Magnuson Park Circulation Plan

November 2021

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Cover photo provided by Seattle Parks and Recreation, 2011.

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1. INTRODUCTION

1.1. Circulation Plan Purpose

The purpose of this *Circulation Plan* (Plan) is to identify projects that would improve the existing facilities serving pedestrians, persons using wheelchairs, bicyclists, as well as drivers of automobiles, buses, and trucks navigating to and through Warren G. Magnuson Park and the Sand Point Historic District. The Plan first documents existing conditions and constraints, and then identifies improvements needed to address constraints and gaps in the overall transportation network. Preliminary concept plans and cost estimates have been prepared for the high-priority improvements. Seattle Parks and Recreation (SPR) will integrate these recommendations into its Asset Management Plan as well as future funding and budget requests. Key goals of the Plan's recommendations are to:

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- Improve the safety of the transportation system;
- Improve accessibility and remove barriers for all modes of transportation; and
- Make it easier to navigate to and through the park.

1.2. Park History and Prior Plans

Magnuson Park was initially created in 1976 on the eastern portion of the former Sand Point Naval Air Station and Sand Point peninsula. The air station was deactivated in 1970, and 196 acres were deeded to the City of Seattle for the park. Approximately 90 acres of the northern portion of the air station was transferred to the US Department of Commerce for the National Oceanic and Atmospheric Administration (NOAA), Western Services Center. The Park was originally called Sand Point Park, but renamed in 1977 after Warren G. Magnuson, the US Senator from Washington who helped secure funding to develop the park. The collection of former Navy buildings—including its hangars, offices, officer and enlisted housing, and support buildings such as the hospital, fire station, materiel storage and brig—are part of the Naval Air Station Seattle National Register of Historic Places.[1] This area is referred to as the Sand Point Historic District. Navy support services, including the Exchange and Commissary, remained at the site until 1995 when the rest of the base was closed; the remaining 93 acres were transferred to the City of Seattle and University of Washington (UW) in 1999.

During the Navy era, streets were named based on orientation. East-west streets were given numerical designations starting with 1st street (current NE NOAA Drive) and ending with 10th Street (south boundary road near Promontory Point). North-south streets were given alphabetical designations starting with "A" (adjacent to Sand Point Way NE) through "C" (current Sportsfield Drive NE). A road following the eastern and northern shoreline (formerly Shoreline Road). After the 93-acre portion was transferred, comprising the historic district, numerous Navy-constructed streets were surveyed and conveyed to the city for public right of way, and three streets were officially renamed following city naming conventions: NE 74th Street (former 4th Street), NE 77th Street (former 2nd Street), 62nd Avenue NE and 63rd Avenue NE (former Avenue B). Much of the Navy-era "Avenue A" remains; however, only the section north of NE 74th Street is used for general public access, which includes segments under the jurisdiction of the Seattle Department of Transportation (SDOT), UW and SPR. Lake Shore Drive is a truncated version of the former Shoreline Road.

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[1] Seattle Parks and Recreation, History of Magnuson Park, www.seattle.gov/parks/find/parks/magnuson-park/history, accessed January 20, 2021.

The original *Sand Point Park Master Plan* was prepared in 1975 and identified a 75-acre Sports Meadow, tennis courts, neighborhood park, maintenance complex, and restaurant. There have been many subsequent plans and guidelines prepared for the park and historic district to guide development and environmental management. In 1997, the *Sand Point Physical Development Management Plan* (Resolution 29429) defined land use zones and identified the proposed location of public and private streets. However, this plan did not assess the conditions of the Navy-era streets or potential improvements based on the proposed land use zones. In 2001, the *Sand Point Magnuson Park Parking Study* identified parking zones, inventoried quantities and potential future parking management strategies. The 2004 *Signage and Wayfinding Plan for Sand Point / Magnuson Park* attempted to address a more comprehensive approach to directional signage. The most recent and relevant plan is the 2012 *Strategic Development Plan*,[2] which reviewed all previous plans, and identified completed goals, objectives or projects. This plan identified remaining projects and through public engagement established relative priorities for funding; however, it did not address transportation needs.

1.3. Area Map and Points of Interest Nomenclature

This Plan and the 2004 *Signage and Wayfinding Plan* use a common nomenclature for points of interest within Magnuson Park and the historic district, including roadway names and key destinations. Over time, newer or alternative place names have been used on entry gate and internal signs. The full list was reviewed with SPR staff and updated. The nomenclature that will be used to describe points of interest in this Plan and the updated *Signage and Wayfinding Plan* are listed in Table 1 below and shown on Figure 1 that follows.

[2] Seattle Parks and Recreation, *Warren G. Magnuson Park Strategic Development Plan*, September 2012.

Table 1. Map Nomenclature – Points of Interest and Place Names

Road Names	
NE 65th Street (South Entrance)	62nd Avenue NE
NE 74th Street (Gatehouse Entrance)	63rd Avenue NE
Sportsfield Drive NE	Avenue A
Lake Shore Drive NE	NE 77th Street
NE NOAA Drive	
Major Path Names	
Cross Park Trail	Beach Walk
Promontory Point Trail	Frog Pond Trail
Kite Hill Trail	
Activities	
North Shore Recreation Area	Promontory Point
Fields 1-4 (Sports Meadow)	Kite Hill
Fields 5-7	Off-Leash Area
Fields 8-11 (Baseball Fields)	Community Garden
Field 12 (Cricket Pitch)	Boat Launch
Playground	Tennis Courts
Picnic Shelters	Swim Beach
Magnuson Community Center	Theater (Building 47)
Building 30 Officer's Club	Environmental Learning Pavilion
Basketball Court	Wetlands (West, Central, and East)
Tenants	
Tennis Center Sand Point	Arena Sports
Mountaineers	Sail Sand Point
Cascade Bicycle Club	Outdoors for All
Seattle Waldorf High School	Magnuson Café & Brewery
Boyer Children's Clinic	Oiselle
Buildings	
Building 2	Building 30
Building 9 (Mercy Magnuson Place)	Building 67
Building 11	Building 193
Building 18	Building 406 (former Brig)
Building 26N & 26S (Solid Ground Family Housing)	University of Washington
Services	
Information	Parks Office (Building 30)
Restroom	Parks Maintenance
Bus Stop	

Magnuson Park Circulation Plan

Figure 1
Site Map

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2. EXISTING CONDITIONS

2.1. Existing Transportation Network

2.1.1. Entry Points

During the Navy era (1924-1995), vehicular and pedestrian entry to the air station was limited and guarded. The main entry point for both vehicles and pedestrians was at 4th Street (now NE 74th Street) via an at-grade staffed guardhouse or via the gatehouse (Building 138). Approximately five access gates existed at locations along Sand Point Way NE. One of the access gates (north of current NE NOAA Drive) was used for railroad cars to enter the northern portion of the air station. In the late 1970s following the land transfer to the US Department of Commerce, 1st Street (NE NOAA Drive) was closed, an underpass was created near Sand Point Way NE, and a set of gates (Avenue B – 63rd Avenue NE) were installed to allow access to buildings in the North Shore area. Prior to the final closure of Naval Station Puget Sound, a transit agreement was developed with the Navy for access to Magnuson Park via 8th Street (NE 65th Street).

Currently, there are two major entry points to Magnuson Park and the Sand Point Historic District that serve all modes of transportation: NE 65th Street and NE 74th Street. These are the only ways for vehicles to access the park. The NE 74th Street Entrance is the historic main gate to the former Naval Air Station, and a gatehouse (Building 138) straddles the roadway. The NE 65th Street Entrance along the site's southern boundary, provides direct access to the Magnuson Boat Launch, Lake Shore Promenade, Frog Ponds, and the E-5 parking lot south of the baseball fields (Fields 8 and 9). Metro Transit Route 62 makes a clockwise loop through the historic district—entering the area through the Main Gate at NE 74th Street, using 62nd Avenue NE in the southbound direction, and exiting the area via NE 65th Street. As described later in this report, NE 65th Street is also a major access point for bicycle and pedestrian trips.

There are other access points that are only usable by pedestrians and bicyclists, including NE 70th Street and 65th Avenue NE. Several formal and informal paths connect Sand Point Way NE to Avenue A between NE 77th Street and NE NOAA Drive. An opening in the boundary fence at approximately NE 80th Street connects to a gravel multiuse path leading to the north end of Building 11 and the North Shore Recreation Area. During the Navy era, the area now identified as an extension of NE 70th Street was noted on air station mapping as a play yard. In the years prior to air station closure, the area was striped and used as off-street parking, and then after closure, the extension was converted into public right of way and transferred to SDOT. The Sand Point Physical Development Management Plan identified the extension as a corridor for subsurface utilities and a pedestrian/bicycle access route into the historic district and park. The plan specifically called for no development of this right of way for motorized traffic. In 2013, the Phyllis Gutierrez House was constructed and, per development permit requirements, a sidewalk and street lighting was installed on the south side of that right of way between Avenue A and 62nd Avenue NE. West of Avenue A an ungraded, gravel social path provides access to Sand Point Way NE. Along the south boundary of the park, the 65th Avenue NE connection is located at the end of a dead-end street (only accessible from Radford Court and Windermere North neighborhoods to the south) and has a swinging pedestrian gate where it meets NE 65th Street. The 65th Avenue NE right of way is unusual in that the west side of the paved street and head-in parking is located on UW property, and is part of the Radford Court student/family housing project. The pedestrian gate is also located within the UW boundary.

2.1.2. Roads

The road system within Magnuson Park and the Sand Point Historic District are shown on Figure 2. Most of the roads through or adjacent to the historic district are under Seattle Department of Transportation (SDOT) jurisdiction. These include the following:

- NE 74th Street from Sand Point Way NE to 63rd Avenue NE;
- NE 65th Street from Sand Point Way NE to the E-5 parking lot driveway;
- 62nd Avenue NE from NE 65th Street to NE 74th Street;
- 63rd Avenue NE from NE 74th Street to the south edge of NE NOAA Drive; and
- 77th Avenue NE from 63rd Avenue NE to just south of NE NOAA Drive.

All streets adjacent to and within the historic district were constructed by the Navy in the mid-1930s to early 1940s. Only three streets were designed and constructed for regular traffic: NE 74th Street; 62nd Avenue NE, 63rd Avenue NE. The remaining streets functioned more as driveways between buildings (NE 77th Street), service roads (Sportsfield Drive, NE 65th Street), or boundary roads (Avenue A) and were constructed without sidewalks, curbs or gutters. The south end of 62nd Avenue NE (from south of NE 70th Street to NE 65th Street) was not constructed as a full street—it does not have sidewalks or curbs on either side of the street. The street width of this area is approximately 19 feet or less which does not currently meet SDOT Street Improvement Standards. The northern portion of 63rd Avenue NE, between the sets of hangars, is a very wide right-of-way and originally had no sidewalk, since it was the primary aircraft ground-transportation route between the hangars and runway. All of the above streets are non-arterial local-access streets; however, the portions of NE 74th Street, 62nd Avenue NE, and NE 65th Street used by Metro transit buses have been designated as Minor Transit Route. [3]

Avenue A, along the site's western frontage, has a mix of ownership. Short segments of this road north of NE 74th Street are within the UW's jurisdiction (mostly adjacent to Building 29). From north of Building 29 to NE NOAA Drive, Avenue A is within SDOT right of way. Segments of Avenue A south of NE 74th Street are part of an emergency access easement for Mercy Housing (former Building 9). All other roads within Magnuson Park are controlled by SPR. Figure 2 shows each street's jurisdiction.

The two main vehicle access points to the site—at NE 74th Street and NE 65th Street—are controlled by traffic signals at their intersections with Sand Point Way NE. Prior to air station closure, Navy personnel could control the NE 74th Street signal; it is now operated by SDOT. Most other internal intersections have stop-sign control on side streets. A few intersections within the park have all-way-stop control. Traffic control is shown on Figure 2. Key attributes of the site's roads are summarized in Appendix A.

[3] Seattle Department of Transportation (SDOT), Interactive Street Classification Maps, accessed July 2021.

Magnuson Park Circulation Plan

Figure 2

Existing Road Network and Traffic Control

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2.1.3. Non-Motorized Facilities

Sidewalks and Bike Facilities

Magnuson Park has an extensive network of non-motorized facilities that include sidewalks, multi-modal paths, compacted gravel paths, and informal dirt trails. Most of the sidewalks within the park are remnants from the former Naval Air Station. In 1999-2000 limited street improvements were made in conjunction with utility infrastructure replacement (water, sewer, electrical) within the historic district. This included replacement of some sidewalks and the installation of ADA curb ramps per codes at the time. There are no specifically-designated bike paths or bike lanes within the park, but bikes are allowed to share the roads and paths greater than 5-feet wide. Bicycle use is restricted within the federally-protected wetland areas.

Figure 3 shows the major non-motorized facilities in Magnuson Park and the Sand Point Historic District. These major facilities include sidewalks, paved multi-modal paths, and gravel paths that are greater than 5-feet wide. It also shows the locations of marked crosswalks. Additional information about sidewalks and walkways is provided in Appendix A.

Outdoors for All – Disabled Cycling Routes

Outdoors for All is a non-profit foundation with its headquarters at Magnuson Park. It is a national leader in delivering adaptive and therapeutic recreation for children and adults with disabilities. Outdoors for All's programs include many sports and activities that involve off-site excursions; however, one of its programs provides specialized cycling equipment, which is available for check-out at the Magnuson Park facility. Many users choose to cycle on local paths within the park and others may connect from the check-out facility to the Burke-Gilman Trail for longer-distance rides. Most of the equipment are recumbent-style tricycle or quads, that accommodate one or two riders.

Outdoors for All has mapped several routes through the park that are suitable for use by disabled cyclists. Many of the routes utilized paths with a crushed rock or gravel surface, which is a suitable surface for the types of cycles used. Most of the park's paths are relatively level, but there are some steeper grades where cyclists may need assistance depending on ability. There are also a few locations where cyclists are forced to ride along vehicle streets or through parking lots. The current challenges along the disabled cyclist routes in the park are as follows:

- Lack of connection to North Shore Recreation Area – The only connection to the North Shore is via Avenue A and/or 63rd Avenue NE to NE 77th Street. None of these streets have dedicated pedestrian or cycling facilities. In addition, all routes connect to the North Shore under NE NOAA Drive, which has a relatively steep slope unmanageable by most disabled cyclists.

- Gravel path on west side of the Sports Meadow (Fields 1-4) – The connection from Field 5 (near Dog Park) to the loop around the Sports Meadow has relatively steep grades that connect to both sides of the loop. Some riders need a push to ascend these slopes.

- Kite Hill Trail – The connection from the Lake Shore Promenade to the Sports Meadow has a relatively steep slope to ascend to Kite Hill.

- NE Sportsfield Drive – One of the primary cycling loops requires cyclists to ride with traffic along NE Sportsfield Drive since there are no parallel trails. While this street has a narrow, paved shoulder, there are often illegally parked vehicles along the shoulder, and some extend into the adjacent driving lane.

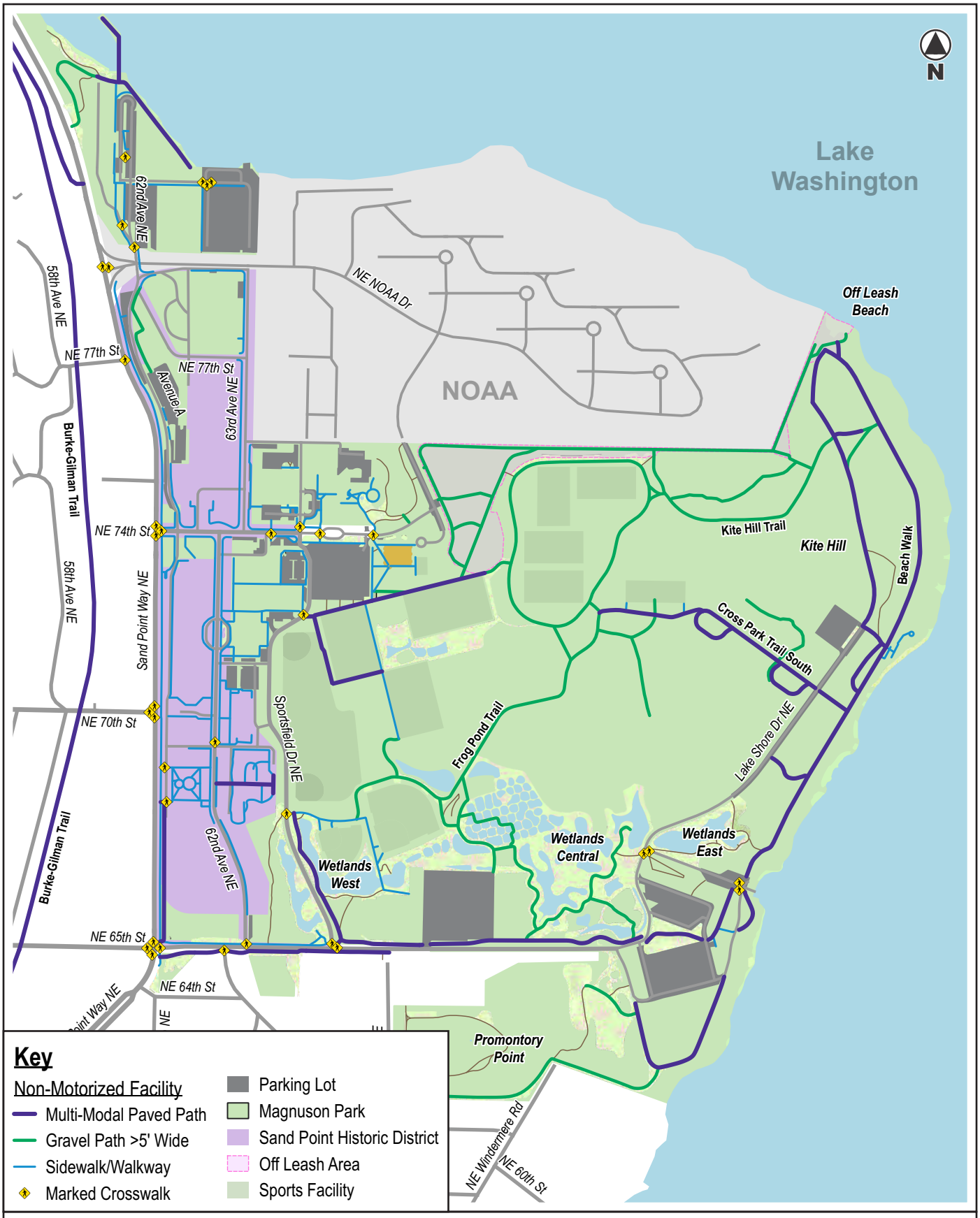

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Figure 3
Non-Motorized Facilities

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- Through main parking lot (W6) near the Tennis Center/sports fields – The cycle loop traverses the west end of this parking lot, crossing all of the parking lot vehicle circulation aisles.

- Narrow paths – There are some segments of paved paths that have no buffer at the edge of the path, which can make it difficult for wider cycles (side-by-side recumbents) to pass a pedestrian or another cyclist. Those of note include the bridge that connects the Lake Shore Promenade to the boat launch; the path south of the boat launch (adjacent to parking lot E-1), and portions of the path parallel to NE 65th Street.

2.1.4. Transit Facilities

There is good transit service along Sand Point Way NE, NE 65th Street, and through the Sand Point Historic District. King County Metro revise the routes in October 2021 in coordination with Sound Transit's Link Light Rail extension to Northgate. The changes were documented as part of the King County Metro Fall 2021 Service Change[4] and were implemented on October 2, 2021 alongside the new Northgate Link Extension opening. The prior routes and new changes are as follows;

- **Route 62 –** This route connects Sand Point to the Roosevelt neighborhood via NE 65th Street and will connect to the Roosevelt Link Station. It continues through the Green Lake, Wallingford, and Fremont neighborhoods as well as South Lake Union and downtown Seattle. Route 62 circulates one-way through the Sand Point Historic District in a clockwise direction, entering through the main gate at NE 74th Street, looping south on 62nd Avenue NE and exiting at NE 65th Street. Metro plans to re-establish service to the NOAA campus in a future service change after the campus is reopened; no other changes to the route are planned.

- **Route 74** – This route formerly connected Sand Point to the University District and continues to downtown Seattle on Interstate 5 (I-5), but was permanently eliminated and replaced by Route 75 and the new Route 79 in the recent service change.

- **Route 75 –** This route connects Sand Point to the University District via Sand Point Way NE and to the Northgate Link Station. Route 75 is interlined with Routes 31 and 32, which connect to Magnolia and Seattle Center, respectively, by way of Seattle Pacific University, Fremont, Wallingford, and the University District. The Metro service change through-routed (connected) Route 75 with Route 45, which connects to Loyal Heights via Green Lake and Greenwood, instead of Routes 31 and 32. The changes did not impact the Route 75 alignment near Magnuson Park. The north end of the route no longer operates along Lake City Way NE and NE Northgate Way, but instead operates along NE 125th Street and 5th Avenue NE.

- **Routes 71 and 76 –** Prior to the COVID-19 pandemic, these routes circulated through the View Ridge neighborhood (closest stops to Magnuson Park are on NE 65th Street near 55th Avenue NE). Both routes were suspended with COVID-related service cuts, and have been permanently eliminated and replaced by other routes (including the new Route 79) with more frequent service as part of the Metro service change.

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4 King County Metro, https://kingcounty.gov/depts/transportation/metro/schedules-maps/service-change.aspx, accessed September 2021.

- **Route 79 –** This new route provides service between the University District and Roosevelt Station, via Ravenna, Sand Point, and View Ridge on weekdays only. Route 79 replaces part of routes 71, 74, and 76, and is being created to better integrate with Link light rail and provides improved east-west connections compared to prior routes.

Table 2 summarizes the transit service for various time periods before and after King County Metro's Fall 2021 Service Change. This summary demonstrates that with the , there is now more frequent service in the site vicinity than prior to the service change.

Table 2. Transit Service Frequency

Route	Service Before October 2, 2021 [a] (Bus Trips during each Time Period)			Service After October 2, 2021 [b] (Bus Trips during each Time Period)		
	Daily	Morning 4-hr Peak (5am to 9am)	Afternoon 4-hr Peak (3pm to 7pm)	Daily	Morning 4-hr Peak (5am to 9am)	Afternoon 4-hr Peak (3pm to 7pm)
62	146	23	37	146	23	37
74	24	12	9	Replaced by Routes 75 and 79.		
75	145	27	32	161	31	43
79 [c]				96	28	30
Total	315	62	78	403	82	110

a. Based on route maps and schedules as of March 26, 2021 after spring service change.

b. Based on information from the King County Metro Fall 2021 Service Change, https://kingcounty.gov/depts/transportation/metro/schedules-maps/service-change.aspx, accessed September 2021

c. Route 79 is a new route that will replace service on existing Routes 71, 74, and 76.

Figure 4 shows the transit routes after the Metro service change (October 2021); bus stop locations are also shown. Most of the stops where passengers wait for "inbound" bus service to major destinations, such as to the UW main campus or to downtown Seattle, have shelters.[5] The exception is the stop on 62nd Avenue NE in the Sand Point Historic District, which has no shelter. For "outbound" routes coming from major destination, there is only one stop with a Metro shelter: on northbound Sand Point Way NE just north of NE 70th Street.[6] Outbound stops are generally unsheltered since they serve more riders who alight from a bus rather than waiting to board one; those who alight typically exit the bus and then immediately proceed to their destination.

5 This includes a privately-constructed shelter (integrated into the development fence) on southbound approaching NE 65th Street.

6 There is also overhead covering near the northbound stop approaching NE 74th Street that is built into the side of the Gatehouse building.

Magnuson Park Circulation Plan

Figure 4
Existing Transit Routes and Stops (as of October 2, 2021)

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2.1.5. Parking

A detailed parking study was performed to update historic parking inventories within Magnuson Park and the Sand Point Historic District.[7] The inventory details the number and type of parking stalls in parking lots and along the internal streets. Most of the parking areas have striped stalls. For unmarked areas, parking stalls were quantified based on the dimensions of the unmarked parking area and the current or historical orientation of parked vehicles within that area. Aerial photos were used to determine changes to parking that may have occurred since 2017 when the last update was completed. The various parking areas are shown on Figure 5. Parking supply by area is also summarized in Table 3; the detailed parking inventory for each specific lot is presented in Appendix B.

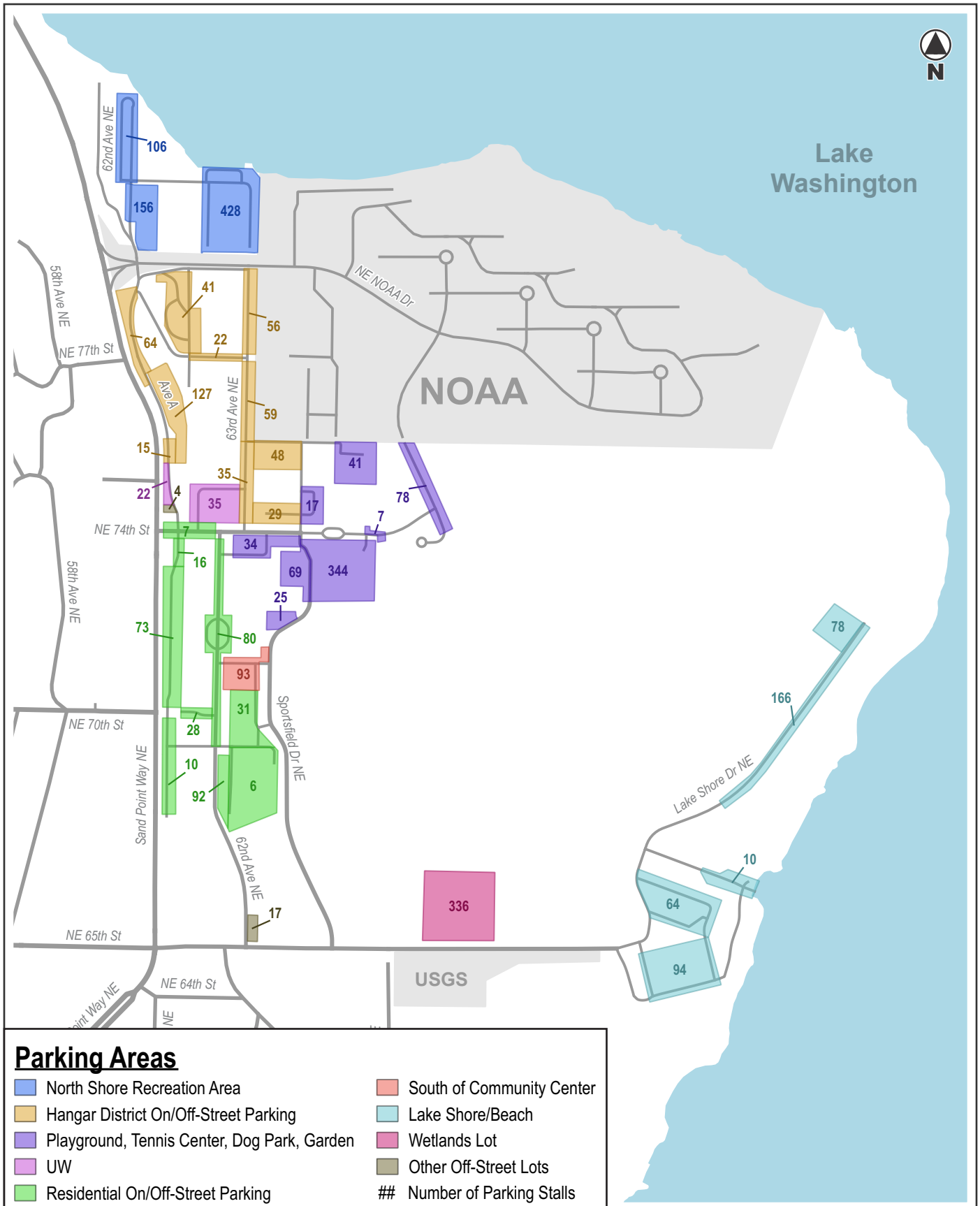
Table 3. Parking Supply Summary – by Area

	Number of Parking Stalls				
Location	Unrestricted Parking	Time-Limited Parking	Reserved / ADA/ Load Zones	Trailer Parking	Total
North Shore Recreation Area	667	0	23	0	690
Hangar District On/Off-Street Parking	470	0	26	0	496
Playground, Tennis Center, Dog Park, Garden	565	17	33	0	615
UW	52	0	5	0	57
Residential On/Off-Street Parking	306	16	21	0	343
South of Community Center	5	78	10	0	93
Lake Shore/Beach	283	0	20	109	412
Wetlands Lot	329	0	7	0	336
Other Off-Street Lots	19	0	2	0	21
Total All Parking	2,696	111	147	109	3,063

Source: Compiled from historic inventories prepared by Seattle Parks in 2001 and 2017; updated by Heffron Transportation, Inc. in 2021 with in-field review and aerial photographs.

There are more than 3,060 parking stalls in the combined areas, with approximately 2,640 within Magnuson Park and about 420 in the Sand Point Historic District. Of these, about 260 are designated for specific uses including for boat trailers, as loading areas, and for vehicles with ADA accessible permits. Roughly 110 stalls have short-term time limits ranging from 1 to 4 hours, intended to increase parking turnover. Most of the time-limited stalls are located in the lot south of the Community Center. The large E-5 lot accessed from NE 65th Street is used by Seattle Children's Hospital as a remote employee "park and pool" with shuttle service on weekdays. Parking occupancy counts were not performed for this study due to COVID-19, which cancelled most organized sports and events.

[7] Prior inventories performed in 2001 (as part of *Sand Point Magnuson Park Parking Study, The Transpo Group, December 2001)* and updated by Seattle Parks staff in 2017.



Magnuson Park Circulation Plan

Figure 5
Parking Facilities

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2.1.6. Trucks and Boat Trailers

The Magnuson Boat Launch is one of four boat launches at Magnuson Park, and the only one where large, trailered-boats can be launched and retrieved. The other three provide for hand-carried boats. Vehicular access to the Magnuson Boat Launch is via NE 65th Street and Lake Shore Drive NE. Parking for vehicles with trailers occurs in Lot E-1 (94 stalls) located south of the boat launch.

Large trucks also access businesses and UW facilities in the historic district. Because of overhead clearance restrictions at the NE 74th Street entrance, trucks are directed to enter the site via NE 65th Street and Sportsfield Drive NE. There are signs indicating this truck route at the Sand Point Way NE / NE 65th Street intersection, but no other signs within the park directing trucks to the preferred truck route.

2.2. Existing Operations and Safety

2.2.1. Vehicular Traffic at Main Entrance Points

This Circulation Plan was developed during the COVID-19 pandemic that affected work, school, and other commuting habits. Major institutions, such as the UW's main campus and all Seattle Schools, had been closed and engaged in remote learning between March 2020 and Spring 2021; many Seattle residents were also working from home and not regularly commuting during this period. In addition, passive use of local parks increased substantially. To reflect normalized (non-COVID) traffic conditions, traffic count data collected by SDOT in May 2018 at many near-site intersections were compiled and are described in the following sections.

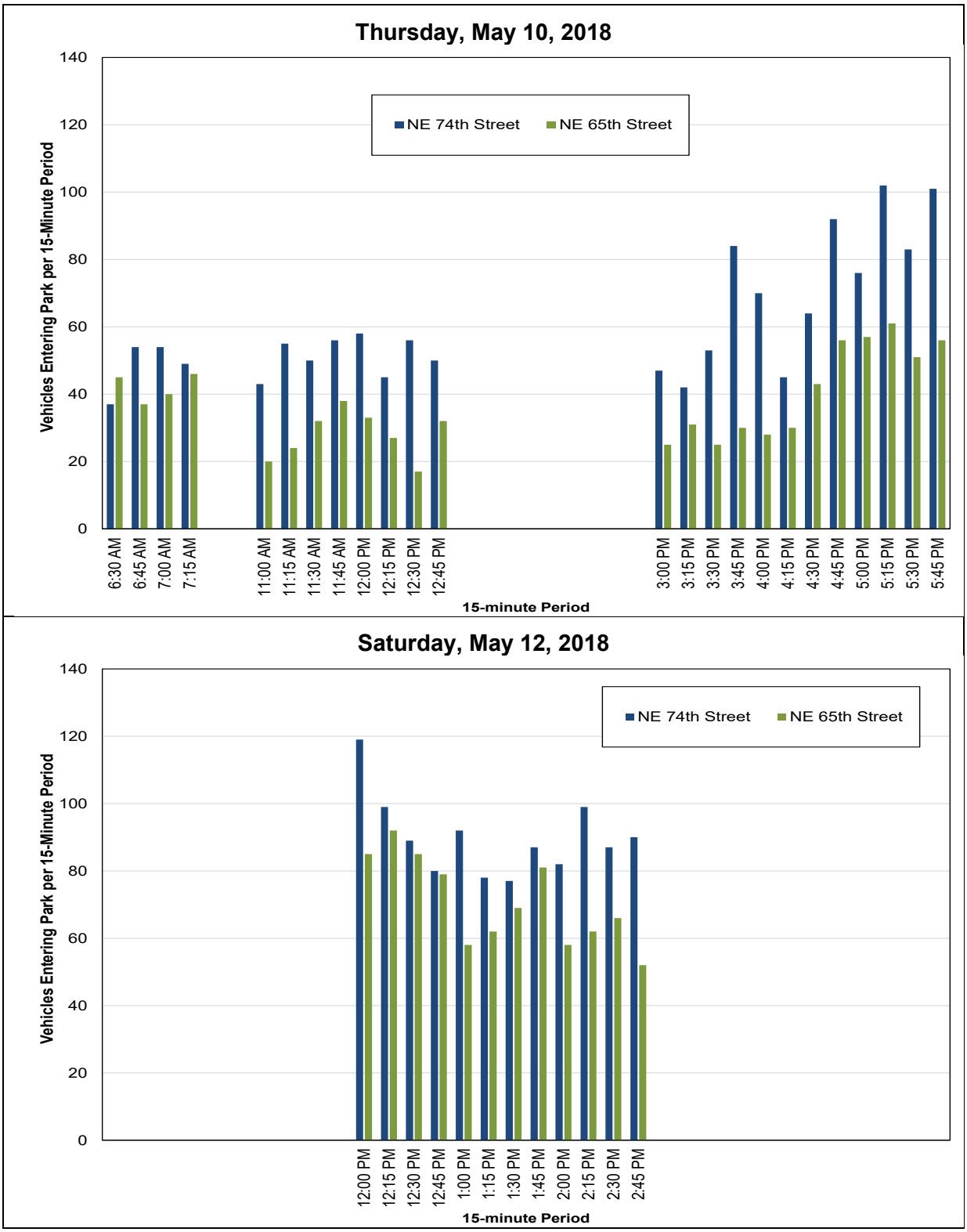
2.2.2. Traffic Volumes at Access Points

SDOT performed multi-hour traffic counts on Thursday, May 10, 2018 and Saturday, May 12, 2018 at several intersections along Sand Point Way NE adjacent to the site. The counts at the NE 65th Street and NE 74th Street intersections were compiled to determine the number of vehicles that entered and exited Magnuson Park during those count periods.

