the project area to the NCDE recovery zone and its overlap with the NCDE DMA, the project area being located within the 2024 estimated occupied range of grizzly bear, as well as the recent observation in the broader 10-mile radius around the City of Whitefish, grizzly bear occurrence in the project area is possible. (MTNHP 2025; USFWS 2025)



## North American Wolverine (*Gulo gulo luscus*)

### *Species Status, Distribution, and Habitat Requirements*

In February 2013, the USFWS proposed listing the Distinct Population Segment (DPS) of the North American wolverine (*Gulo gulo luscus*) that occurs in the contiguous United States as a threatened species under the ESA (78 FR 7864). The USFWS subsequently withdrew its proposed rule in August 2014, stating that the factors affecting the DPS (as identified in the proposed rule) were not as significant as assumed at the time of the proposed rule's publication in 2013. In April 2016, as a result of court order, the USFWS withdrawal was vacated, and the status of wolverine was reverted to a proposed listing. On October 18, 2016, the USFWS issued a notice that the agency was reopening the comment period on the February 2013 proposed rule to list the DPS of wolverine as threatened. The USFWS released a final ruling on October 8, 2020, stating that the wolverine had once again been withdrawn from consideration as a T&E species, vacating its proposed status. In May 2022, a federal judge required the USFWS to once again consider federal protection for the species and that the proposed listing be reinstated during this review period. On January 2, 2024, the USFWS once again listed the Distinct Population Segment found within the contiguous United States as "Threatened" under the Endangered Species Act.

Preferred habitat for wolverine is limited to alpine tundra as well as boreal and mountain forests (primarily coniferous) in the western mountains, especially large wilderness areas (MTNHP 2025). Wolverines are typically found in areas with snow cover in the winter. In northwestern Montana, wolverines tend to occupy higher elevations in summer and lower elevations in winter. Researchers in Montana have reported habitat requirements of large, isolated tracts of wilderness with minimal to no roads, which support a diverse prey base (MTNHP 2025). No critical habitat has been designated for North American wolverine.

### *Occurrence in Project Area*

The MTNHP database includes a significant number of North American wolverine observations in a 10-mile radius around the City of Whitefish, with one observation in 2025 as of the writing of this report (MTNHP 2025). No observations have been documented in the more immediate project area (MTNHP 2025). According to the MTNHP predicted habitat suitability model, the project area is depicted as generally unsuitable habitat, with areas of low habitat suitability around the City of Whitefish and moderate habitat suitability in the great project area, especially to the northeast of the City. Despite a lack of observations in the immediate project area and the lack of suitable habitat, the number of observations in the broader 10-mile radius around the City of Whitefish and the substantial suitable habitat in the surround Flathead National Forest allow for the possibility of North American wolverine occurrence in the project area. (MTNHP 2025)



## Bull Trout and Critical Habitat (*Salvelinus confluentus*)

### *Species Status, Distribution, and Habitat Requirements*

The USFWS defined a single distinct population segment (DPS) for bull trout (*Salvelinus confluentus*) within the coterminous United States and listed them as threatened under the ESA in 1999 (64 FR 58910). This single DPS is subdivided into six biologically based recovery units, of which the Columbia headwaters recovery unit contains the bull trout occurring in Whitefish Lake and its tributaries, as well as the Flathead River and its tributaries, including the Whitefish River (USFWS 2015).

Bull trout occur in nearly the entire Columbia River Basin in higher elevation tributaries in Washington, Oregon, Idaho, Montana, and a small part of Nevada. The historical range of bull trout includes major river basins in the Pacific Northwest at about 41 to 60 degrees north in latitude, from the southern limits in the McCloud River in northern California and the Jarbidge River in Nevada to the headwaters of the Yukon River in the Northwest Territories, Canada (Cavender 1978). Although bull trout are presently widespread within their historical range, they have declined in overall distribution and abundance during the last century. Dams, forest management practices, agriculture, roads and mining are primary land and water management activities that threaten bull trout and degrade its habitat (USFWS 1998). In addition, native bull trout have been displaced in many areas through competitive interaction with introduced brook trout.

Bull trout express both resident and migratory life history strategies (Rieman and McIntyre 1993). Resident forms of bull trout complete their entire life cycle in the tributary (or nearby) streams in which they spawn and rear. Migratory bull trout spawn in tributary streams, where juvenile fish rear for one to four years before migrating to either a lake (adfluvial form) (Downs et al. 2006), river (fluvial form) (Fraley and Shepard 1989), or in certain coastal areas, to saltwater (anadromous) (Cavender 1978). Bull trout have more specific habitat requirements than most other salmonids (Rieman and McIntyre 1993) and require very cold water for spawning (46 °F) and egg incubation (below 40 °F). Bull trout use of river habitat is limited by a preference for cooler water temperatures, and they avoid areas that reach or exceed 15° C (Bjornn and Reiser 1991).

High-quality spawning and rearing habitat is typically characterized by cold temperatures; abundant cover in the form of large wood, undercut banks, and boulders; clean substrate for spawning; intergravel spaces large enough to conceal juveniles; and stable channels (USFWS 2015). Spawning areas are often in headwater streams and associated with coldwater springs, groundwater infiltration, and the coldest streams in a given watershed (Rieman and McIntyre 1993).

Bull trout reach sexual maturity in four to five years. Spawning takes place between late August and early November, principally in third and fourth order streams. Bull trout prefer spawning habitat in low-gradient stream reaches with loose, clean gravel (Fraley and Shepard 1989) and do not tolerate high sediment levels in their spawning streams. Sediment can suffocate the developing embryos before they hatch.



## Bull Trout Critical Habitat

On October 18, 2010, the USFWS issued a final rule designating critical habitat for bull trout in the conterminous United States (75 FR 63898-64070). Whitefish Lake and the Flathead River, but not the Whitefish River, are included within designated critical habitat for bull trout (Unit 31 Clark Fork River Basin) as part of the Columbia Headwaters Recovery Unit. In freshwater areas, bull trout critical habitat includes the stream channels within the designated stream reaches and a lateral extent as defined by the bankfull elevation on one bank to the bankfull elevation on the opposite bank, or the OHWM if bankfull elevation is not evident on either bank (USFWS 2010). The final rule (75 FR 63926) further defines critical habitat to include, “the bed and banks of waterbodies, but actions that may destroy critical habitat could occur on lands adjacent to waterbodies, and, therefore, would be subject to regulation under this rule.”

### *Occurrence in Project Area*

The MTFWP FishMT web application was reviewed for information on sampling locations and bull trout sample surveys in nearby applicable waters. The web application depicts four separate surveys conducted in Whitefish Lake – two in 2011, and one each in 2013 and 2014. The 2011 surveys contained eight and 20 counts of bull trout respectively, while the 2013 and 2014 surveys each contained six counts (MTFWP 2025b).

Additionally, the MTNHP predicted habitat suitability model shows Whitefish Lake and Whitefish River as suitable (native range) habitat (MTNHP 2025). The database also shows multiple observations in the project area, including three in 2022, but it is not possible to see which waterbodies the species was observed (MTNHP 2025). Due to survey samples containing bull trout, observations present in the MTNHP database, and the bull trout critical habitat inclusion of the Whitefish Lake, it is reasonable to suggest that bull trout occurrence through the project corridor in the Whitefish River is possible.

## Monarch Butterfly (*Danaus plexippus*)

### *Species Status, Distribution, and Habitat Requirements*

On December 17, 2020, the USFWS found that listing the monarch butterfly as either Threatened or Endangered was “warranted but precluded by higher priority actions,” resulting in a candidate species status (85 FR 81813-81822). On December 12, 2024, this species’ status was changed to “proposed threatened”. A public comment period on the proposed listing expired on March 12, 2025, and then was extended to May 19, 2025, after which the USFWS will consider the comments received and make a final ruling on the listing status of the species. No final ruling has been made as of this writing.

