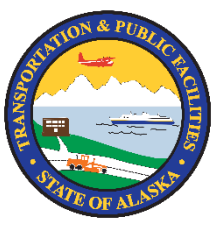
Turnagain Pass Master Plan

Conceptual Designs and Cost Estimates

October 2024



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ACRONYMS AND PHRASES

ADA ..... Americans With Disabilities Act
ADNR ..... Alaska Department of Natural Resources
ATV ..... All-Terrain Vehicle
DOT&PF ..... Alaska Department of Transportation and Public Facilities
GIS ..... Geographic Information Systems
INHT ..... Iditarod National Historic Trail
M&O ..... Department of Maintenance and Operations
Memo ..... Memorandum
Memo 4 ..... Projects and Prioritization Technical Memorandum
Memo 5 ..... Conceptual Designs and Cost Estimates Technical Memorandum
Moto Lot ..... Motorized Access Lot
MP ..... Mile Point
Sq Ft ..... Square Feet (area)
Sq Yd ..... Square Yard (area)
The Pass ..... Turnagain Pass
TPMP ..... Turnagain Pass Master Plan
USFS ..... United States Forest Service

1. Introduction

The Turnagain Pass Master Plan (TPMP) provides a long-term guide for future corridor improvements with a focus on safety and recreational access. The TPMP is a collaborative planning effort between the United States Forest Service (USFS), Alaska Department of Transportation & Public Facilities (DOT&PF), and the Western Federal Lands Highway Division (WFLHD) for all existing recreational facilities in the Chugach National Forest accessed from the Seward Highway (Mile Point 56-75). The TPMP effort is comprised of two phases. Phase One included the existing conditions, initial public and stakeholder outreach, development of demand management strategies and analysis, and a needs assessment. Phase Two includes project development and prioritization, additional public and stakeholder outreach, conceptual designs and cost estimates (Memorandum 5), a management and maintenance strategy, and the final Turnagain Pass Master Plan.

This technical memo presents project descriptions for all projects prioritized for Turnagain Pass (the Pass). The projects included in this memo are parking lots, trails, and pathways. Programs, which are identified in Technical Memorandum 4 (Memo 4): Proposed Projects and Prioritization, will be addressed in Technical Memorandum 6: Management and Maintenance Strategies.

Specific projects identified in Memo 4 as requiring high effort and labeled as major projects include, in addition to their project description, a conceptual design and a planning-level cost estimate range. These projects have been shared with relevant agencies and the public and revised in response to feedback received. Projects identified in Memo 4 as low effort and labeled as quick wins only include a project description. These quick win projects have been developed based on comprehensive agency and public involvement throughout the TPMP planning process.

Turnagain Pass

The TPMP area covers approximately 98,000 acres of the Chugach National Forest within the Glacier Ranger District and includes the Seward Highway Corridor Mile Point (MP) 56-76 (Turnagain Pass). Existing land and facilities within this area are owned by the USFS, Alaska Department of Natural Resources (ADNR), and DOT&PF. The identification and condition of all facilities within the study area was discussed in the Phase One Summary – Existing Conditions, including parking areas, roadside pullouts, trailheads, and campgrounds. These facilities, their location, the existing features, and the current owner and maintenance provider are included in Table 1 for reference.