Figure 6 shows the vehicular volumes by 15-minute periods for each count location. It is noted that the weekday (Thursday) traffic counts captured traffic during the traditional morning, midday, and afternoon peak periods; the Saturday counts only captured an extended midday period. The counts are aligned to compare volumes for similar 15-minute time slots.

The traffic volume data show that, for nearly all periods of the day, more traffic enters the park via the NE 74th Street (Main Gate) driveway than via the NE 65th Street access. Over the course of Thursday, about 62% of all traffic that entered and exited the park using NE 74th Street. The exception was during the early morning on Thursday when volumes at the NE 65th Street access were similar to volumes at NE 74th Street. This was likely related to commuters destined to the E-5 Parking Lot off NE 65th Street (which is used as a remote employee parking lot by Seattle Children's Hospital) or the United States Geological Survey (USGS) Western Fisheries Research Center. On Saturday, the proportion of traffic using the NE 74th Street driveway decreased slightly to about 58%.

Figure 6. Vehicles Entering Magnuson Park

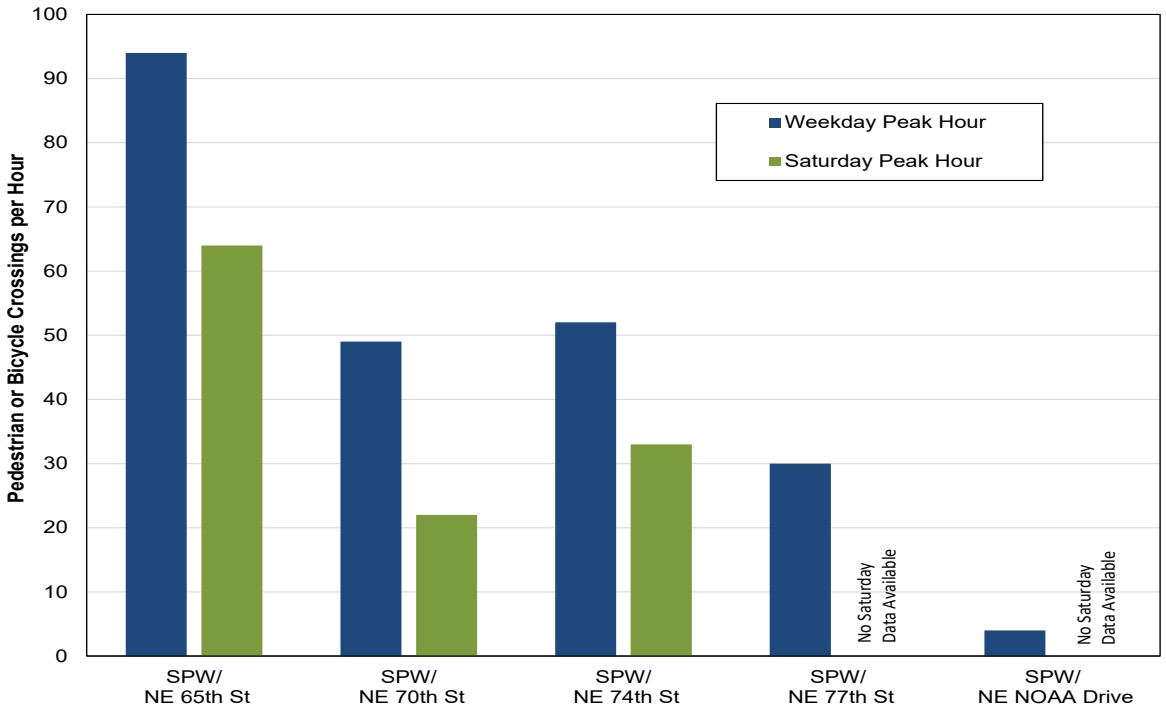


Source: Based on turning movement counts performed by SDOT at the NE 65th Street/Sand Point Way NE and NE 74th Street/Sand Point Way NE intersections.

2.2.3. Pedestrian and Bicycle Access

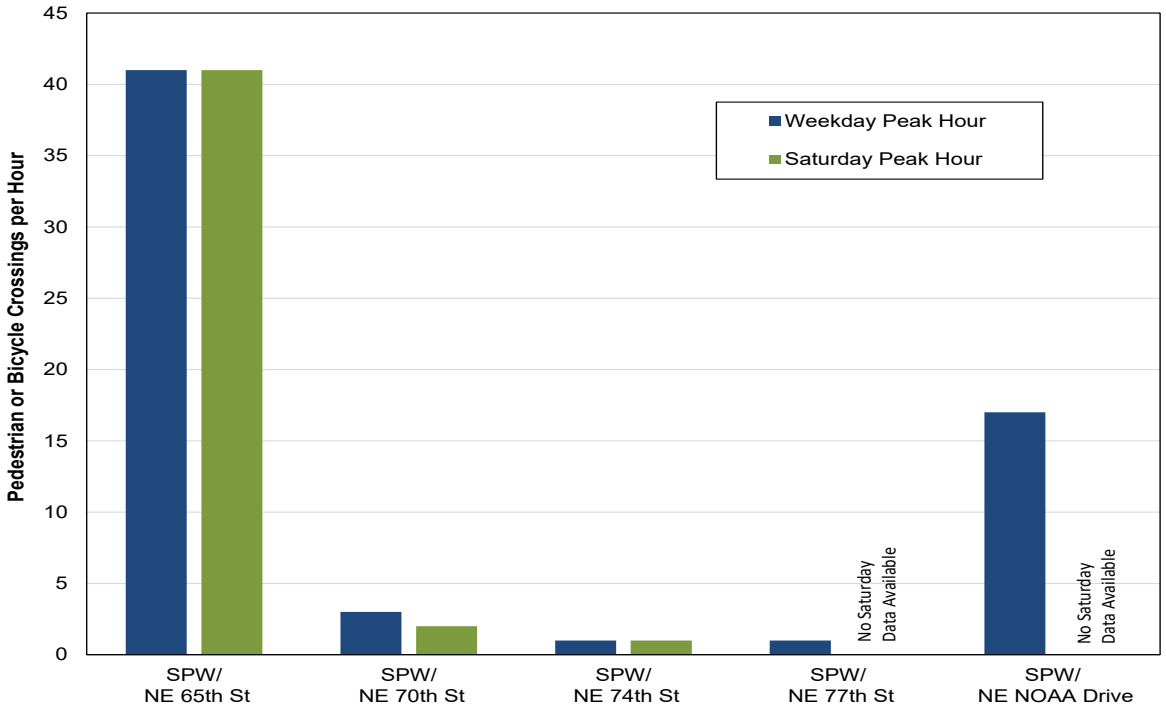
The traffic count data described above included information about pedestrian and bicycle crossings at key intersections along Sand Point Way NE. Crossing data for the NE NOAA Drive / Sand Point Way NE intersection were obtained from counts performed in August 2016. Figure 7 shows the numbers of pedestrian crossings at the key intersections; Figure 8 shows the numbers of bicycle crossing. While not all pedestrians or bicyclists who cross through these intersections are destined to Magnuson Park, the data do indicate the level of off-site connectivity to other non-motorized facilities. The counts indicate that both pedestrian and bicycle traffic is highest at the NE 65th Street intersection, which has a two-way protected bike path linking to the Burke-Gilman Trail. There is also a connection to the Burke-Gilman Trail near NE NOAA Drive. NE 74th Street and NE 70th Street also have relatively high pedestrian crossings.

Figure 7. Pedestrian Crossings at Key Near-Site Intersections



Source: Data for all but the NOAA Drive intersection are based on turning movement counts performed by SDOT on May 10, 2018 (weekday) and May 12, 2018 (Saturday). Source: Data for all but the NE NOAA Drive intersection are based on turning movement counts performed by SDOT on May 10, 2018 (weekday) and May 12, 2018 (Saturday). Counts for NE NOAA Drive performed on August 24, 2016. The weekday peak hour typically reflects the peak one-hour between 4 and 6 PM; the Saturday peak hour typically reflects the midday peak between 11 AM and 1 PM.

Figure 8. Bicycle Crossings at Key Near-Site Intersections



Source: Data for NE 65th Street, NE 70th Street and NE 74th Street intersection are based on turning movement counts performed by SDOT on May 10, 2018 (weekday) and May 12, 2018 (Saturday). Counts for NE 77th Street and NE NOAA Drive performed on August 24, 2016.

2.2.4. Traffic Control and Operations

The roadway network map (see Figure 2) showed the existing traffic control. The two main vehicle access intersections on Sand Point Way NE—at NE 74th Street and NE 65th Street—are controlled by traffic signals. Intersections within the park are controlled with stop signs. Traffic operations analysis performed for the *Sand Point Way Corridor Study Transportation Technical Report*[8] determined that the signalized intersections operate at very good levels of service during the AM peak hour, PM peak hour, and weekend peak hour, and would continue to operate well even with anticipated growth in traffic. Based on observations, the stop-sign controlled intersections within the park also operate at acceptable levels of service.

2.2.5. Traffic Speed

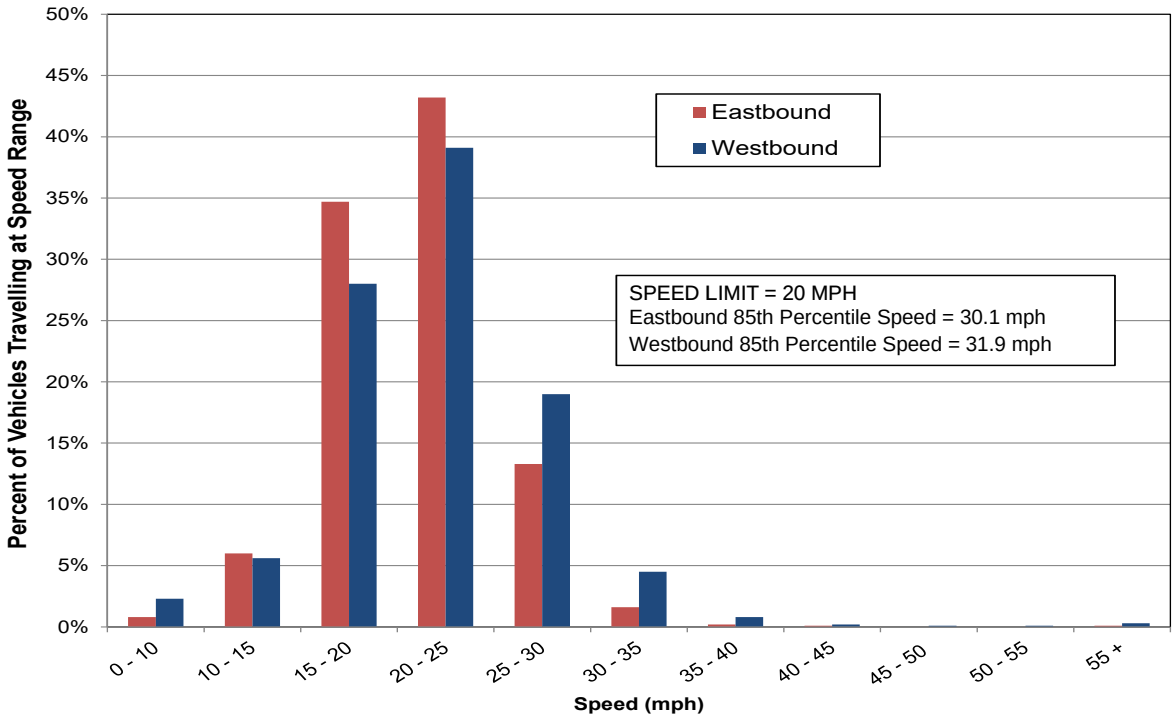
There are only two speed limit signs within the park: a newly-installed 20-miles-per-hour (mph) sign on eastbound NE 65th Street at 62nd Avenue NE (new as of March 2021), and an old 15-mph sign (on a very short post) on eastbound NE 74th Street approaching Sportsfield Drive NE.

SDOT performed a speed study on NE 65th Street just east of 62nd Avenue NE during the week of April 19, 2021. This study charted the speed of all vehicles (nearly 28,000) during a seven-day period and

8 Heffron Transportation, Inc., March 2017.

determined the 85th-percentile speed, which is a common statistical threshold used to assess compliance with a speed limit. Figure 9 shows the results. The 85th-percentile speeds in this segment were 30.1 mph in the eastbound direction, and 31.9 mph in the westbound direction. Over the course of the week, 55 vehicles were clocked exceeding 50 mph, with the highest speed at 84 mph. These speeds, which are well above the posted speed limit of 20 mph, suggest a need for active traffic calming measures on this corridor, such as speed humps.

Figure 9. Vehicle Speeds on NE 65th Street east of 62nd Avenue NE



Source: Seattle Department of Transportation. Speed study performed from April 19, 2021 through April 26, 2021.

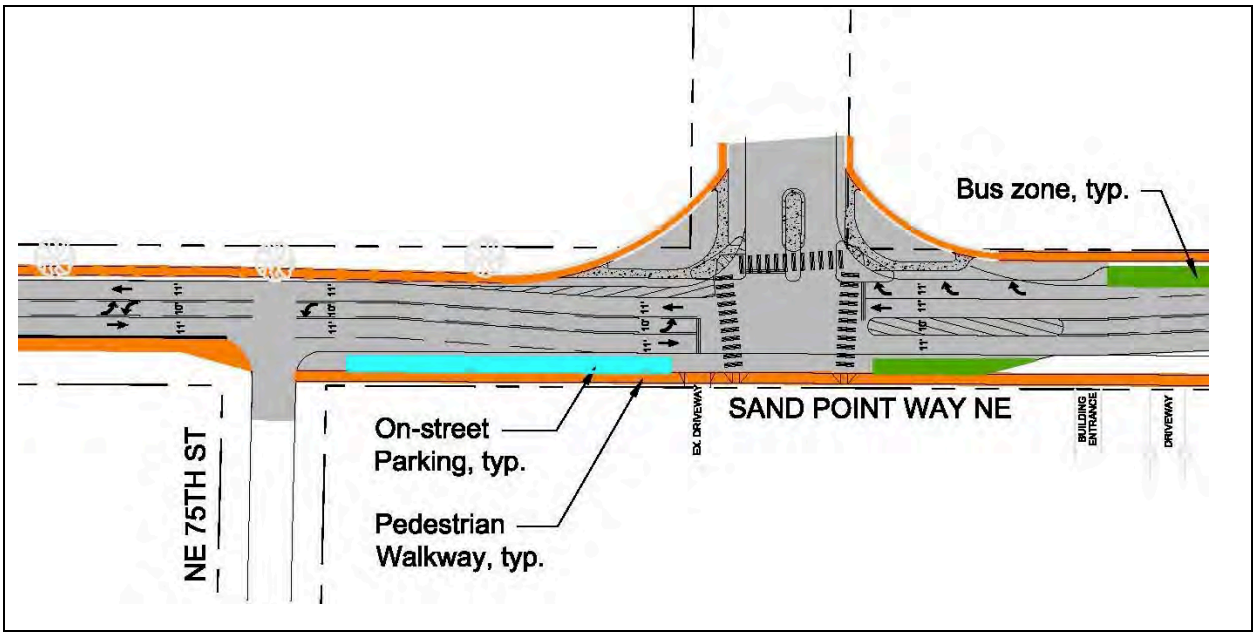
2.2.6. Planned Improvements on Sand Point Way NE

SDOT has executed a contract to construct improvements along Sand Point Way NE that were recommended in the *Sand Point Way Corridor Study*. Construction is expected to be complete by fall 2021. The key elements are:

- New sidewalks between NE 70th Street and NE 77th Street;
- Reconfiguration of the NE 74th Street intersection;
- New marked crosswalk at the NE 77th Street intersection; and
- New curb bulbs and curb ramps at the NE 70th Street intersection.

Reconfiguration of the Sand Point Way NE / NE 74th Street intersection will remove the two "ramp" connections that currently provide for northbound right turns into Magnuson Park and westbound right turns out of Magnuson Park. Changes to more conventional intersection corners will reduce turning speeds and the potential for vehicle-pedestrian conflicts and will help calm traffic entering and leaving the main gate. Crosswalks will be created on all three legs of the intersection (there is currently only a crosswalk on the south leg of Sand Point Way NE). Figure 10 shows a concept of these planned changes

Figure 10. Planned Changes at Sand Point Way NE / NE 74th St Intersection



Source: Sand Point Way Corridor Study Transportation Technical Report, March 2017. Graphic created by MIG.

2.3. Collision History

Five years of collision data were compiled for the roadways and intersections under SDOT jurisdiction, most of which pass through or adjacent to the Sand Point Historic District, as previously noted. The available data were obtained from SDOT's Open Data Portal, and reflect the period between March 30, 2016 and March 30, 2021. Collision data for SPR-controlled roads within the park are not publicly-accessible, and are not included in the collision history. The collision data are summarized in Table 4.

During the five-year period evaluated, there were 26 collisions at the four key intersections along Sand Point Way NE between NE 65th Street and NE NOAA Drive. None of the reported collisions involved fatalities; however, three collisions included reports of serious injuries. Of the remaining collisions, 17 resulted in an injury, and the rest were categorized as property-damage-only. Unsignalized intersections with five or more collisions per year and signalized intersections with 10 or more collisions per year are considered high collision locations by the city. There are no high collision locations in the study area.

Table 4. Collision Summary (March 30, 2016 through March 30, 2021)

Intersections	Rear-End	Side-Swipe	Left Turn	Right Angle	Ped / Cycle	Other [a]	Total for 5 Yrs	Average/ Year
Sand Point Way NE / NE 65th Street	0	0	1	1	2	3	7	1.4
Sand Point Way NE / NE 70th Street	0	0	5	0	1	1	7	1.4
Sand Point Way NE / NE 74th Street	0	0	7	1	0	1	9	1.8
Sand Point Way NE / NE 75th Street	0	0	0	2	0	1	3	0.6
Roadway Segment	**Rear-End**	**Side-Swipe**	**Left Turn**	**Right Angle**	**Ped / Cycle**	**Other [a]**	**Total for 5 Yrs**	**Average/ Year**
62nd Avenue NE (between NE 65th Street and NE 74th Street)	0	0	0	0	0	7	7	1.4
62nd Avenue NE (between NE 77th Street and Dead End) [b]	0	0	0	0	0	2	2	0.4
NE 65th Street (between 62nd Avenue NE and Park Boundary)	0	0	0	0	0	1	1	0.2
NE 65th Street (between Sand Point Way NE and 62nd Avenue NE)	1	0	0	0	0	0	1	0.2
NE 74th Street (between 62nd Avenue NE and 63rd Avenue NE)	0	0	0	0	0	1	1	0.2
NE 74th Street (between Sand Point Way NE and 62nd Avenue NE)	0	0	0	0	0	2	2	0.4
Sand Point Way NE (between NE 65th Street and NE 70th Street)	0	1	0	0	0	4	5	1
Sand Point Way NE (between NE 70th Street and NE 74th Street)	3	0	0	0	1	5	9	1.8
Sand Point Way NE (between NE 74th Street and NE 75th Street)	0	0	0	0	0	2	2	0.4
Sand Point Way NE (between NE 75th Street and NE 77th Street)	2	0	0	0	0	0	2	0.4
Sand Point Way NE (between NE 77th Street and NOAA Drive)	0	0	1	0	0	1	2	0.4
Sand Point Way NE (between NOAA Drive and Burke Gilman Trail)	1	0	0	1	1	2	5	1
Sand Point Way NE (between Burke Gilman Trail and Inverness Drive NE)	0	0	0	0	0	1	1	0.2

Source: City of Seattle Department of Transportation, https://data-seattlecitygis.opendata.arcgis.com/datasets/collisions, March 2021.

a. 'Other' collisions include vehicles striking parked vehicles, vehicles striking object on or off the roadway, and collisions with insufficient information.

b. Segment of street that connects to North Shore Recreation Area under NE NOAA Drive. It is sometimes referred to as Avenue A, and sometimes referred to as NE 62nd Avenue.

The intersections with the highest number of collisions—Sand Point Way NE at NE 74th Street and NE 70th Street—will soon be improved by SDOT as part of its "Vision Zero" program to improve safety. This intersection had seven left turn collisions; six of which involved a southbound left-turning vehicle (into the park) colliding with a northbound through vehicle. The planned configuration will simplify the northbound lanes and should reduce the potential for this type of collision. Most of the collisions along the various roadway segments involved a vehicle hitting a parked car or fixed object, which should also be improved with the addition of curbs and sidewalks along the corridor.

2.4. Existing Wayfinding Plan

The Navy-era system of signage and wayfinding is not known, and may have evolved over the decades. Because access was mostly restricted to the main gatehouse (NE 74th Street), it is possible that guards gave directions for military personnel and visitors. Maps showing the entire base exist, but it is unknown whether or how these were displayed around the base or distributed to visitors. All buildings and structures were numbered chronologically according to their construction year and the respective numbers were attached to buildings in visible locations. The building-number signs were usually about 12-inches square with white backgrounds and black numbering. A few archive photos exist from the 1980s and illustrate that informational signage existed for some buildings, such as the "Crows Nest" within Building 9 (current Mercy Housing).

After the city took over management of the historic district and public streets were created, directional signage was needed for visitors. In the late 1990s, plywood and wooden post signs were created and installed primarily throughout the historic district. Many of these signs currently exist after being repainted and new lettering applied in the late 2000s. As major buildings were renovated and occupied by tenants, such as Building 67 (The Mountaineers) and Building 27 (Arena Sports), these tenants designed and installed lighted building signage which followed applicable city codes.

A comprehensive *Signage & Wayfinding Master Plan* was prepared for Magnuson Park and the Sand Point Historic District in 2004.[9] It developed the set of sign standards that applies to the transportation system as well as buildings. It presents design standards for different types of signs including: motorist and pedestrian directions; campus directory signage; building identifications (number, address, and tenant name); and also identified a common place name nomenclature. In 2010, a signage code for the Sand Point Overlay District was developed and approved. This code specified the size, location and number of commercial on-premises signs and limited off-premises signs.

Signage installed based on the 2004 plan has been updated many times in the past 17 years, coinciding with new development or building tenants. To determine the current status (as of April 2021), the location and text of the transportation-related signs throughout Magnuson Park and the Sand Point Historic District were inventoried. Appendix C details the existing transportation-related wayfinding signs in the park and historic district. It also presents a complete inventory of existing signs, including a map of each sign's location and photos of sign text.

[9] Kelly Brandon Design, *Warren G. Magnuson Park, Signage & Wayfinding Master Plan Final Design*, December 22, 2004.

3. ISSUES AND CONSTRAINTS

This section identifies issues and deficiencies in the existing transportation and circulation systems at Magnuson Park and the Sand Point Historic District. These were developed based on the background conditions described previously, input from stakeholders (e.g., Seattle Parks, SDOT, tenants, neighbors), comments at public meetings, and in-field observations.

3.1. Non-Motorized System

The existing non-motorized facilities within the park and historic district were described in Section 2.1.3. The system includes sidewalks, multi-modal paths, compacted gravel paths, and informal dirt trails. Most of the sidewalks within the park are remnants from the former Naval Air Station, and many corners have not yet been updated to provide ADA-compliant curb ramps. There are no designated bike paths or bike lanes within the park, but bikes are allowed to share roads and the multi-modal paths. SPR and SDOT maintain lists of locations where improvements may be required to meet ADA standards, including updating some older ramps that do not meet current width or slope standards.

Because the existing non-motorized system is so extensive, the constraints review focused on the primary access and major pedestrian routes; it does not comprehensively describe all of the constraints, nor is it intended to identify all of the ADA-related deficiencies. Any improvements recommended in this report for the overall transportation system would need to meet ADA standards. Specific non-motorized constraints are detailed for each corridor below. However, this project is not intended to correct all existing deficiencies; SPR and SDOT would continue to monitor and upgrade existing facilities to meet ADA standards.

3.1.1. NE 74th Street Corridor

<u>At Sand Point Way NE / Gate House:</u>

- Intersection at Sand Point Way NE (Main Gate) requires out-of-direction pedestrian movements to cross NE 74th Street;
- Existing islands are barriers to pedestrians; and
- Pedestrians must cross the existing vehicle entry and exit ramps, which have relatively high vehicle speeds and limited sight lines.
- *It is noted that these issues are all being addressed by SDOT's Sand Point Way Project that is currently under construction.*

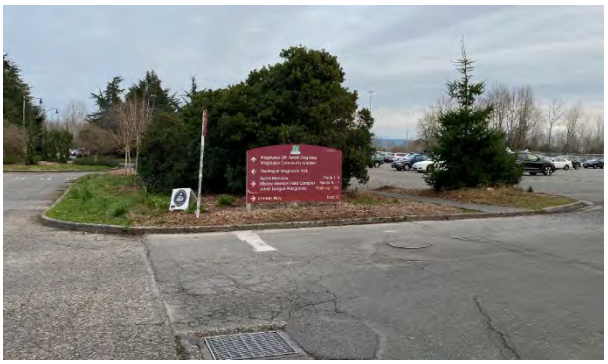
<u>Between Gate House and NE Sportsfield Drive:</u>

- Many gaps in sidewalks, particularly along south side of NE 74th Street;
- Existing vehicle parking in front of old fire house impedes pedestrians;
- Landscape islands east of fire house have no walkways;
- Pedestrians must cross many driveways, most of which have no curb ramps, and several driveways that are no longer used for vehicle access; and.
- There is no crosswalk across NE 74th Street near Avenue A.

	
Looking north at Main Gate intersection (Sand Point Way NE / NE 74th Street)	*Looking west on NE 74th Street near old fire house*

East of Sportsfield Drive:

- Sidewalk continues along north side of primary parking lot (W-5), but is very narrow and encroached upon by adjacent hedge of strawberry trees (Arbutus); and
- No curb ramps and lack of continuation where sidewalk crosses east parking lot driveway (near playground).

	
Looking east at hedge between NE 74th Street and parking lot. Sidewalk to the south (right) of hedge.	*Looking east at sidewalk between hedge and parking lot (just south of NE 74th Street).*

3.1.2. North Shore Access

- No continuous walkway or accessible route to reach North Shore from Sand Point Way NE or other areas within the park;
- Crosswalk landing on east side of Avenue A north of NOAA Drive underpass has poor visibility, and landing on west side has poor drainage;
- No pedestrian connection between North Shore buildings/site and 63rd Avenue NE;
- No pedestrian facilities between Avenue A and 63rd Avenue NE along either NE 77th Street (behind Mountaineers) or on service drive along north side of Building 2;
- Poor pedestrian facilities on south side of Arena Sports with unmaintained stairways and steep slopes to reach Avenue A; and
- Limited pedestrian facilities along Cascade Bicycle Club and Magnuson Cafe frontage.

Looking east at gravel path that connects from Sand Point Way NE to North Shore area

Looking north from 63rd Avenue NE within Magnuson Park at the gated NOAA Drive.

Looking west at informal gravel path along the site side of the Arena Sports building. Berm and NOAA drive on south side of path.

Stair that connects gravel path on southeast corner of Arena Sport Building. There is only grass at the top of the stair.

Informal pedestrian path that connects Sand Point Way NE to Avenue A at approximately NE 75th Street.

Looking north on NE 77th Street (east of Mountaineers Building). There is no pedestrian facility on this street.

Stair that connects from Avenue A to NE 77th Street on south side of Mountaineers.

3.1.3. NE 65th Street Corridor

West of Sportsfield Drive:

- No sidewalk on either side of 62nd Avenue NE at far north end where it connects to NE 65th Street; and
- High vehicle speeds along NE 65th Street.
- No pedestrian crossing to Radford Court.

East of Sportsfield Drive:

- Crosswalk located mid-block but has no ramps on either side, and north side connection to trail is blocked by log barrier;
- No sidewalk on south side of NE 65th Street east of 65th Avenue NE;
- No ramp or crosswalk at 65th Avenue NE that connects to path on north side of street; and
- High vehicle speeds.

Near Promontory Point / Environmental Learning Center:

- Curb ramps but no sidewalk at corner where wetlands trail crosses Lake Shore Drive to parking lot; and
- No direct pedestrian path between NE 65th Street and east end of Promontory Point Trial / Environmental Learning Center.

	
Looking north on 62nd Avenue NE towards NE 65th Street intersection.	*Looking south at NE 65th Street and 65th Avenue NE pedestrian gate. No ramp or crossings to reach path on north side of street.*

3.1.4. NE 70th Street Access at Sand Point Way NE

Sand Point Way NE to Avenue A:

- Rough gravel connection from street to internal walkway system; and
- No ramp to cross Avenue A.

	
Looking northwest at ped connection between Sand Point Way NE and historic district at NE 70th Street.	*Looking west at Sand Point Way NE and NE 70th Street intersection. No ADA ramp to cross Avenue A within historic district.*

62nd Avenue NE to NE Sportsfield Drive:

- No direct pedestrian connection between 62nd Avenue NE and NE Sportsfield Drive; and
- Steep slope and driveway between Community Center parking lot and NE Sportsfield Drive.

3.1.5. Sportfield Drive NE Corridor

- No designated walking path north of wetlands;
- Pedestrians use the road shoulder, which is often blocked by illegal parking;
- Path along wetlands encroached upon by overgrown vegetation, and there are no sight lines between the path and the road, which could feel unsafe for some users; and
- High vehicle speeds.

Looking north on Sportfield Drive NE at shoulder condition.

Looking north on path that is separated from Sportfield Drive NE by thick vegetation.

Looking north on Sportfield Drive NE near Tennis Center where no shoulder or sidewalk exists.

Illegally parked vehicles along Sportfield Drive NE near baseball fields.

3.1.6. Lake Shore Drive NE Corridor

- Many sections of path have severe root heave (see photos);
- Pedestrian crossing of boat launch can be chaotic during times of high boat activity;
- A very long "crosswalk" marking across boat launch area is badly faded;
- Wooden bridge across creek (near boat ramp) has large gaps and/or grade shifts where it meets pavement; and
- Angled vehicular parking along Lake Shore Drive NE has no parallel pedestrian facility, and many pedestrians walk behind parked cars along edge of the travel way to reach trails that connect to the Promenade or Kite Hill.

<table>
<tr><td>  </td><td>  </td></tr>
<tr><td>Looking west at root heave along path that connects from Lake Shore Drive NE to boat launch parking lot.</td><td>Looking north at pedestrian crossing of boat launch.</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Looking south at root heave along path and bridge across creek.</td><td>Looking north at parking along Lake Shore Drive NE where there are no pedestrian facilities.</td></tr>
</table>

3.1.7. Other Locations

63rd Avenue NE between NE 74th Street and NE NOAA Drive:

- Long segments on west side of street adjacent to UW loading dock and adjacent to hangars have no sidewalk or walkway;
- Discontinuous sidewalk on east side of street; and
- The signed accessible route to Building 30 has ramps and/or stairs that could be barriers.

62nd Avenue NE between NE 74th Street and NE 65th Street:

- No sidewalk on either side at north end of street near NE 65th Street;
- No sidewalk on west side of street north of Solid Ground housing;
- Median that separates former Officer Club parking lot from street has a sidewalk, but it is impassable due to encroachment by shrubs, trees, vehicle bumpers and utilities.
- No marked crosswalk near Community Center

3.2. Transit Constraints

King County Metro's Route 62 circulates one-way through the Sand Point Historic District in a clock-wise direction, entering through the main gate at NE 74th Street, looping south on 62nd Avenue NE and exiting at NE 65th Street. The following issues with this routing are as follows:

- 62nd Avenue NE pavement was not designed to accommodate transit buses;
- Tight radius on northwest corner of NE 65th Street / 62nd Avenue NE not designed to accommodate buses (some buses observed crossing centerline when making the turn); and
- No sheltered bus stop on 62nd Avenue NE near Mercy Housing.

3.3. Vehicular and Access Constraints

Section 2.2 of this report described existing traffic operations at the main access points to the park. Both the intersection at Sand Point Way NE / NE 65th Street and Sand Point Way NE / NE 74th Street operate at very good levels of service today. SDOT's project to rebuild the intersection at NE 74th Street is intended to improve the safety of this intersection, particularly for pedestrians, by removing the higher-speed turning ramps and adding pedestrian crosswalks and connections at the intersection.

Inside the park, almost all other intersections are controlled by stop signs, including four all-way-stop locations. These also operate at good levels of service. Few improvements are needed for vehicular modes of travel in the park. Key elements that should be considered are described below.

3.3.1. North Shore Recreation Area Access

Several past studies have evaluated ways to improve vehicular access to the North Shore Recreation area, which must now come through the main gate at NE 74th Street and use internal roads to connect under NE NOAA Drive. The prior alternatives evaluated include:

- Creating a new driveway on Sand Point Way NE at approximately NE 76th Street that would allow vehicles to access the North Shore without traveling through the main gate; and
- Reconnecting 63rd Avenue NE across NE NOAA Drive by removing the fence and reconfiguring the former intersection at this location. This would allow vehicles to access the North Shore via NE NOAA Drive. It would also provide another pedestrian connection between the North Shore and the rest of the park.

More detailed analysis about these alternatives, their effects on traffic operations and safety, and the potential advantages and disadvantages of improved North Shore vehicle access are described in Appendix D.

3.3.2. Wayfinding

The Wayfinding Plan was created in 2004. Many of the signs that had been installed based on that plan refer to locations or tenants that no longer exist. Routes have also changed over time. For example, the vehicular travel route to the North Shore Recreation Area has been diverted off Avenue A and onto 63rd Avenue NE and NE 77th Street. The Tennis Center also changed the access route to Sportsfield Drive NE, but the wayfinding sign pointing to the former route was never removed. There are also many signs that have too much information, making them difficult for a drive to read.