Monarch butterfly is documented in Montana with statewide distribution. Habitat preferences include open places, native prairies, foothills, open valley bottoms, open weedy fields, roadsides, pastures, marshes, suburban areas, and rarely above tree line in alpine terrain during migration (MTNHP 2025). There is proposed critical habitat for the monarch butterfly, but the area does not overlap with the project area. (USFWS 2025)



### *Occurrence in Project Area*

Monarch butterfly observations have not been previously documented in the project area in the MTNHP database. The closest recorded observation to the project area occurred in July 2016 in Sanders County approximately 60 miles to the southwest. The MTNHP predicted habitat suitability model depicts the project areas as containing predominantly moderate habitat suitability, with small sections of low habitat suitability. The area surrounding the City is depicted as generally unsuitable habitat for monarch butterfly. Observations of the primary larval host plant for the monarch butterfly, showy milkweed (*Asclepias speciosa*), are also not documented in the project area (MTNHP 2025).

Due to the lack of MTNHP observations of monarch butterfly and showy milkweed, it is reasonable to suggest that the monarch butterfly is not likely to occur in the project area.

### *Suckley's Cuckoo Bumble Bee (*Bombus suckleyi*)*

#### *Species Status, Distribution, and Habitat Requirements*

On December 17, 2024, the USFWS proposed to list Suckley's cuckoo bumble bee as an endangered species under ESA (Docket No. FWS-R7-ES-2024-0117). Due to lack of sufficient data, the designation of critical habitat for the species is not determinable at this time. The public comment period on the proposed listing expired on February 15, 2025, and then was extended to May 19, 2025, after which the USFWS will consider the comments received and make a final ruling on the listing status of the species. No final ruling has been made as of this writing.

Suckley's cuckoo bumble bee is documented in several western Montana counties, with statewide distribution expected (MTNHP 2025). Habitat preferences come from studies outside of Montana where the species is reported to use grassland, shrub-steppe, and conifer forest habitat in Washington and montane to subalpine mesic and wet meadows in Colorado (MTNHP 2025). The species is considered a parasite, killing and nesting in colonies of other bee species. Apparent declines may be tied to declines in their primary host species, the western bumble bee (*Bombus occidentalis*) (MTNHP 2025).

### *Occurrence in Project Area*

The MTNHP database depicts multiple documented observations of Suckley's cuckoo bumble bee in Flathead County, but none in the project area and with the most recent observation being from June 13, 1990 (MTNHP 2025).

As mentioned, the species has not been documented in the project action area (MTNHP 2025). Although the species has not been documented in the project area, the species may utilize habitat in the area based on preferred habitats described above and per the MTNHP predicted habitat suitability model, which identifies the project area as containing moderate habitat suitability (MTNHP 2025).



## Spalding's Catchfly (*Silene spaldingii*)

### *Species Status, Distribution, and Habitat Requirements*

On December 3, 1999, the USFWS proposed that Spalding's catchfly be listed as Threatened. A final ruling was determined on October 10, 2001, that determined Spalding's catchfly be listed as Threatened. Critical habitat for the species has been proposed but not defined.

Spalding's catchfly (*Silene spaldingii*) is an herbaceous perennial in the pink family (*Caryophyllacea*). The species is endemic to the Palouse region of south-east Washington and adjacent Oregon and Idaho, and is disjunct in northwestern Montana and British Columbia, Canada. This species is found predominantly in the Pacific Northwest bunchgrass grasslands and sagebrush-steppe, and occasionally in open-canopy pine stands. Occupied habitat includes five physiographic (physical geographic) regions: 1) the Palouse Grasslands in west-central Idaho and southeastern Washington; 2) the Channeled Scablands in east-central Washington; 3) the Blue Mountain Basins in northeastern Oregon; 4) the Canyon Grasslands along major river systems in Idaho, Oregon, and Washington; and 5) the Intermontane Valleys of northwestern Montana and British Columbia, Canada. (USFWS 2025)

Spalding's catchfly exists in only a few locations in the northwest corner of the state. Extant occurrences are known in the following areas: Tobacco Plains area, Lost Trail National Wildlife Refuge, the Niarada area, and on Wild Horse Island. The majority of occurrences have less than 100 individuals, though three sites are each known to contain over 1,000 individuals and the total population size in Montana is likely 20,000+ mature plants based upon 2011 data. One historical occurrence exists from the Columbia Falls area. Several threats affect the long-term viability of the species in the state. Invasive weeds are the most widespread threat and are negatively impacting the bunchgrass habitat occupied by Spalding's catchfly. Housing development and subdivision are directly impacting populations in the Tobacco Plains and has the potential to further isolate known occurrences in the area. Cattle grazing is affecting several populations and two other occurrences have apparently been extirpated recently from the severe impacts associated with llama grazing. Fire exclusion and the successive build-up of litter compared to historical conditions appears to be having negative impacts on survival and reproduction. Populations are also at risk due to the small numbers of individuals and their isolated nature, which reduces the chances of cross-pollination and gene flow between populations. (MTNHP 2025)

### *Occurrence in Project Area*

The MTNHP database identifies a significant number of documented Spalding's catchfly observations in Flathead County, with nine of the most recent observations coming in 2019 (MTNHP 2025). In the more immediate project area, one observation of Spalding's catchfly occurred on August 10, 1894 (MTNHP 2025). According to the MTNHP predicted habitat suitability model, the project area is considered generally unsuitable habitat for Spalding's catchfly, with only small pockets of low habitat suitability sporadically throughout the City of Whitefish. The areas with optimal habitat suitability for the species seem to be along Sullivan Creek at the meeting of Flathead, Lake, and



Sanders counties, along Pleasant Valley Creek in west Flathead County, and north of Eureka, MT in Lincoln County. (MTNHP 2025)

Due to a lack of recent observations and the lack of suitable habitat in the immediate project area, the occurrence of Spalding's in the project area is unlikely.

### Bald & Golden Eagles and Migratory Birds

The MTNHP database identifies recent observations of both bald and golden eagles in the project vicinity, as recently as December 2024 (MTNHP 2025). These species, as well as other migratory birds, can be susceptible to noise and disturbances associated with construction activities. A comprehensive review of available sources should be conducted once project impacts and scope are more clearly defined, as there is the potential for endangered or threatened species to occur within the project vicinity.

## 3 Recent Vehicle and Bike/Ped Plans and Studies

### 3.1 Whitefish Transportation Plan (2022)<sup>1</sup>

The Whitefish Transportation Plan details transportation planning activities by providing direction and strategies to help shape the City's transportation network through the year 2040.

#### Transportation Vision, Goals, and Strategies

The Whitefish Transportation Plan is guided by transportation vision, goals, and strategies. Included within the goals are **two directly related** to the BNSF tracks that pass through the city of Whitefish.

#### *Goals and Strategies*

- **Goal #6:** Provide a safe and secure transportation system:
  - Strategy: Improve evacuation routes for north Whitefish over the BNSF railroad tracks.
- **Goal #7:** Corridor management and preservation:
  - Strategy: Explore additional grade separated crossings of the BNSF mainline through Whitefish to provide additional parallel roadway capacity to Wisconsin Avenue in the event of an emergency or evacuation of areas north of the railroad.

#### TSM Improvements

Within the Whitefish Transportation Plan (2022), a list of Transportation System Management (TSM) project recommendations was included. The TSM project list was

<sup>1</sup> <https://www.cityofwhitefish.gov/DocumentCenter/View/3324/WhitefishTransPlan---Final-October-2022>



based on previous and ongoing planning studies, as well as analysis conducted during the baseline conditions, projected conditions, and active transportation evaluations for the Whitefish Transportation Plan (2022). Some project recommendations included estimated conceptual project costs based on 2022 dollars. Projects that were directly related to the Whitefish Rail Corridor Project included the following:

### TSM Project List:

#### **TSM Project #6: Birch Point Drive – Quiet Zone – Supplemental Safety Measures (SSMs)**

- **Cost:** \$565,000
- **Project Description:** This project reflects the community’s desire to establish a quiet zone at the Birch Point Drive railway crossing. The project will include the safety engineering improvements (Supplementary Safety Measures (SSM)) required by the Federal Railroad Administration for the establishment of a quiet zone. Possible SSMs include temporary closure systems, gate systems, and channelization devices, among others.