Table 1 ***Existing Facilities Conditions***

Facility	Location/Extents	Existing Features	Owner/ Maintenance
Canyon Creek Rest Area	MP 56.6 (West of the highway) MP 56.6 (East of the highway)	Delineated Parking Toilets (2) Dumpster Access Paved Trail Access (limited)	DOT&PF
Gravel Pit	MP 62.2	Limited Unmarked Parking (2-4 vehicles) - Gravel	DOT&PF
Cornbiscuit Pullout	MP 66	Limited Unmarked Parking - Paved Skiing Access	
Sunburst Pullout	MP 66.8	Limited Unmarked Parking - Paved Skiing Access	
Motorized Vehicle Access Area (Moto Lot)	MP 68.4	Delineated Parking Toilets (2) Picnic Tables Snowmachine Access Skiing Access	USFS/DOT&PF
Snowstake Lot	MP 69.8	Unmarked Parking - Paved	
Base of Pass	MP 75.5	Unmarked Parking - Paved	DOT&PF
Recreational Infrastructure	Various	Public Use Cabins (41) Motorized User Access Trails (500 miles) Roads (90 miles)	USFS
Motorized Use Access (Winter)	West Side of Seward Highway	Access for use of motorized vehicles (snowmachines) during winter months	
Granite Creek Campground	MP 62.9	Camp Sites (19)	USFS
Bertha Creek Campground	MP 65.4	Camp Sites (12)	USFS
Iditarod National Historic Trail – Southern Trek	180 miles long	Hiking Trail	
Turnagain Pass Trail	12 miles long	Multi-Use Trail (Non-Motorized) Camping	
Gulch Creek All-Terrain Vehicle (ATV) and Pedestrian Bridge Access	MP 57.4 (West of the Highway)	Viewing Area Hiking Trail Unmarked Parking (2-4 vehicles) - Gravel	
Raft Launch	MP 59.0	Raft Launch Delineated Parking - Paved	DOT&PF

Facility	Location/Extents	Existing Features	Owner/ Maintenance
Johnson Pass North Trailhead	MP 63.6	Delineated Parking - Gavel Multi-Use Trail Toilet	
Center Ridge Trailhead	MP 68.0	Delineated Parking - Paved Toilets (2) Multi-Use Trail (Non-Motorized)	
Tincan Trailhead	MP 69.2 (East of Highway)	Limited Unmarked Parking- Paved Skiing Access	
Upper Ingram Trailhead also referred to as Muskeg Meadows	MP 72.5	Limited Unmarked Parking - Paved Skiing Access	DOT&PF

1.1 Methodology

Project descriptions, conceptual designs, and cost estimate ranges included in Memo 5 were developed using a comprehensive approach that includes agency and public input, desktop analysis, and the formation of overall engineering-based assumptions as guides. These guides influence the characteristics of any future development within the Pass.

1.1.1 Agency and Public Input

The initial conceptual designs and cost estimates drew on input gathered during Phase One of the TPMP planning process, including the identification of existing needs. The project team presented the preliminary project conceptual designs and cost estimates to both DOT&PF and the USFS in July of 2024. Site specific feedback from each agency is included with the project's description, conceptual design, and cost estimate. Overall feedback pertaining to multiple sites, or the entire corridor is included below:

- Pet waste stations are difficult to maintain and should potentially only be placed in areas where there are already or planned to be restroom facilities

Updated conceptual designs and cost estimates were presented at two public in-person open houses in August 2024, in Soldotna and Girdwood. Actionable site-specific feedback is included with each project's description, conceptual design, and cost estimate. The following feedback pertains to multiple sites or the entire corridor:

- Replace the collapsing culvert near MP 69 (able to be addressed in Memo 6)
- Consider cutting back trees near MP 56 to improve visibility around the curve (able to be addressed in Memo 6)
- Consider user fees to assist in funding winter maintenance (able to be addressed in Memo 6)
- Consider bridge maintenance and improvements to Iditarod National Historic Trail (INHT) winter trail access on the motorized side

Following the in-person open houses, conceptual designs underwent minor adjustments for the last (virtual) open house. Between the open house in Girdwood and the virtual open house, the project team received an influx of public comment regarding the inclusion and consideration of mountain bike trails in the Pass.

This level of engagement from mountain bikers, who actively use the trails in the Pass, was helpful for the overall planning process and the development of project descriptions. Included in the feedback from those representing the mountain biking community was:

- Potential mountain bike/ soft surface trail locations
- Requests for the attention to detail to future trails in the Pass like the trails seen in Anchorage's Front Range
- Requests for improved maintenance of the Turnagain Pass Trail
- Focusing on alpine trails and ridgelines offers improved sightlines and longer usable seasons
- Mountain bike trails have the potential to be used by Nordic skiers in the winter

The final virtual open house, a webinar, was held in September of 2024 allowed for continuous public engagement throughout the presentation. This format also allowed for the webinar to be recorded and is now posted on the project website. Due to the amount of refinement that the project team accomplished throughout the public involvement process, there was no further significant input leading to changes for the conceptual designs from the virtual open house.