3.3.3. Vehicular Speeds

There are only two speed limit signs within the park, and they are only visible to drivers when entering the park. High vehicle speeds have been observed on many of the park's internal roads.

3.3.4. Truck and Freight Access

There are no signs within the park directing trucks to the preferred truck route. From Sand Point Way NE, trucks are directed to use NE 65th Street and Sportsfield Drive NE since there is limited clearance through the gate house at NE 74th Street.

Vehicles with boat trailers near the boat ramp also need special consideration. They need adequate turning radii and maneuvering space to back-up at the ramp. They also require tie down areas and parking.

4. RECOMMENDED IMPROVEMENTS

4.1. Prioritization Process

The purpose of this *Magnuson Park Circulation Plan* is to identify projects that would improve the existing facilities serving pedestrians, persons using wheelchairs, bicyclists, as well as drivers of automobiles, buses, and trucks navigating to and through Magnuson Park and the Sand Point Historic District. Over 60 potential improvements were identified to address existing issues and deficiencies based on past studies, field visits, and input from various stakeholders. Appendix E provides a full list of improvement options evaluated.

All improvements were screened based on criteria developed to meet the key goals of this Circulation Plan, which are to:

- Improve the safety of the transportation system;
- Improve accessibility and remove barriers for all modes of transportation; and
- Make it easier to navigate to and through the park.

Section 4.2 presents the criteria used and rating metrics. The results of the rating for individual improvements are shown in Appendix E. The high-ranking improvements were packaged into projects that make sense to be constructed together, and are presented in Section 4.3. Additional improvement measures, including those that should be coordinated with future developments within the historic district, are described in Section 4.4. Wayfinding improvements are described in Section 4.5 with a complete list of recommendations presented in Appendix C.

4.2. Evaluation Criteria

The project goals above were used as the basis for establishing evaluation criteria to rate more than 60 improvement options. The following presents the criteria and how ratings were applied. Ratings were made on a points system from 0 to 5. A "0" rating is the lowest and reflects that the project would not benefit that criterion or function; a "5" is the highest rating and reflects that the project would fully achieve the stated criterion. Signage improvements were rated separately; however, some of the improvement options could assist with navigation by making a route more intuitive or by connecting attractions to primary access routes.

Safety Criteria

A. Modal separation – Option would separate pedestrians and/or bicycles from vehicular traffic or crossing maneuvers. Options that create a completely separate facility, such as an off-site trail, were rated the highest (5), followed by a parallel sidewalk. Crossing improvements such as crosswalks and ramps also received points with higher ratings for projects that create a new facility.

B. Vehicle speed reduction – Measures intended to slow vehicle speeds were rated the highest.

Circulation Criteria

C. Accessibility for All – Option would remove barriers that impede those with disabilities. Highest ratings were provided for projects that would meet ADA requirements (such as adding or replacing ramps).

D. **Non-motorized Network –** Option would make it easier to walk or bike to and through the park. Highest ratings were for projects that complete a system such as the loop trail or a corridor connection.

E. **Transit Connection –** Option would improve connection to transit stops. This criterion would add points for elements that also connect to transit stops on Sand Point Way or 62nd Avenue NE.

F. **Vehicular Access and Circulation –** Option would improve traffic operations in the park or at major connections points on Sand Point Way. Highest ratings are for improvements that provide the best operations.

G. **Freight Circulation –** Option would improve truck access. For this criterion, elements that could affect freight along the primary truck route (65th Avenue NE, Sportsfield Drive NE, and 63rd Avenue NE) received negative ratings. It is noted that while none of the options would impede freight, some elements such as speed humps or street-side parking may slow truck movements.

Navigation Criteria

H. **Navigation –** Option would make a route more intuitive or connect attractions to a primary access route.

The above criteria were used to evaluate and rank the improvement options. Several of the options were alternative ways to address the same issue, and the evaluation provided information to select the best option. All improvement options and the criteria ratings are presented in Appendix E.

The highest-rated options were packaged along corridors or areas of the park to create a "project" that could be pursued for funding and construction by SPR and/or SDOT. Conceptual design and cost estimates for the high priority projects are presented in Appendix F.

4.3. High-Priority Recommendations

The following present the high-priority recommendations that have various elements packaged into projects. The project number and mapping nomenclature used follow the designations set up to track projects by corridor. The code keys are as follows:

MG = Main Gate, which is the NE 74th Street Corridor
NS = North Shore
SA = South Access, which is the NE 65th Street Corridor
SF = Sportsfield Drive NE corridor
CS = Central Spine, which is in the NE 70th Street alignment (if extended east of Sand Point Way)
LS = Lake Shore Drive NE and the Promenade
HA = Historic Avenues, which are 63rd Avenue NE and 62nd Avenue NE
LT = Loop Trail, a recreational trail that encircles the main part of the park.
T = Transit
P = Parking

4.3.1. NE 74th Street (Main Gate) Pedestrian and Traffic Calming Improvements

The historic Main Gate to the Sand Point Naval Air Station is at NE 74th Street. This is one of two vehicular access points to Magnuson Park and the Sand Point Historic District, and accommodates

about 60% of the vehicles that access the park each day. It is also a well-used pedestrian access point providing a connection between the transit stops / retail on Sand Point Way and housing, employment, and recreational destinations within the park. Outdoors for All, which provides recreational opportunities for children and adults with disabilities, is in the process of redeveloping the historic fire station building (Building 18) located on NE 74th Street east of 62nd Avenue NE. While that project will rebuild the frontage along its site, the rest of the corridor is not accessible to those in wheelchairs due to the many intersection and driveway corners that have no or substandard ADA ramps.

In addition to the need for pedestrian upgrades, vehicle traffic on this corridor often travels at high speeds. There is only one speed limit sign on the corridor, for 15 mph, which is an old, short-post sign just west of Sportsfield Drive NE. Physical measures are recommended to slow traffic on this street without decreasing the street's capacity. Separate projects (NS-8 and NS-9) recommend creating a new vehicle route to the North Shore Recreation Area via NE NOAA Drive, which would decrease vehicle traffic on NE 74th Street.

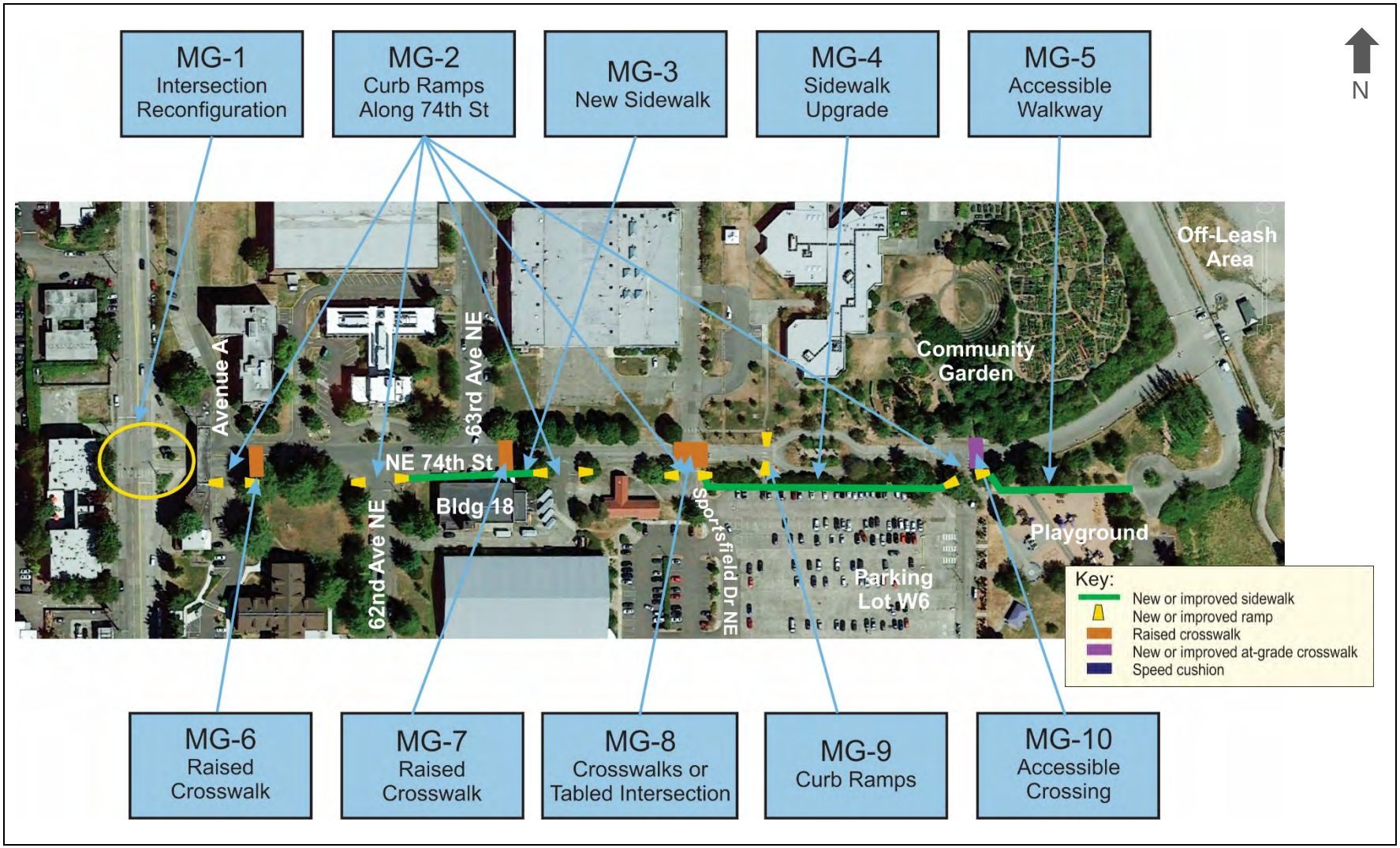
The recommended package of improvements options for the Main Gate corridor are listed in Table 5 and mapped on Figure 11 with the Map Key identifiers listed in the table.

Table 5. Recommended Improvements for NE 74th Street (Main Gate [MG]) Corridor

Map Key	Location	Improvement Detail
Goal: Create a barrier-free walking route along the south side of NE 74th Street to connect Sand Point Way (and its bus stops) to the Playground and Off-Leash Area		
MG-1	Intersection of NE 74th Street / Sand Point Way NE	SDOT will reconfigure this intersection to remove right-turn ramps (slip lanes), add pedestrian walkways, and crosswalks on all legs of the intersection. Already in process.
MG-2	NE 74th Street - South side from Sand Point Way to Off-Leash Area	• Construct new ADA ramps on: o Both sides of Avenue A – Bulb out the southwest-curb to extend sidewalk beyond Gatehouse building. o Both sides of Building 18 driveway • Table (raise) the intersection at NE 74th Street/Sportsfield Drive NE (see MG-8) • Upgrade ramps to ADA standards on: o Both sides of 62nd Avenue NE. o Across NE 74th Street east of 62nd Avenue NE (extend curb bulbs on both sides of the street to accommodate the improved ramps).
MG-3	NE 74th Street east of Building 18	Remove 'volunteer' trees, and add sidewalk through landscape berm. Preserve large tree. *Note: Assumes that Outdoors for All will improve frontage adjacent to Building 18 including removing angled parking and constructing new sidewalk.*
MG-4	North side of W6 Parking Lot (parallel to NE 74th Street)	Complete and upgrade sidewalks: • Add short sidewalk connection between new curb ramp and existing sidewalk. • Prune up the Arbutus and underplant with low-growing natives. • Extend curb wheel stops to reduce overhanging vehicle. *Note: May be complemented by parking lot layout improve-ments in Project SF-6.*
MG-5	Between Playground and Off-Leash Area	Extend sidewalk along north side of Playground at an ADA accessible grade to meet the abandoned roadway (where the turnabout is located).

Map Key	Location	Improvement Detail
Goal: Provide pedestrian connection to north side of NE 74th Street, and calm vehicle traffic		
MG-6	NE 74th Street east of Avenue A	Crosswalk at Pediatric Dental Clinic: • Add ramps for crossing NE 74th Street to reach UW Pediatric Dental Clinic. • Raise crosswalk to calm vehicle traffic. • Add curb bulbs on both sides of street to improve sight lines between motorists and pedestrians. • Extend center median from Gate House thru raised crosswalk to replace posts that now restrict left turn movements. • Upgrade ramps across Avenue A on north side of NE 74th Street.
MG-7	NE 74th Street east of 63rd Avenue NE	Crosswalk at Outdoors for All (Building 18 site): • Add new north-south crosswalk on east side of inter-section (connecting to Outdoors for All plaza). • Raise crosswalk to calm vehicle traffic. • Remove the existing crosswalk further east (currently very faded) located on the east side of Outdoors for All driveway.
MG-8	Intersection of NE 74th Street / Sportsfield Drive	• Table (raise intersection to calm traffic and increase driver awareness of multi-modal usage. • Repair/replace broken and failing pavement. • Relocate utility vault on south leg to outside of cross-walk, and upgrade drainage structure grate.
MG-9	NE 74th Street between Building 406 and W6 Parking Lot	• Add ramps on both sides of NE 74th Street. Restripe at-grade crosswalk.
MG-10	NE 74th Street at path between Children's Garden and Playground	• Add detectable warning indicators with ADA-compliant landings crossing NE 74th Street.

Figure 11. Recommended Improvements on NE 74th Street (Main Gate) Corridor



Source of aerial: GoogleEarth, April 20, 2021.

4.3.2. Avenue A Pedestrian Improvements to North Shore

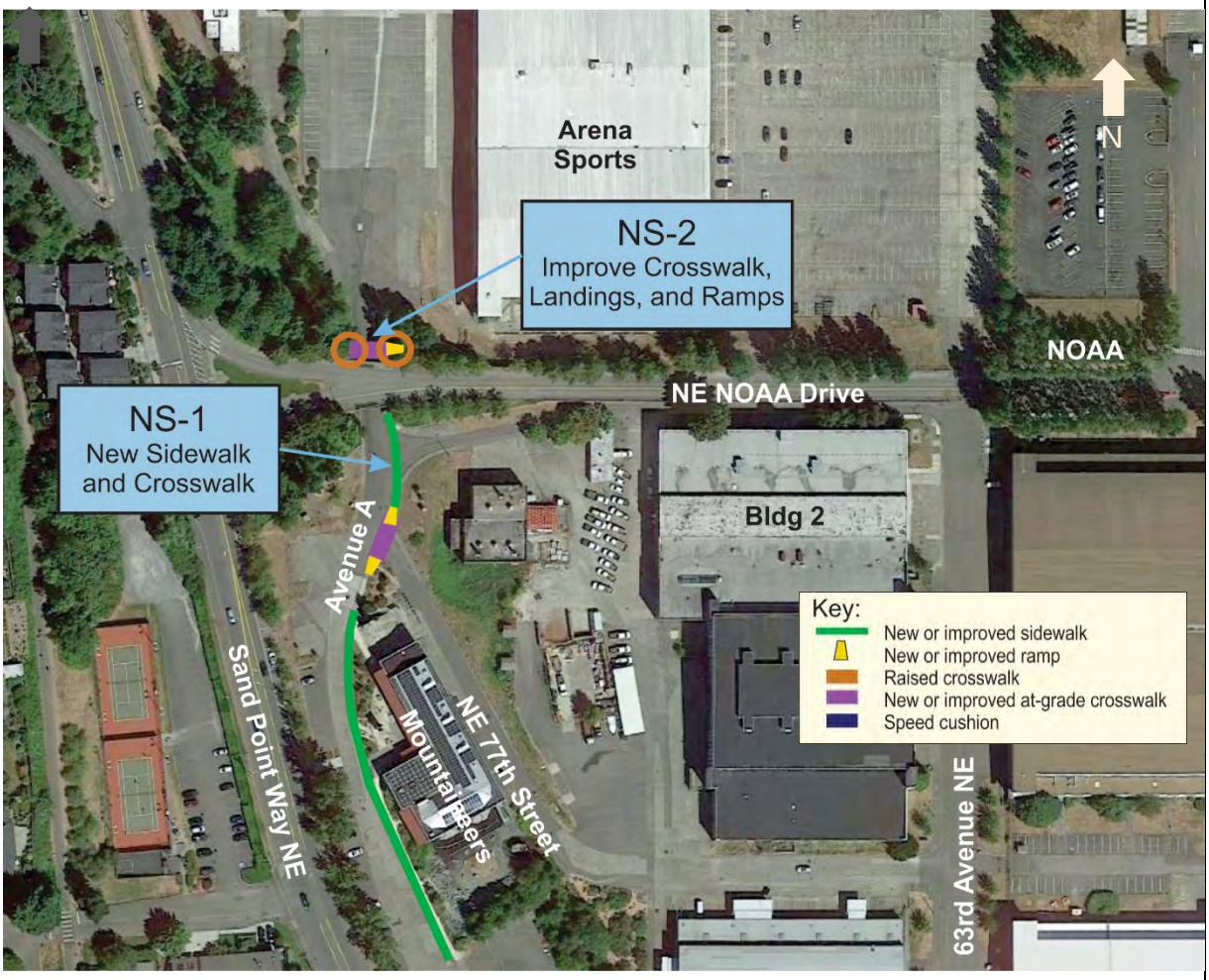
Pedestrian access options to the North Shore Recreation Area are limited. The primary route is on Avenue A using the vehicle underpass of NE NOAA Drive, but only the segment directly under the bridge has a sidewalk. Pedestrian do have the ability to connect between Sand Point Way NE and Avenue A at several locations. South of NE NOAA Drive, there is a recently improved bike path (and at grade pedestrian) connection near the Mountaineers, and many other informal paths; however, the routes between those connections and the North Shore requires pedestrians to walk in the vehicle travel way. North of NE NOAA Drive, there is a signed access for pedestrians on Sand Point Way NE that uses a winding gravel path and/or stair to connect to the North Shore at the north end of Building 11.

The highest-priority need is to create a dedicated pedestrian walkway between the Mountaineers Building (where there is a ramp to Sand Point Way) and Building 11. A separate recommendation (see next section) would create an accessible route to the North Shore. Table 6 lists the recommended improvements along Avenue A, which are shown on Figure 12.

Table 6. Recommended Improvements on Avenue A near North Shore[NS]

Map Key	Location	Improvement Detail
Goal: Enhance pedestrian connections to/from North Shore Recreation Area		
NS-1	Avenue A from Mountaineers to NE NOAA Drive underpass	Create a walkway/sidewalk along the east side of Avenue A that connects from the south end of the Mountaineers to sidewalk under NE NOAA Drive. Use a driveway curb-cut where sidewalk crosses service road to Building 2. Add crosswalk across NE 77th Street.
NS-2	Avenue A north of NE NOAA Drive underpass	Improve east crosswalk landing and move north to improve sight lines for drivers and pedestrians. Add berm and drainage to backside of west landing. Paint MUTCD-compliant crosswalk.

Figure 12. Recommended Improvements for Avenue A



Source of aerial: GoogleEarth, April 20, 2021.

4.3.3. New North Shore Access at NOAA Drive NE

There is only one vehicular access route to the North Shore Recreation Area where several high-demand attractions are located, including Arena Sports, Sail Sand Point, the Waldorf School, and the Magnuson Café & Brewery. This route, on Avenue A, passes under NE NOAA Drive. To improve safety, changes were made several years ago to prohibit traffic arriving through the Main Gate on NE 74th Street from turning left to Avenue A. These movements are redirected to use 63rd Avenue NE and NE 77th Street to access the North Shore; however, many motorists choose to U-Turn on NE 74th Street to access Avenue A instead of using the longer detour route.

In addition to the circuitous vehicle routes, potential safety issues with the existing route have also been raised. In 2015, the Mountaineers sought a temporary closure of Avenue A adjacent to its building to improve safety during the summer when approximately 4,000 children participate in summer camps and other programs near the building. [10] The Mountaineers noted high speeds of vehicle traffic and limited sight lines along Avenue A. This closure was never implemented, but the issues and concerns remain.

Pedestrian access options to the North Shore are also limited, with no ADA-compliant accessible route. The primary route is on Avenue A using the same vehicle underpass of NE NOAA Drive, but only the segment directly under the bridge has a sidewalk. This route is too steep for those in wheelchairs.

Several past studies and plans for Magnuson Park have recommended new vehicular routes to the North Shore Recreation Area. Two primary alternatives have been previously evaluated:

- **Alternative A** – Create a new driveway to Sand Point Way NE at about NE 75th Street (near Mountaineers); or

- **Alternative B** – Re-establish the connection at 63rd Avenue NE by opening the fence at NE NOAA Drive.

The feasibility and operations of each alternative were evaluated, with results presented in Appendix D. Of these two alternatives, Alternative B—re-opening the fence at the NE NOAA Drive/63rd Avenue NE intersection—provides the greatest benefit to all modes of transportation. It would provide a second means of vehicle access to the North Shore and reduce traffic through Magnuson Park's main gate at NE 74th Street and along Avenue A; it would provide a new pedestrian route and the only accessible route to the North Shore; it could be used by transit as part of a route that circulates from NOAA through the Park (instead of the dead-end route to NOAA), and it could open up parking capacity in the North Shore to serve uses located south of NE NOAA Drive. The North Shore improvements have been packaged with walkway improvements on 63rd Avenue NE to connect the North Shore with the rest of the park.

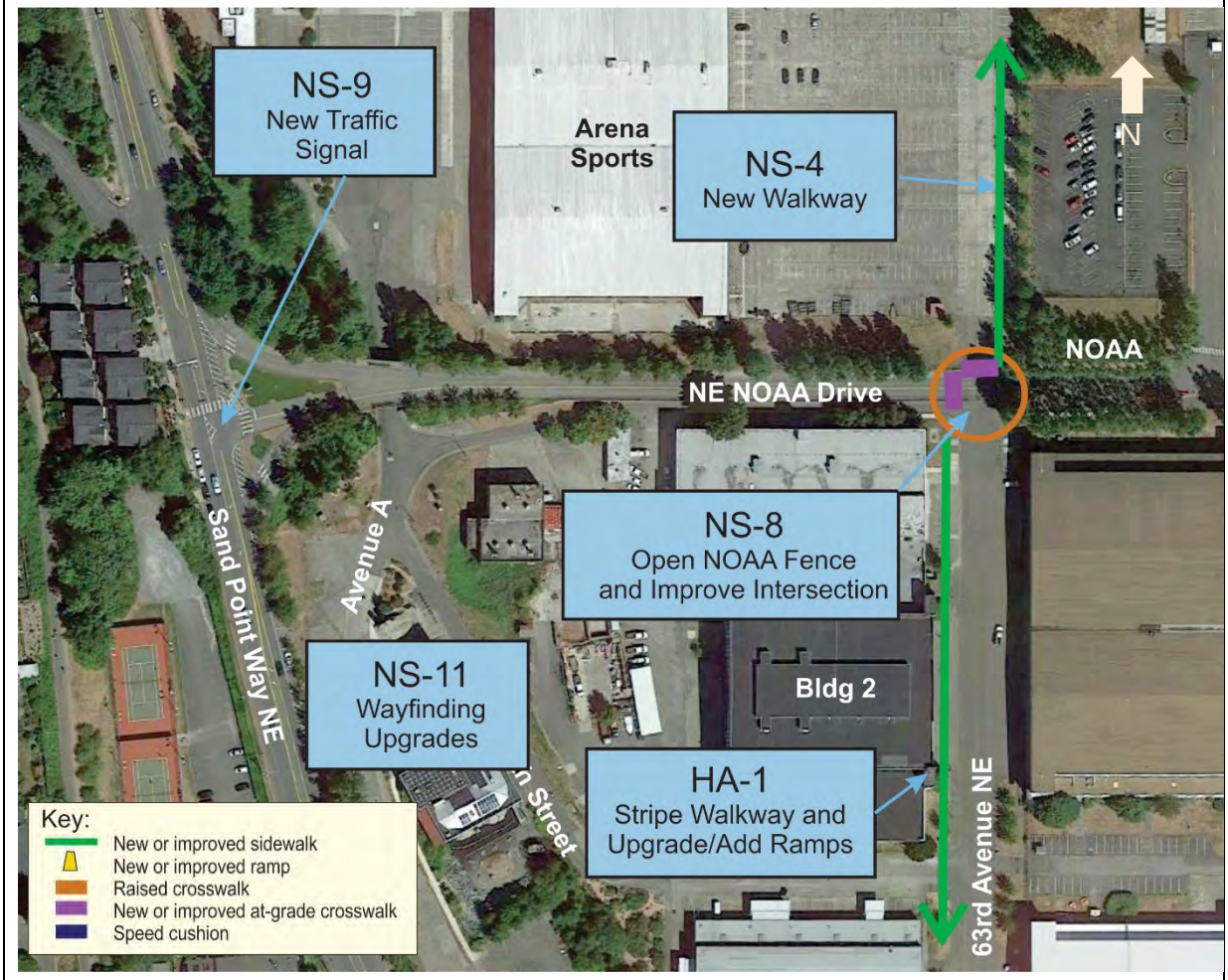
The recommended improvements are listed in Table 7 and shown on Figure 13.

[10] The Mountaineers, John Wick and John Olhson, *Powerpoint presentation: Mntrs, Road Closure Proposal, May 13, 2015.*

Table 7. Recommended Improvements for New North Shore Access at NE NOAA Drive

Map Key	Location	Improvement Detail
NS-4	East side of Arena Sports Parking Lot (N6)	Create a walkway along east edge of Arena Sports Parking Lot.
NS-8	NE NOAA Drive / 63rd Avenue NE intersection	Open fence on each side of NE NOAA Drive at 63rd Avenue NE for vehicle and pedestrian access. Add eastbound and westbound left turn pockets. Install all-way or two-way stop control. Add crosswalks to south and east legs of intersection.
NS-9	NE NOAA Drive/Sand Point Way NE Intersection	Install traffic signal (if it meets warrants).
NS-11	At key decision points along access routes	Add and change signs directing motorists and pedestrians to North Shore via new routes. (Included with Wayfinding Recommendations.)
HA-1	63rd Avenue NE from NE 74th Street to NE NOAA Drive	Stripe walkway along west side of roadway across the UW Building's loading dock, and adjacent to Building 2. Add ramps as needed.

Figure 13. Recommended Improvements for New North Shore Access via NE NOAA Drive



Source of aerial: GoogleEarth, April 20, 2021.

4.3.4. Sportsfield Drive NE Multi-Use Trail

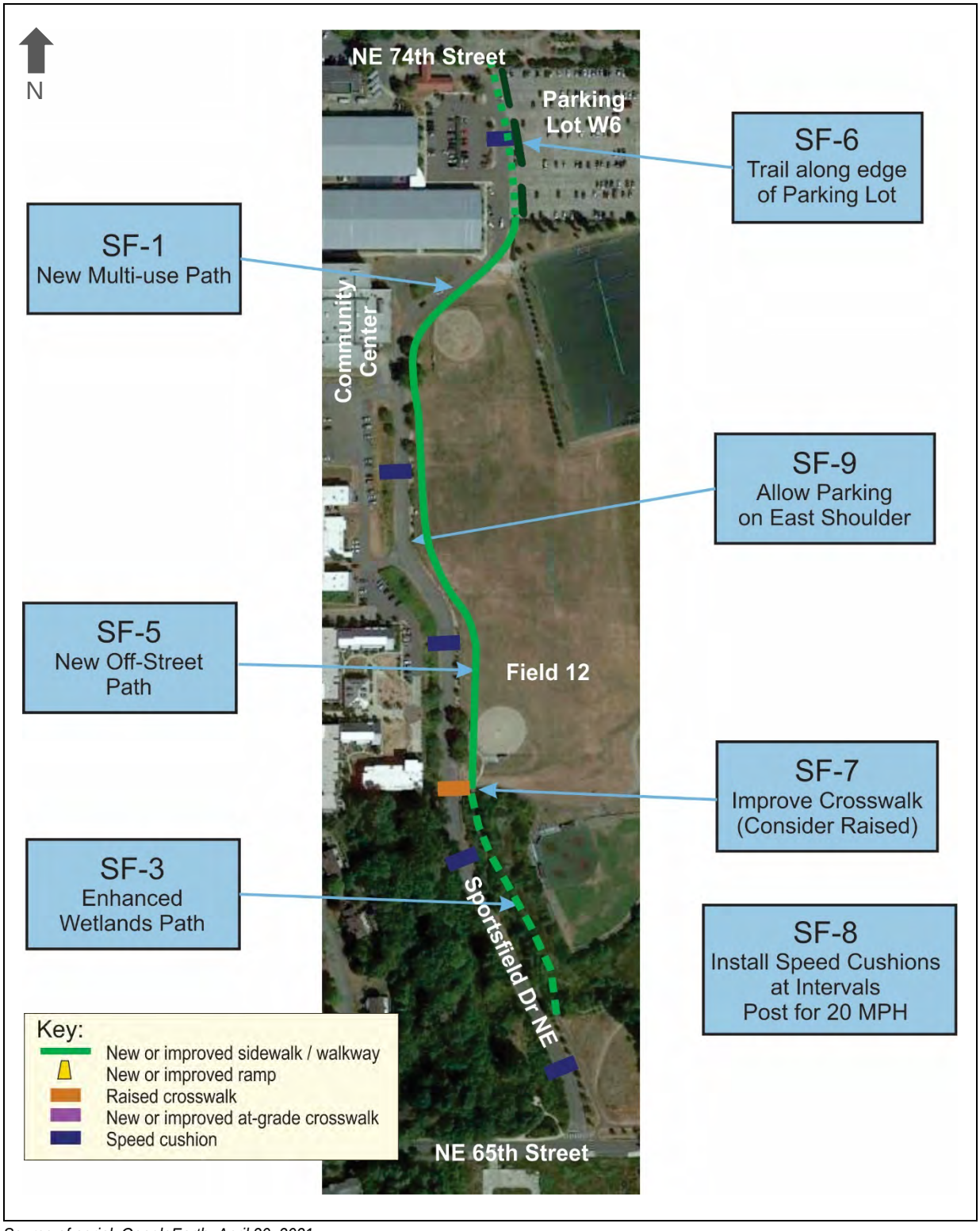
Sportsfield Drive NE is one of two streets that connect between NE 74th Street and NE 65th Street. It is an important corridor that allows some vehicular traffic to access the core area of the park using NE 65th Street instead of NE 74th Street. It is also used by pedestrians, is part of the Outdoors for All cycling loop, and is part of the truck route. While there is a shoulder along the east side of the street that can be used by pedestrians, it is not continuous (there is no shoulder south of Field 12 (Cricket Pitch) or north of the Community Center parking lot). Also, despite many "No Parking" signs, it is often obstructed by parked vehicles, particularly when the nearby baseball fields are in use. The northern connection to NE 74th Street passes through the W6 parking lot, which is the park's highest-use parking lot.

Improvements along this corridor focus on providing a continuous walkway or trail between NE 65th Street and NE 74th Street, and calming the speed of vehicular traffic. There are two ways to accommodate the pedestrian function—either along the edge or shoulder of Sportsfield Drive NE or as a separate trail along the edge of the adjacent field. Of these, the off-street trail provides more benefits to users and allows on-street parking to be re-established along NE Sportsfield Drive, which should help calm traffic speeds. Speed cushions at intervals along this street are also recommended to calm traffic. (See Section 4.3.6 for further description of speed calming measures.) The crosswalk at the south end of Field 12, could be raised in order to cover the remnant of the steel rail imbedded in the street where a former Navy-era security gate was located. If that crosswalk is raised, it could replace one of the speed cushions. Recommended improvements are listed in Table 8 and shown on Figure 14.

Table 8. Recommended Improvements Along Sportsfield Drive NE (SF) Corridor

Map Key	Location	Improvement Detail
Goal: Enhance pedestrian/cycling connections along NE Sportsfield Drive		
SF-1	Tennis Center to Community Center driveway.	Create a walkway connecting Field 6 to new Cricket Pitch Trail (see SF-5).
SF-3	Wetlands Trail from Field 12 to NE 65th Street	Thin the landscaping between the road and the path to provide line of sight for pedestrian. Restore or add gravel shoulder along segments of this trail to facilitate passing. Grind root heave.
SF–5	Off-street trail along edge of Field 12 (Cricket Pitch Trail)	Construct a paved multi-use trail along the west edge of Field 12.
SF-6	Edge of W5 Parking Lot	Create a protected multi-use trail along the west edge of the W5 (main) parking lot with the following changes: • Limit points of vehicle access to the parking lot to two locations using a landscape buffer along the west edge of the lot. Consider using a drainage swale instead of raised landscape islands. • Shorten some of the parking lot aisles so that all vehicle circulation among the aisles do not need to cross the trail. • Highlight trail crossings of parking lot aisles using painted crossings and/or landscape features.
Goal: Reduce Vehicle Speeds		
SF-7	Crosswalk from Solid Ground Housing to Field 12	Raise the existing crosswalk to cover the remnant of the steel gate rail.
SF-8	Full length of street	Install speed cushions at regular intervals (about every 400 to 500 feet). Post for 20 mph speed limit.
SF-9	From south end of Field 12 to Community Center driveway	Allow parking along east side shoulder, which should help slow traffic. Create additional breaks in fence so those who park can access path.

Figure 14. Recommended Improvements on Sportsfield Drive NE (SF) Corridor



Source of aerial: GoogleEarth, April 20, 2021.

4.3.5. Barrier-Free Loop Trail

One of the goals of this project is to create a recreational loop trail through the park that can be used by people in mobility devices or specialized cycles such as those provided by Outdoors for All. While the ultimate goal would be that this trail would meet all ADA standards, until that can be achieved, improvements that remove barriers are recommended. For this project, the definition of "barrier-free" is:

- No stairs or vertical curbs;
- Smooth surface, either paved (preferred) or crushed gravel (as necessary);
- Minimum 6-foot width;
- Passing zones where pedestrians can step to side on paths that are less than 8-foot width.
- Accommodates mixed-use traffic at a slow, ambling speed (not intended for higher-speed cyclists). In areas of high congestion (e.g., near Playground) or with limited sight lines, add speed limit signs or use restrictions.