#### **TSM Project #7: Build a grade separated crossing at BNSF at E 2<sup>nd</sup> Street; or at E Texas/Columbia**

- **Cost:** N/A
- **Project Description:** This project supports emergency/evacuation route needs from areas north of the BNSF tracks. Options include E 2nd Street or Texas/Columbia, and both require further study. This project would create an additional crossing of the BNSF Railway, which would improve evacuation from the north in an emergency, improve north-south connectivity and traffic flow, and relieve traffic congestion at the Baker viaduct.

**Table 3-6. TSM Projects in Whitefish**

MAP ID	CORRIDOR	TERMINI	TERMINI	DESCRIPTION	COST
1	MT 40 (MDT)	Whitefish Stage Rd	Whitefish Stage Rd	Signalized intersection or a two-lane roundabout	Option 1: \$1M; Option 2: \$3.5M
2	Spokane Ave (MDT)	13th St	13th St	Intersection improvement	\$850,000
3	Wisconsin Ave (MDT)	Skyles Pl	Skyles Pl	Intersection improvement	\$510,000
4	Baker Ave	E 1st St	E 1st St	State intersection evaluation	N/A
5	Muldown Elementary School Area Safe Routes to School Improvements	Sixth St @ Pine Ave; Seventh St @ Pine Ave; Seventh St @ Asher Ave		Intersection safety improvements	\$250,000
6	Birch Point Dr	BNSF Mainline	BNSF Mainline	Quiet Zone - Supplemental safety measures (SSMs)	\$565,000
7	BNSF Mainline between Baker Ave viaduct and E 2nd St			Build grade separated crossing at BNSF railway at E 2nd St; or at E Texas/Columbia	N/A
8	Blanchard Lake Road	Highway 93 South	Highway 93 South	Intersection improvement	N/A

*MDT: Denotes projects on roadways owned and maintained by MDT.*



Figure 3-1. TSM Project Map



### 2007 City of Whitefish Growth Policy

The Whitefish Transportation Plan (2022) also references the 2007 City of Whitefish Growth Policy. The Growth Policy serves as the driving force behind many of the long-term transportation plans in Whitefish. It includes transportation goals, policies, and actions. The Growth Policy included five goals, four policies, and 12 recommended actions.

Of the recommended 12 actions in the Transportation Section of the Growth Policy Plan, the following action listed below was identified as one of the most relevant.

- Through a Community-wide transportation plan, explore possibilities for an additional grade separated crossing of the BNSF rail facilities.

## 3.2 Connect Whitefish Bicycle and Pedestrian Master Plan<sup>2</sup>

The Connect Whitefish Bicycle and Pedestrian Master Plan identifies the existing pedestrian and bicycle infrastructure, highlights connectivity issues within Whitefish, and outlines recommendations and priorities for future improvements.

Included in the Connectivity Project Recommendations is a project related to the BNSF Corridor in Whitefish. Details are below.

### Connectivity Projects:

#### *Tier III (10-20 years)*

- **Project No. C46:** BNSF Railway Loop
- Approximate Cost: \$132,000
- **Project Description:** Negotiate with BNSF to create a Shared Use Path connection under the north end of the Wisconsin Viaduct

<sup>2</sup> <https://www.cityofwhitefish.gov/DocumentCenter/View/294/01-09-2017-Connect-Whitefish-Bicycle-and-Pedestrian-Master-Plan-PDF>



### 3.3 Montana Freight Plan (2022)<sup>3</sup>

The Montana Freight Plan describes Montana’s freight transportation system, its role in the state’s economy, and current and emerging industry trends. The plan also provides an account of overall freight performance on the transportation network, highlights freight related issues and needs, and seeks to address needs by identifying effective strategies and goals.

While the Montana Freight Plan does not reference any grade-crossings projects in Whitefish, a goal within the plan directly related to the Whitefish Rail Crossing Study is Safety. The Whitefish Rail Crossing Study supports this goal by working to improve safety for freight operators and the traveling public in Whitefish.

Link to the Montana Freight Plan: [Montana Freight Plan](#)

### 3.4 Montana State Rail Plan (2010)<sup>4</sup>

The Montana State Rail Plan describes historical and forecasted freight trends, provides operating and system characteristics of Montana’s freight rail system, and summarizes ongoing efforts to expand and secure funding for additional passenger rail service in Montana.

The Montana State Rail Plan did not reference any grade-crossing projects in Whitefish.

### 3.5 Montana Rail Grade Separation Study (2016)<sup>5</sup>

The Montana Rail Grade Separation Study (2016) serves as an update to the 2003 Montana Rail Grade Separation Study to address changed conditions and assess highway-rail crossing needs across the state. The purpose of the study was to use a data-driven evaluation process to identify a list of at-grade and grade-separated railroad crossings where potential feasible improvements may be considered.

The Montana Rail Grade Separation Study did not mention any grade-crossings or projects in Whitefish as the safety index was below the threshold to be included in crossings that needed improvements.

### 3.6 Montana Comprehensive Highway Safety Plan (2020)<sup>6</sup>

The Montana Comprehensive Highway Safety Plan (2020) provided a framework to engage residents and traffic safety advocates across Montana to one day meet the vision of zero fatalities and zero serious injuries on Montana’s roads.

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<sup>3</sup> <https://www.mdt.mt.gov/freightplan/docs/2022-Montana-Freight-Plan.pdf?v=2>

<sup>4</sup> <https://www.mdt.mt.gov/publications/docs/brochures/railways/railplan.pdf>

<sup>5</sup> <https://www.mdt.mt.gov/publications/docs/brochures/MDT-RGSS-Final-Report-2016.pdf>

<sup>6</sup> <https://www.mdt.mt.gov/visionzero/plans/docs/chsp/current-chsp.pdf>



While the Montana Comprehensive Highway Safety Plan did not reference any of the grade-crossings in Whitefish, the primary purpose having zero fatalities and zero serious injuries on Montana's roads aligns with the Whitefish Rail Crossing Study.

## 4 Field Visit Summary

This section describes the existing conditions along the corridor, crossing by crossing. It will include observations from field visits along with comments provided by the City of Whitefish and BNSF. This information will be presented as notes on an aerial of each crossing. A brief narrative will introduce the crossings. Directions referred to use the railroad track as being East-West and North-South is up-down from the tracks.

### 4.1 E 2<sup>nd</sup> Street

#### 4.1.1 E 2<sup>nd</sup> Street – Review Team Comments

BNSF noted that E 2<sup>nd</sup> Street is most commonly blocked during crew change operations. During crew changes the train is typically parked on one of the main tracks. Westbound trains typically block the crossing more often than eastbound trains. Trains are occasionally blocked when the railroad yard is building trains and need to “double back” out of the yard, over the crossing, then back into the yard. BNSF requires access to the service road specifically on the north side of the crossing. Crew change vans, driving workers between trains and the terminal, and signal maintenance crews often utilize that north side road.

The City of Whitefish noted that developments have been proposed and are in various levels of approval for the developable land plots to the northeast and northwest of the crossing. Plans for these developments should be reviewed in later stages of design in order to maintain planned access to and from the developments to E 2<sup>nd</sup> Street.

#### 4.1.2 E 2<sup>nd</sup> Street – Summary of Existing Conditions

##### Overview

E 2<sup>nd</sup> Street, a major collector road owned and maintained by the City of Whitefish, crosses three railroad tracks. There are four eight-foot-long precast concrete crossing panels on the tracks, in good condition providing a 32-foot-wide crossing surface for each track crossing. The asphalt roadway shows signs of rutting consistent with vehicle wheel centers and traffic wear on striping exists but is in overall good condition. BNSF has an adjacent private access road that crosses the roadway just north of the tracks on to access the Yard lead switch and main line track crossovers located east of this crossing.