1.1.2 Desktop Analysis

In addition to the extensive work completed during phase one of the TPMP, the project team completed additional desktop analysis during the development of the conceptual designs and cost estimates. This analysis included the use of Geographic Information Systems (GIS) imagery, Google Earth Pro imagery, and Strava heat maps. GIS and Google Earth Pro provided limited topographic information, aerial imagery, and a general overview of the Pass. Strava, a social network and application for tracking physical activity gave access to open-source data of recreation users who actively use the application in the Pass. The use of Strava provided insight into which locations in the Pass are most often used and what locations would best provide increased recreational access.

1.1.3 Assumptions

For the project team to create conceptual designs and cost estimates that accurately reflect the anticipated needs of the Pass, overall engineering assumptions were used:

- Improvements or changes to the Seward Highway (i.e. turn lanes, acceleration/deacceleration lanes, safety signage, removal of existing pullouts) are at the discretion of the DOT&PF. Some safety recommendations are made for select projects, but ultimately, any inclusion of improvements to the Seward Highway are to be determined at the time of final project design and implementation.
- Cost estimates are based on 2024 costs and include contingencies for variable pay items including earthwork and assumed environmental permitting costs. The ranges established for the cost estimates include projections for 2025 and 2030.

- Cost estimates do not include any anticipated maintenance and operations (M&O) costs. M&O costs will be addressed at a high level in Memo 6.
- Based on the Demand Management Analysis conducted in Phase One, there is no need for major increase in the number of parking stalls for existing parking lot locations. There is a need for a change in the type of vehicle parking offered – more long stalls for some lots, less for others.

2. Proposed Projects

Stakeholders provided the project team with many potential projects throughout the planning process. These projects were evaluated based on their overall impact to the planning area and the effort needed in the design and cost estimation process (Memo 4). This evaluation produced two categories of priority projects for Turnagain Pass that are to be included in the final Master Plan: description only projects and conceptual design and cost estimate projects.

2.1 Description Only Projects

Description only projects are those that require low effort but provide high impact for the Pass.

2.1.1 Welcome to Kenai Sign Parking Lot

The Welcome to Kenai Sign Parking Lot is a visual landmark, creating a gateway to the entrance of Turnagain Pass and the Kenai Peninsula for southbound travelers. This parking lot location provides opportunities to access portions of the Pass for motorized recreation use that are currently underdeveloped or hard to reach. This location is near the boundary for the Municipality of Anchorage and the Kenai Peninsula Borough. A portion of the property is currently leased to a private party who owns and operates a recreation outfitting company within the Pass, and this location is on a curve and would require additional highway safety considerations from DOT&PF.

Potential improvements to this location include the addition of delineated parking, a formal trailhead, and the inclusion of interpretive signage and picnic tables. This sites current use as a photo stop and the desire to increase meaningful use with the forest creates an opportunity for agencies such as USFS to partner with the State to provide users with information on recreation within the Pass and to leverage social media to connect with new potential users.

2.1.2 Upper Ingram Trailhead Parking Lot

The current Upper Ingram Trailhead Parking Lot is a large pullout with the ability to accommodate upwards of ten vehicles. Potential improvements at this location include the addition of striping and/ or signage to delineate parking stalls.

2.1.3 Mountain Bike Trails

Provide mountain bike trails in the Turnagain Pass corridor by collaborating with area mountain bike groups and referring to the Mountain Bike Trail Development Guidelines.

Potential locations exist at the top of the Pass on both sides of the highway. Stakeholder feedback emphasizes an interest in trails with alpine terrain.