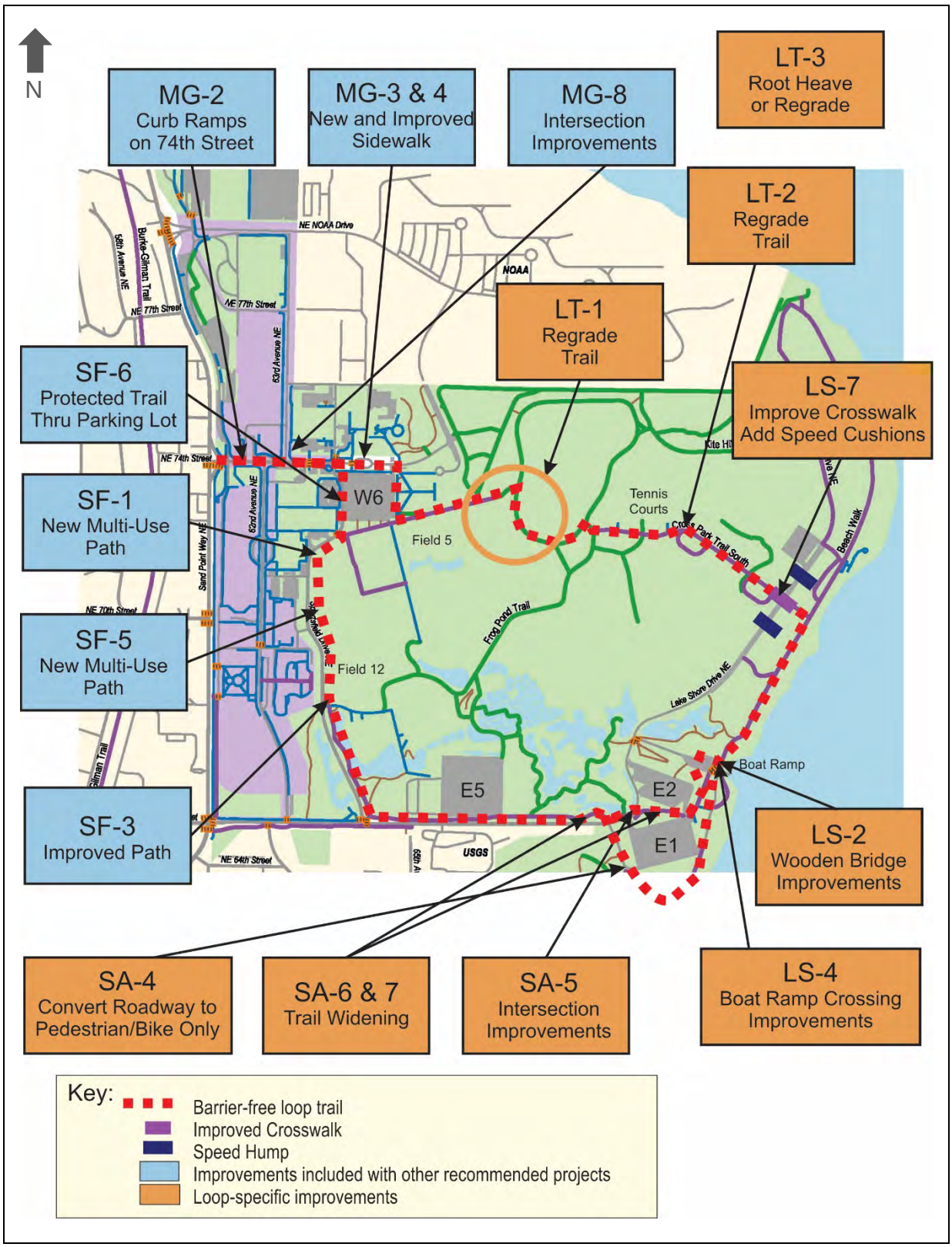
The recommended loop is one that is already regularly used by Outdoors for All, and is shown on Figure 15. It starts on NE 74th Street, uses the wide concrete apron west of the Playground, and then the Cross Park Trail to reach the Promenade. It then loops south to the trail on the north side of NE 65th Street, and returns along Sportsfield Drive NE. One of the recommendations (SA-4) would allow an extended route around the south end of the E-1 parking lot, which is frequently used today. Many improvements along this loop were recommended as part of the other corridors described above. Several additional improvements with the map key LT (for Loop Trail) would complete the package. The full set of improvements is listed in Table 9 and shown on Figure 15.

Table 9. Recommended Improvements for Barrier Free Loop Trail [LT]

Map Key	Location	Potential Improvement
Loop-Specific Improvements (not part of other recommendations)		
LT-1	Cross Park Trail between Dog Park and Sports Meadow	Regrade trail to reduce slope.
LT-2	Cross Park Trail at west Bunker	Replace asphalt and concrete pavements and regrade to reduce cross slope.
LT-3	Trail surface grading	Grind root heave or regrade where needed. Potential areas of need include: • Segments of Cross Park Trail near Field 5 and tennis courts • Along NE 65th Street. • Areas of Promenade, particularly near Wooden Bridge
SA-4	E1 Parking Lot driveway from NE 65th Street to Environmental Learning Pavilion	Create pedestrian-only street. • Close vehicle street on west side of E1 parking lot (adjacent to Promontory Point) and convert to pedestrian use only (note that most of the loop has already been converted to ped use only). • Direct all vehicles, including those with boat trailers, to enter the parking lot and boat ramp through the E1 parking lot.

Map Key	Location	Potential Improvement
SA-5	All-way Stop at NE 65th Street / E-1 Parking Lot	• Move crosswalk and stop sign closer to the intersection (to customary location). • Extend pedestrian walkways and add ramps. • Add walkway to south side of NE 65th Street to connect path to new pedestrian-only street (per SA-4 above).
SA-6	Segments of wetlands trail along NE 65th Street	• Widen trail areas by adding gravel shoulder to one side and clearing brush • Grind root heave or repave
SA-7	Trail between Parking Lots E1 and E2	• Widen trail areas by adding gravel shoulder to one side in some narrow sections. • Grind root heave or repave
LS-2	Wooden Bridge at end of Promenade	Improve transitions between wooden bridge and pavement.
LS-4	Boat Ramp Crossing	Improve pedestrian crossing of boat ramp.
LS-7	Cross Park Trail crossing of Lake Shore Drive	Improve crosswalk. To calm vehicle traffic speeds, either raise the crosswalk or locate speed cushions to the north and south.
Improvements included with other Recommended Projects		
MG-2	NE 74th Street - South side from Sand Point Way to Off-Leash Area	Construct new or upgrade ADA ramps along NE 74th Street
MG-3	NE 74th Street east of Building 18	Remove trees if needed, and add sidewalk through land-scape berm.
MG-4	Sidewalk along north side of W6 Parking Lot (parallel to NE 74th Street)	• Add short sidewalk connection between new curb ramp and existing sidewalk. • Prune up the Arbutus and underplant with low-growing natives. • Extend curb wheel stops to reduce vehicle overhang.
MG-8	NE 74th Street / Sportsfield Drive Intersection	• Add ramps and crosswalks on all four corners of intersections. • Repair/replace broken and failing pavement • Relocate utility vault on south leg that would be in crosswalk path. • Table (raise) intersection to calm traffic and increase driver awareness of pedestrian realm.
SF-1	Sportsfield Drive NE from Tennis Center to Community Center driveway	Create a new multi-use path connecting Field 6 to shoulder of Sportsfield Drive or to new trail (see SF-5)
SF-3	Sportsfield Drive NE from Field 12 to NE 65th Street	Improve wetlands trail from Field 12 to NE 65th Street.
SF-5	Sportsfield Drive NE from Community Center driveway to south end of Field 12	Create a new multi-use path along edge of Field 12.
SF-6	Edge of W6 Parking Lot	Create a protected multi-use trail along the west edge of the W6 (main) parking lot.

Figure 15. Recommended Improvements to Create Barrier-Free Loop Trail



4.3.6. Traffic Calming / Speed Reduction

Physical measures intended to reduce vehicle speeds are recommended for many locations, and are most needed for the two primary access corridors of NE 74th Street and NE 65th Street, as well as along Sportsfield Drive NE and Lake Shore Drive. The various methods include:

- **Speed Humps** are raised mounds of pavement (3 to 6-inches high) that extend the width of the street. Unlike speed bumps (the type often found in private parking lots), speed humps have a lower slope and do not "jolt" a vehicle as severely as a speed bump. They are typically used in series spaced at about 400-foot intervals to slow traffic over the length of a roadway. When used on a curb-less street, the hump should extend to the edge of the pavement to prevent vehicles from maneuvering around the end of the device. Speed humps are generally not used on steep grades because of their ability to "launch" downhill traffic and stall uphill traffic. Such a device on a steep grade can also create issues with control when the roadway is covered with ice or snow. Speed humps are challenging for bicycles, motorcycles, trucks and emergency vehicles.

- **Speed Cushions** are modified speed humps with channels cut down the middle. They are designed so that trucks and emergency vehicles can straddle a cushion and avoid the bump. In doing so, the emergency response vehicles avoid the delays caused by conventional speed humps. Bicyclists and motorcyclists can also drive through the channels. They are also typically less expensive to install, and do not create the drainage or icing issues associated with speed humps. Like speed humps, they are most effective when located in series along a roadway. One issues with speed cushions on curb-less streets is that motorists may veer into the shoulder area to avoid them.

- **Raised crosswalks** elevate the crosswalk to curb level with vehicle ramp transitions on each side of the travel way. This feature eliminates the need for pedestrian/ADA ramps from the sidewalk, and are sometimes used where ramps would be difficult to locate.

For the streets that have longer segments—NE 65th Street, Sportsfield Drive NE and Lake Shore Drive—a combination of at-grade crosswalks with speed cushions located at intervals between the crosswalks is recommended. The exception may be along Sportsfield Drive NE at the south end of Field 12 where a raised crosswalk could be considered to cover the former gate rail that is imbedded into the street. For NE 74th Street, which has many closely-spaced intersections, raised crosswalks are recommended.

In addition to physical measures, it is recommended that 20 mph speed limit signs be posted along the primary streets: NE 74th Street, NE 65th Street (east of Sportsfield Drive NE), Sportsfield Drive NE, and Lake Shore Drive. The old "15 mph" sign on NE 74th Street (just west of Sportsfield Drive NE) should be removed.

Many of these traffic calming/speed reduction measures are included as part of other high-priority improvements listed previously. Additional elements are detailed in Table 10.

Table 10. Recommended Traffic Calming / Speed Reduction Improvements

Map Key	Location	Improvement Detail
SA-1	NE 65th Street at Radford Court NE	Install new crosswalk on east leg of intersection. Install speed cushions on 65th Avenue NE to the west and east of crosswalk. Design speed cushions to accommodate wider axle spacing of large trucks, boat trailers and Metro buses.
SA-2	NE 65th Street at Sportsfield Drive NE	Install new crosswalk on east leg of Sportsfield Drive NE intersection. Remove the crosswalk located east of this intersection.
SA-3	NE 65th Street at 65th Avenue NE	Install new crosswalk and ped ramps/landings. Create break in logs and ADA landing on north side of street. Install speed cushions on 65th Avenue NE to the west and east of cross-walk. Design speed cushions to accommodate wider axle spacing of boat trailers.
LS-7	Lake Shore Drive	Add speed cushions at intervals along street and at each side of Loop Trail Crosswalk (included with Loop Trail package)
Many Locations	NE 65th Street east of Sportsfield Drive NE Sportsfield Drive NE north of 65th Street NE 74th Street east of Avenue A Lake Shore Drive NE north of 65th Avenue NE 62nd Avenue NE at each end	Post for 20 mph

4.4. Other Recommended Improvements

This section lists other improvements that are lower priorities or could/should be completed as part of new development in the historic district.

4.4.1. Lake Shore Drive and Promenade

The Lake Shore's swimming beaches, picnic shelters, and Promenade are highly-used amenities, particularly during the warm-weather months. The Promenade connects at several points to the park's other trail system. At the south end, the connection to trails along the NE 65th Street corridor must cross through the boat ramp, which is also very busy during these same seasons. The central connection is at the Cross Park Trail, which crosses Lake Shore Drive in the middle of the street's angle parking field. Lake Shore Drive ends just south of the Kite Hill Trail. The existing head-in angle parking on Lake Shore Drive has no companion parallel walkway, so pedestrians who enter or exit vehicles usually must walk in the street, behind parked vehicles. to reach one of the Promenade's connection paths.

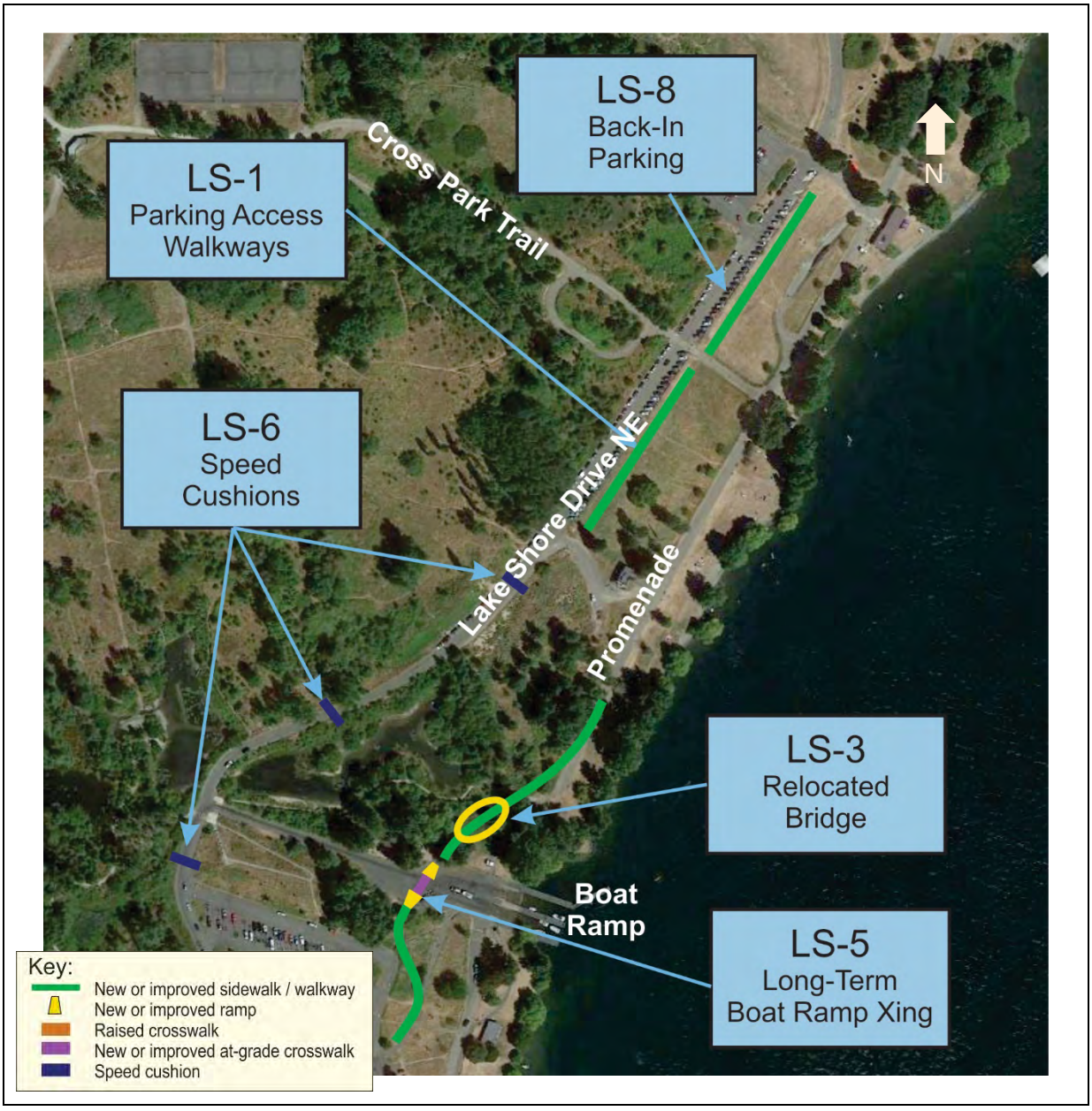
Short-term improvements near the boat ramp are recommended as part of the Barrier Free Loop Trail package presented previously. However, these short-term improvements continue to channel pedestrians through the most active portion of the boat ramp. A longer-term improvement seeks to relocate the path and the bridge further west away from where trailers are backing up adjacent to the ramp. Improvement recommendations also include measures to better link the parking area to the Promenade, and improve safety of the road and parking areas by calming traffic, providing a walkway for pedestrians parallel to the parking field, and re-orienting the parking to improve sight lines to pedestrians. Recommended improvements are listed in Table 11 and shown on Figure 16.

Table 11. Recommended Improvement for Lake Shore [LS] Drive and Promenade

Map Key	Location	Potential Improvement
Goal: Improve pedestrian facilities and accessibility along the Lake Shore Promenade		
LS-1	Adjacent to on-street angle parking on Lake Shore Drive	Create walkways east of parking field to pedestrians can use to circulate between parking and Promenade connections.
LS-3	Wooden Bridge and Approach – Long-term Improvements	Move bridge west so pedestrian path does not cross active area of boat ramp, and widen bridge to increase capacity: • Build a new, wider bridge further west; • Demolish existing bridge; • Extend path connections to new bridge.
LS-5	Boat Ramp Crossing – Long-term Improvements	Relocate boat ramp crossing: • Reroute approach paths on east side of boat ramp to a pedestrian crossing location further west, and beyond the maneuvering area for boat trailers. • Change angle boat tie-down stalls to pull-thru stalls to eliminate need for backing maneuvers • Add crosswalk for pedestrians. • Remove current walking path and redirect to new path and/or existing path along the lake shore.

Map Key	Location	Potential Improvement
Goal: Calm traffic and improve safety		
LS-6	Wetlands Trail crossing of Lake Shore Drive	Add speed cushions at intervals along street. . *Note: Speed cushions also recommended as part of the Loop Trail on each side of the Cross Park Trail Crosswalk.*
LS-8	On-street angle parking on Lake Shore Drive	Convert and sign for back-in angle parking (which is SDOT standard and improves sight lines from driver to oncoming cars or pedestrians).

Figure 16. Lake Shore (LS) Boulevard and Promenade



Source of aerial: GoogleEarth, April 20, 2021.

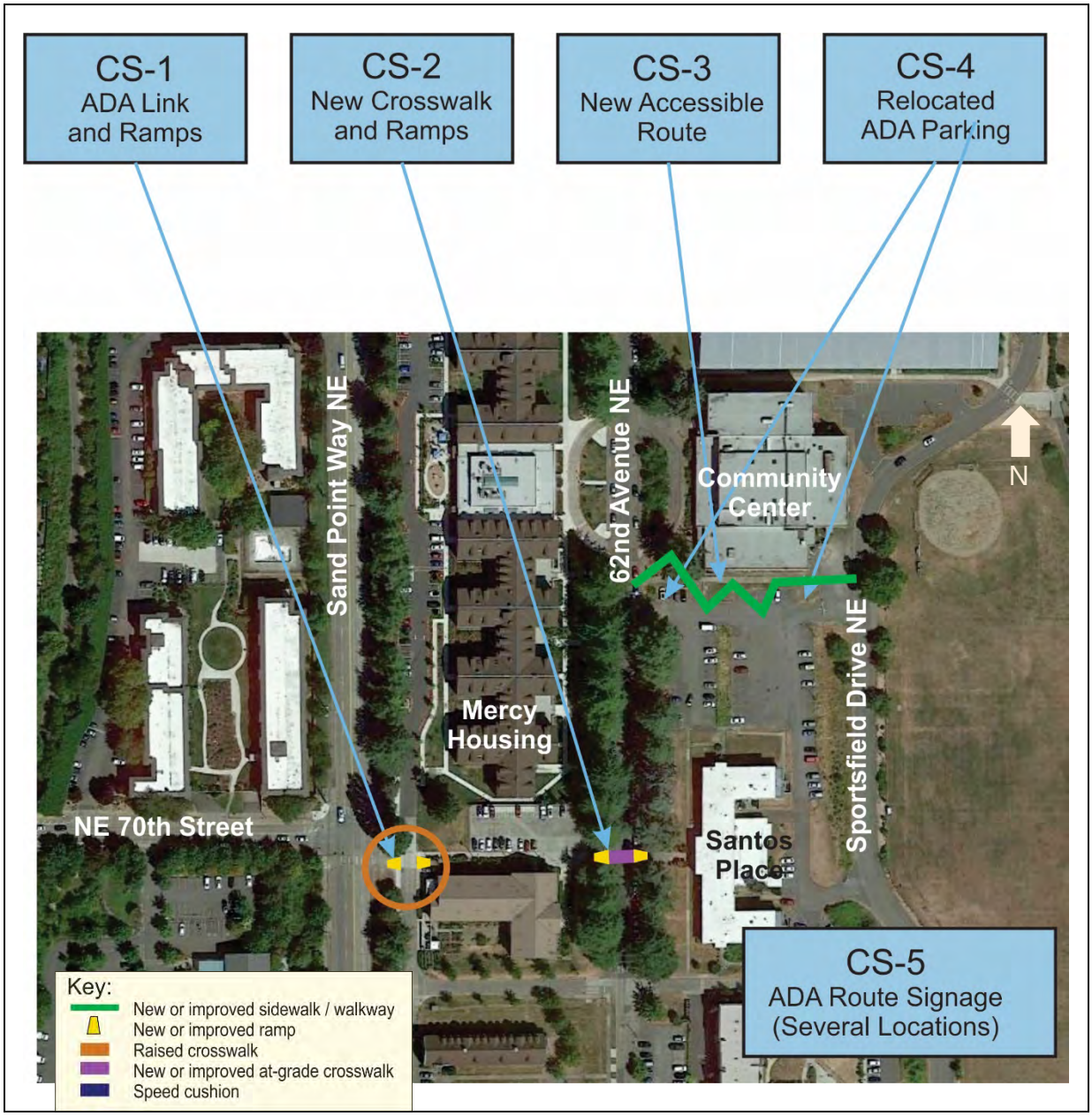
4.4.2. Spot Improvements

There are several isolated locations where spot improvements would enhance the transportation system. This includes isolated improvements that would improve an existing pedestrian route or make it more accessible. It also includes improvements that would enhance the 63rd Avenue NE transit route and truck route signage. These are detailed in Table 12. The improvements in the 70th Street Alignment are shown on Figure 17.

Table 12. Recommended Spot Improvements

Map Key	Location	Improvement Detail
Pedestrian / Accessibility Improvements		
CS-1	NE 70th Street (alignment) from Sand Point Way NE to Avenue A	• Create ADA path that connects street and internal sidewalk. • Add ramps and crosswalk across Avenue A to align with new path.
CS-2	NE 70th Street (alignment) across 62nd Avenue NE	• Locate crosswalk with ramps to cross 62nd Avenue NE on south side of NE 70th Street alignment (approximately Santos Place walkway).
HA-3	63rd Avenue NE Adjacent to Building 30	Reduce vehicle overhang of existing sidewalk adjacent to Building 30 by either converting angle parking to parallel parking, or adding curb stops.
HA-4	63rd Avenue NE North side of Building 30	Construct accessible route between sidewalk and the ADA entrance to Building 30.
HA-6	East side of 62nd Avenue NE near NE 65th Street	Construct sidewalk where none exists today (about 170 feet) to connect NE 65th Street to sidewalk near former officer housing. Consider setting curb to accommodate on-street parallel parking.
HA-7	Median on east side of 62nd Avenue NE at former Officer's Club parking lot	• Reconstruct median to provide minimum 6-foot-wide sidewalk that is not encumbered by landscaping or overhanging vehicles. May require reconfiguring existing parking. • If possible, widen adjacent street travelway to better accommodate buses.
NS-7	NE 77th Street	Add walkway or sidewalk on east side of street between Avenue A and 63rd Avenue NE.
Transit Improvements		
T-1	62nd Avenue NE near Community Center	Provide transit shelter on west (southbound) side of street.
T-2	62nd Avenue NE	Maintain pavement along transit street.
Truck Route Signage		
--	• NE 65th Street at Sportsfield Drive NE • Mid-corridor on Sportsfield Drive NE • Sportsfield Drive NE at NE 74th Street	Add "Truck Route" signs with arrow directing large trucks to use the appropriate route to avoid clearance issue at main gate (see Section 4.5).

Figure 17. Central Spine (CS) Improvements



Source of aerial: GoogleEarth, April 20, 2021.

4.4.3. Projects to Coordinate with New Development in Historic District

Several transportation-related needs are adjacent to sites where new development or redevelopment is planned to occur in the future. Frontage and/or accessibility improvements should be constructed by those development projects. Improvement needs to coordinate with others are detailed in Table 13.

Table 13. Improvements to Coordinate with New Development in Sand Point Historic District

Map Key	Location	Potential Improvement
With Future Community Center Remodel/Expansion		
CS-3	Just south of the Community Center, between 62nd Ave NE and Sportsfield Drive	• Create accessible route parallel to stairway on south side of Community Center linking 62nd Avenue NE to Sportsfield Drive NE. • Provide accessible path to Community Center main access.
CS-4	Just south of the Community Center, between 62nd Ave NE and Sportsfield Drive	Improve ADA parking: • Relocate stalls to level areas at top and bottom of hill. • Make stalls "van accessible." • Increase number of ADA stalls.
CS-5	Along accessible route	• Add signage to indicate the accessible route to the Community Center.
With Future Development of Housing Site in Southwest Corner of Historic District		
HA-5	West side of 62nd Avenue NE from Solid Ground housing to NE 65th Street	Construct sidewalk where none exists today (about 700 feet). Widen street to SDOT standard.
SA-8	North side of NE 65th Street between Sand Point Way NE and 62nd Avenue NE	Upgrade narrow sidewalk to current SDOT standards (about 450 feet).
With Future Redevelopment of Building 2		
HA-1	63rd Avenue NE along Building 2 Frontage	Enhance walkway along west side of roadway adjacent to Building 2. Add ramps as needed.
NS-5	Building 2 Service Drive	Stripe and sign access road as a Shared-Use Street.

4.4.4. Parking

The *Warren G Magnuson Park Strategic Development Plan*[11] identified future building, infrastructure, and recreation improvement priorities for the park. Parking is mentioned in one of the plan's six priorities, which stated: "Use and manage existing parking resources through active parking management and enforcement." New parking demand counts were not possible for this study because COVID-19 eliminated most large events and activities that generate the highest parking demand. However, prior studies of parking have shown that there is unused parking throughout the park even when the main parking lot (W6) is fully utilized.

Several changes that would affect parking stalls in various areas of the park are part of improvements recommended for other corridors, and are relisted in Table 14. In addition, a few other changes to better manage existing parking are recommended.

[11] Seattle Parks and Recreation, September 2012.

Table 14. Improvements to Parking (P)

Map Key	Location	Potential Improvement	Effect on Parking
Parking Management Measures			
P-1	Stall striping throughout park	• Establish regular maintenance schedule to repaint all parking stalls.	Can increase capacity since vehicles typically are parked further apart when lots are unstriped.
P-2	On-street parking on east side of 62nd Avenue NE near Community Center	• Sign parking with 2-hour limit to prevent parking from being occupied all day by nearby residents.	No change in capacity; creates enforceable parking criteria.
P-3	On-street parking on NE 74th Street	• Sign parking with 2-hour limit to prevent parking from being occupied all day by nearby residents.	No change in capacity; creates enforceable parking criteria
Other Improvements that would affect parking			
NS-8*	63rd Avenue NE Connection to North Shore	Open fence on each side of NE NOAA Drive at 63rd Avenue NE for vehicle access.	Provides connection to large parking lot east of Arena Sports, which could then be used to support activities or events in the main part of the park.
SF-6	Edge of W5 Parking Lot	Create a protected multi-use trail along the west edge of the W5 (main) parking lot with the following changes: • Limit points of vehicle access to the parking lot to two locations using a landscape buffer along the west edge of the lot. (Consider using a drainage swale instead of raised landscape islands.) • Shorten some of the parking lot aisles to that all vehicle circulation among the aisles do not need to cross the trail. • Highlight trail crossings of parking lot aisles using painted crossings and/or landscape features.	Estimated to reduce parking in Lot W-5 by 10 to 16 stalls. Would also create a better configuration to convert parking in the southern-most aisle for drop-off/pick-up operations before and after sport camps at the park.

Map Key	Location	Potential Improvement	Effect on Parking
SF-9	Sportsfield Drive NE from south end of Field 12 to Community Center driveway	If off-street trail created, allow parking along east side shoulder, which should help calm traffic. Create additional breaks in fence so those who park can access path.	Would add about 865 linear feet of parallel parking, with estimated capacity of 45 to 50 vehicles.
CS-3	Parking lot just south of the Community Center, between 62nd Ave NE and Sports-field Drive	• Create accessible route parallel to stairway on south side of Community Center linking 62nd Avenue NE to Sportsfield Drive NE.	Would likely require removal of 4 to 6 parking spaces in surface parking lot.
CS-4	Parking lot just south of the Community Center, between 62nd Ave NE and Sports-field Drive	• Improve ADA parking.	Would likely convert 2 to 3 regular stalls to ADA stalls.
LS-8	On-street angle parking on Lake Shore Drive	• Convert and sign for back-in angle parking (which is SDOT standard and improves sight lines from driver to oncoming cars or pedestrians).	No change in capacity.
HA-3	63rd Avenue NE adjacent to Building 30	• Reduce vehicle overhang of existing sidewalk adja-cent to Building 30 by either converting angle park-ing to parallel parking, or adding curb stops.	If converted to parallel parking, would eliminate 5 to 6 stalls.
HA-6	Sidewalk on east side of 62nd Avenue NE near NE 65th Street	• Add sidewalk where none exists today	Would eliminate or reduce capacity of informal parking area (note this area is not included in the parking lot inventory for the historic district.)
HA-7	Median on east side of 62nd Avenue NE at former Officer's Club parking lot	• Reconstruct median to provide minimum 6-foot-wide sidewalk that is not encumbered by landscap-ing or overhanging vehicles. May require reconfig-uring existing parking. • If possible, widen adjacent street travelway to bet-ter accommodate buses.	May reduce parking in adjacent parking lot. Further analysis would be needed.

4.5. Wayfinding Improvements

A comprehensive review of the wayfinding plan within Magnuson Park and the Sand Point Historic District was performed as part of this study. The intent of this review was to update, remove, or install new signs within the already-established sign design paradigm. The wayfinding plan was not intended to change the overall system or design of the signs, which would be a much larger and more expensive endeavor. The existing transportation wayfinding signs were reviewed to determine potential improvements. The improvements assessed:

- Gaps in signage at key decision locations;
- Errant directions to sites or tenants that no longer exist or routes that have changed due to circulation changes or new development;
- Signs with too many words to effectively read while driving;
- Worn or damaged signs that should be repaired or replaced.

Appendix C presents the full wayfinding plan with over 40 recommendations that have been prioritized based on function and need. A cost estimate is also provided.

5. COST ESTIMATES

Planning level cost estimates were prepared for the high-priority projects. Appendix F details the concept designs upon which the costs are based and the detailed cost estimates. Table 15 summarizes the costs.

Table 15. Planning-Level Cost Estimates for High-Priority Projects

Project	Cost Estimate
NE 74th Street Corridor	$1,188,000
Avenue A	$1,218,000
New North Shore Access at NE NOAA Drive	$508,000
Sportsfield Drive NE Multi-use Trail	$679,000
Barrier Free Loop Trail Improvements	$467,000
Traffic Calming Spot Improvements	$153,000

Source: MIG, October 31, 2021 (see Appendix F).