The crossing receives an average of 21 daily trains (FRA crossing form) and 839/717 daily vehicles (AADT/ Replica daily trips). The E 2<sup>nd</sup> Street crossing has no crash history in the last 10 years. The most recent recorded accident occurred in 1990.



## Site Photographs

Photographs of the crossing collected during the field diagnostic meeting are provided in the following figures.

Figure 4-1. South Side Looking North, Northbound Lane



Figure 4-2. South of Crossing, From South End of Median Looking Southwest Along Roadway.



Figure 4-3. East 2<sup>nd</sup> Street. North Side Looking South at Crossing



Figure 4-4. East 2<sup>nd</sup> Street, North of Crossing Looking North Along Roadway

## Warning Devices, Signage, and Striping

The E 2<sup>nd</sup> Street crossing includes active and passive warning devices. Active warning devices include a gate arm, flashing lights, and bells at the northwest and southeast quadrants. A signal bungalow for these devices site in the southeast quadrant. Passive devices include non-traversable concrete medians that extend for approximately 100 feet to the north and south with yellow painted curbs, divided median signs and reflectorized tubular markers located in the medians.



Signage and striping includes “RxR” pavement markings, 15 mph oncoming turn signs, “No Train Horn” and RxR crossing warning signs, stop bars, and crossbuck, “3 track”, and FRA/DOT crossing signs attached to each gate, on both sides of the crossing.

### Rail Operations

The three tracks, from south to north, are Main Track 1, Main Track 2, and east lead track to the yard. Maximum train speeds at the crossing are 20 mph due to the location being within the Whitefish Yard Operating Limits. The crossing is routinely blocked by yard train operations. It is also blocked by westbound trains that are longer than approximately 7,200 feet during crew changes if the head end of the train stops at the crew change headquarters just east of the Baker Avenue overcrossing.

BNSF uses the area near and west of the crossing for crew change operations for its Eastbound through trains and Amtrak. Eastbound trains regularly pull up to a minimum distance of 250-feet west of the crossing to avoid blocking Birch Point Drive and other crossings on the west side of the yard. BNSF drives crews ferried back and forth from around the crossing to their yard terminal using the access road on the north side or another road interior to the yard tracks. Train crews try to maintain a minimum of 250 feet clear of the crossing to allow adequate roadway site distance. AMTRAK typically uses the south main track as it is adjacent to the passenger station platform at the Whitefish Depot. Freight trains meeting in the yard for crew change and passing the AMTRAK train use the north main track.

A quiet zone exists at the crossing. Trains are not required to blow horns, but routine train sounds (bells, whistles, occasional horns) will be heard at the crossing due to its close proximity to the rail yard.

### Sight Distance and Topography

Stopping sight distance at the crossing is somewhat impacted by shrubs and foliage in the northwest and southeast quadrants. Both stopping sight and sight triangle distances have the potential to be impacted by the presence of stopped trains on one track

obscuring the view of trains approaching on adjacent tracks. The diagnostic team did not identify stopping sight distances as a concern at this crossing due to



Figure 4-5, South Side Looking North at Raised Grade and Adjacent Land

the presence of active warning devices and the slower speed of approaching and trains. However, the crossing approach sight triangles is impacted by the vegetation in the southeast quadrant which diminishes the view of approaching westbound trains east of



the crossing and the vegetation in the northwest quadrant which diminishes the view of approaching eastbound and switching operations west of the crossing.

The tracks and crossing are approximately 4 to 5-feet above the surrounding terrain with the roads ascending at a gentle grade to the crossing. The southbound approach profile continues to slope down and away from the crossing for approximately 800 feet. The northbound approach dips down slightly and then begins an upward profile grade approximately 200 feet from the crossing.

### Crossing Context

Various community resources exist near the crossing. Armory Park, Hugh Rovers WAG Dog Park, and Whitefish Pumptrack mountain bike park are all located in the vicinity of the crossing to the south with the closest of them, the Pumptrack, only approximately 320 feet from the crossing. A grass airstrip owned by MDT primarily used by commercial skydiving operations is also to the south and extends eastward adjacent to the BNSF right-of-way, with the west end of the runway approximately 250 feet east of the roadway at its closest point. Sufficient glide path safety requirements for this end of the runway need to be determined. Environmental resources also exist near the crossing. Freshwater emergent wetlands (PEMA and PEMC) are mapped at all corners of the crossing.

Multiple utilities are present near or at the crossing. Utility poles carrying power lines are present north as close as 45 feet north of the crossing. There is a buried fiber optic cable line likely running parallel to the tracks on the north side of the crossing. A transformer and utility meter board are in the northeast quadrant approximately 20 feet from the tracks. A natural gas pipeline is present, appearing to be only on the south side of the crossing, as close as 45 feet from the tracks. Storm sewer inlets are present south of the crossing on E 2<sup>nd</sup> Street, approximately 275 feet from the crossing.

Visible items observed during the site visit are shown in Figure 4-1.

### Current Safety Deficiencies and Capacity for Improvements

The current safety deficiencies at this crossing are minimal. The crossing is equipped with gates and flashing lights as well as concrete medians with tubular markers on the roadway approaches. Clearing sight distance has the potential to be impeded by stopped trains in the yard or siding track, but concern is minimal due to the active warning devices and slower train speeds.

Potential improvements to this crossing are primarily related to reducing the impacts of blocked crossings at this and similar to other crossings in the corridor. Proposed residential developments in the area surrounding the crossing will likely increase the volume of traffic using this crossing, escalating the impact of blocked crossings on highway users. A grade separation at this crossing is a potential improvement that should be reviewed further. This separation would prevent blocked crossing issues for westbound trains. Additionally, eastbound trains—which currently stop to the west of the crossing—could potentially stop farther east of the crossing, reducing the potential to



block Birch Point Drive. A grade separated crossing allows yard switching operations to occur without extended blocked crossing traffic delays.

A key consideration for the grade separation concept is that BNSF's ability to traverse the crossing on railroad right-of-way following their Grade Separation Guideline requirements must be maintained or access allowed through alternative routes. In addition, BNSF, in its Guidelines, may require a crossing with room for a future additional track.



## 4.2 Baker Avenue Roadway Overpass

### 4.2.1 Baker Avenue Roadway Overpass – Review Team Comments

The City of Whitefish noted that there are potential lane changes under discussion for Baker Avenue that may include the overpass. These changes may or may not occur and the overpass will be evaluated as it currently exists in this study.

BNSF noted that their train switching crews typically operate on the west side of the yard, around the Baker Avenue overpass. They do not report any issues with switching crews and operations and the overpass. They also noted that snow removal for the overpass could become an issue if snow is dumped over the edges of the overpass into the yard. They reported that this is not currently an issue. They noted that just east of the overpass the yard reaches its widest point, 13 tracks wide.

### 4.2.2 Baker Avenue Roadway Overpass – Summary of Existing Conditions

#### Overview

Baker Avenue, a minor arterial road owned and maintained by MDT, crosses the BNSF Whitefish yard. The crossing is a public grade separated highway overpass built in 2014. The overpass bridge is a five span steel I-girder bridge with a concrete deck supported by four concrete piers and is approximately 412 feet long and 63 feet wide. The bridge supports 2~12-foot lanes, 10-foot shoulders on each side (NOTE, recently the City of



Figure 4-6, View on Baker Ave. Bridge looking North (Google Earth)

Whitefish shifted the precast concrete median barriers 4-feet, reducing the shoulder to 6-feet and providing a wider 10-foot use walkway on each side that was originally 6-feet. The walkway is separated from the roadway by precast concrete jersey rail and cast-in-place concrete jersey rail supports a fence on the outside of the walkways. The bridge was last inspected in 2024 and was given an overall rating of fair.