Image 1 View of Tincan from Road

2.1.4 New Trails/New Trail Connections

Provide new trails or trail connectors that meet USFS design standards and specifications emphasizing the development of new connections and improved access to alpine terrain.

- A priority trail connection to be considered is the repurposing of decommissioned road between Granite and Bertha Creek Campgrounds. This connector will establish a connection between the two campgrounds and recreation opportunities.

Image 2 Mushroom Found on Trail in the Pass

2.2 Conceptual Designs and Cost Estimates

The following projects were identified as requiring high effort while also providing high impact for the Pass. The provision of a conceptual design and preliminary cost estimate for these projects eases the ability for these projects to be recommended for future funding opportunities, increasing the likelihood the projects will move forward to construction in the future.

2.2.1 Tincan Parking Lot

Existing Site

The existing Tincan Pullout on the east side of the Seward Highway at MP 69.6 is not an official parking area, rest area, or trailhead but is frequently used to access the popular nearby ski terrain, particularly during the winter. The pullout, originally designed for slow vehicles, is located in an area with limited visibility and high-speed traffic on the highway. The design for the new Tincan Parking Lot aims to provide safer access for all users, including backcountry skiers. This parking lot will also provide additional parking for the USFS' future public use cabin that has received funding and will be located at Tincan Peak, as well as other dispersed camping locations throughout the Pass. This location will be owned and maintained by the USFS. The current design does not include the addition of turning lanes and other safety modifications that may be needed along the Seward Highway for construction of this facility.

Image 3 Existing Tincan Pullout

Conceptual Design

The new Tincan Parking Lot design, shown in Figure 1, is approximately 45,801 square feet (Sq Ft) (5,089 Square Yards (Sq Yd)) and has a designated one-way entry point south of a designated one-way exit point, both on the

east side of the Seward Highway. Both the entry and exit point are marked with clear signage directing users. Upon entry, users are guided by a one-way driving lane through a row of parking stalls. The northwest side of the parking lot includes 35 standard parking stalls while the southeast side includes 30 standard parking stalls, an avalanche response parking area, and three Americans with Disability Act (ADA) accessible parking stalls. All parking spaces are designed for angle-in parking, allowing users to unload supplies from their cars into the parking lot and remain visible. This layout encourages the efficient movement of traffic and promotes increased ability for winter maintenance. Additional amenities to be included at the new Tincan Parking lot include interpretive signage, a vault toilet with maintenance access, a pavilion, picnic tables, a rescue cache, emergency phone, and a 511 camera.

Estimated Cost: $3.3 to $4.0 Million, full cost estimate breakdown included in Table 2