APPENDIX A
STREET CHARACTERISTICS MATRIX

APPENDIX A - STREET CHARACTERISTICS MATRIX

Warren G. Magnuson Park and Sand Point Historic District

Road	Ownership	Classification (if any)		ROW Width (feet)	Pavement Width (feet) [curb-to-curb]	Surface Material [Concrete or asphalt]	Sidewalk or Walkway	Sidewalk Ownership
NE 65th Street – SPW to 62nd Ave NE	SDOT	Street Type	Neighborhood Yield Street	80	24	Composite	N – 5' S – 13'	SDOT
		Arterial Classification	N/A					
		Bicycle Master Plan	Neighborhood Greenway					
		Transit Master Plan	Minor					
		Freight Master Plan	N/A					
		Pedestrian Master Plan	Priority Investment Network					
NE 65th Street – 62nd Ave NE to Sportsfield Drive	SDOT	Street Type	Neighborhood Yield Street	80 then 62	24	Composite	N – 4' S – 10'	SDOT
		Arterial Classification	N/A					
		Bicycle Master Plan	Neighborhood Greenway					
		Transit Master Plan	N/A					
		Freight Master Plan	N/A					
		Pedestrian Master Plan	N/A					
NE 65th Street – Sportsfield Drive to Lot E5	SDOT	Same as above		62 then 34	Same as above	Same as above	N – 5' S – 5'	Unknown
NE 74th Street – SPW to 62nd Ave NE	SDOT	Street Type	Neighborhood Yield Street	90	40	Asphalt	N – 6' S – 8'	SDOT
		Arterial Classification	N/A					
		Bicycle Master Plan	N/A					
		Transit Master Plan	Minor					
		Freight Master Plan	N/A					
		Pedestrian Master Plan	Priority Investment Network					
NE 74th Street – 62nd Ave NE to 63rd Ave NE	SDOT	Street Type	Neighborhood Yield Street	90	40	Asphalt	N – 6' S – 6'	SDOT
		Arterial Classification	N/A					
		Bicycle Master Plan	N/A					
		Transit Master Plan	N/A					
		Freight Master Plan	N/A					
		Pedestrian Master Plan	Priority Investment Network					
62nd Ave NE	SDOT	Street Type	Neighborhood Yield Street	60 to 100	25 to 35	Both	W – 7' E – 6'	SDOT
		Arterial Classification	N/A					
		Bicycle Master Plan	N/A					
		Transit Master Plan	Minor					
		Freight Master Plan	N/A					
		Pedestrian Master Plan	N/A					
63rd Avenue NE – NE 74th St to NE 77th St	SDOT	Street Type	Neighborhood Yield Street	75	40	Asphalt	W – 8' E – 6'	SDOT
		Arterial Classification	N/A					
		Bicycle Master Plan	N/A					
		Transit Master Plan	N/A					
		Freight Master Plan	N/A					
		Pedestrian Master Plan	N/A					

APPENDIX A - STREET CHARACTERISTICS MATRIX

Warren G. Magnuson Park and Sand Point Historic District

Road	Ownership	Classification (if any)		ROW Width (feet)	Pavement Width (feet) [curb-to-curb]	Surface Material [Concrete or asphalt]	Sidewalk or Walkway	Sidewalk Ownership
63rd Avenue NE – NE 77th St to Deadend (NE NOAA Dr)	SDOT	Street Type	Neighborhood Yield Street	75	40	Asphalt	W – 6’	SDOT
		Arterial Classification	N/A					
		Bicycle Master Plan	N/A					
		Transit Master Plan	N/A					
		Freight Master Plan	N/A					
		Pedestrian Master Plan	N/A					
NE 77th Street / 62nd Avenue NE – 63rd Avenue NE to Back Alley / Avenue A	SDOT	Street Type	Neighborhood Yield Street	40	20 to 40	Both	W – 6’	SDOT
		Arterial Classification	N/A					
		Bicycle Master Plan	N/A					
		Transit Master Plan	N/A					
		Freight Master Plan	N/A					
		Pedestrian Master Plan	N/A					
Back Alley – 63rd Avenue NE to 62nd Avenue NE	SDOT	N/A		25	12	Asphalt	S – 4’ (?)	Unknown
Sportsfield Drive NE – NE 65th St to Frog Pond Trail Crossing	SPR				25	Asphalt	E – 6’	SPR
Sportsfield Drive NE – Frog Pond Trail Crossing to CC Parking Lot	SPR				28	Asphalt	E – 5’	SPR
Sportsfield Drive NE – CC Parking Lot to Raised Crosswalk	SPR				23	Asphalt		SPR
Sportsfield Drive NE – Raised Crosswalk to NE 74th Street	SPR				23	Asphalt	W – 6’	SPR
NE 74th Street – 63rd Ave NE to Sportsfield Drive NE	SPR				30	Concrete	N – 6’ S – 4’	SPR
NE 74th Street – Sportsfield Drive NE to Lot W6 Driveway	SPR				23	Concrete		
NE 74th Street – Lot W6 Driveway to Off Leash Area	SPR				30	Asphalt		
NE 65th Street – Lot E5 to Lot E1	SPR				22	Concrete	N – 6 (+3’ gravel)	
Lake Shore Drive NE – Lot E1 to Lot E3 (shoulder parking)	SPR				20 to 25	Asphalt		
Lake Shore Drive NE – Lot E3 (shoulder parking) to Lot E3 (angled parking)	SPR				30	Asphalt		
Lake Shore Drive NE – Lot E3 (angled parking) to end	SPR				42	Asphalt		

APPENDIX B

PARKING SUPPLY INVENTORY

APPENDIX B

Detailed Parking Inventory for Magnuson Park and Sand Point Historic District

Parking Area ID	Lot Name	Location Description	Parking Supply by Type of Space										
			Marked Spaces	Unmarked Spaces	ADA	Load Zone	Reserved	1 Hour Parking	2 Hour Parking	4 Hour Parking	Tie Down Zone	Trailer Parking Only	Total Parking Spaces
1	Lot N1	Building 11	80	14	10	2	0	0	0	0	0	0	106
2	Lot N2 (West)	West of Building 27 - Arena Sports	153	0	3	0	0	0	0	0	0	0	156
3	Lot N2 (East)	East of Building 27 - Arena Sports	420	0	8	0	0	0	0	0	0	0	428
4	-	West of Building 67 - Mountaineers	52	12	0	0	0	0	0	0	0	0	64
5	-	Maintenance Lot between Building 12 and Building 2	40	0	1	0	0	0	0	0	0	0	41
6	-	63rd Ave NE between NE NOAA Dr, and NE 77th St	1	54	1	0	0	0	0	0	0	0	56
7	-	77th St between 62nd Ave NE and 63rd Ave NE	0	11	0	3	8	0	0	0	0	0	22
8	-	Angle parking along both sides of W Access Dr. between the south side of the south entrance to Lot 10 and ~ 130' to the north	15	0	0	0	0	0	0	0	0	0	15
9	0	Angle parking south of the south side of the south entrance to Lot 10 and 4 spaces north of the end of the angled parking strip	22	0	0	0	0	0	0	0	0	0	22
10	-	Several interlocking parking lots spanning between Building 67 and Building 29	121	0	6	0	0	0	0	0	0	0	127
11	-	63rd Ave NE between NE 77th St and the street between Building 33 and Building 30	0	57	2	0	0	0	0	0	0	0	59
12	-	4 Stalls along W Access Drive, just north of Building 138 (The Park Entrance)	2	0	1	1	0	0	0	0	0	0	4
13	-	Bldg. 25 - Pediatric Dentistry Clinic parking lot	30	0	4	1	0	0	0	0	0	0	35
14	-	63rd Ave NE between Building 33 and NE 74th St	15	18	2	0	0	0	0	0	0	0	35
15	Lot W2	Lot to the north of Building 30	47	0	1	0	0	0	0	0	0	0	48
16	-	Lot to the south of Building 30	27	0	2	0	0	0	0	0	0	0	29
17	Lot W5	Parking loop to the west of Building 406	33	0	4	2	0	0	2	0	0	0	41
18	-	Lot to the north of building 406	0	0	2	0	0	15	0	0	0	0	17
19	-	Off Leash Area Parking Lot	0	71	4	0	3	0	0	0	0	0	78
20	-	NE 74th St between Sandpoint Way NE and 62nd Ave NE	0	7	0	0	0	0	0	0	0	0	7
21	-	Angle Parking East of Building 138	0	0	0	0	0	0	0	16	0	0	16
22	-	62nd Ave NE between NE 74th St and street north of Building 26N	0	80	0	0	0	0	0	0	0	0	80
23	-	Parking around Building 18 and Building 41	0	34	0	0	0	0	0	0	0	0	34
24	-	Parking Lot east of Tennis Center Sandpoint	65	0	4	0	0	0	0	0	0	0	69
25	Lot W6 - Junior League of Seattle	Parking Lot north of Field 6 and west of the Playground	330	0	14	0	0	0	0	0	0	0	344
26	-	Two small pockets of parking along NE 74th St, just north of the playground and south of the Children's Garden	0	7	0	0	0	0	0	0	0	0	7
27	-	Angle parking west of Mercy Magnuson Place	65	0	8	0	0	0	0	0	0	0	73

APPENDIX B

Detailed Parking Inventory for Magnuson Park and Sand Point Historic District

Parking Area ID	Lot Name	Location Description	Parking Supply by Type of Space										
			Marked Spaces	Unmarked Spaces	ADA	Load Zone	Reserved	1 Hour Parking	2 Hour Parking	4 Hour Parking	Tie Down Zone	Trailer Parking Only	Total Parking Spaces
28	-	Parking lot to the NE of Magnuson Community Center	25	0	0	0	0	0	0	0	0	0	25
29	-	Parking lot to the south of Magnusun Community Center	0	5	2	0	8	0	0	78	0	0	93
30	-	Phyllis Gutierrez Kenney House Parking Lot (SDOT Easement)	18	10	0	0	0	0	0	0	0	0	28
31	-	Parking east of Santos Place	17	11	3	0	0	0	0	0	0	0	31
32	-	Angle parking west of Building 26N and 26S	9	0	1	0	0	0	0	0	0	0	10
33	-	Surface Lot with covered parking below accessed from 62nd Ave NE, and the drive west of Brettler Family Place	0	89	3	0	0	0	0	0	0	0	92
34	-	Disabled parking stalls east of Brettler Family Place	0	0	6	0	0	0	0	0	0	0	6
35	-	Angled Parking along 62nd Ave NE just north of NE 65th Street	0	17	0	0	0	0	0	0	0	0	17
36	Lot E5	North of USGS Parcel, Lot E5 - Park and Ride Magnuson Frog Pond Lot	329	0	7	0	0	0	0	0	0	0	336
37	Lot E4 - Kite Hill	Parking Lot at bottom of Kite Hill	78	0	0	0	0	0	0	0	0	0	78
38	Lot E3	Angled parking along Lake Shore Drive NE	0	160	6	0	0	0	0	0	0	0	166
39	-	Magnuson Boat Launch	0	0	0	0	0	0	0	0	10	0	10
40	Lot E2	Trailer Parking Lot just south of the Magnuson Boat Launch	13	0	2	0	0	0	0	0	0	49	64
41	Lot E1	Trailer and Public Parking Lot south of Lot E2	32	0	2	0	0	0	0	0	0	60	94
Total All			2,039	657	109	9	19	15	2	94	10	109	3,063

Source: Compiled from historic inventories prepared by Seattle Parks in 2001 and 2017; updated by Heffron Transportation, Inc. in 2021 with in-field review and aerial photographs.

APPENDIX C
WAYFINDING PLAN

TECHNICAL MEMORANDUM

Project: **Magnuson Park Circulation Plan**

Subject: Recommended Wayfinding Improvements

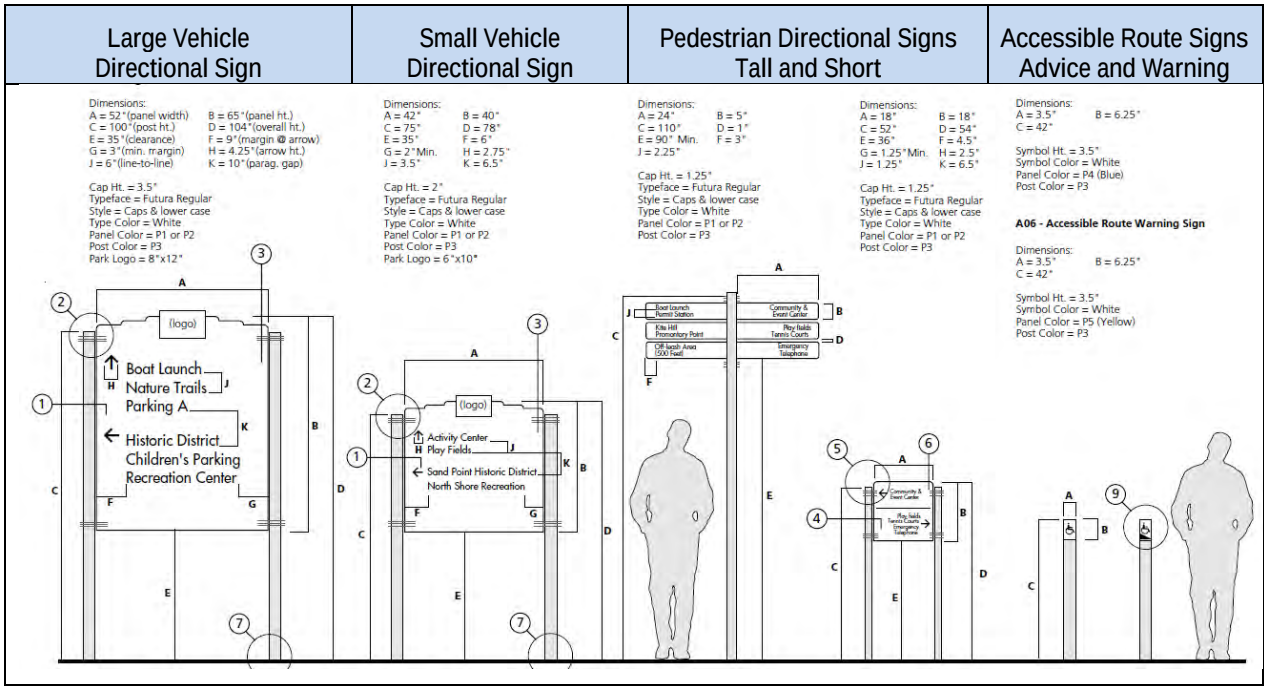
Date: October 15, 2021

Authors: Marni C. Heffron, PE, PTOE
Zach Goulson

1. EXISTING WAYFINDING PLAN

A comprehensive *Signage & Wayfinding Master Plan* was prepared for Magnuson Park and the Sand Point Historic District in 2004,[1] which developed the set of sign standards that applies to the transportation system as well as buildings. It presented design standards for different types of signs including: motorist and pedestrian directions; campus directory signage; building identifications (number, address, and tenant name); and also identified a common place name nomenclature. Figure 1 shows the basic transportation-related sign types and standards from the *2004 Wayfinding Plan.*

Figure 1. Transportation-Related Sign Standards from 2004 Wayfinding Plan



Source: Kelly Brandon Design, Warren G. Magnuson Park, Signage & Wayfinding Master Plan Final Design, *December 22, 2004.*

[1] Kelly Brandon Design, *Warren G. Magnuson Park, Signage & Wayfinding Master Plan Final Design,* December 22, 2004.

Signage installed on the basis of the 2004 plan has been updated many times in the past 15 years with new development or building tenants. To determine the current status (as of April 2021), the location and text of the transportation-related signs throughout Magnuson Park and the Sand Point Historic District were inventoried. A full matrix of the signs is presented in Table 2. Each sign was assigned a code number to assist with tracking locations; the coded locations are shown on Figure 2.

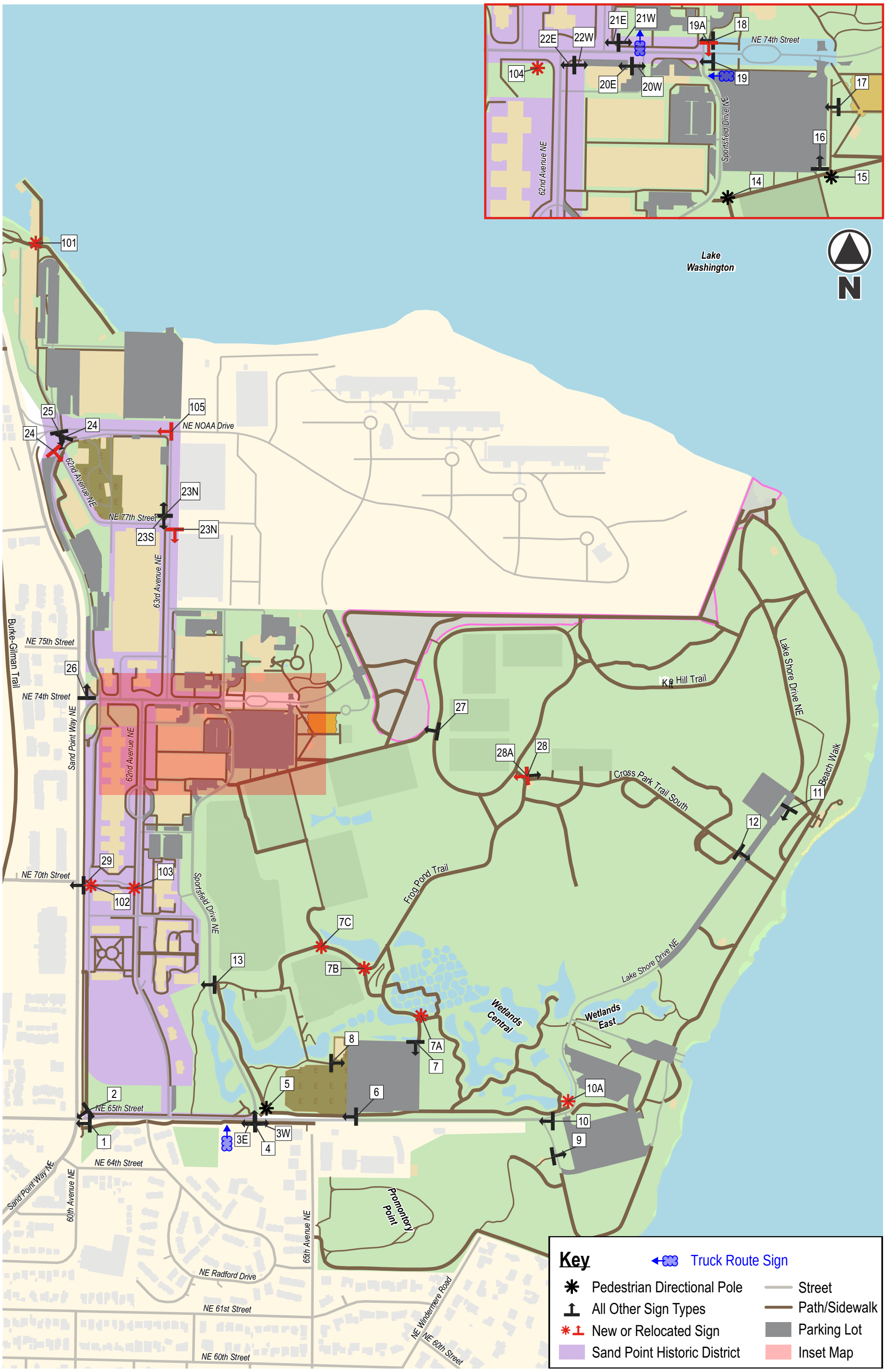
2. WAYFINDING IMPROVEMENTS

2.1. Points of Interest

The 2004 *Signage and Wayfinding Plan* use a common nomenclature for points of interest within Magnuson Park and the Historic District, including roadway names and key destinations. Over time, newer or alternative place names have been used on entry gate and internal signs. The full list was reviewed with SPR staff and updated. The nomenclature that will be used on updated signs are listed in Table 1.

In addition to the points of interest discussed above, we recommend the usage of zones in the wayfinding system. A zone represents a group of points of interest that are close in proximity. Each zone should be named such that a user could extrapolate the types of points of interest within. Use of wayfinding zones on vehicular directional signs at major decision points will nudge people in the direction of their destination without cluttering the sign with too many words to read. Seven wayfinding zones are suggested:

1. North Shore
2. Residential District
3. Hangar District
4. Shoreline Recreation
5. Sports Fields
6. Wetlands
7. Promontory Point



Magnuson Park Circulation Plan

Figure 2

Map of Transportation Wayfinding Signs

heffron transportation inc

Table 1. Points of Interest and Place Names

Road Names	
NE 65th Street (South Entrance)	62nd Avenue NE
NE 74th Street (Gatehouse Entrance)	63rd Avenue NE
Sportsfield Drive NE	Avenue A
Lake Shore Drive NE	NE 77th Street
NE NOAA Drive	
Major Path Names	
Cross Park Trail	Beach Walk
Promontory Point Trail	Frog Pond Trail
Kite Hill Trail	
Activities	
North Shore Recreation Area	Promontory Point
Fields 1-4 (Sports Meadow)	Kite Hill
Fields 5-7	Off-Leash Area
Fields 8-11 (Baseball Fields)	Community Garden
Field 12 (Cricket Pitch)	Boat Launch
Playground	Tennis Courts
Picnic Shelters	Swim Beach
Magnuson Community Center	Theater (Building 47)
Building 30 Officer's Club	Environmental Learning Pavilion
Basketball Court	Wetlands (West, Central, and East)
Tenants	
Tennis Center	Arena Sports
Mountaineers	Sail Sand Point
Cascade Bicycle Club	Outdoors for All
Seattle Waldorf High School	Magnuson Café & Brewery
Boyer Children's Clinic	Oiselle
Buildings	
Building 2	Building 30
Building 9 (Mercy Magnuson Place)	Building 67
Building 11	Building 193
Building 18	Building 406 (former Brig)
Building 26N & 26S (Solid Ground Family Housing)	University of Washington
Services	
Information	Parks Office (Building 30)
Restroom	Parks Maintenance
Bus Stop	

2.2. Signage Needs

The existing transportation wayfinding signs were reviewed to determine potential improvements. The improvements assessed:

- Gaps in signage at key decision locations;
- Errant directions to sites or tenants that no longer exist or routes that have changed due to circulation changes or new development;
- Signs with too many words to effectively read while driving;
- Worn or damaged signs that should be repaired or replaced.

The existing signs and suggested improvements are described in Table 2. Six types of changes are suggested:

1. **New sign or full replacement**, which includes new structural supports and new faceplate.

2. **Replace faceplate**, which assumes that the structure would remain and only the sign face replaced. This is suggested for signs that are badly damaged or where extensive text changes are required.

3. **Text change**, which assumes that one or two lines of existing text could be covered with an adhesive correction.

4. **Removal,** to eliminate signs for routes that no longer exist.

5. **Remove obstruction,** which indicates the need to remove a visual obstacle (e.g., overgrown shrubs or trees) that is blocking the sign from being read.

6. **Relocate,** which assumes the sign can be moved in its existing condition, unless otherwise noted, to a better location.

Some of the suggested text changes are to truncate place names in order to make a sign easier to read while driving. For example, some of the existing signs use the full name “Micky Merriam Field Complex” or “Junior League Playground,” which we recommend be shortened to just “Sports Fields” and “Playground” to make them easier to read at driving speed. In addition, some signs list too many locations to comprehend while driving (e.g., Sign 3E in Table 2 that has over 50 words). The text on signs can be shortened by directing motorists to zones when further away from the destinations, and then providing the more specific points of interest names as they get closer to those destinations. Finally, icons—such as the international symbol for toilet or parking—could be used to replace some of the text on signs.

2.3. Priorities

The full list of improvement needs was prioritized based on each signs function and level of improvement need. For example, signs along the main access routes such as NE 74th Street are a higher priority than signs along less-traveled routes. Errant signs that could confuse motorists or pedestrians are also high-priority needs. The preliminary prioritization—with ratings of high, medium, or low—are also listed in Table 2.

Table 2. Existing Wayfinding Signs and Recommended Improvements

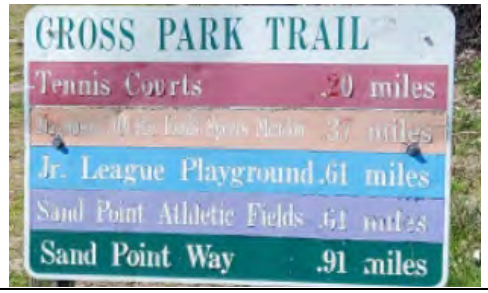
Map ID #	Location (Direction of Travel)	Existing Sign	Type of Change (See footnote a)	Proposed Change	Priority
1	NE 65th St east of SPW (Eastbound)		Text Change	Change text as follows: SHORELINE RECREATION BOAT LAUNCH SPORTS FIELDS KITE HILL / PROMONTORY POINT WALKING TRAILS Enlarge the text for "Park Hours".	Low
2	NE 65th St east of SPW (Eastbound)		Text Change	Change text as follows: NORTH SHORE SPORTS FIELDS KITE HILL WALKING TRAILS Add Park Hours in large text. *Note: If NE NOAA Dr Access is opened to North Shore (Transportation Project NS-8) , remove NORTH SHORE text.*	Low *High*

Map ID #	Location (Direction of Travel)	Existing Sign	Type of Change (See footnote a)	Proposed Change	Priority
3E	NE 65th St and Sportsfield Dr (Eastbound)		Full Replacement Remove Obstruction	Replace with Large Vehicular Directional: ↑ Shoreline Recreation Wetlands Fields 8-12 P – E5 ← Fields 1-7 P – W6 Hangar District North Shore Community Center Playground Trim vegetation	High
3W	NE 65th St and Sportsfield Dr (Westbound)		Full Replacement Remove Obstruction	Replace with Large Vehicular Directional: → Fields 1-7 P – W6 Hangar District North Shore Community Center Playground ↑ Residential District Park Exit Trim vegetation	High
4	NE 65th St and Sportsfield Dr (Southbound)		Text Change	New text on faceplate: ← Shoreline Recreation Wetlands Fields 8-12 Parking – E5 → Residential District Park Exit	High

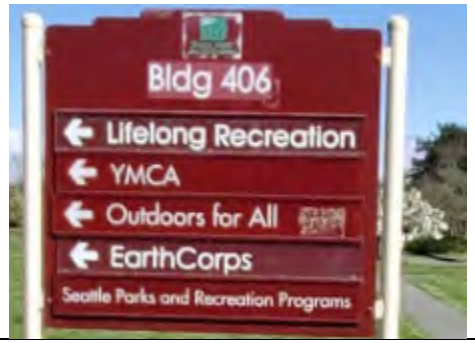
Map ID #	Location (Direction of Travel)	Existing Sign	Type of Change (See footnote a)	Proposed Change	Priority
5	Northeast corner of NE 65th St and Sportsfield Dr (Eastbound)		Move Regulatory Sign Text Change	Separate federal wetlands regulatory sign from pedestrian sign, and relocate regulatory sign further north (along route to Wetlands) Signing for more pedestrian-oriented destinations: Remove: ~~Boat Launch~~ Add: Promontory Point Beach Access Wetlands Trails	High Low
6	Northeast corner of NE 65th St east and E5 Lot Driveway (Eastbound)		Text Change	New and enlarged text on faceplate: ← Parking – P E5 Wetlands Trails Baseball (Fields 8-11) Cricket Pitch (Field 12)	Medium

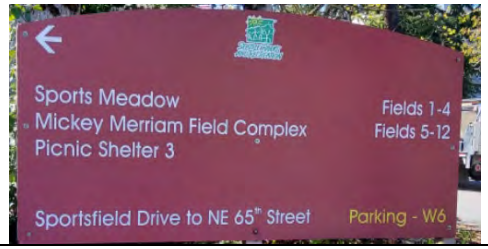
Map ID #	Location (Direction of Travel)	Existing Sign	Type of Change (See footnote a)	Proposed Change	Priority
7	Northeast corner of E5 Lot (Northbound)		Text Change	New text on faceplate: ↑ Frog Pond Trail Cross Park Trail Sports Fields	High
7A New	North of Sign 7 at first junction of Wetlands Trail	No existing sign	New Sign	Install Pedestrian Directional Tall with flags for: • Frog Pond Trail • Cross Park Trail • Fields 5-11 • Cricket Pitch (Field 12) • Sports Meadow (Fields 1-4)	Medium
7B New	North of Sign 7 at second junction of Wetlands Trail	No existing sign	New Sign	Install Pedestrian Directional Tall with flags for: • Frog Pond Trail • Cross Park Trail • Fields 5-11 • Cricket Pitch (Field 12) • Sports Meadow (Fields 1-4)	Medium
7C New	North of Sign 7 at third junction of Wetlands Trail	No existing sign	New Sign	Install Pedestrian Directional Tall with flags for: • Frog Pond Trail • Cross Park Trail • Fields 5-11 • Cricket Pitch (Field 12) • Sports Meadow (Fields 1-4)	Medium

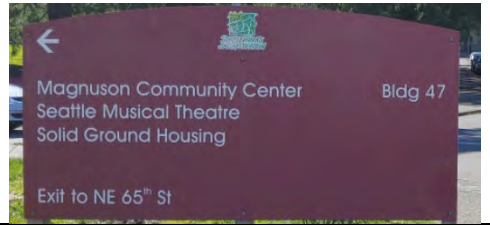
Map ID #	Location (Direction of Travel)	Existing Sign	Type of Change (See footnote a)	Proposed Change	Priority
8	308 Yards (Westbound)		Text Change	New text on faceplate: ↑ Wetlands West Baseball (Fields 8-11) Cricket Pitch (Field 12)	Low
9	Boat Launch Dwy at junction with Promontory Point Trail (Westbound)		Text Change -Or- Full Replacement	New text on faceplate: Environmental Learning Pavilion Butterfly Garden Promontory Point Trail Exit to 65th Ave NE Replace with Pedestrian Directional Short: ↑ Environmental Learning Pavilion Butterfly Garden Promontory Point Trail Exit to 65th Ave NE	High -Or- Low
10	Lake Shore Dr NE and Boat Launch Dwy (Eastbound)		Change Text Relocate	Change text to remove pedestrian/bicycle destinations (this sign is for motorists; those will be on Sign 10A): ~~Beach Walk~~ ~~Wetlands East~~ ~~Bike Trail~~ ~~Off-Leash Beach Area~~ ~~Straight Shot-Art~~ Move east to southeast corner of all-way stop intersection (outside of pedestrian sight lines).	Medium

Map ID #	Location (Direction of Travel)	Existing Sign	Type of Change (See footnote a)	Proposed Change	Priority
10A New	North of Lake Shore Dr NE and Boat Launch Dwy at junction with Wetlands Central Trail	No existing sign	New Sign	Install Pedestrian Directional Tall with flags for: • Frog Pond Trail • Wetlands Central • Wetlands East • Sports Fields • Beach Walk	Medium
11	Lake Shore Dr NE and E4 Lot Dwy (Northbound)		Full Replacement	Replace with Pedestrian Directional Tall: ↑ Kite Hill Fin Art Off-Leash Area → Swim Beach Beach Walk Restroom (or change to symbol) ↓ Cross Park Trail Move behind bollards or onto grass closer to path	High
12	Lake Shore Dr NE and Cross Park Trail (Westbound)		Full Replacement	Replace with Pedestrian Directional Short: ↑ Cross Park Trail Sports Fields Playground Frog Pond Trail Community Center	High

Map ID #	Location (Direction of Travel)	Existing Sign	Type of Change (See footnote a)	Proposed Change	Priority
13	East of Sportsfield Dr near baseball fields (Eastbound)		Text Change Clear obstructions	New text on faceplate: ↑ Fields 1-9 & 11 ← Cricket Pitch (Field 12) Field 10 Community Center Trim vegetation *Note: Replace/relocate if new trail parallel to Sportsfield Drive NE is constructed.*	Low Medium *High*
14	East of raised crosswalk on Sportsfield Dr		Text Change	Change Boat Launch flag text to Wetlands Orient Off-Leash Area flag towards Sign 15 (for continuation of route along path) Add the following flags: Community Garden (signed on #15) Cross Park Trail Community Center	Low
15	Southeast corner of W6 Lot		Text Change	Add the following flags: Cross Park Trail Community Center	Low

Map ID #	Location (Direction of Travel)	Existing Sign	Type of Change (See footnote a)	Proposed Change	Priority
16	Southeast corner of W6 Lot (Southbound)		None		N/A
17	Between W6 Lot and Playground (Eastbound)		Text Change	Change text as follows: Playground Picnic Shelter #3 Basketball Court	Low
18	NE 74th St and Sportsfield Dr (Eastbound)		Text Change	Change text as follows: ← Seattle Parks and Recreation Programs ← YMCA ← Outdoors for All ← Earth Corps ← Bldg 30	Medium

Map ID #	Location (Direction of Travel)	Existing Sign	Type of Change (See footnote a)	Proposed Change	Priority
19	NE 74th St and Sportsfield Dr (Eastbound)		Full Replacement Relocation	Replace with Large Vehicular Directional: ↑ Off-Leash Area Community Garden ← Bldg 406 → Sports Fields Parking – W6 Cricket Pitch Playground Shoreline Recreation Wetlands Move to near (southwest) corner of intersection	High
19A NEW	NE 74th St and Sportsfield Dr (Northbound)	Locate new sign on northeast corner of the intersection	New Sign	Install Large Vehicular Directional sign with the following text: → Off-Leash Area Community Garden ↑ Bldg 406 ← Hangar District Residential District North Shore Park Exit	High
20W	NE 74th St east of fire station (Westbound)		Removal	Remove sign since route no longer exists	High

Map ID #	Location (Direction of Travel)	Existing Sign	Type of Change (See footnote a)	Proposed Change	Priority
20E	NE 74th St east of fire station (Eastbound)		Removal	Remove sign since route no longer exists	High
21W	Northeast corner of NE 74th St and 63rd Ave NE (Westbound)		Replace Faceplate	New faceplate with the following text: → Hangar District University of Washington Seattle Conservation Corps Mountaineers North Shore	Low
21E	Northeast corner of NE 74th St and 63rd Ave NE (Eastbound)		Replace Faceplate	New faceplate with the following text: ← Hangar District University of Washington Seattle Conservation Corps Mountaineers North Shore	Low
22W	NE 74th St east of 62nd Ave NE (Westbound)		Text Change	Change text as follows: ← Community Center Residential District Theater	Medium

Map ID #	Location (Direction of Travel)	Existing Sign	Type of Change (See footnote a)	Proposed Change	Priority
22E	NE 74th St east of 62nd Ave NE (Eastbound)		Replace Faceplate	New faceplate with the following text: → Community Center Theater Residential District ↑ North Shore Hangar District Sports Fields Playground	High
23N	Northwest corner of 63rd Ave NE and NE 77th St (Northbound)		Full Replacement Relocate	Replace with Large Vehicular Directional: ← North Shore Seattle Waldorf High School Cascade Bicycle Club Magnuson Café & Brewery Boyer Children's Clinic Oiselle Sail Sand Point Arena Sports Mountaineers Seattle Conservation Corps Relocate to southeast corner of intersection (south of NOAA parking lot gate) *Note: Text may need to change if NE NOAA Dr Access is opened to North Shore.*	High
23S	Northwest corner of 63rd Ave NE and NE 77th St (Southbound)		None	*Note: Existing sign only serves those who missed the turn and have U-turned at the street end. No need to modify. However, if NE NOAA Dr is opened to North Shore, remove or relocate this sign.*	N/A

Map ID #	Location (Direction of Travel)	Existing Sign	Type of Change (See footnote a)	Proposed Change	Priority
24	Northeast corner of 62nd Ave NE and Avenue A (Northbound)		Full Replacement Relocate	Replace with Large Vehicular Directional sign with the following text for northbound traffic: ↑ North Shore Seattle Waldorf High School Cascade Bicycle Club Magnuson Café & Brewery Boyer Children's Clinic Oiselle Sail Sand Point Arena Sports → Seattle Conservation Corps ←↓ Mountaineers Relocate to west side of Avenue A opposite NE 77th St (in grassy area) Faceplate should be oriented to be readable from Avenue A and NE 77th St	High
24A Back side	Same as relocated Sign 24	No existing sign	New Faceplate	Add faceplate to the backside of new Sign 24 (facing north) with the following text: ↑ Mountaineers Park Exit ←↑ Truck Route Hangar District Sports Fields ← Seattle Conservation Corps	High
25	NE NOAA Dr overpass near 62nd Ave NE and Avenue A (Northbound)		None		N/A

Map ID #	Location (Direction of Travel)	Existing Sign	Type of Change (See footnote a)	Proposed Change	Priority
26	NE 74th St and Sand Point Way NE		Text Change	Add Park Hours in large text.	Low
27	Cross Park Trail and West Sports Meadow Loop (Eastbound Ped)		Text Change	Change text as follows: ↑ Sports Meadow West Entrance Fields 1-4 ← Off-Leash Area → Cross Park Trail Shoreline Recreation	Low
28	Cross Park Trail and East Sports Meadow Loop (Westbound Ped)		Text Change	Change text as follows: ↑ Sports Fields Playground Cross Park Trail → Off-Leash Area Kite Hill ← Frog Pond Trail Wetlands Baseball Fields Consider moving sign further west to capture Frog Pond Trail traffic	Low

Map ID #	Location (Direction of Travel)	Existing Sign	Type of Change (See footnote a)	Proposed Change	Priority
28A Back side	Same as 28	Blank faceplate on back side of Sign 28	Change Text	Add the following text to the blank faceplate on the backside of Sign 28 (facing east): ↑ Shoreline Recreation Cross Park Trail ← Off-Leash Area Kite Hill → Frog Pond Trail Wetlands Baseball (Fields 8-11)	High
29	Sand Point Way NE at NE 70th St (Eastbound)		None		N/A
101 New	62nd Ave NE north of Building 11	No existing sign	New Sign	Install Pedestrian Directional Tall sign along walking trail that connects from Sand Point Way with flags for: • Sand Point Way • Burke-Gilman Trail • Sports Fields • Hangar District • Community Center • Off-Leash Area *Note: Flag orientations may need to change if NE NOAA Dr Access is opened to North Shore.*	Medium

Map ID #	Location (Direction of Travel)	Existing Sign	Type of Change (See footnote a)	Proposed Change	Priority
102 New	Avenue A at NE 70th St	No existing sign	New Sign	Install Pedestrian Directional Tall sign along path that connects from Sand Point Way to 62nd Ave NE with flags for: • Sports Fields • Community Center • Playground • Off-Leash Area • Wetlands • Hangar District	Medium
103 New	62nd Ave NE on walkway (NE 70th St alignment)	No existing sign	New Sign	Install Pedestrian Directional Tall sign along path that connects from Sand Point Way to 62nd Ave NE with flags for: • Sports Fields • Community Center • Playground • Off-Leash Area • Wetlands • Hangar District • Sand Point Way	Medium
104 New	Southwest corner of NE 74th St and 62nd Ave NE	No existing sign	New Sign	Install Pedestrian Directional Tall sign adjacent to south side sidewalk with flags for: • Sports Fields • Community Center • Playground • Off-Leash Area • Wetlands • Hangar District	Medium

Map ID #	Location (Direction of Travel)	Existing Sign	Type of Change (See footnote a)	Proposed Change	Priority
105 New	NE NOAA Dr west of 62nd Ave NE (Eastbound)	No existing sign	New Sign	Install Small Vehicular Directional sign if NE NOAA Dr Access is opened to North Shore: ↑ NOAA ← North Shore → Sports Fields Hangar District	High, if NOAA access provided

Source: Heffron Transportation, Inc., July 2021.

a. *Six types of changes are suggested: 1) **New sign or full replacement**, which includes new structural supports and new faceplate. 2) **Replace faceplate**, which assumes that the structure would remain and only the sign face replaced. 3) **Text change**, which assumes that one or two lines of existing text could be covered with an adhesive correction. 4) **Removal**, which assumes the existing sign would be eliminated. 5) **Remove obstruction**, which indicates the need to remove a visual obstacle (e.g., overgrown shrubs or trees) that is blocking the sign from being read. 6) **Relocate**, which assumes the sign can be moved in its existing condition, unless otherwise noted, to a better location.*

2.4. Costs

Rough Order of Magnitude (ROM) cost estimates were developed for full sign replacement and face plate replacement only. These are based on the basic sign types previously described. Table 3 summarizes the ROM costs per sign.