The crossing receives an average of approximately 24 daily through trains (FRA crossing form notes 9, but this appears like an underestimate based on counts at neighboring crossings) and this does not account for yard-related train traffic. The crossing experiences an average of 14,386/15,833 (AADT/Replica daily trips).

## Site Photographs

Photographs of the crossing collected during the field diagnostic meeting are provided in the following figures.



Figure 4-7, Baker Avenue Overpass – Viewed from South of Crossing

Figure 4-8, Baker Avenue Overpass – View from BNSF Yard Looking East



## Warning Devices, Signage, and Striping

The grade separation at Baker Avenue eliminates the need for active warning devices. Barriers and fencing at the edges of the overpass bridge protect the overpass users and the railroad yard below. Three streetlights are attached to the overpass. The north and south ends of the earthen approach fill are located at intersections with crossing roads and the approach fills are widened to accommodate a left hand turn lane – north end for northbound traffic and south end for southbound traffic. The street intersections are signaled on the north end and non-signaled with stop signs for the side streets on the south end which is in the City Center.

## Rail Operations

Baker Avenue crosses two main tracks and ten-yard tracks. Maximum train speeds at the crossing, and through the entire yard, is 20 mph. The complete separation of the roadway and rail yard at this crossing allow for through trains, crew switching operations, and yard operations to have no adverse effect on Baker Avenue.

## Sight Distance and Topography

Stopping and stopping sight triangle sight distances were not reviewed due to this being a grade separated crossing. Overall topography of the rail yard and surrounding areas is relatively level under the bridge.

## Crossing Context

Community resources in the area around the crossing include the Whitefish Depot, which is an active Amtrak station that allows passengers to board or detrain. The Depot is about 575 feet east of the south end of the overpass. Depot Park is across the street just south of the Whitefish Depot. A shared-use path system uses the multi-use path lanes of the overpass and connects to more trails in the greater surrounding area.

Environmental resources are also in the area. Small freshwater emergent wetlands are mapped in the crossing's northwest quadrant. Whitefish Lake is about 650 feet northeast of the crossing at its closest point. Freshwater emergent wetlands are mapped in the crossing's northwest quadrant. Two drinking water wells are in the area around the crossing, with one to the southwest and the other to the northwest of the overpass. The Whitefish yard, which the overpass passes over, is considered a State Superfund facility area.

Visible items observed during the site visit are shown in Figure 4-2.

## Current Safety Deficiencies and Capacity for Improvements

The current safety deficiencies at this crossing are minimal due to the grade separated nature of the crossing. As the primary connection point between the northern and southern portions of the City, this crossing experiences higher AADT, over 14,000, than any other crossing in the study area. Traffic delays are sometimes experienced, especially during peak hour travel. Modifications to the deck and structure to allow two lane traffic each direction and then add structure widening for bike/ped traffic while maintaining substructure pier spacing and profile should be considered. A review of potential modifications to lane and sidewalk configurations should be considered as part of this review.



Figure 4-2. Baker Avenue – Detailed Site Observation Notes



## 4.3 Whitefish River Bridge

### 4.3.1 Whitefish River Bridge – Review Team Comments

BNSF's Whitefish River Bridge, BNSF Bridge 1220, supports a 6-steel deck plate girder span ballast deck bridge supporting a single main track on concrete and steel tower piers over the Whitefish River. Note that none of the existing or proposed/in construction under crossings have DOT Crossing ID numbers but appear to be covered by private crossing agreements between the sponsor and BNSF Railroad.

Under the east span, Span 1, the under crossing consists of a railroad private access road separated by a chain link fence from an adjacent shared use bicycle/pedestrian path. BNSF noted that the private road, Railway Street, is closed to the public. Access is restricted to BNSF employees and residents of a single property located southeast of the crossing with no public access using the roadway under the bridge. The bicycle/pedestrian undercrossing has a roof constructed over the path to protect users from falling debris from the overhead track. This crossing is covered by a crossing agreement between BNSF and the City of Whitefish.

The west end span, Span 6 of the bridge is being used for a new undercrossing of a shared used bicycle/pedestrian path. South of the crossing and tracks, west of the River, is a planned and approved residential development. The development area south of the bridge has roads, curb and gutter, and utilities in place. No buildings are present. The City of Whitefish has approved the shared-use bicycle/pedestrian path that crosses under the railroad bridge on the west side of the river and indicated an Agreement is in place with BSNF. That proposed path has been rough graded but is not yet paved. It is intended to connect the proposed development with the existing trails on the northwest side of the crossing.

### 4.3.2 Whitefish River Bridge – Summary of Existing Conditions

#### Overview

The Whitefish River railroad crossing is located between the Birch Point Drive and Baker Avenue Overpass crossing. One mainline track crosses the river on an approximately 345-foot-long deck plate girder bridge. The ballasted deck bridge includes five piers and walkways on either side of the deck.

#### Site Photographs

Photographs of the crossing collected during the field diagnostic meeting are provided in the following figures.



Figure 4-10, East End Whitefish River Bridge, south side looking north under Span 1, BNSF Roadway and Roof Over Shared Use path shown.



Figure 4-11, Whitefish River Bridge, North side looking south under Span 1, BNSF Roadway on left separated by fence from shared use path on right.



Figure 4-12, Whitefish River Bridge, West End Span 6 South Side Looking North at Prop'd Share Use Path Area.



Figure 4-13, Whitefish River Bridge, West End Span 6, North Side Looking South at Prop'd Shared Use Path area.

### Warning Devices, Signage, and Striping

The railroad bridge is on railroad property and not open to the public. The east end of the bridge is inside of the fenced-off rail yard. The west end is also on BNSF right-of-way. A “No Trespassing” sign is present at the east abutment. At the east side under the bridge, between the east abutment and Pier 1, is a fence between the shared-use path and Pier 1 blocking public access to the area under the bridge.

### Rail Operations

The Whitefish River railroad bridge supports a single main track. Maximum train speeds at the bridge are 35 mph. Eastbound trains typically are slowing before entering the west end of the Whitefish yard to not exceed maximum allowable speeds in the yard or coming to stop for a crew change. Westbound trains are slowly accelerating and cannot

surpass the yard speed limit until their tail end exits the yard, so trains typically move at a maximum speed of 20 mph across the bridge.

The river crossing receives an average of 24 daily trains (FRA crossing form for the nearby Birch Point Drive crossing). The Whitefish rail yard's western limit is the beginning of the bridge. East of the east abutment trains are within yard limits and west of the east abutment trains are on the Whitefish-Sandpoint Junction branch of the Kootenai River Subdivision. There is a switch approximately 250 feet east of the east abutment where the tracks transition from two mains to a single main track.

### Sight Distance and Topography

Stopping and sight triangle distances were not reviewed due to the crossings being grade separate under the Whitefish River Bridge.

The elevation of the underpass on each side of the crossing is lower than the surrounding areas. The topography becomes very steep and varies considerably closer to the river. However, due to the topography, the shared use path under Span 1, east end, appears inundated in a 100-yr flood event, while the proposed/existing ground for the crossing under Span 6 on the west end is higher and appears to be above the predicted 100-yr flood event water surface elevation.

### Crossing Context

Community resources in the area around the crossing include Whitefish Lake, the Whitefish River, and the shared-use trail network. The shared-use trail network connects the signed bike route present at the Birch Point Drive crossing to the trails on the east side of the Whitefish River, which include the paths on the Baker Avenue Overpass. The proposed and apparently under-construction shared-use path that passes under the railroad bridge from north-to-south on the west shore of the river is intended to connect the proposed residential development southwest of the crossing to the trail system on the north side of the crossing. This undercrossing of the 6<sup>th</sup> span was first in place in 1934 as a private crossing.

Whitefish Lake and the Whitefish River are also considered environmental resources. Whitefish Lake is located about 900 feet northwest of the river crossing. The Whitefish River crosses directly under the bridge. The Whitefish River floodway and specified base flood elevations are provided on the FEMA FIRM Panel 30029C1090J. Note that the mapped 100-yr floodway is approximately 230 feet wide at the railroad river crossing. It does impact the shared use path on the east side undercrossing and does not extend beyond the pier supporting the east end of the west end Span 6.