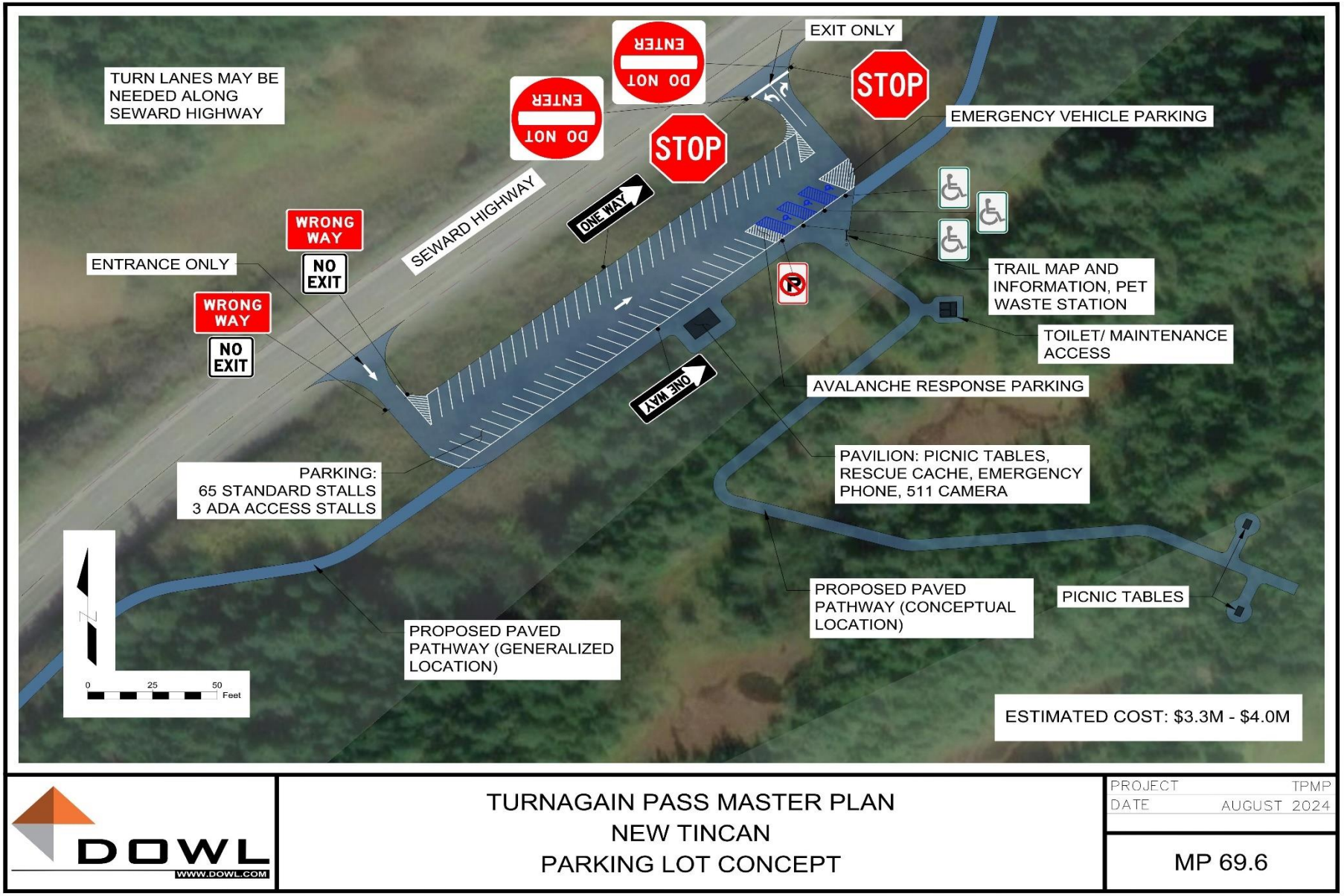

Figure 1 New Tincan Parking Lot Conceptual Design

Cost Estimate Breakdown

Table 2 Tincan Parking Lot Improvements, Cost Estimate Breakdown

Tincan Parking Lot Improvements					
Item No.	**Item Description**	**Pay Unit**	**Total Quantity**	**Unit Cost ($ USD)**	**Total Cost ($ USD)**
201.0003.0000	CLEARING AND GRUBBING	ACRE	4.8	40,000.00	192,000.00
202.0002.0000	REMOVAL OF PAVEMENT	SY	790	20.00	15,800.00
203.0003.0000	UNCLASSIFIED EXCAVATION	CY	5,600	25.00	140,000.00
203.0006.0000	BORROW	TON	9,900	35.00	346,500.00
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	580	45.00	26,100.00
401.0001.002B	HMA, TYPE II; CLASS B	TON	610	250.00	152,500.00
603.0021.0018	18 INCH CORRUGATED POLYETHYLENE PIPE	LF	120	150.00	18,000.00
606.0005.0000	REMOVING AND RECONSTRUCTING GUARDRAIL	LF	500	75.00	37,500.00
615.0001.0000	STANDARD SIGN	SF	49	175.00	8,575.00
618.0001.0000	SEEDING	ACRE	4.0	7,500.00	30,000.00
620.0001.0000	TOPSOIL	SY	19,300	10.00	193,000.00
622.2011.0000	INTERPRETIVE SIGN	EACH	1	50,000.00	50,000.00
622.2020.0000	SHELTER	EACH	1	150,000.00	150,000.00
622.2026.0000	DOUBLE CONCRETE VAULTED TOILET	EACH	1	200,000.00	200,000.00
622.2029.0000	ACCESSIBLE PICNIC TABLE	EACH	4	5,000.00	20,000.00
622.2031.0000	TRASH CAN/ PET WASTE STATION	EACH	1	5,000.00	5,000.00
-	EMERGENCY PHONE	EACH	1	10,000.00	10,000.00
-	RESCUE CACHE	EACH	1	5,000.00	5,000.00
-	511 CAMERA	EACH	1	15,000.00	15,000.00
670.0013.0000	PAINTED TRAFFIC MARKINGS	LF	3,750	5.00	18,750.00
				PAY ITEMS SUBTOTAL	**1,633,725.00**
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQ'D	164,000.00	164,000.00
641.0003.0000	TEMPORARY EROSION AND POLLUTION CONTROL	LS	ALL REQ'D	50,000.00	50,000.00
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQ'D	17,000.00	17,000.00
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQ'D	33,000.00	33,000.00
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LS	ALL REQ'D	33,000.00	33,000.00
				30% CONTINGENCY	$579,217.50
				PAY ITEMS TOTAL	**$2,509,942.50**
				PERMITTING COST	$100,200.00
				DESIGN COST (25% OF TOTAL)	$627,485.63
				2024 ESTIMATE	**$3,237,628.13**
				2025 ESCALATION	**$3,344,469.85**
				2030 ESCALATION	**$3,896,307.38**