Table 3. Rough Order of Magnitude (ROM) Costs for Sign Improvements

		ROM Costs to Fabricate and Install		
Sign Type	Description	Full Replacement	Replace Sign Face Only	Replace 1-2 lines of Text with Decals
A01	Large Vehicular Directional	$6,600	$2,200	$300
A02	Small Vehicular Directional	$5,000	$1,660	$300
A03	Pedestrian Directional, Tall	$1,600	$530	$300
A04	Pedestrian Directional, Short	$800	$266	$200
A05	Accessible Route Advice Sign	$500	$160	n/a
A06	Accessible Route Warning Sign	$500	$160	n/a
C01	Campus Directory Map, Large	$8,300	$2,800	$300
C02	Campus Directory Map, Small	$5,000	$1,660	$300

Source: ROM Costs provided by Rainier Display, April 2021.

These unit costs were then used to estimate the total cost to make all of the signage improvements defined above. The estimates account for a 30% contingency to account for tax, layout/design, and other soft costs. Table 4 shows that the overall cost of changing or adding signs would be about $121,040.

Table 4. ROM Cost Estimate for Recommended Wayfinding Improvements

Priority / Type of Sign	Number of Signs	Cost	Total Signs	Total Cost
High Priority			17	$74,937
Change Text	3	$2,470		
Faceplate	3	$8,778		
New Sign	9	$62,909		
Removal	2	$780		
Medium Priority			12	$24,410
Change Text	3	$1,560		
New Sign	8	$15,960		
Relocate	1	$6,890		
Low Priority			13	$12,092
Change Text	11	$6,240		
Faceplate	2	$5,852		
Additional Sign Changes If NE NOAA Drive Access Opened			2	$7,040
New Sign	1	$6,650		
Removal	1	$390		
Additional Sign Changes If Sportsfield Drive NE Off-Street Path is Completed			1	$2,561
Relocate	1	$1,781		
Total All			45	$121,040

Source: Heffron Transportation, Inc., July 2021.
Note: Costs include a 30% contingency.

ZDG/MCH

APPENDIX D

NORTH SHORE VEHICULAR ACCESS ANALYSIS

TECHNICAL MEMORANDUM #4

Project: **Magnuson Park Circulation Plan**

Subject: New Vehicular Access to North Shore

Date: October 15, 2021

Author: Marni C. Heffron, PE, PTOE

1. North Shore Vehicle Access

There is only one vehicular access route to the North Shore Recreation Area where several high-demand attractions are located, including Arena Sports, Sail Sand Point, the Waldorf School, and the Magnuson Café & Brewery. The lone vehicle connection is via the Avenue A underpass of NE NOAA Drive. The current route requires vehicles to enter the park through the main gate at NE 74th Street. To improve safety, changes were made several years ago to prohibit traffic arriving through the Main Gate on NE 74th Street from turning left to Avenue A. These movements are redirected to use 63rd Avenue NE and NE 77th Street to access the North Shore; however, many motorists choose to U-Turn on NE 74th Street to reach Avenue A instead of using the longer detour route. Egressing traffic can return to NE 74th Street directly on Avenue A or the same route as describe above.

In addition to the circuitous vehicle routes, potential safety issues with the existing route have also been raised. In 2015, the Mountaineers sought a temporary closure of Avenue A adjacent to its building to improve safety during the summer when approximately 4,000 children participate in summer camps and other programs each day near the building. The Mountaineers noted high speeds of vehicle traffic and limited sight lines along Avenue A. This closure was never implemented, but the issues and concerns remain.

Pedestrian access options to the North Shore are also limited, with no Americans-with-Disabilities-Act-(ADA)-compliant accessible route. The primary route is on Avenue A using the same vehicle underpass of NE NOAA Drive, but only the segment directly under the bridge has a sidewalk. This route is too steep for those in wheelchairs.

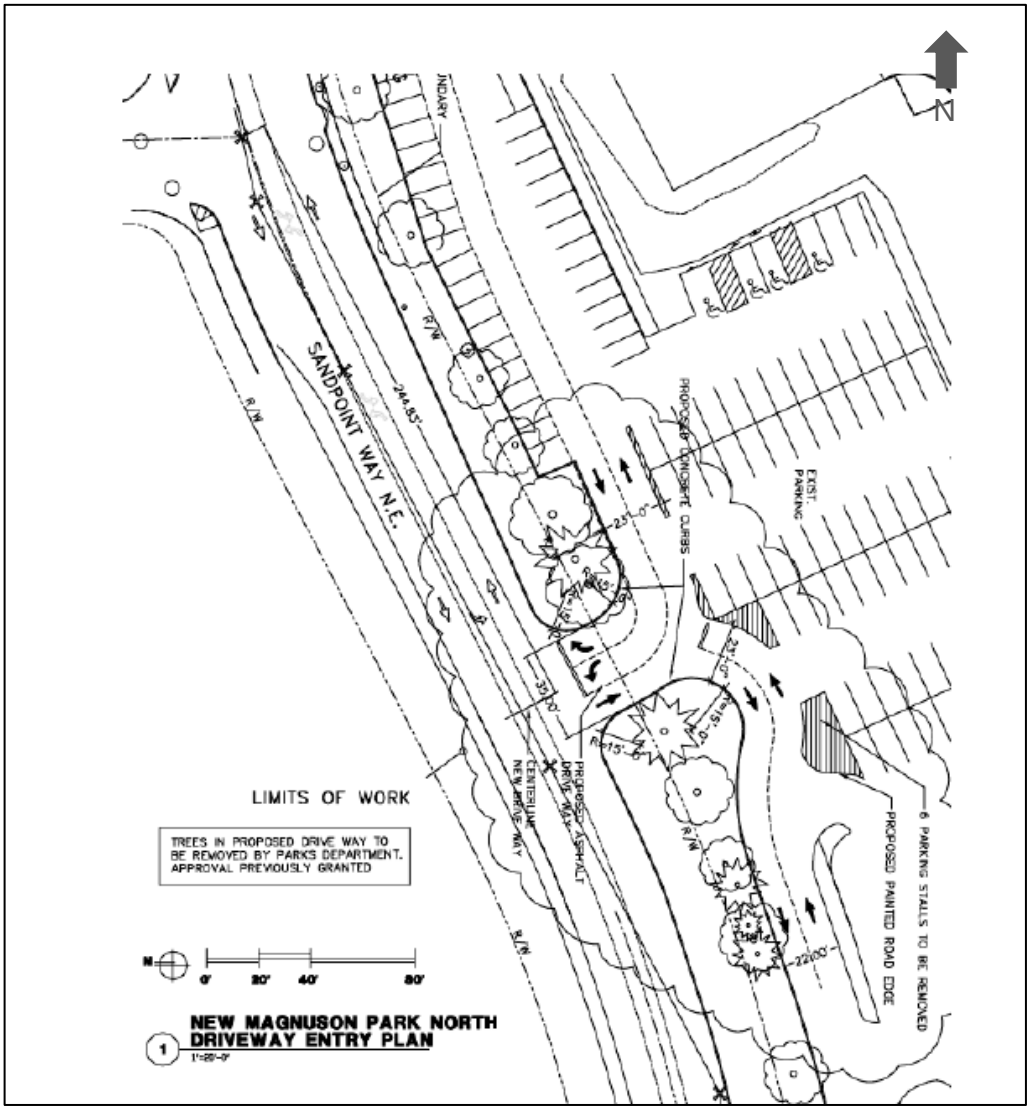
Several past studies and plans for Magnuson Park have recommended new vehicular routes to the North Shore Recreation Area, which are described further below. The two access alternatives from those prior studies that are evaluated in the following sections include:

- **Alternative A** – Create a new driveway to Sand Point Way NE at about NE 75th Street (near Mountaineers); or
- **Alternative B** – Re-establish the connection at 63rd Avenue NE by opening up the fence at NE NOAA Drive.

1.1. Alternative A – New Driveway on Sand Point Way NE

The alternative to create a new driveway on Sand Point Way NE at approximately NE 76th Street was evaluated in 2010 as part of the *Building 11 Site Access Traffic Analysis.*[1] The proposed new access driveway would be located about 190 feet south of NE 77th Street and about 140 feet north of an existing driveway to a multi-family complex across Sand Point Way NE. There is a center two-way, left-turn lane along this entire section that serves left turn movements. The new driveway location occurs where the elevation of Sand Point Way NE and Avenue A are relatively similar to avoid a steep change in grade. The location would also have adequate sight lines at the intersection with Sand Point Way NE. The proposed layout would accommodate turns by single-unit trucks, which would require reconfiguration of the parking lot east of Avenue A. The concept plan, which was presented in SPR's *Application to the Landmarks Preservation Board* [2] is shown on Figure 1.

Figure 1. Alternative A Concept Plan - New Driveway on Sand Point Way NE



Source: Seattle Parks and Recreation, *Landmarks Preservation Board Application for NE 76th Street Driveway,* 2010.

1 Heffron Transportation, Inc., *Building 11 – Proposed Access to NE Sand Point Way, Site Access Traffic Analysis,* August 9, 2010.

2 Seattle Parks and Recreation, *Landmarks Preservation Board Application for NE 76th Street Driveway, 2010.*

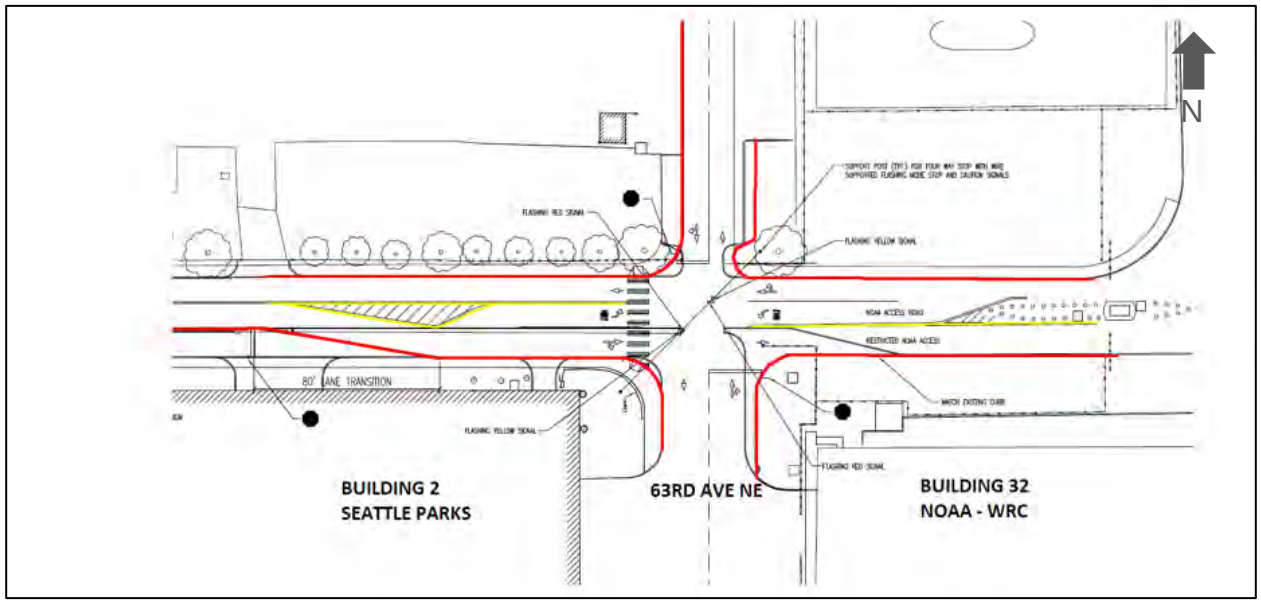
1.2. Alternative B – New Access via NE NOAA Drive

SPR first studied the potential to create a new North Shore Access point at the NE NOAA Drive / 63rd Avenue NE intersection in 2000.[3] At the time of this initial study, 63rd Avenue NE connected to the north side of NE NOAA Road at a "T" intersection; the south leg of this Navy-era intersection was closed off by a fence and barrier. The 2000 study evaluated several traffic control options includes various stop-controlled configuration, a roundabout, signalized intersection and even a grade-separation similar to Avenue A. The north leg was later closed with a similar fence completely isolating NOAA traffic from park-related traffic.

In 2009 and 2014, SPR approached NOAA again about reopening the intersection. The two presentations[4,5] related to gaining vehicle access that would better serve the large parking lot to the east of Building 27 (Arena Sports) and provide alternative access that did not require use of the main gate at NE 74th Street. In 2017, the Seattle Department of Transportation (SDOT) presented[6] similar access options as part of the package for the *Sand Point Way Corridor Study*; however, the primary impetus for those improvements was to preserve the bus route to NOAA (Metro Route 62), which needed to be rerouted through the Park instead of dead-heading (ending the route) at NOAA.

The 2009 concept plan for re-establishing the intersection is shown on Figure 2; the ownership of affected rights of way is shown on Figure 3. The concept would widen the existing two-lane section on NE NOAA Drive to three lanes by removing the raised barrier and fence that separate NE NOAA Drive from the existing SDOT-owned frontage road that already exists on the south side of that street. Before and after concepts are shown on Figure 4.

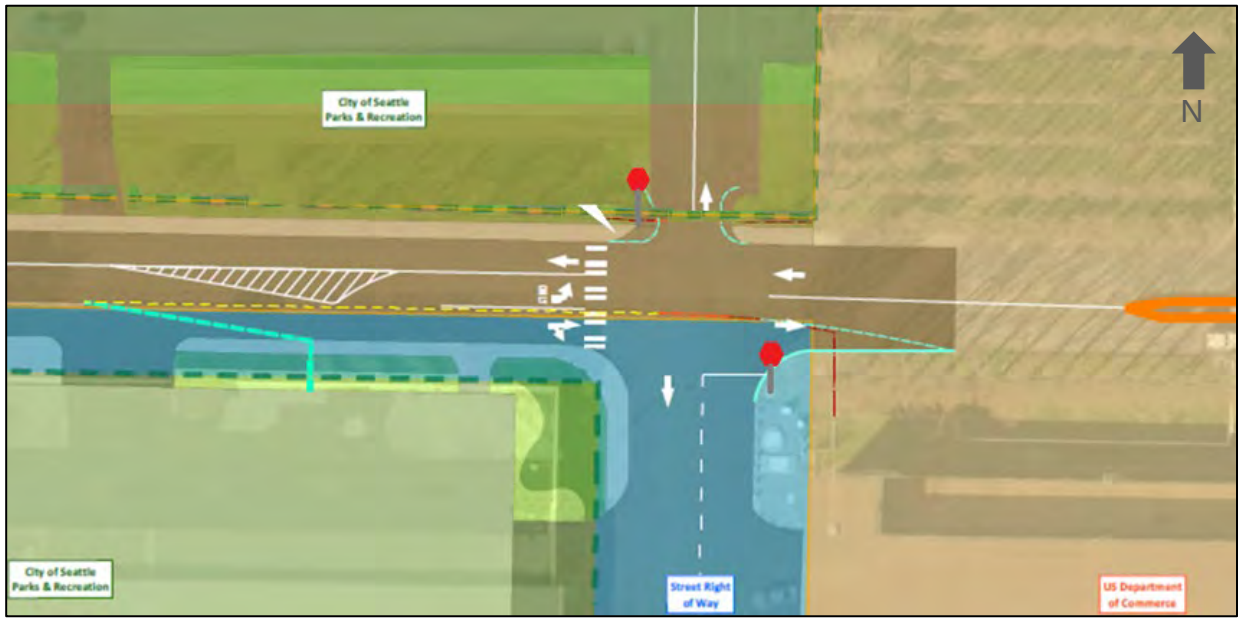
Figure 2. Alternative B Concept Plan – New North Shore Access via NE NOAA Drive



Source: *Seattle Parks and Recreation; PowerPoint Presentation: Magnuson Park/Sand Point Historic District, Realizing the Vision – North Entrance Planning*, October 2009.

3 Entranco Engineers, *NOAA Entrance Road (NE 80th Street)/63rd Avenue NE Intersection Traffic Study*, December 2000.
4 Seattle Parks and Recreation; *PowerPoint Presentation: Magnuson Park/Sand Point Historic District, Realizing the Vision – North Entrance Planning*, October 2009.
5 Seattle Parks and Recreation; *PowerPoint Presentation: Warren G. Magnuson Park and Historic District Amenities, Presentation to NOAA Bargaining Units*, February 26, 2014.
6 Seattle Department of Transportation, *PowerPoint Presentation: Sand Point Way Corridor Study*, January 25, 2017.

Figure 3. Alternative B Concept Plan – Right-of-Way Ownership Map



Source: Seattle Parks and Recreation; *PowerPoint Presentation: Warren G. Magnuson Park and Historic District Amenities, Presentation to NOAA Bargaining Units*, February 26, 2014.

Figure 4. Alternative B Concept Plan – Widen Road by Removing Existing Barrier

Source: Seattle Parks and Recreation; *PowerPoint Presentation: Magnuson Park/Sand Point Historic District, Realizing the Vision – North Entrance Planning*, October 2009.

2. Traffic Operations with New Access

Traffic operations analysis was performed to assess the effect of a new vehicle access. Operations are rated using "Level of Service (LOS)," which is a qualitative grading measure with six LOS designations, "A" through "F." LOS A and B represent conditions with little or no delay, and LOS C and D represent conditions with intermediate traffic flow and some delay. LOS E indicates that traffic conditions are at or approaching congested conditions and LOS F indicates that traffic volumes are at a high level of congestion with unstable traffic flow and long delays.

2.1. Effect of New Access on Local Circulation

Nearby communities could be concerned that providing a more northerly access to Magnuson Park could attract more traffic to Sand Point Way NE north of the park. However, given the lack of east-west connections in the area, changes in off-site travel patterns are not likely. North of the park, the nearest east-west street is NE 95th Street, which connects between Sand Point Way NE and Lake City Way. South of the park, the nearest east-west connections are located at NE 70th Street, which ends west of 30th Avenue NE. Park users traveling west of 35th Avenue NE must connect to NE 75th Street. There are no connecting streets between NE 75th Street and NE 95th Street because of topography and the Sand Point Country Club and community. Therefore, park users destined to or from areas south of about 85th Street NE would continue to use the grid of streets located south of the park, since the alternative route to the north would require out-of-direction travel. Those destined to or from north of NE 85th Street likely already use Sand Point Way NE north of the park for their access. It is unlikely that opening up a new access on Sand Point Way NE would change these external travel patterns whether the new access is located at NE NOAA Drive or near NE 76th Street.

2.2. Alternative A – New Access on Sand Point Way NE

The traffic analysis, which was coordinated with SDOT and SPR, considered the additional traffic generated by redevelopment of Building 11 for commercial use as well as Building 27 for Arena Sports. At the time, it was assumed that these uses would generate nearly 4,400 vehicle trips per day, and up to 420 vehicle trips during the PM peak hour (190 enter and 230 exit). These trip generation estimates assumed a mostly commercial use of Building 11, and are much higher than the volumes that were counted in 2017 at Avenue A and NE 74th Street, which reflect the Cascade Bicycle Club and Waldorf High School use of that building plus traffic generated by other uses along Avenue A. The 2017 counts (before left-turn movements were restricted to Avenue A) showed 105 entering trips and 118 exiting trips. Therefore, the 2010 analysis reflected a worst-case condition.

Traffic analysis performed for the new access determine that it would operate at an acceptable level of service during both the AM and PM peak hours for traffic on the Sand Point Way NE corridor. The intersection was proposed with stop-sign control on the new driveway. The worst-operating movement would be left turns from the new access to Sand Point Way NE (westbound left turn), which would operate at LOS D during the PM peak hour. The analysis also determined that there would be adequate queue space in the center left turn lane, and queues would not encroach on the adjacent intersection or driveway, and that the back-to-back queue lengths for the left turns would not exceed the distance between intersections. At the time, traffic counts performed for the nearby multi-family driveway found that very few vehicles turned left from that driveway and would not interfere with the new driveway's traffic. The analysis determined that the new driveway would slightly improve level of service at the Sand Point Way NE /NE 74th Street intersection by removing both entering and exiting traffic from that intersection.

The new driveway on Sand Point Way NE would improve vehicular access to the North Shore, but would not improve the pedestrian access nor provide an accessible route to the North Shore. It would also not likely address issues raised by the Mountaineers about vehicle speed and conflicts with the youth summer programs described.

2.3. Alternative B – New Access via NE NOAA Drive

If access to the North Shore is provided via NE NOAA Drive, most of the North Shore traffic would divert to this new route rather than the more circuitous route through the park. The new access could also attract some traffic destined to buildings along 63rd Avenue NE, including future use of Building 2.

Operations at Sand Point Way NE Intersections

Traffic operations analysis for the Sand Point Way NE / NE NOAA Drive intersection was performed for the *Sand Point Way Corridor Study Transportation Technical Report*.[7] That analysis determined that in 2017, left turns from NE NOAA Drive to Sand Point Way NE operated at LOS F conditions. Even without any additional traffic on NE NOAA Drive, this left-turn movement was expected to degrade substantially over time due to growth in through traffic on Sand Point Way NE. Volumes on NE NOAA Drive are likely high enough to warrant a traffic signal at this location. King County Metro came to a similar conclusion in its 2017 analysis of Route 62—if it were to remain serving NOAA, a traffic signal would likely be needed at the Sand Point Way NE / NE NOAA Drive intersection. Based on that past analysis, it is assumed that any change that adds traffic to NE NOAA Drive would require the intersection at Sand Point Way NE to be signalized.

The future (year 2030) conditions evaluated in the *Sand Point Corridor Study* were used to determine how additional traffic on NE NOAA Drive would affect operations at two intersections on Sand Point Way NE: at NE NOAA Drive and at NE 74th Street. The NE 74th Street intersection was assumed to be configured per SDOT's plan now under construction that will remove the right turn slip-ramps, add pedestrian crossings, and add a southbound left-turn phase to the signal operation. For this analysis, it was assumed that an additional 155 entering trips and 180 exiting trips would divert from the park's main entrance at NE 74th Street to NE NOAA Drive. Table 2 presents the PM peak hour results, which is when operations are worst.

Table 1. Level of Service – Year 2030 North Shore Access via NE NOAA Drive

	With No Change in Access		With New North Shore Access at NE NOAA Drive	
Intersection	LOS [1]	Delay [2]	LOS [1]	Delay [2]
Sand Point Way NE / NE NOAA Drive				
Unsignalized (Current Condition)	F [3]	>300.0	Not Applicable (Assumes signal installed with new access)	
Signalized Intersection	B	12.4	B	15.6
Sand Point Way NE / NE 74th Street	D	38.6	C	30.9

Source: Synchro model developed by Heffron Transportation, Inc. for the Sand Point Corridor Study (2017). Updated to reflect SDOT's planned changes at NE 74th Street.

1. *Level of service.*
2. *Average seconds of delay per vehicle.*
3. *Unsignalized intersection. Delay for worst movement from side street stop sign.*

As shown, a new access on NE NOAA Drive and a signal at its intersection at Sand Point Way NE would operate at a good level of service (LOS B), which is a substantial improvement above the existing unsignalized operation. That access would also improve operations at the NE 74th Street intersection.

7 Heffron Transportation, Inc., March 2017.

Operations at NE NOAA Drive / 63rd Avenue NE Intersection

The proposed intersection at NE NOAA Drive / 63rd Avenue NE could operate with stop signs on northbound and southbound 63rd Avenue NE (two-way stop-control). With this configuration, turns from the side street would operate at LOS C or better during the PM peak hour. If all-way-stop warrants are met, the intersection is expected to operate at an overall LOS A, which would also have the effect of calming traffic approaching NOAA.

Queuing from NOAA Gate

The 2000 Traffic Study of this intersection included detailed queue analysis for traffic entering the nearby NOAA gate. The peak queue from that gate occurs during the morning arrival peak hour. That analysis studied gate service times and arrival rates and determined that the peak queue was six (6) vehicles would not extend to or through the NE 63rd Street intersection. The 2000 study was performed assuming that 307 vehicles arrived at the gate during the AM peak hour. The counts performed at NE NOAA Drive in 2017 determined that the peak volume has decreased to about 180 vehicles per hour. Therefore, it is unlikely that queues from the NOAA gate would extend to the proposed new access intersection.

3. Access Alternative Comparison

The two access alternatives were compared based on the following key performance criteria.

●	◕	◑	◔	○	X
Best	**Better**	**Acceptable**	**Degraded**	**Worst**	**No Change**

Criteria	Alternative 1 New Driveway on Sand Point Way NE	Alternative 2 New Access via NE NOAA Drive
Traffic operations on Sand Point Way	◑	●
Internal park operations	◑	●
Pedestrian access to North Shore	X	◕
Accessible route to North Shore	X	◕
Reduce traffic on Avenue A	○	●
Safety	◑	◕
Facilitates transit to NOAA	○	●
Implementation	Requires approval from SDOT	Requires approval from NOAA and SDOT

4. Summary

Alternative 2—a new access at NE NOAA Drive—would benefit vehicular, pedestrian, and transit modes, as well as safety conditions. It would provide a second means of vehicle access to the North Shore and reduce traffic through Magnuson Park's main gate at NE 74th Street and along Avenue A; it would provide an accessible route to the North Shore; it could be used by transit as part of a route that circulates from NOAA through the Park (instead of the dead-end route to NOAA), and it could open up parking capacity in the North Shore to serve uses located south of NE NOAA Drive. Alternative 1 would offer an alternative route for vehicles, but without all of the other benefits. Therefore, it is recommended that the City of Seattle continue to work with NOAA to establish a new North Shore Access route from NE NOAA Drive. The improvement should include:

- Re-establishing the intersection at NE NOAA Drive / 63rd Avenue NE;
- Removing the existing fence and barrier to provide left turn lanes in both directions on NE NOAA Drive;
- Installing stop-sign control—either a two-way stop (stop signs on northbound and southbound 63rd Avenue NE) or an all-way stop;
- Providing a pedestrian crosswalk across the south leg (63rd Avenue NE) and the east leg (NE NOAA Drive) in order to connect to a new pedestrian walkway along the east side of the Arena Sports parking lot (note that this differs from original concept plan for the intersection); and
- Signalizing the intersection at Sand Point Way NE / NE NOAA Drive.

MCH/tsm

MAGNUSON PARK CIRC PLAN - TECH MEMO #4 - NORTH SHORE VEHICULAR ACCESS - FINAL

APPENDIX E

EVALUATION MATRIX FOR IMPROVEMENT OPTIONS

APPENDIX A - Improvement Options Evaluation Matrix

Ratings for Individual Improvement Options

5	4	3	2	1
Full Benefit →				No Benefit

Rating Scale for Total Score

Highest				Lowest

The project number and mapping nomenclature used follow the designations set up to track projects by corridor. The code keys are as follows:

MG = Main Gate, which is the NE 74th Street Corridor
NS = North Shore
SA = South Access, which is the NE 65th Street Corridor
SF = NE Sportsfield Drive corridor
CS = Central Spine, which is in the NE 70th Street alignment (if extended east of Sand Point Way)
LS = Lakeshore Drive NE and the Promenade
HA = Historic Avenues, which are 63rd Avenue NE and 62nd Avenue NE
LT = Loop Trail, a recreational trail that encircles the main part of the park.