Multiple utilities are present in the area around the crossing. Fire hydrants, water lines, and possible water wells/pumps are present in the northwest quadrant. These utilities are located approximately 100 feet north of the tracks. A utility pole carrying electricity is also present in the northeast crossing, similarly approximately 100 feet north of the tracks. A utility structure housing multiple pieces of equipment is located immediately east of this utility pole. Light poles are present along the completed path northwest of the crossing

and new light pole bases are present on the proposed/in construction path south of the tracks. On the east side of the crossing a utility pole carrying power is located about 80 feet north of the tracks. A stormwater inlet is located on Railway Street directly under the railroad bridge. A manhole is present about 50 feet south of the tracks.

Visible items observed during the site visit are shown in Figure 4-3.

### Current Safety Deficiencies and Capacity for Improvements

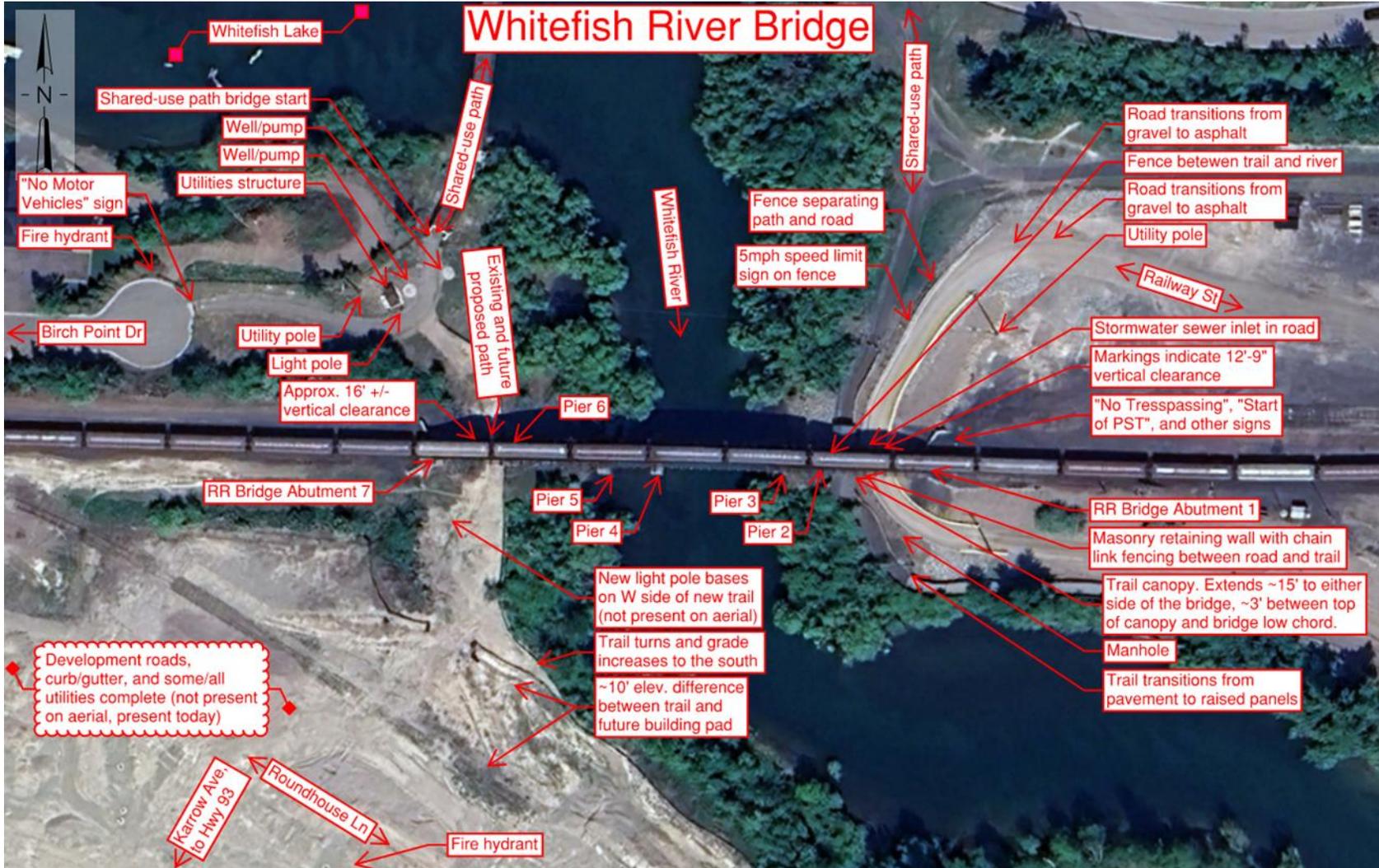
USDOT crossing identification numbers have not been assigned for the underpass crossings on either side of the Whitefish River railroad bridge. These should be assigned so that information and accident/incident histories at the crossings can be better recorded.

The current safety deficiencies for the underpass crossings on the east side of the Whitefish River rail bridge are minimal. The east side underpass consists of a pedestrian pathway and a BNSF-owned private roadway that provides a BNSF with a roadway connection between the north and south sides of the yard.

The underpass crossing on the west side of the bridge currently consists of an unofficial dirt pathway. Upgrading this underpass to a paved trail or roadway may be challenging due to the steep topography of the riverbank and the close proximity to the bridge piers, while maintaining adequate vertical under-clearance between the roadway surface and the bridge structure. However, it is recommended that this option be considered as a potential design alternative including confirmation of an option and required clearances for emergency vehicles only. The implementation of this type of improvement has the potential to be coordinated with other improvements at Birch Point Drive.



Figure 4-3. Whitefish River Bridge – Detailed Observation Notes



## 4.4 Birch Point Drive

### 4.4.1 Birch Point Drive – General Observation Comments

BNSF noted that the Birch Point Drive crossing can and does get blocked by crew change operations when trains are particularly long. BNSF changed its crew change operations to have eastbound trains pull down near E 2<sup>nd</sup> Street rather than stop at the BNSF terminal in the Whitefish Yard in order to reduce blockages at this crossing. Now only eastbound trains longer than approximately 11,700 feet block the Birch Point Drive crossing. BNSF noted that even with these updated operations and fewer crossing blockages they do receive regular public complaints about crossing blockages at this location.

The City of Whitefish, who is responsible for the roadway, noted that Birch Point Drive continues to the west/northwest north of the tracks after crossing the tracks before it dead ends near West Lakeshore Drive. The City noted that it has potential interest in connecting Birch Point Drive and West Lakeshore Drive. West Lakeshore Drive intersects State Park Road just northeast of the State Park Road public grade crossing. The City also noted that potential quiet zone upgrades and approvals are being contemplated at this crossing.

### 4.4.2 Birch Point Drive – Summary of Existing Conditions

#### Overview

Birch Point Drive, a local road owned and maintained by the City of Whitefish, crosses a single main line railroad track approximately 0.3 miles west of the Whitefish Yard Limits and end of double main track. At the track, the crossing consists of two eight-foot-long precast concrete crossing panels in good condition providing a 16-foot-wide crossing of the tracks. The asphalt roadway approaching the tracks is in serviceable condition with pavement cracking at the approaches and potholing on the north approach. The roadway crosses at approximately a 15-degree skew to the tracks. The asphalt roadway width on the south approach is approximately 21-feet, narrowing to 16-feet for the crossing and then widening slightly to 18-feet north of the crossing. There are no separate crossing facilities for bicycle/pedestrian traffic.

The crossing receives an average of 24 daily trains total each direction (FRA crossing form) and 224/202 (AADT/Replica daily trips) daily vehicles total each direction. The number of bicycle/pedestrian users is unknown. The crossing has one recorded incident in the FRA incident/accident database in the last 10 years – a 2018 vehicle/train collision that resulted in no injuries.