Site Specific Assumptions

- This site will experience a high volume of use during the winter months
- The primary user group at this site are backcountry adventurers, of all ages
- Additional topographical information is needed to inform final project design
- Highway safety improvements will likely be needed
- This site will be maintained by USFS
- The USFS will construct a new Public Use Cabin at Tincan

Site Specific Agency and Public Input

Engineers Round Table

- Desire to include highway improvements (e.g. turn lanes, removal of existing pull-out, guardrail analysis, etc.) in the project
- Relocate the restrooms on the conceptual design to dry land rather than marshy land

Public Open Houses

- Desire for the inclusion of highway improvements (e.g. turn lanes, removal of existing pull-out, guardrail analysis, etc.) in the project
- Desire for improved safety, no matter the location

2.2.2 Motorized Access Parking Lot (Moto Lot)

Existing Site

The existing Motorized Access Parking Lot located at MP 68.4 on the west side of the Seward Highway is maintained by USFS. The current lot Moto Lot has two, two-way entry points and is used throughout all seasons. In the summer the lot sees increased use of the restroom facilities for non-forest users, and during the winter the lot is used to provide access to public lands for snowmachines. There are additional summer amenities that are frequently not used, including a loop trail.

Image 4 Existing Bathroom Facilities at Moto Lot

Conceptual Design

Improvements to the Moto Parking Lot, shown in Figure 2 include the redesign of the parking stall layout to provide nine parallel long stalls along the east side of the parking lot, 49 angled long stalls in the center of the parking lot, and 36 standard and five ADA accessible stalls along the west side of the parking lot. Improvements at this site also include a new ADA accessible path connection, avalanche response parking, a pet waste station, interpretive signage, picnic tables/grills, and a staircase to provide access to the existing loop trail.

Estimated Cost: $550,000 to $700,000, full cost estimate breakdown included in Table 3.