Map Key	Location	Potential Improvement	Evaluation Criteria (See Report Text for Guidance on Ratings)								Total Score
			Goal: Safety		Goal: Accessibility and Connectivity					Goal: Navigation	
			Modal Separation	Vehicle Speed Reduction	Accessibility	Non-Motorized Network	Transit Connection	Vehicle Access & Circulation	Freight Circulation		
MG-1	Intersection of NE 74th Street / Sand Point Way NE	SDOT will reconfigure this intersection to remove right-turn ramps (slip lanes), add pedestrian walkways, and crosswalks on all legs of the intersection. Already in process.	4	4	5	4	4	1	0	0	22
MG-2	NE 74th Street - South side from Sand Point Way to Off-Leash Area	Construct new ADA ramps on: o Both sides of Avenue A – Bulb out the southwest- curb to extend sidewalk beyond Gatehouse building. o Both sides of Building 18 driveway (Outdoors for All). o Both sides of Sportsfield Drive, if not tabling (see MG-8). o Both sides of W6 Parking Lot east driveway. Upgrade ramps to ADA standards on: o Both sides of 62nd Avenue NE. o Across NE 74th Street east of 62nd Avenue NE (consider curb bulb on south side of street to accommodate the improved ramp).	3	0	5	4	4	0	0	2	18
MG-3	NE 74th Street east of old Firehouse (Building 18)	Remove large 'volunteer' cottonwood tree, assess viability of two adjacent maple trees and add sidewalk through landscape berm. *Note: May be included in Outdoors for All street improvements.*	3	0	5	4	4	0	0	2	18
MG-4	North side of W6 Parking Lot (parallel to NE 74th Street)	Complete and upgrade sidewalks: o Add short sidewalk connection between new curb ramp and existing sidewalk. o Prune up the Arbutus shrubs and underplant with low-growing natives. o Install curb wheel stops outward and parallel to sidewalk to reduce vehicles overhanging and blocking sidewalk access. *Note: May be complemented by parking lot layout improvements in Project SF-6.*	3	0	5	4	4	0	0	2	18
MG-5	Between Playground and Off-Leash Area	Extend and widen sidewalk along north side of Playground at an ADA accessible grade to meet the abandoned roadway (where the turnabout is located).	3	0	5	4	4	0	0	2	18

APPENDIX A - Improvement Options Evaluation Matrix

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			Modal Separation	Vehicle Speed Reduction	Accessibility	Non-Motorized Network	Transit Connection	Vehicle Access & Circulation	Freight Circulation		
MG-6	NE 74th Street east of Avenue A	Crosswalk at Pediatric Dental Clinic: o Add ramps for crossing NE 74th Street to reach UW Pediatric Dental Clinic. o Raise crosswalk to calm vehicle traffic. o Add curb bulbs on both sides of street to improve sight lines between motorists and pedestrians. o Extend center median from Gate House thru raised crosswalk to replace posts that now restrict left turn movements. o May also need to upgrade ramps across Avenue A on north side of NE 74th Street.	0	4	3	4	2	0	0	0	13
MG-7	NE 74th Street east of 63rd Avenue NE	Crosswalk at Outdoors for All (new site): o Add new north-south crosswalk on east side of intersection (connecting to Outdoors for All plaza). o Raise crosswalk to calm vehicle traffic. o Add curb bulbs on both sides of street. o Remove the existing crosswalk further east (currently very faded) located on the east side of Outdoors for All driveway.	0	4	3	3	1	0	-1	0	10
MG-8	Intersection of NE 74th Street / Sportsfield Drive	o Add/upgrade ramps and crosswalks on all four corners of intersection. o Repair/replace broken and failing pavement. o Relocate utility vault on south leg to outside of crosswalk, and upgrade drainage structure grate. o Consider raising (tabling) intersection to calm traffic and increase driver awareness of multi-modal usage.	2	2	5	4	4	0	0	1	18
MG-9	NE 74th Street between Building 406 and W6 Parking Lot	Add ramps on both sides of NE 74th Street.	2	0	5	4	0	0	0	0	11
MG-10	NE 74th Street at path between Children's Garden and Playground	Add detectable warning indicators with ADA-compliant landings crossing NE 74th Street.	2	0	5	4	0	0	0	0	11
NS-1	Avenue A from Mountaineers to NE NOAA Drive underpass	Create a walkway/sidewalk along the east side of Avenue A that connects from the new bike ramp at Sand Point Way to sidewalk under NE NOAA Drive. Use a driveway curb-cut where sidewalk crosses service road to Building 2. Add crosswalk across NE 77th Street.	5	3	3	5	5	0	0	2	23
NS-2	Avenue A north of NE NOAA Drive underpass	Improve east crosswalk landing and move north to improve sight lines for drivers and pedestrians. Add berm and drainage to backside of west landing. Paint MUTCD-compliant crosswalk.	2	0	3	4	0	0	0	0	9
NS-3	63rd Avenue NE connection to North Shore	Modify or remove gates on each side of NE NOAA Drive at 63rd Avenue NE to allow pedestrian access across NE NOAA Drive.	5	0	5	5	0	0	0	2	17
NS-4	East side of Arena Sports Parking Lot (N6)	If access provided across NE NOAA Drive, then create a walkway along east edge of Arena Sports Parking Lot. Consider separating path from parking lot with landscape treatments.	5	0	5	5	0	0	0	5	20

APPENDIX A - Improvement Options Evaluation Matrix

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NS-5	Building 2 Service Drive (north side of building)	Stripe and sign access road on north side of Building 2 as a Shared-Use Street.	2	0	0	2	0	0	2	0	6
NS-6	Avenue A along Building 11 frontage	Stripe and sign access road as a Shared-Use Street.	2	0	0	2	0	0	2	0	6
NS-7	NE 77th Street	Add walkway or sidewalk on east side of street between Avenue A and 63rd Avenue NE.	4	2	2	5	0	0	0	0	13
NS-8*	63rd Avenue NE Connection to North Shore	Remove gates and fence on each side of NE NOAA Drive to allow for full street width (63rd Avenue NE) and increasing sight line visibility, and for vehicle access. Improve intersection with left turn pockets on NE NOAA Drive and all-way or two-way stop control. Add crosswalks to south and east legs of intersection.	5	0	5	5	0	5	4	5	29
NS-9*	Signalize intersection at NE NOAA Drive/Sand Point Way NE	If access to North Shore is provided on NE NOAA Drive, install traffic signal at NE NOAA Drive/Sand Point Way if warranted. (See detailed analysis herein).									with NS-8
NS-10*	Create new access driveway connecting Sand Point Way NE to Avenue A at approximately NE 75th Street.	As an alternative to providing access via NE NOAA Drive, create a new access at approximately NE 75th Street. (See detailed analysis herein).	0	0	0	0	0	4	4	3	11
NS-11	Upgrade motorist wayfinding	Add and improve signs that motorists use, particularly if new vehicle access option is provided.									with NS-8
SA-1	NE 65th Street at Radford Court NE	Install raised crosswalk on east side of intersection. The speed hump should be designed with long approach and departure slopes to accommodate large trucks and boat trailers.	0	5	2	4	0	0	-1	0	10
SA-2	NE 65th Street at Sportsfield Drive NE	Install raised crosswalk on east side of intersection. The speed hump should be designed with long approach and departure slopes to accommodate boat trailers.	0	5	2	4	0	0	-1	0	10
SA-3	NE 65th Street at 65th Avenue NE	Install crosswalk and ped ramps/landings. Create break in logs on north side of street. Remove fence and gate on south side of street to encourage pedestrian and bicycle access.	0	5	2	4	0	0	-1	0	10
SA-4	E1 Parking Lot driveway from NE 65th Street to ELC	Create pedestrian walkway: o Close vehicle street on west side of E1 parking lot (adjacent to Promontory Point) and convert to pedestrian use only (note that most of the loop has already been converted to ped use only), OR o Paint fog line along west side of the vehicle access loop to delineate a walking path.	3	0	2	3	0	0	0	0	8

APPENDIX A - Improvement Options Evaluation Matrix

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SA-5	Intersection at NE 65th Street / E1 Parking Lot	o Reconfigure All-Way Stop to more conventional configuration: o Move crosswalk from east side of intersection (which is far back from the customary stop-bar location due to limited sight lines) to the west side of the intersection. o Considered tabled crosswalk in lieu of ramps o Move westbound stop sign and stop bar west (to customary location). o Extend pedestrian walkways on south side of street to the new crosswalk. o Add walkway to south side of NE 65th Street to connect path to ELC walkway (per SA-4 above).	0	0	0	2	0	3	0	0	5
SA-6	Wetlands trail along NE 65th Street	o Widen narrow trail segments by adding gravel shoulder to one side and clearing brush o Grind root heave or repave	2	0	2	3	0	0	0	0	7
SA-7	Trail between Parking Lots E1 and E2	o Widen narrow trail segments by adding gravel shoulder to one side and clearing brush o Grind root heave or repave	2	0	2	3	0	0	0	0	7
SF-1	Tennis Center to Community Center driveway.	Create a walkway connecting Field 6 to shoulder of Sportsfield Drive or to new trail (see SF-5).	5	0	5	5	0	0	0	0	15
SF-2	Community Center driveway to south end of Field 12	Enhance shoulder using white (fog) stripe and mark with pedestrian symbols. Repave/repair pavement where needed. Augment “No Parking” signs along this segment.	2	0	3	3	0	0	0	0	8
SF-3	Wetlands Trail from Field 12 to NE 65th Street	Thin the landscaping between the road and the path to provide line of sight for pedestrian to improve safety and security. Grind root heave.	3	0	2	3	0	0	0	0	8
SF-4*	Street-side path	As an alternative to SF-3, create a path adjacent to Sportsfield Drive NE between NE 65th Street and south end of Field 12.	2	0	3	3	0	0	0	0	8
SF–5*	Off-street trail along edge of Field 12 (Cricket Pitch Trail)	As an alternative (or phased improvement) to SF-2, create a gravel or paved multi-use trail along the west edge of Field 12.	5	4	5	5	0	0	0	2	21
SF-6	Edge of W5 Parking Lot	Create a protected multi-use trail along the west edge of the W5 (main) parking lot with the following changes: o Limit points of vehicle access to the parking lot to two locations using a landscape buffer along the west edge of the lot. Consider using a drainage swale instead of raised landscape islands. o Shorten some of the parking lot aisles so that all vehicle circulation among the aisles do not need to cross the trail. o Highlight trail crossings of parking lot aisles using painted crossings and/or landscape features.	4	3	4	4	0	2	0	0	17
SF-7	Crosswalk from Solid Ground Housing to Field 12	Raise the existing crosswalk to calm traffic speeds.	2	4	0	0	0	0	0	0	6
SF-8	Tennis Center to NE 65th Street	Post for 20 mph speed limit.	0	2	0	0	0	0	0	0	2

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SF-9	From south end of Field 12 to Community Center driveway	If off-street trail created, allow parking along east side shoulder, which should help calm traffic. Create additional breaks in fence so those who park can access path.									with SF-5
CS-1	Sand Point Way NE to Avenue A	o Create ADA path that connects street and internal sidewalk. o Add ramps and crosswalk across Avenue A to align with new path.	5	0	4	4	5	0	0	0	18
CS-2	Across 62nd Avenue NE	Locate crosswalk with ramps to cross 62nd Avenue NE at approximately Santos Place walkway.	3	0	4	4	5	0	0	2	18
CS-3	Just south of the Community Center, between 62nd Ave NE and Sportsfield Drive	o Create accessible route parallel to stairway on south side of Community Center linking 62nd Avenue NE to Sportsfield Drive NE. o Provide accessible path to Community Center main access.	3	0	5	4	3	0	0	2	17
CS-4	Just south of the Community Center, between 62nd Ave NE and Sportsfield Drive	Improve ADA parking: o Relocate stalls to level areas at top and bottom of hill. o Make stalls "van accessible." o Increase number of ADA stalls.	0	0	4	0	0	4	0	0	8
CS-5	Along accessible route	Add signage to indicate the accessible route to the Community Center.	2	0	2	4	4	0	0	4	16
LS-1	Adjacent to on-street angle parking on Lake Shore Drive	Create walkways east of parking field to pedestrians can use to circulate between parking and Promenade connections.	5	0	3	4	0	0	0	0	12
LS-2	Wooden Bridge and Approach – Short-term Improvements	Make existing bridge accessible: o Rebuild bridge approaches to remove/reduce grade change between bridge deck and path o Widen path on north side of bridge to better transition from the Promenade to the bridge.	2	0	2	2	0	0	0	0	6
LS-3	Wooden Bridge and Approach – Long-term Improvements	Move bridge west so pedestrian path does not cross most active area of boat ramp, and widen bridge to increase capacity: o Build a new, wider bridge further west; o Demolish existing bridge; o Extend path connections to new bridge.	4	0	2	4	0	0	0	0	10
LS-4	Boat Ramp Crossing – Short-term Improvements	Improve existing boat ramp crossing: o Restripe pedestrian crossing through boat ramp o Consider using texture or other features that would better indicate crossing location when paint fades.	2	0	0	2	0	0	0	0	4
LS-5	Boat Ramp Crossing – Long-term Improvements *Can be paired with either LS-2 or LS-3*	Relocate boat ramp crossing: o Reroute approach paths on east side of boat ramp to a pedestrian crossing location further west, and beyond the maneuvering area for boat trailers. o Change angle boat tie-down stalls to pull-thru stalls to eliminate need for backing maneuvers o Add crosswalk for pedestrians. o Remove current walking path and redirect to new path and/or existing path along the lake shore.	5	0	2	3	0	0	0	0	10

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LS-6	Wetlands Trail crossing of Lake Shore Drive	Add speed hump in advance of crosswalk.	0	4	0	2	0	0	0	0	6
LS-7	Cross Park Trail crossing of Lake Shore Drive	Raise crosswalk to calm vehicle traffic and highlight pedestrian crossing.	2	4	0	2	0	0	0	0	8
LS-8	On-street angle parking on Lake Shore Drive	Convert and sign for back-in angle parking (which is SDOT standard and improves sight lines from driver to oncoming cars or pedestrians).	3	0	0	2	0	0	0	0	5
HA-1	NE 74th Street to NE NOAA Drive	Stripe walkway along west side of roadway across the UW Building's loading dock, and adjacent to Building 2. Add ramps as needed.	2	0	3	3	2	0	-1	2	11
HA-2	At NE NOAA Drive	If pedestrians are allowed to cross NE NOAA Drive (see Project NS-3 or 5), then provide ramps and crosswalks across 63rd Avenue NE south of NE NOAA Drive to connect with east-side path to the North Shore.									with NS-8
HA-3	East side of 63rd Avenue NE adjacent to Building 30	Reduce vehicle overhang of existing sidewalk adjacent to west side of Building 30 by either converting angle parking to parallel parking, or adding curb stops.	2	0	5	2	0	0	0	0	9
HA-4	North side of Building 30	Construct accessible route between sidewalk and the ADA entrance to Building 30. Ramp necessary due to grade change up to street.	0	0	5	2	0	0	0	0	7
HA-5	West side of 62nd Avenue NE from Solid Ground housing to NE 65th Street	Construct sidewalk where none exists today (about 700 feet). Will require construction west of existing concrete panels to maintain road width and will also require regrading and utility relocation (street lights).	4	2	4	4	0	0	0	1	15
HA-6	East side of 62nd Avenue NE near NE 65th Street	Construct sidewalk where none exists today (about 170 feet) to connect NE 65th Street to sidewalk near former officer housing. Consider setting curb to accommodate on-street parallel parking. Remove existing asphalt head-in parking area.	4	0	3	4	0	0	0	0	11
HA-7	Median on east side of 62nd Avenue NE at former Officer's Club parking lot	Reconstruct median to provide minimum 6-foot-wide sidewalk that is not encumbered by landscaping or overhanging vehicles. May require reconfiguring existing parking. If possible, widen adjacent street travelway to better accommodate buses.	3	0	4	4	0	0	0	0	11
HA-8	Full length of street	Post for 20 mph	0	4	0	0	0	0	0	0	4
HA-9	East side of 62nd Avenue NE in parking lot at Brettler Family Place.	Repair trench drain on upper-level parking adjacent to Brettler Family Place Townhomes. Concrete panels are sinking and causing significant tripping hazards.	0	0	0	3	5	4	0	0	12
LT-1	Cross Park Trail between Dog Park and Sports Meadow	Regrade trail at west side of Sports Meadow to reduce slope.	0	0	4	4	0	0	0	0	8
LT-2	Cross Park Trail at west Bunker	Mark cross-slope banked driveway tripping hazard with red pavement crosshatch or apply asphalt across width to reduce slope.	0	0	4	4	0	0	0	0	8
LT-3	Trail surface grading	Grind root heave or regrade in following areas: o Segments of Cross Park Trail near Field 6 and tennis courts o Along NE 65th Street. o Areas of Promenade, particularly near Wooden Bridge Consider installation of below grade root guards to reduce future root incursions.	0	0	4	4	0	0	0	0	8

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P-1	Stall striping throughout park	Establish regular maintenance schedule to repaint all parking stalls. Consider use of higher quality traffic paint.	0	0	0	0	0	4	0	2	6
P-2	On-street parking on east side of 62nd Avenue NE near Community Center	Sign parking with 2-hour limit to prevent parking from being occupied all day by nearby residents.	0	0	0	0	0	4	0	0	4
P-3	On-street parking on NE 74th Street	Sign parking with 2-hour limit to prevent parking from being occupied all day by nearby residents.	0	0	0	0	0	4	0	0	4

APPENDIX F

CONCEPT DIAGRAMS AND COST ESTIMATES FOR HIGH-PRIORITY IMPROVEMENTS

DATE: October 31, 2021

TO: Marni Heffron, Heffron Transportation

FROM: Sakaru Tsuchiya, PE; Amanda Bailey, PLA

RE: **Planning Level Design-Opinion of Probable Construction Cost Estimate**
Magnuson Park Prioritized Pedestrian Circulation Improvements
MIG # 15198

Purpose

This memorandum is intended to provide Seattle Parks with the basis of the methodology and the assumptions used in developing the Planning Level Design estimate of probable construction cost. This Opinion of Probable Construction Cost (OPCC) estimate is based on the improvements shown in Appendix A. Construction costs are based on unit prices and the itemization and quantity tabulation of expected items. The planning level cost estimate summary is as follows:

PROJECT	BUDGET COST ESTIMATE
NE 74th Street (Main gate)	$1,188,000
Avenue A	$1,218,000
New North Shore Access at NE NOAA Drive	$508,000
Sportsfield Drive NE Multi-use Trail	$679,000
Barrier Free Loop Trail Improvement	$467,000
Traffic Calming Spot Improvement	$153,000

Assumptions for Planning Level Construction Cost Analysis

The following assumptions were used to prepare the Estimate of Probable Construction Costs:

1. Areas of improvements are based on exhibits created by Heffron and MIG.
2. Unit prices are based on various sources including recent bids, engineer's estimate and consultation with suppliers for similar projects in this region.
3. This cost estimate escalates latest COS 2017 APWA unit costs from Jan 2017 to July 2020 = 14.29%, based on percentage increase shown in Engineering News-Record Seattle Consumer Confidence Index Jan 2017 (10,622.66) to July 2020 (12,140.48).

4. Quantities for construction bid items are referenced with COS Standard Plans.
5. Bid numbers are referenced with SDOT/SPU bid item numbers.
6. Design Contingency (Allowance for design with permitting agency comments from planning to 100% approval): 30%
7. General Conditions not included.
8. Contractor's Overhead and Profit not included.
9. Owner construction services are not included.
10. Permit fees are not included.
11. Agency soft costs are not included. Only Sportsfield Drive included wetland study cost for budgetary consideration.
12. Onsite stormwater management requirements not included. Actual triggers will be dependent on project packaging.
13. Agency connection and meter fees not included.
14. Taxes are not included.
15. Traffic signal cost of $500,000 for the intersection at NOAA Drive and Sand Point Way NE is a rough figure to be determined.
16. Raised crosswalks call for concrete repaving with transition length 7.5'; total length of 25' = 7.5' + 10' + 7.5'. Traffic signs (4) are added for each crossing.
17. Landscape restoration includes 1' sod beyond all edges of hardscape areas where returning to existing landscape/grass.

Attachments:

A. Magnuson Park High Priority Pedestrian Improvements - Concept Sketches

B. OPCC Estimate for Planning Level Design

Attachment A.

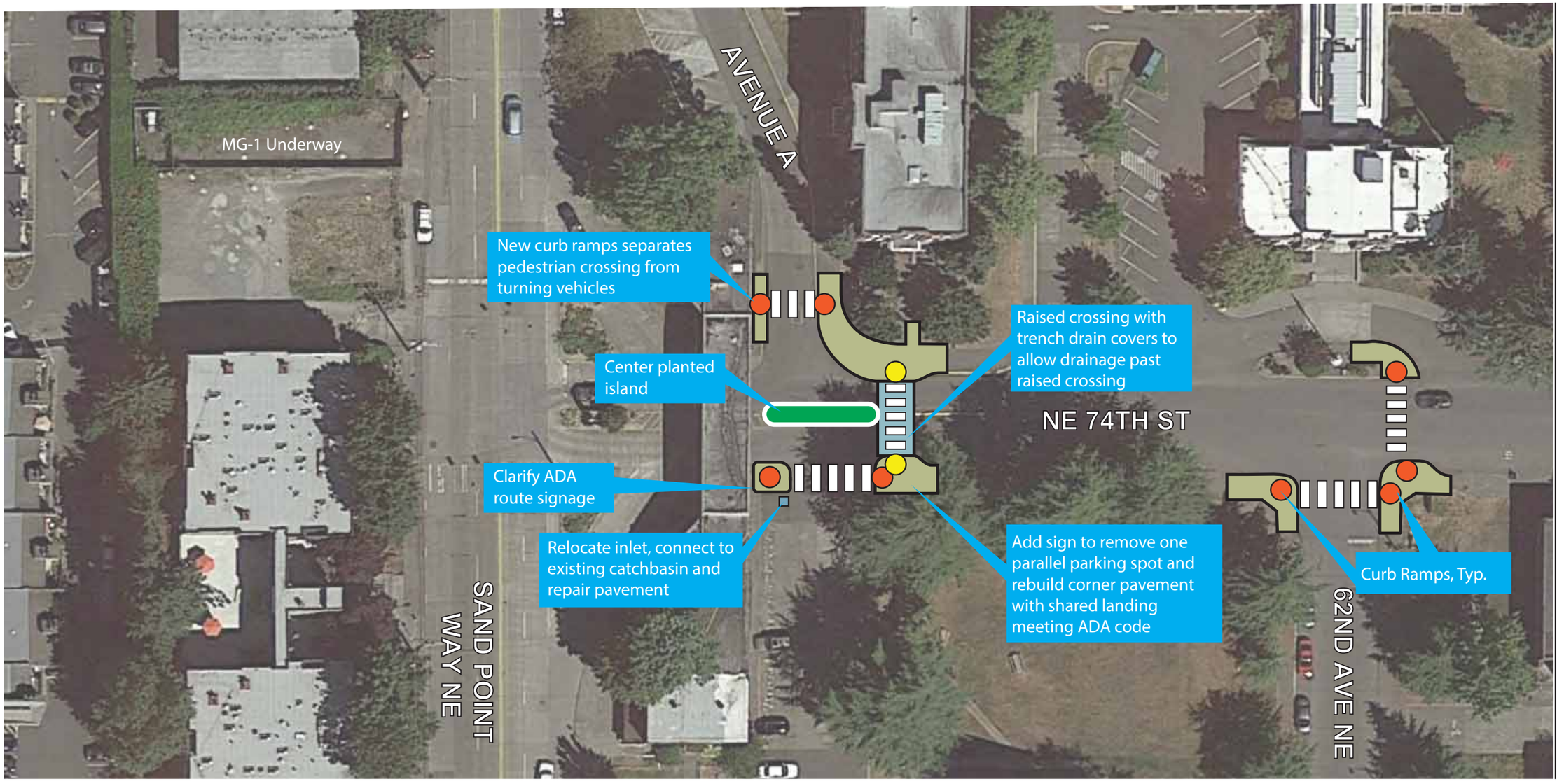
Magnuson Park High Priority Pedestrian Circulation Improvements:

Concept Sketches

MAGNUSON PARK HIGH PRIORITY PEDESTRIAN IMPROVEMENTS - CONCEPT SKETCHES

NE 74TH STREET (MAIN GATE) - SHEET 1 OF 3

CIRCULATION PLAN IMPROVEMENT ID: MG-2 THROUGH MG-10

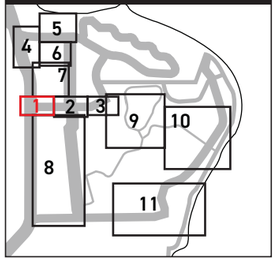


MATCHLINE - SEE SHEET 2

LEGEND

- New/Upgraded Curb Ramp
- New Truncated Domes At Tabled Or At-Grade Intersection
- New/Upgraded Sidewalk
- New/Upgraded Street Paving
- New Crosswalk

KEY MAP



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0 100 200’

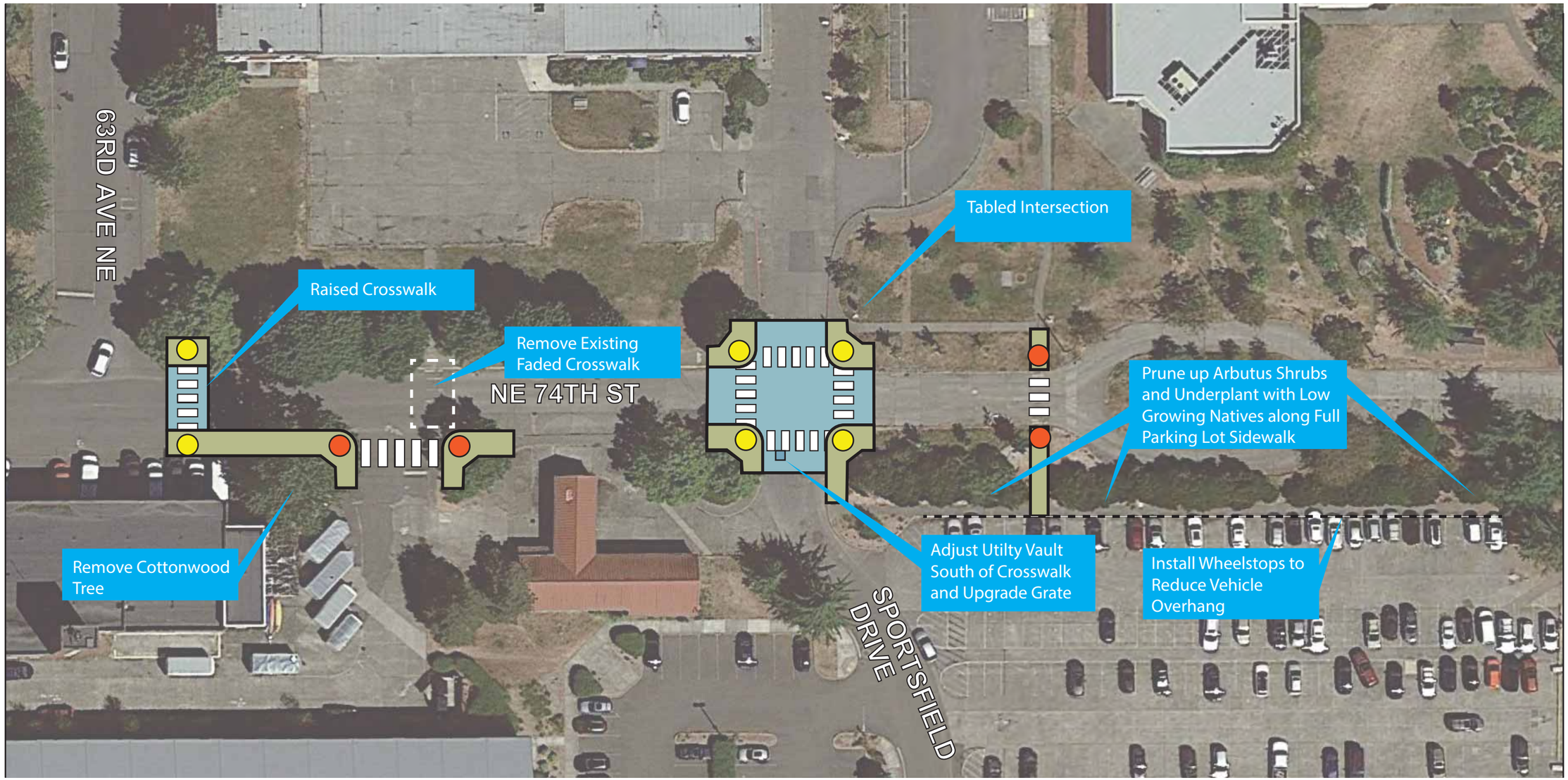
MAGNUSON PARK HIGH PRIORITY PEDESTRIAN IMPROVEMENTS - CONCEPT SKETCHES

NE 74TH STREET (MAIN GATE) - SHEET 2 OF 3

CIRCULATION PLAN IMPROVEMENT ID: MG-2 THROUGH MG-10

MATCHLINE - SEE SHEET 1

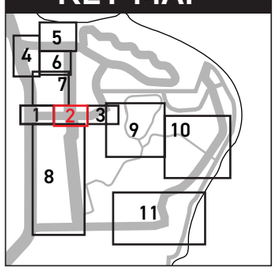
MATCHLINE - SEE SHEET 3



LEGEND

- New/Upgraded Curb Ramp
- New Truncated Domes At Tabled Or At-Grade Intersection
- New/Upgraded Sidewalk
- New/Upgraded Street Paving
- New Crosswalk

KEY MAP



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0 100 200’

MAGNUSON PARK HIGH PRIORITY PEDESTRIAN IMPROVEMENTS - CONCEPT SKETCHES

NE 74TH STREET (MAIN GATE) - SHEET 3 OF 3

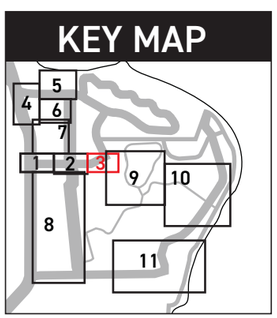
CIRCULATION PLAN IMPROVEMENT ID: MG-2 THROUGH MG-10

MATCHLINE - SEE SHEET 2

LEGEND

- New/Upgraded Curb Ramp
- New Truncated Domes At Tabled Or At-Grade Intersection
- New/Upgraded Sidewalk
- New/Upgraded Street Paving
- New Crosswalk

KEY MAP



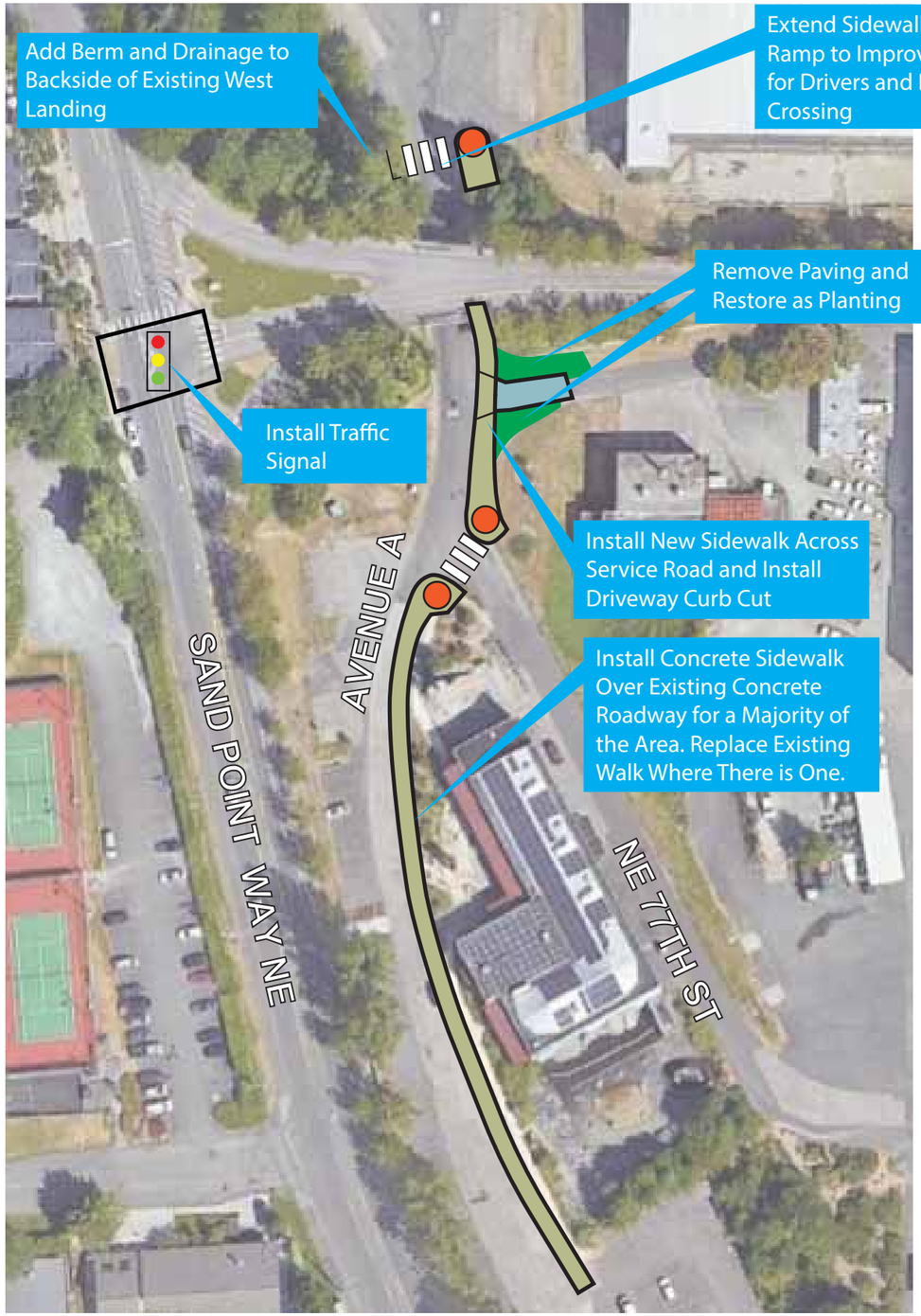
N

0 100 200’

MAGNUSON PARK HIGH PRIORITY PEDESTRIAN IMPROVEMENTS - CONCEPT SKETCHES

AVENUE A

CIRCULATION PLAN IMPROVEMENT ID: NS-1, NS-2, NS-9



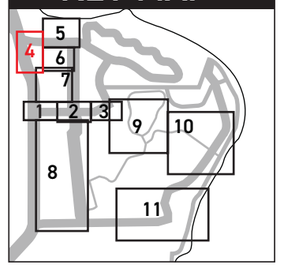
N

0 200’ 400’

LEGEND

- New/Upgraded Curb Ramp
- New Truncated Domes At Tabled Or At-Grade Intersection
- New/Upgraded Sidewalk
- New/Upgraded Street Paving
- New Crosswalk

KEY MAP



MAGNUSON PARK HIGH PRIORITY PEDESTRIAN IMPROVEMENTS - CONCEPT SKETCHES

NEW NORTH SHORE ACCESS AT NE NOAA DRIVE- SHEET 1 OF 3

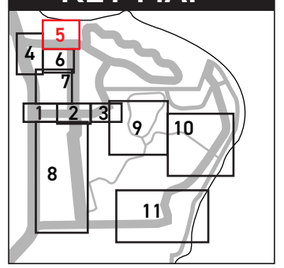
CIRCULATION PLAN IMPROVEMENT ID: NS-4, NS-8, HA-1

MATCHLINE - SEE SHEET 2

N

0 200’ 400’

KEY MAP



LEGEND

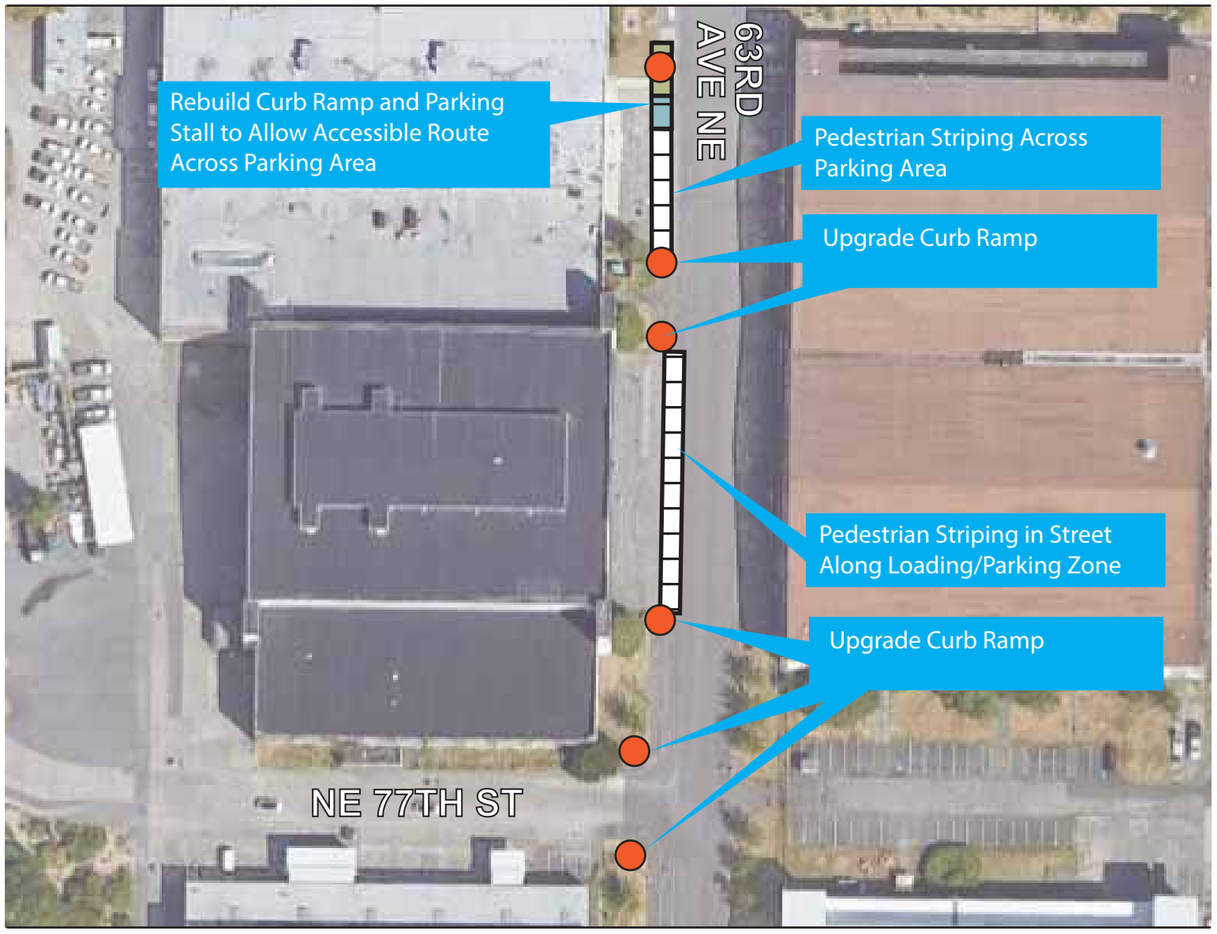
- New/Upgraded Curb Ramp
- New Truncated Domes At Tabled Or At-Grade Intersection
- New/Upgraded Sidewalk
- New/Upgraded Street Paving
- New Crosswalk