#### General Site Photographs

General site photographs of the crossing collected during the field site visit are provided in the following figures.



Figure 4- 24, Birch Point Drive - Northbound Approach Looking North



Figure 4- 15, Birch Point Drive – At Crossing Looking North



Figure 4-16, Birch Point Drive - North Side Looking South



Figure 4-17, Birch Point Drive - At Crossing Looking South

The Birch Point Drive crossing includes active and passive warning devices. Active warning devices include crossing signal flashing lights and bells at the northwest and southeast quadrants. A signal bungalow for these devices sits in the northeast quadrant. Passive warning devices include signage. Crossbuck and FRA crossing signs are attached to the crossing signal poles in accordance with MUTCD requirements. A railroad crossing warning sign is present on the approach to the crossing from the north for southbound traffic but no RR crossing warning signs existing on the roads approaching the T-intersection. No roadway warning or stopping pavement striping exists for either northbound or southbound traffic and no warning signs are present for northbound traffic using the south approach to the crossing. No specific signage exists for bicycle/pedestrian users.

### Warning Devices, Signage, and Striping Rail Operations

Birch Point Drive crosses a single main track that is on an approximate 3-degree curve. Maximum train speeds at the crossing are 35 mph. Eastbound trains are typically slowing to a stop before entering the Whitefish yard, so trains typically move slower than the maximum speed through the crossing. This crossing is routinely blocked by long trains

traveling eastbound when the front locomotives are stopped near the E 2<sup>nd</sup> Street crossing during crew change operations. Westbound trains are typically starting to accelerate after leaving the yard where allowable speeds increase to 50 mph for freight and 55 mph for passenger trains approximately 0.3 miles west of the crossing.

### Sight Distance and Topography

Stopping sight triangle distance for northbound vehicles approaching from the south is impacted by trees in the southwest quadrant that block views of trains approaching from the west from vehicles approaching the crossing from the south. Clear sight distance at the crossing itself is not impeded in either direction along the tracks except for the extents of the track curvature that extends west from the crossing.



Figure 4-18, Birch Point Crossing from NE quadrant looking Southwest at trees/vegetation in SW quadrant

The road approach on the north side slopes up to the crossing of the track from its T-intersection with an east/west roadway approximately 140-feet from the tracks. The road extending south from the crossing slopes down for at least 120-feet before it starts an ascending grade.

### Crossing Context

Community resources in the area around the crossing include Whitefish Lake – though there is no public access to the lake accessed via roads that connect with the crossing. Whitefish Lake is approximately 375 feet north of the crossing. A signed bike route uses the crossing to connect to the Depot Park Shared-Use Path at the far east col-de-sac of Birch Point Drive on the north side of the tracks. The southeast quadrant contains private land owned by the “Great Northern Veterans Park Foundation” that is not currently developed but may become a publicly accessible park.

Whitefish Lake is also considered the closest environmental resource in the area around the crossing. Whitefish River is in the greater vicinity of the crossing. The railroad bridge that crosses the river is approximately one quarter mile to the east from the Birch Point Drive crossing.

Multiple utilities are present in the area around the crossing and at least one of them crosses the tracks near the crossing. On the north side of the crossing there are utility poles carrying electricity, owned by the Flathead Electric Coop, along the south side of Birch Point Drive as it runs east-west. The poles get as close as 100 feet north of the crossing. A buried natural gas pipeline is present in the northwest and southwest quadrants and appears to cross the tracks underground about 30 feet west of the crossing.

Visible items observed during the site visit are also shown in the aerial view, **Error! Reference source not found.**

Figure 4-19, Birch Point Drive - Aerial Observation Notes



### Current Safety Deficiencies and Capacity for Improvements

This is the only crossing in the study area not currently equipped with gates. However, the City is contemplating a quiet zone implementation project that would install updated warning devices, including gates, as well as non-traversable medians on the roadway approaches including widening the roadway and creating a 2-lane wide crossing plus shoulders and allow for bicycle/pedestrian traffic. The condition of the asphalt roadway surfacing where it meets the concrete track crossing panels is deteriorated and will cause poor ride quality issues if not addressed within the next few years.

The key safety issue at this crossing is related to the potential for the crossing to be blocked by eastbound trains with no other means of accessing multiple homes that exist north of the crossing in an emergency. The crossing being blocked can pose substantial delays and can impact emergency response times. Alternate access for light vehicles is available via a pedestrian bridge to the east, but this does not address delays to passenger or emergency vehicles. The blocked crossing still hinders the ability of emergency responders such as ambulances for firefighting equipment to adequately respond to incidents.

Signage does not meet MUTCD requirements, and the crossing does not provide adequate width for two lanes with no warning signs indicating it is a single lane crossing.

Vegetation in the southwest quadrant of the crossing obstructs safe stopping sight triangle distance between northbound vehicles and trains approaching from the west.

The proximity of the lake and residential areas including property access on the north side of the crossing and the T-intersection located 130-feet north of the tracks make the implementation of a grade separation at this crossing difficult, but potential options should be considered as alternatives. Improvement options that are coordinated with improvements at the Whitefish River railroad bridge west end undercrossings should also be considered.

## 4.5 State Park Road

### 4.5.1 State Park Road – General Observation Comments

BNSF noted that they have amended operating procedures to direct eastbound trains that need to stop and wait before entering the yard. When in the area of the State Park Road crossing, stop short of the west side of the crossing, leaving a minimum of 250 feet clear to avoid causing blockage and maintain a minimum site distance for vehicles.

The City of Whitefish, who is responsible for the roadway, noted that it has potential interest in connecting Birch Point Drive and West Lakeshore Drive. West Lakeshore Drive intersects with State Park Road just northeast of the State Park Road public grade crossing and continues for about a half a mile before coming to a dead end near the west dead end of Birch Point Drive.

### 4.5.2 State Park Road – Summary of Existing Conditions

#### Overview

State Park Road, a major collector road, crosses a single mainline BNSF railroad track. At the track, the at-grade crossing consists of four eight-foot-long precast concrete panels in good condition providing a 32-foot long crossing width. The asphalt roadway is in serviceable condition with cracking on the approaches, specifically on the south side of the crossing.

The crossing receives an average total of 24 daily trains (FRA crossing form) each direction and 983/201 daily vehicles (AADT/Replica daily trips). There are no available records on the number of bicycle/pedestrian users. The crossing has no recorded crash history in the FRA incident/accident database.

The single main track is on a tangent alignment through the crossing area. The asphalt paved roadway, consisting of 2-twelve foot lanes with concrete curb and gutter and sidewalk on the west side up to 130-feet of the crossing has no marked shoulders with cracks and uneven surface in the crossing area especially on the north side of the crossing, Figure 20. The south approach extends to the tracks from the south-east and then curves north making an approximate 50-degree turn with the west end of the curve approximately ending at the tracks and then crosses the tracks at right angles, extending north to access the Whitefish Lake State Park and residential access roads. There are no concrete curb and gutter features on the north side approach to the crossing. The crossing has been upgraded to a “Quiet Zone” crossing with center median dividers with Type 3 Object Marker Signs placed between the northbound and south bound lanes on the approaches to the crossing. A single cantilever arm and mast is located on the south side of the crossing supporting overhead flashing lights visible to vehicle traffic approaching the crossing from both directions. The masts on either side also support cross-bucks, FRA Crossing ID signs, the horns and additional lights in accordance with quiet zone warning requirements. No provisions for bicycle/pedestrian features exist at the crossing, although a sidewalk along the “west” side of the road terminates approximately 140-feet south from the crossing.



Figure 4-20, Asphalt Roadway Approaches to the Crossing , Looking Northeast from Southwest

### Site Photographs

Photographs of the crossing showing general layout features collected during the field site review are provided in the following figures.