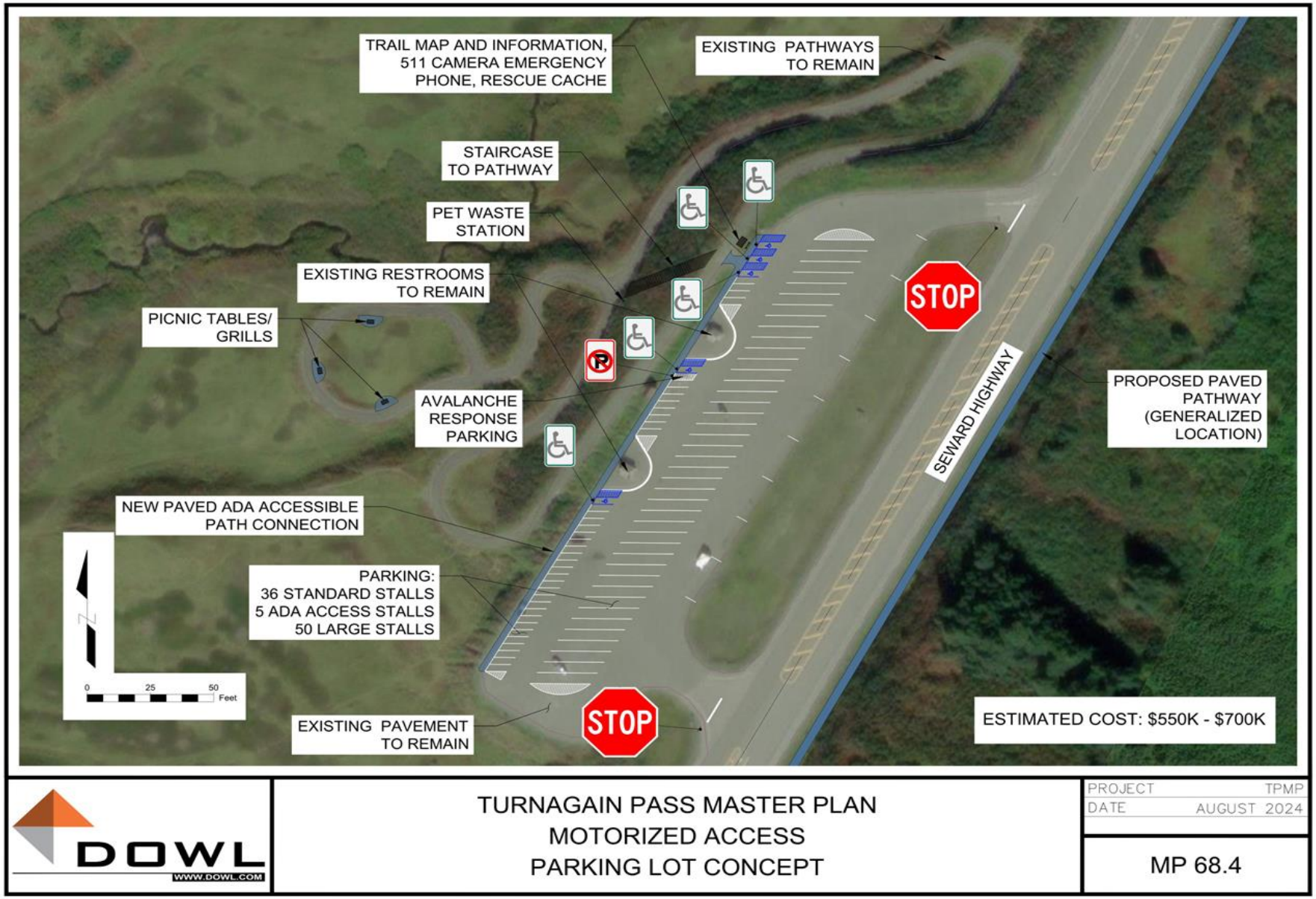

Figure 2 Motorized Access Parking Lot Improvements Conceptual Design

Cost Estimate Breakdown

Table 3 Motorized Access Parking Lot Improvements, Cost Estimate Breakdown

Motorized Access Parking Lot Improvements					
Item No.	**Item Description**	**Pay Unit**	**Total Quantity**	**Unit Cost ($ USD)**	**Total Cost ($ USD)**
201.0003.0000	CLEARING AND GRUBBING	ACRE	0.3	40,000.00	12,000.00
203.0003.0000	UNCLASSIFIED EXCAVATION	CY	790	25.00	19,750.00
203.0006.0000	BORROW	TON	1,400	35.00	49,000.00
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	82	45.00	3,690.00
401.0001.002B	HMA, TYPE II; CLASS B	TON	86	250.00	21,500.00
615.0001.0000	STANDARD SIGN	SF	22	175.00	3,850.00
618.0001.0000	SEEDING	ACRE	0	7,500.00	750.00
620.0001.0000	TOPSOIL	SY	269	10.00	2,690.00
622.2011.0000	INTERPRETIVE SIGN	EACH	1	50,000.00	50,000.00
622.2017.0000	STAIRWAY	EACH	1	20,000.00	20,000.00
622.2029.0000	ACCESSIBLE PICNIC TABLE	EACH	4	5,000.00	20,000.00
622.2031.0000	TRASH CAN/ PET WASTE STATION	EACH	1	5,000.00	5,000.00
-	EMERGENCY PHONE	EACH	1	10,000.00	10,000.00
-	RESCUE CACHE	EACH	1	5,000.00	5,000.00
-	511 CAMERA	EACH	1	15,000.00	15,000.00
670.0013.0000	PAINTED TRAFFIC MARKINGS	LF	7,700	5.00	38,500.00
				PAY ITEMS SUBTOTAL	**$276,730.00**
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQ'D	28,000.00	28,000.00
641.0003.0000	TEMPORARY EROSION AND POLLUTION CONTROL	LS	ALL REQ'D	9,000.00	9,000.00
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQ'D	3,000.00	3,000.00
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQ'D	6,000.00	6,000.00
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LS	ALL REQ'D	6,000.00	6,000.00
				30% CONTINGENCY	$98,619.00
				PAY ITEMS TOTAL	**$427,349.00**
				PERMITTING COST	$40,000.00
				DESIGN COST (20% OF TOTAL)	$85,469.80
				2024 ESTIMATE	**$552,818.80**
				2025 ESCALATION	**$571,061.82**
				2030 ESCALATION	**$665,287.02**

Site Specific Assumptions

- This site is used during all seasons
- The emergency response cache at this site needs to be relocated to support easier access during winter months
- The current number of parking stalls is sufficient for the demand