MAGNUSON PARK HIGH PRIORITY PEDESTRIAN IMPROVEMENTS - CONCEPT SKETCHES

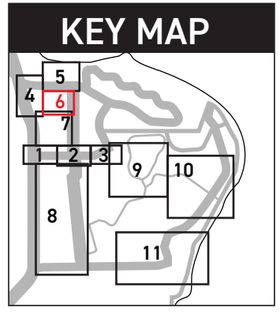
NEW NORTH SHORE ACCESS AT NE NOAA DRIVE- SHEET 2 OF 3

CIRCULATION PLAN IMPROVEMENT ID: NS-4, NS-8, HA-1

MATCHLINE - SEE SHEET 1



MATCHLINE - SEE SHEET 3



N

0 200’ 400’

LEGEND

- New/Upgraded Curb Ramp
- New Truncated Domes At Tabled Or At-Grade Intersection
- New/Upgraded Sidewalk
- New/Upgraded Street Paving
- New Crosswalk

MAGNUSON PARK HIGH PRIORITY PEDESTRIAN IMPROVEMENTS - CONCEPT SKETCHES

NEW NORTH SHORE ACCESS AT NE NOAA DRIVE- SHEET 3 OF 3

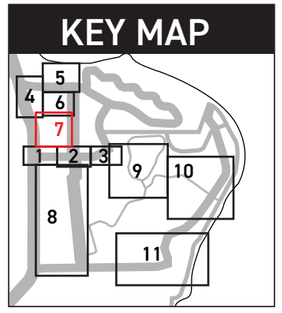
CIRCULATION PLAN IMPROVEMENT ID: NS-4, NS-8, HA-1

MATCHLINE - SEE SHEET 2

N

0 200’ 400’

KEY MAP



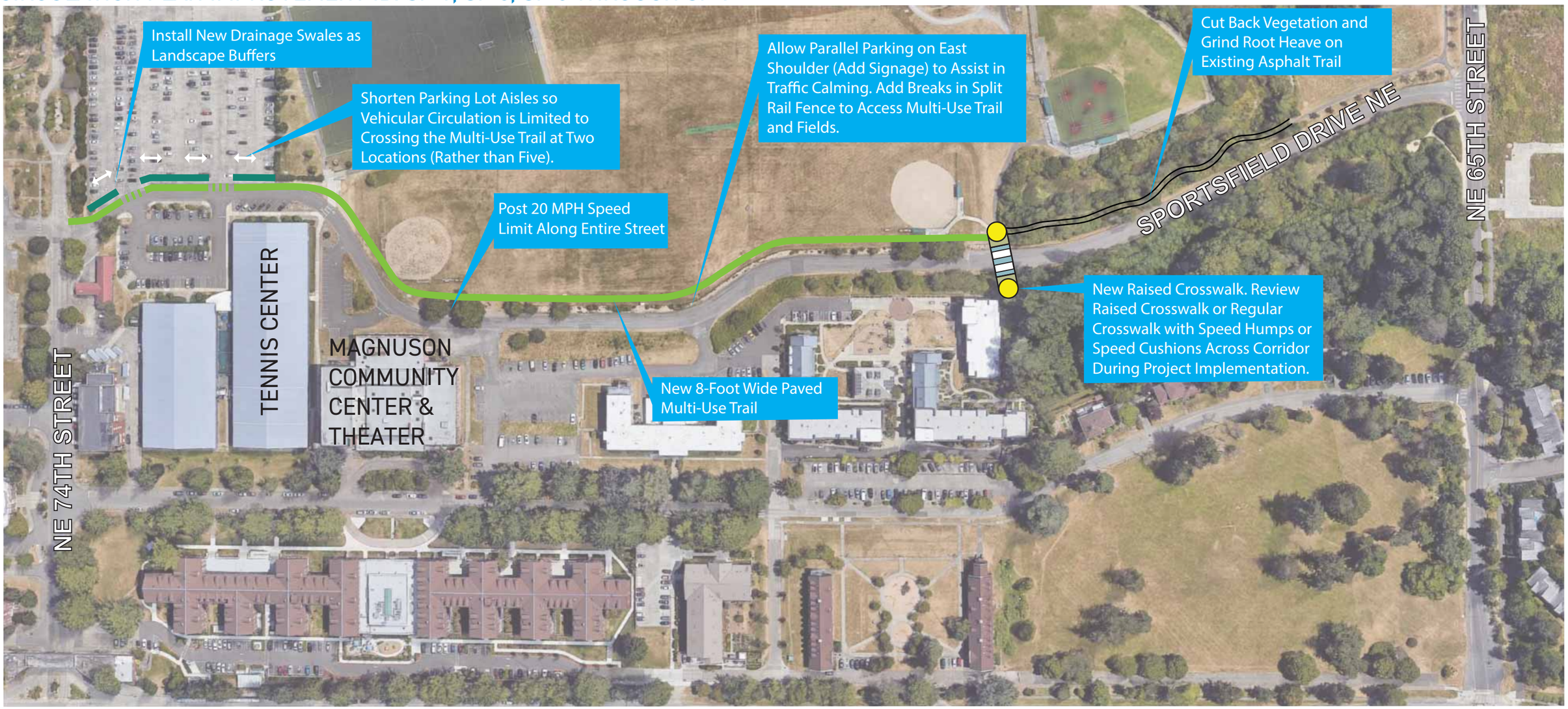
LEGEND

- New/Upgraded Curb Ramp
- New Truncated Domes At Tabled Or At-Grade Intersection
- New/Upgraded Sidewalk
- New/Upgraded Street Paving
- New Crosswalk

MAGNUSON PARK HIGH PRIORITY PEDESTRIAN IMPROVEMENTS - CONCEPT SKETCHES

SPORTSFIELD DRIVE NE MULTI-USE TRAIL

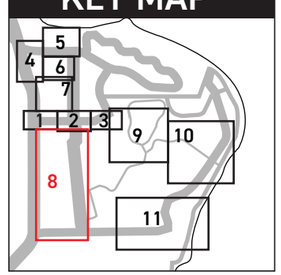
CIRCULATION PLAN IMPROVEMENT ID: SF-1, SF-3, SF-5 THROUGH SF-9



N

0 200’ 400’

KEY MAP



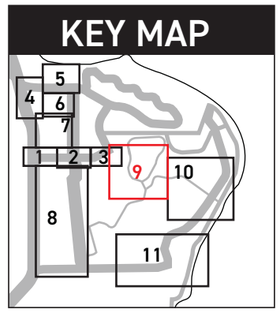
LEGEND

- New/Upgraded Curb Ramp
- New Truncated Domes At Tabled Or At-Grade Intersection
- New/Upgraded Sidewalk
- New/Upgraded Street Paving
- New Crosswalk

MAGNUSON PARK HIGH PRIORITY PEDESTRIAN IMPROVEMENTS - CONCEPT SKETCHES

BARRIER FREE LOOP - SHEET 1 OF 3

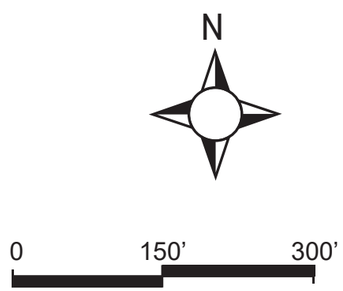
CIRCULATION PLAN IMPROVEMENT ID: LT-1 THROUGH LT-3, SA-5 THROUGH SA-7, LS-2, LS-4, LS-7



NOTE:

FOR ALL BARRIER FREE LOOP TRAIL, GRIND ROOT HEAVE OR REGRADE TRAIL PARTICULARLY AT THE FOLLOWING LOCATIONS:

- SEGMENTS OF CROSS PARK TRAIL NEAR FIELD 6 AND TENNIS COURTS
- ALONG NE 65TH ST
- AREAS OF PROMENADE, PARTICULARLY NEAR WOODEN BRIDGE
- CONSIDER INSTALLATION OF BELOW GRADE ROOT GUARDS TO REDUCE FUTURE ROOT INCURSIONS



LEGEND

- New/Upgraded Curb Ramp
- New Truncated Domes At Tabled Or At-Grade Intersection
- New/Upgraded Sidewalk
- New/Upgraded Street Paving
- New Crosswalk

MAGNUSON PARK HIGH PRIORITY PEDESTRIAN IMPROVEMENTS - CONCEPT SKETCHES

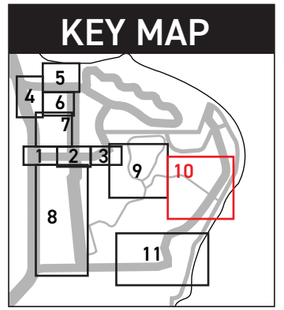
BARRIER FREE LOOP - SHEET 2 OF 3

CIRCULATION PLAN IMPROVEMENT ID: LT-1 THROUGH LT-3, SA-5 THROUGH SA-7, LS-2, LS-4, LS-7

N

0 150’ 300’

KEY MAP



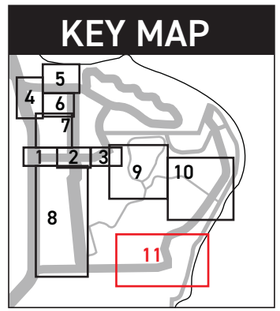
LEGEND

- New/Upgraded Curb Ramp
- New Truncated Domes At Tabled Or At-Grade Intersection
- New/Upgraded Sidewalk
- New/Upgraded Street Paving
- New Crosswalk

MAGNUSON PARK HIGH PRIORITY PEDESTRIAN IMPROVEMENTS - CONCEPT SKETCHES

BARRIER FREE LOOP - SHEET 3 OF 3

CIRCULATION PLAN IMPROVEMENT ID: LT-1 THROUGH LT-3, SA-5 THROUGH SA-7, LS-2, LS-4, LS-7



N

0 150’ 300’

LEGEND

- New/Upgraded Curb Ramp
- New Truncated Domes At Tabled Or At-Grade Intersection
- New/Upgraded Sidewalk
- New/Upgraded Street Paving
- New Crosswalk

Attachment B.

Magnuson Park High Priority Pedestrian Circulation Improvements:

Probable Construction Cost Estimate

Construction Cost Estimate

Project Name: **Magnuson Park Circulation Improvements**
Project ID:
Project Phase:
Cost Estimator(s): MIG/ST
Est. Reviewer(s) MIG/NP
Date: 08/09/21

PROJECT	BUDGET COST ESTIMATE
NE 74th Street (Main gate)	$1,188,000
Avenue A	$1,218,000
New North Shore Access at NE NOAA Drive	$508,000
Sportsfield Drive NE Multi-use Trail	$679,000
Barrier Free Loop Trail Improvement	$467,000
Traffic Calming Spot Improvement	$153,000

Construction Cost Estimate

Project Name: **Magnuson Park Circulation Improvements**
Project ID: NE 74th Street (Main gate)
Project Phase: MG-2 through 10
Cost Estimator(s): MIG/ST
Est. Reviewer(s) MIG/NP
Date: 08/09/21

Item	Bid Item	Bid Item Description	Quantity	Unit	Unit Price	Price
1	109005	MOBILIZATION-CSI (REF)	-	LS	$ 72,800	$ 72,800
2	110005	MAINTENANCE & PROTECTION OF TRAFFIC CONTROL		LS	$ 72,800	$ 72,800
3	801001	CONSTRUCTION Storm Water & Erosion Control Plan - CSECP		LS	$ 36,400	$ 36,400
4	801002	TREE Vegetation & Soil Protection Plan - TCSPP		LS	$ 4,000	$ 4,000
5	201005	CLEARING & GRUBBING {QTY<=5,000}	5,780	SF	$ 4	$ 23,100
6	202035	REMOVE CEMT. CONCR. SIDEWALK {QTY <=50}	1,920	SY	$ 34	$ 65,300
7	202045	REMOVE PAVEMENT {QTY <=100}	930	SY	$ 47	$ 43,700
8	202145	REMOVE CURB {QTY< =50}	890	LF	$ 14	$ 12,500
9	202180	REMOVE PAVEMENT MARKING	240	LF	$ 1	$ 200
10	202767	SAWCUT Cement Concrete Sidewalk, Full Depth {QTY<=50LF}	210	LF	$ 10	$ 2,100
11	202770	SAWCUT Rigid Pavement, Full Depth {QTY<=100 LF}	970	LF	$ 21	$ 20,400
12	204005	COMMON Excavation {QTY<=50}	330	CY	$ 143	$ 47,200
13	401202	MINERAL AGGREGATE TYPE 2	320	CY	$ 65	$ 20,800
14	505157	ROADWAY Cem Conc., With 25% POZZOLANS, 8 IN {QTY <=50SY}	686	SY	$ 177	$ 121,400
15	705352	CATCH Basin, Type 240A {QTY <=3 EA}	1	EA	$ 4,572	$ 4,600
16	705450	INLET Type 250A {QTY<=3 EA}	3	EA	$ 2,457	$ 7,400
17	708058	PIPE, CB Conn, DI, CL 50, 8 IN {Depth <=10Feet}	91	LF	$ 143	$ 13,000
18	720005	ADJUST Existing MH, CB, or VC {QTY <=5EA}	1	EA	$ 703	$ 700
19	SP	ADJUST AND REPLACE GRATE FOR CB	2	EA	$ 2,000	$ 4,000
20	SP	TRENCH DRAIN	100	LF	$ 100	$ 10,000
21	802123	SHRUB, Deciduous, 3 Gal {QTY >5 EA}	25	EA	$ 70	$ 1,800
22	802214	PLANTING Soil {QTY >=10 CY}	25	CY	$ 131	$ 3,300
23	802600	SODDING	1,100	SF	$ 5	$ 5,500
24	804005	CURB, CEM CONC {QTY =<200}	664	LF	$ 81	$ 53,800
25	804015	CURB and Gutter, Cem Conc {QTY<500}	390	LF	$ 63	$ 24,600
26	814005	SIDEWALK, CEM CONC {QTY <500 SY}	1,090	SY	$ 120	$ 130,800
27	814021	CURB RAMP {QTY <=5 SY}	154	SY	$ 434	$ 66,800
28	814030	DETECTABLE Warning Plate {QTY <=20SY}	32	SY	$ 94	$ 3,000
29	821006	INSTALL SIGN, Traffic, Owner Furnished {QTY >6 EA}	12	EA	$ 531	$ 6,400
30	821030	POST, Traffic Sign {QTY<=5EA}	12	EA	$ 354	$ 4,200
31	822018	PAVEMENT MARKING, Thermo, 8 IN Stripe {QTY<=200 LF}	75	LF	$ 14	$ 1,100
32	SP	PAVEMENT MARKING, Thermo, 12 IN Stripe	1,730	LF	$ 14	$ 24,200
33	SP	PAVEMENT MARKING, Thermo, Speed hump Symbols	6	EA	$ 300	$ 1,800
34	SP	WHEEL STOP	30	EA	$ 150	$ 4,500
					Subtotal	$ 914,000
					Design Contingency (30% for planning level estimate)	$ 274,000
					Subtotal with Design Contingency	$ 1,188,000

Construction Cost Estimate

Project Name: **Magnuson Park Circulation Improvements**
Project ID: Avenue A
Project Phase: NS-1, NS-2 and NS-9
Cost Estimator(s): MIG/ST
Est. Reviewer(s) MIG/NP
Date: 08/09/21

Item	Bid Item	Bid Item Description	Quantity	Unit	Unit Price	Price
1	109005	MOBILIZATION-CSI (REF)	-	LS	$ 74,700	$ 74,700
2	110005	MAINTENANCE & PROTECTION OF TRAFFIC CONTROL		LS	$ 74,700	$ 74,700
3	801001	CONSTRUCTION Storm Water & Erosion Control Plan - CSECP		LS	$ 37,300	$ 37,300
4	801002	TREE Vegetation & Soil Protection Plan - TCSPP	-	LS	$ 4,000	$ 4,000
5	201005	CLEARING & GRUBBING {QTY<=5,000}	70	SF	$ 4	$ 300
6	202035	REMOVE CEMT. CONCR. SIDEWALK {QTY <=50}	240	SY	$ 34	$ 8,200
7	202045	REMOVE PAVEMENT {QTY <=100}	390	SY	$ 47	$ 18,300
8	202145	REMOVE CURB {QTY< =50}	310	LF	$ 14	$ 4,300
9	202767	SAWCUT Cement Concrete Sidewalk, Full Depth {QTY<=50LF}	24	LF	$ 10	$ 200
10	202770	SAWCUT Rigid Pavement, Full Depth {QTY<=100 LF}	230	LF	$ 21	$ 4,800
11	204005	COMMON Excavation {QTY<=50}	180	CY	$ 143	$ 25,700
12	401202	MINERAL AGGREGATE TYPE 2	80	CY	$ 65	$ 5,200
13	505157	ROADWAY Cem Conc., With 25% POZZOLANS, 8 IN {QTY <=50SY}	110	SY	$ 177	$ 19,500
14	720005	ADJUST Existing MH, CB, or VC {QTY <=5EA}	1	EA	$ 703	$ 700
15	802214	PLANTING Soil {QTY >=10 CY}	120	CY	$ 131	$ 15,700
16	802600	SODDING	2,400	SF	$ 5	$ 12,000
17	804005	CURB, CEM CONC {QTY =<200}	629	LF	$ 81	$ 50,900
18	804015	CURB and Gutter, Cem Conc {QTY<500}	120	LF	$ 63	$ 7,600
19	806002	EXTRUDED Curb, HMA (CL1/2 IN) {QTY <=50 LF}	35	LF	$ 23	$ 800
20	814005	SIDEWALK, CEM CONC {QTY <500 SY}	512	SY	$ 120	$ 61,400
21	814021	CURB RAMP {QTY <=5 SY}	22	SY	$ 434	$ 9,500
22	814030	DETECTABLE Warning Plate {QTY <=20SY}	3	SY	$ 94	$ 300
23	SP	PAVEMENT MARKING, Thermo, 12 IN Stripe	80	LF	$ 14	$ 1,100
24	SP	TRAFFIC SIGNAL BUDGET	1	LS	$ 500,000	$ 500,000
					Subtotal	$ 937,000
					Design Contingency (30% for planning level estimate)	$ 281,000
					Subtotal with Design Contingency	$ 1,218,000

Construction Cost Estimate

Project Name: **Magnuson Park Circulation Improvements**
Project ID: New North Shore Access at NE NOAA Drive
Project Phase: NS-4, NS-8 and HA-1
Cost Estimator(s): MIG/ST
Est. Reviewer(s) MIG/NP
Date: 08/09/21

Item	Bid Item	Bid Item Description	Quantity	Unit	Unit Price	Price
1	109005	MOBILIZATION-CSI (REF)	-	LS	$ 30,600	$ 30,600
2	110005	MAINTENANCE & PROTECTION OF TRAFFIC CONTROL		LS	$ 30,600	$ 30,600
3	801001	CONSTRUCTION Storm Water & Erosion Control Plan - CSECP		LS	$ 15,300	$ 15,300
4	801002	TREE Vegetation & Soil Protection Plan - TCSPP	-	LS	$ 2,000	$ 2,000
5	201005	CLEARING & GRUBBING {QTY<=5,000}	700	SF	$ 4	$ 2,800
6	202035	REMOVE CEMT. CONCR. SIDEWALK {QTY <=50}	100	SY	$ 34	$ 3,400
7	202045	REMOVE PAVEMENT {QTY <=100}	190	SY	$ 47	$ 8,930
8	202130	REMOVE CONCRETE TRAFFIC BARRIER	200	LF	$ 18	$ 3,600
9	202145	REMOVE CURB {QTY>50}	500	LF	$ 13	$ 6,500
10	202170	REMOVE FENCE, CHAIN LINK {QTY<=500 LF}	388	LF	$ 14	$ 5,430
11	202480	REMOVE Tree - 14" to 24" diameter	1	EA	$ 846	$ 850
12	202767	SAWCUT Cement Concrete Sidewalk, Full Depth {QTY<=50LF}	160	LF	$ 10	$ 1,600
13	202770	SAWCUT Rigid Pavement, Full Depth {QTY<=100 LF}	834	LF	$ 21	$ 17,500
14	204005	COMMON Excavation {QTY<=50}	72	CY	$ 143	$ 10,300
15	401202	MINERAL AGGREGATE TYPE 2	72	CY	$ 65	$ 4,700
16	504045	PAVEMENT, HMA (CL 3/8 IN) {QTY<=50 TN}	82	TN	$ 337	$ 27,600
17	802600	SODDING	250	SF	$ 5	$ 1,300
18	804005	CURB, CEM CONC {QTY =<200}	250	LF	$ 81	$ 20,300
19	806010	EXTRUDED Curb, Cem Conc {QTY <=50 LF}	450	LF	$ 17	$ 7,700
20	814005	SIDEWALK, CEM CONC {QTY <500 SY}	178	SY	$ 120	$ 21,400
21	814021	CURB RAMP {QTY <=5 SY}	98	SY	$ 434	$ 42,500
22	814030	DETECTABLE Warning Plate {QTY <=20SY}	17	SY	$ 94	$ 1,600
23	822004	PAVEMENT MARKING, Paint, 4 IN Stripe {QTY<=200 LF}	1,023	LF	$ 11	$ 11,300
24	822020	PAVEMENT MARKING, Thermo, Legend/Symbol {QTY<=5 EA}	6	EA	$ 457	$ 2,700
25	SP	PAVEMENT MARKING, Thermo, 12 IN Stripe	360	LF	$ 14	$ 5,000
26	SP	RED BUS LANE MARKING (for pedestrian path marking)	6,500	SF	$ 10	$ 65,000
27	SP	REBUILD ACCESSIBLE PARKING STALL	1	LS	$ 40,000	$ 40,000
					Subtotal	$ 391,000
					Design Contingency (30% for planning level estimate)	$ 117,000
					Subtotal with Design Contingency	$ 508,000

Construction Cost Estimate

Project Name: **Magnuson Park Circulation Improvements**
Project ID: Sportsfield Drive NE Multi-use Trail
Project Phase: SF-1, 3, 5, 6, 7, 8 and 9
Cost Estimator(s): MIG/ST
Est. Reviewer(s) MIG/NP
Date: 08/09/21

Item	Bid Item	Bid Item Description	Quantity	Unit	Unit Price	Price
1	109005	MOBILIZATION-CSI (REF)	-	LS	$ 41,500	$ 41,500
2	110005	MAINTENANCE & PROTECTION OF TRAFFIC CONTROL		LS	$ 41,500	$ 41,500
3	801001	CONSTRUCTION Storm Water & Erosion Control Plan - CSECP		LS	$ 20,700	$ 20,700
4	801002	TREE Vegetation & Soil Protection Plan - TCSPP		LS	$ 3,000	$ 3,000
5	201005	CLEARING & GRUBBING {QTY<=5,000}	18,800	SF	$ 4	$ 75,200
6	202030	REMOVE ASPHALT PAVEMENT {QTY <=50 SY}	460	SY	$ 30	$ 13,800
7	202045	REMOVE PAVEMENT {QTY <=100}	370	SY	$ 47	$ 17,400
8	202165	REMOVE FENCE, WOOD	80	LF	$ 13	$ 1,040
9	202180	REMOVE PAVEMENT MARKING	1,100	LF	$ 1	$ 1,100
10	202767	SAWCUT Cement Concrete Sidewalk, Full Depth {QTY<=50LF}	40	LF	$ 10	$ 400
11	202770	SAWCUT Rigid Pavement, Full Depth {QTY<=100 LF}	680	LF	$ 21	$ 14,300
12	204005	COMMON Excavation {QTY 200-500}	700	CY	$ 71	$ 49,700
13	401202	MINERAL AGGREGATE TYPE 2	480	CY	$ 65	$ 31,200
14	504040	PAVEMENT, HMA (CL 1/2 IN) {QTY<=50 TN}	190	TN	$ 337	$ 64,000
15	505157	ROADWAY Cem Conc., With 25% POZZOLANS, 8 IN {QTY <=50SY}	70	SY	$ 177	$ 12,400
16	701106	PIPE, Subsurface Drain, PVC, 6 IN {QTY>100LF}	320	LF	$ 49	$ 15,700
17	701450	FILTER Material, Mineral Aggregate Type 26 {QTY<=100CY}	30	CY	$ 65	$ 2,000
18	705352	CATCH Basin, Type 240A {QTY <=3 EA}	4	EA	$ 4,572	$ 18,300
19	705450	INLET Type 250A {QTY<=3 EA}	1	EA	$ 2,457	$ 2,500
20	708058	PIPE, CB Conn, DI, CL 50, 8 IN {Depth <=10Feet}	60	LF	$ 143	$ 8,600
21	802123	SHRUB, Deciduous, 3 Gal {QTY >5 EA}	160	EA	$ 70	$ 11,200
22	802214	PLANTING Soil {QTY >=10 CY}	100	CY	$ 131	$ 13,100
23	802600	SODDING	2,400	SF	$ 5	$ 12,000
24	802230	MULCH, Arborist Wood Chip {QTY >20 CY}	21	CY	$ 88	$ 1,800
25	804005	CURB, CEM CONC {QTY =<200}	20	LF	$ 81	$ 1,600
26	814021	CURB RAMP {QTY <=5 SY}	18	SY	$ 434	$ 7,800
27	814030	DETECTABLE Warning Plate {QTY <=20SY}	3	SY	$ 94	$ 300
28	821011	INSTALL SIGN, Street Designation, Owner Furnished {QTY<=5EA}	27	EA	$ 469	$ 12,663
29	821030	POST, Traffic Sign {QTY<=5EA}	27	EA	$ 354	$ 9,558
30	822004	PAVEMENT MARKING, Paint, 4 IN Stripe {QTY<=200 LF}	500	LF	$ 11	$ 5,500
31	SP	PAVEMENT MARKING, Thermo, 12 IN Stripe	120	LF	$ 14	$ 1,680
32	SP	WETLAND STUDY	1	LS	$ 10,000	$ 10,000
					Subtotal	$ 522,000
					Design Contingency (30% for planning level estimate)	$ 157,000
					Subtotal with Design Contingency	$ 679,000

Construction Cost Estimate

Project Name: **Magnuson Park Circulation Improvements**
Project ID: Barrier Free Loop Trail Improvement
Project Phase:
Cost Estimator(s): MIG/ST
Est. Reviewer(s) MIG/NP
Date: 08/09/21

Item	Bid Item	Bid Item Description	Quantity	Unit	Unit Price	Price
1	109005	MOBILIZATION-CSI (REF)	-	LS	$ 28,600	$ 28,600
2	110005	MAINTENANCE & PROTECTION OF TRAFFIC CONTROL		LS	$ 28,600	$ 28,600
3	801001	CONSTRUCTION Storm Water & Erosion Control Plan - CSECP		LS	$ 14,300	$ 14,300
4	801002	TREE Vegetation & Soil Protection Plan - TCSPP		LS	$ 1,500	$ 1,500
5	201005	CLEARING & GRUBBING {QTY<=5,000}	20,000	SF	$ 4	$ 80,000
6	202030	REMOVE ASPHALT PAVEMENT {QTY <=50 SY}	63	SY	$ 30	$ 1,900
7	202035	REMOVE CEMT. CONCR. SIDEWALK {QTY <=50}	220	SY	$ 34	$ 7,500
8	202045	REMOVE PAVEMENT {QTY <=100}	18	SY	$ 47	$ 800
9	202165	REMOVE FENCE, WOOD	100	LF	$ 13	$ 1,300
10	202750	SAWCUT Asphalt Concrete, Full Depth {QTY<=100LF}	12	LF	$ 11	$ 100
11	202767	SAWCUT Cement Concrete Sidewalk, Full Depth {QTY<=50LF}	72	LF	$ 10	$ 700
12	202770	SAWCUT Rigid Pavement, Full Depth {QTY<=100 LF}	16	LF	$ 21	$ 300
13	204005	COMMON Excavation {QTY 200-500}	810	CY	$ 71	$ 57,500
14	401202	MINERAL AGGREGATE TYPE 2	270	CY	$ 65	$ 17,600
15	504040	PAVEMENT, HMA (CL 1/2 IN) {QTY<=50 TN}	7	TN	$ 337	$ 2,400
16	505157	ROADWAY Cem Conc., With 25% POZZOLANS, 8 IN {QTY <=50SY}	18	SY	$ 177	$ 3,200
17	705352	CATCH Basin, Type 240A {QTY <=3 EA}	1	EA	$ 4,572	$ 4,600
18	708058	PIPE, CB Conn, DI, CL 50, 8 IN {Depth <=10Feet}	10	LF	$ 143	$ 1,400
19	802600	SODDING	4,800	SF	$ 5	$ 24,000
20	804005	CURB, CEM CONC {QTY =<200}	20	LF	$ 81	$ 1,600
21	804015	CURB and Gutter, Cem Conc {QTY<500}	15	LF	$ 63	$ 900
22	814005	SIDEWALK, CEM CONC {QTY <500 SY}	350	SY	$ 120	$ 42,000
23	814021	CURB RAMP {QTY <=5 SY}	44	SY	$ 434	$ 19,100
24	814030	DETECTABLE Warning Plate {QTY <=20SY}	6	SY	$ 94	$ 600
25	SP	RELOCATE EXISING LOGS	30	LF	$ 10	$ 300
26	821006	INSTALL SIGN, Traffic, Owner Furnished {QTY >6 EA}	2	EA	$ 531	$ 1,100
27	821030	POST, Traffic Sign {QTY<=5EA}	2	SY	$ 354	$ 700
28	SP	PAVEMENT MARKING, Thermo, 12 IN Stripe	1,152	LF	$ 14	$ 16,100
29	SP	GRINDING/REPAVING FOR ROOT HEAVE		ALLOW	$ 10,000	$ 10,000
					Subtotal	$ 359,000
					Design Contingency (30% for planning level estimate)	$ 108,000
					Subtotal with Design Contingency	$ 467,000

Construction Cost Estimate

Project Name: **Magnuson Park Circulation Improvements**
Project ID: Traffic Calming Spot
Project Phase: SA-1, SA-2, SA-3 and HA-8
Cost Estimator(s): MIG/ST
Est. Reviewer(s) MIG/NP
Date: 07/28/21

Item	Bid Item	Bid Item Description	SA-1	SA-2	SA-3	HA-8	Quantity	Unit	Unit Price	Price
1	109005	MOBILIZATION-CSI (REF)					-	LS	$ 9,400	$ 9,400
2	110005	MAINTENANCE & PROTECTION OF TRAFFIC CONTROL						LS	$ 9,400	$ 9,400
3	801001	CONSTRUCTION Storm Water & Erosion Control Plan - CSECP						LS	$ 4,700	$ 4,700
4	801002	TREE Vegetation & Soil Protection Plan - TCSPP						LS	$ 500	$ 500
5	201005	CLEARING & GRUBBING {QTY<=5,000}	160	450			610	SF	$ 4	$ 2,400
6	202035	REMOVE CEMT. CONCR. SIDEWALK {QTY <=50}		31			31	SY	$ 34	$ 1,100
7	202045	REMOVE PAVEMENT {QTY <=100}	69	69			139	SY	$ 47	$ 6,500
8	202200	REMOVE PAVEMENT MARKING, THERMOPLASTIC		80	125		205	LF	$ 2	$ 400
9	202770	SAWCUT Rigid Pavement, Full Depth {QTY<=100 LF}	50	50			100	LF	$ 21	$ 2,100
10	204005	COMMON Excavation {QTY<=50}	3	5			8	CY	$ 143	$ 1,100
11	401202	MINERAL AGGREGATE TYPE 2	3	5			8	CY	$ 65	$ 500
12	504040	PAVEMENT, HMA (CL 1/2 IN) {QTY<=50 TN}		4			4	TN	$ 337	$ 1,300
13	505157	ROADWAY Cem Conc., With 25% POZZOLANS, 8 IN {QTY <=50SY}	69	69			139	SY	$ 177	$ 24,600
14	705352	CATCH Basin, Type 240A {QTY <=3 EA}	1	1			2	EA	$ 4,572	$ 9,100
15	705450	INLET Type 250A {QTY<=3 EA}	1	1			2	EA	$ 2,457	$ 4,900
16	708058	PIPE, CB Conn, DI, CL 50, 8 IN {Depth <=10Feet}	40	45			85	LF	$ 143	$ 12,200
17	802600	SODDING	131	53		81	265	LF	$ 5	$ 1,300
18	804015	CURB and Gutter, Cem Conc {QTY<500}		17			17	LF	$ 63	$ 1,100
19	814005	SIDEWALK, CEM CONC {QTY <500 SY}	17	31			48	SY	$ 120	$ 5,800
20	814030	DETECTABLE Warning Plate {QTY <=20SY}	2	2			4	SY	$ 94	$ 400
21	821006	INSTALL SIGN, Traffic, Owner Furnished {QTY >6 EA}	4	4		9	17	EA	$ 531	$ 9,000
22	821030	POST, Traffic Sign {QTY<=5EA}	4	4		9	17	EA	$ 354	$ 6,000
23	SP	PAVEMENT MARKING, Thermo, 12 IN Stripe	100	100			200	LF	$ 14	$ 2,800
24	SP	PAVEMENT MARKING, Thermo, Speed hump Symbols	2	2			4		$ 300	$ 1,200
									Subtotal	$ 118,000
									Design Contingency (30% for planning level estimate)	$ 35,000
									Subtotal with Design Contingency	$ 153,000