Figure 4-21, State Park Road – Northbound approach from the South



Figure 4-22, State Park Road - looking South from the Crossing



Figure 4-23, State Park Road - Southbound approach from North of Crossing



Figure 4-24, State Park Road - Looking North from the Crossing

### Warning Devices, Signage, and Striping

The State Park Road crossing includes active and passive warning devices. Active warning devices include a gate arm, lights, and bells at the northwest and southeast quadrants. Overhead lights are also attached to the southeast quadrant gate. A signal bungalow for these devices sits in the southwest quadrant. An additional bungalow sits further from the crossing in the southeast quadrant. Passive devices include mountable raised concrete curb medians with diagonal striped Type 3 Object Marker warning signs that extend approximately 50 feet to the north and 100 feet to the south from the crossing. Lane median signs are not placed at the start of the mountable curbs.

Signage includes advance warning “RxR” crossing pavement markings, 25 mph speed limit signs, “No Train Horn” warning signs, railroad crossing advance warning signs, stop bars for each approach, and crossbuck and DOT crossing signs attached to each gate, on each side of the crossing. Approach road crossing warning signage is non-existent and signage on main roads needs review for conformance to current DOT and MUTCD signage standards.

### Rail Operations

State Park Road crosses a single main track. Maximum train speeds at the crossing are 50 mph for freight trains and 55 mph for passenger trains. Eastbound trains typically are slowing for a crew change stop either in the middle or at the east end of the Whitefish yard. Westbound trains accelerate through this area increasing speeds as they leave the Whitefish yard. While not as frequently blocked as the Birch Point or E 2<sup>nd</sup> Street crossings, the crossing is occasionally blocked by trains coming to a stop waiting to enter the yard as occasionally tracks are congested. Due to the Quiet Zone designation, unless there is an equipment failure, trains do not sound warning horns when approaching the crossing.

## Sight Distance and Topography

Stopping sight triangle distance for vehicles approaching the crossing from both directions is impacted by trees in all quadrants. However, sight distance at the crossing itself along the tracks is not impacted by trees or vegetation. However, as shown in Figure 4-24, northbound traffic approaching the curve and tracks cannot see trains nor the crossing signals until the approach curve is reached due to the trees and vegetation between the road and tracks.



Figure 4-25, Northbound Approach Typical Crossing Sight Triangle

Safe sight triangle distance approaching the crossing from the south may cause some concerns depending on vehicle and train speeds.

Vehicles approaching from the north may have a clear view of the crossing signals, but due to the trees and vegetation, have no view of trains approaching the crossing to the west of the crossing as shown in Figure 4-25. Similar from this approach, vegetation also blocks to view to the east of the crossing.



Figure 4-25, View from North of the Crossing showing Vegetation Blocking View to the Right (West)

The tracks cross in a low area compared to the terrain north and south of the tracks. Both roadway approaches slope down to the crossing. The south bound approach is a flatter, close to level. The northbound approach has steeper which continues for approximately 350 from the crossing before it flattens.

## Crossing Context

Community resources in the area around the crossing include the Whitefish Lake State Park. The crossing provides the only access to the state park, which includes a boat ramp and campground. Whitefish Gold Course in the vicinity, at about 900 feet southeast of the crossing at its closest point.

Environmental resources are also in the area. Whitefish Lake is about 650 feet northeast of the crossing at its closest point. Freshwater emergent wetlands are mapped in the crossing's northwest quadrant.

Multiple utilities are present in the area around the crossing, with some of them crossing the tracks near the crossing. On the south side of the crossing there are stormwater sewer inlets on the sides of State Park Road and a manhole on the west sidewalk, all about 115 feet south of the crossing. There are two structures that appear to be transformers on the east side of the road about 160 feet south of the crossing. A single

fire hydrant sits near these structures. Buried fiber optic cable is present about 125 feet south of the crossing. Utility poles carrying electricity, owned by the Flathead Electric Coop, are on the north and south sides of the tracks and are about 65 feet from the crossing at the closet pole. The power lines cross the tracks about 100' southeast down the tracks from the crossing. A buried natural gas pipeline is present in the northeast and southeast quadrants and appears to cross the tracks underground about 40 feet southeast down the tracks from the crossing.

Visible items observed during the site visit are shown in figure 4-1.

### Current Safety Deficiencies and Capacity for Improvements

The current safety deficiencies at this crossing appear minimal. The crossing is equipped with gates and flashing lights as well as mountable curb channelization devices with diagonal warning signs on the roadway approaches. The crossing sight distance triangle appears deficient on the approaches to the crossing including the inability to see the crossing signals as vehicles approach from the south. This is impacted by trees in all four quadrants, which affects safe crossing sight distance triangle views. There are no provisions for separated bicycle/pedestrian usage while a sidewalk exists approaching the crossing are from the south.

Like Birch Point Drive, this crossing provided the sole access to residential areas to the north of the crossing as well as a State Park. The potential for blocked crossings can cause delays to roadway and bicycle/pedestrian users and impact emergency response times. However, while blocked crossings have been an issue at this crossing in the past, recent operational changes by BNSF shifting stopping locations for eastbound train crew changes have significantly reduced the incidence of blockages.

Potential improvements to this crossing include reconstruction or pavement overlay of the roadway approaches and an installation of permanent channelization devices or upgrade to non-traversable medians. Additional improvements that should be considered include the potential reconnection of West Lakeshore Drive so that alternate access is available in the case of a crossing blockage.



## 5 Summary

The goal of this document was to provide an overview of the existing conditions at the three grade crossings, and one grade separated crossing within the Whitefish Rail Crossing Study. The results of this assessment will be used as a starting point for the development of crossing improvement alternatives at crossings in the corridor.

Some of the key themes and findings from this report include the following:

- **Low Crash History:** The three grade crossings in the corridor currently show an estimated number of annual crashes at or below the Montana state average. In practice, no crashes have occurred in the previous five years, and only two crashes are on record since the FRA began collecting accident/incident data.
- **At-grade Crossing Signage and Approach Site Obstructions:** We noted that the approach warning signage, especially on cross streets near the at-grade crossings should be reviewed along with speeds signs, median warning signs and other signage for compliance with the MUTCD signage and the current FRA/FHWA Highway-Rail Crossing Handbook. In addition, several crossings did not appear to have adequate crossing sight triangle clearance due to vegetation obstructing views of trains as vehicles approach the crossings.
- **Blocked Crossing Challenges:** Blocked crossings are a known issue in this corridor due to the proximity of many crossings to the Whitefish Rail Yard. BNSF has made efforts to reduce these impacts through operational changes, but some amount of crossing blockage is inevitable under the existing conditions. Crossing blockages present a safety issue at Birch Point Drive where the crossing is the only access point for multiple residences. Crossing blockages at E 2<sup>nd</sup> Avenue are less of a safety issue but cause substantial delays. As new residential developments begin on the east side of the City, the impacts from these delays will worsen.
- **Geometric Constraints:** The rail corridor is located in close proximity to many businesses and residences in the area, resulting in challenges for developing feasible alternatives. In particular, many residences near the Birch Point Drive and State Park Road crossings are situated between the rail line and Whitefish Lake with no alternate access points other than the rail crossings. The tight geometric constraints in addition to substantial vertical terrain variations will require creative solutions to provide alternative access or improve approach alignments to the crossings.
- **Emergency Equipment Access:** If a crossing is blocked by a train or accident, there are limited or no alternatives to access residences and businesses north of the tracks with emergency fire, police, ambulance or other evacuation equipment.
- **Multimodal Users:** The City of Whitefish maintains a large network of bicycle/pedestrian path routes and shared-use paths throughout the city. The proposed alternatives in the corridor should account for the potential benefits and impacts of improvements on these highway users. The proposed alternatives should

also consider means of improving connectivity between key destinations on this network. With the Exception of the Baker Ave. overpass, no designated facilities for bicycle/pedestrian users exist at E. 2<sup>nd</sup> Street, Birch Pt. Drive or State Park Road crossings.

- **Rail Operations:** During the field review, BNSF noted no major concerns about current rail operations but did indicate that the relocation of the western yard control point to the west side of the Whitefish River Bridge could potentially improve yard operations.

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