Site Specific Agency and Public Input

Engineers Round Table

- Desire for advance signage on the highway
- Safety concerns surrounding improper use of the proposed amenities to be added to the location
- Desire for additional amenities that promote access to areas that are underused

Public Open Houses

- Desire for advance signage along the highway
- Desire for improved plowing

2.2.3 Center Ridge Trailhead Parking Lot

Existing Site

The existing Center Ridge Trailhead is and located at MP 68.0 on the east side of the Seward Highway with current facilities maintained by USFS. The existing parking lot has a single two-way entry point. The facilities at this location include restrooms and interpretive signage. The Center Ridge Trailhead serves as an access point the INHT and provides opportunities to recreational users who hike, ski, and snowshoe. The proposed Center Ridge Trailhead Parking Lot Improvements aim to meet goals established for the TPMP, while also seeking to improve recreation opportunities between seasons.

Conceptual Design

Improvements to the Center Ridge Trailhead Parking Lot, shown in Figure 3 include the removal of existing pavement lining the north and south sides the entry way. This pavement removal will streamline parking and improve safety as it will limit speeds of entering vehicles. The northeast side of the parking lot will be lined with 15 standard stalls, the east side will have 15 standard and four ADA accessible stalls, while seven long vehicle stalls will be found in the center. A separate USFS project that has already received funding will remove the existing toilets at the east side of the parking lot and install a new vault toilet along the pathway towards the trailhead.

Additional improvements for this site include the installation of pavilions near the east side of the parking lot. These pavilions will have room for picnic tables, a rescue cache, and emergency phone. The location closer to the trailhead that will be receiving the new vault toilet will also receive a pet waste station.

Estimated Cost: $775,000 to $1.0 Million, full cost estimate breakdown included in Table 4.

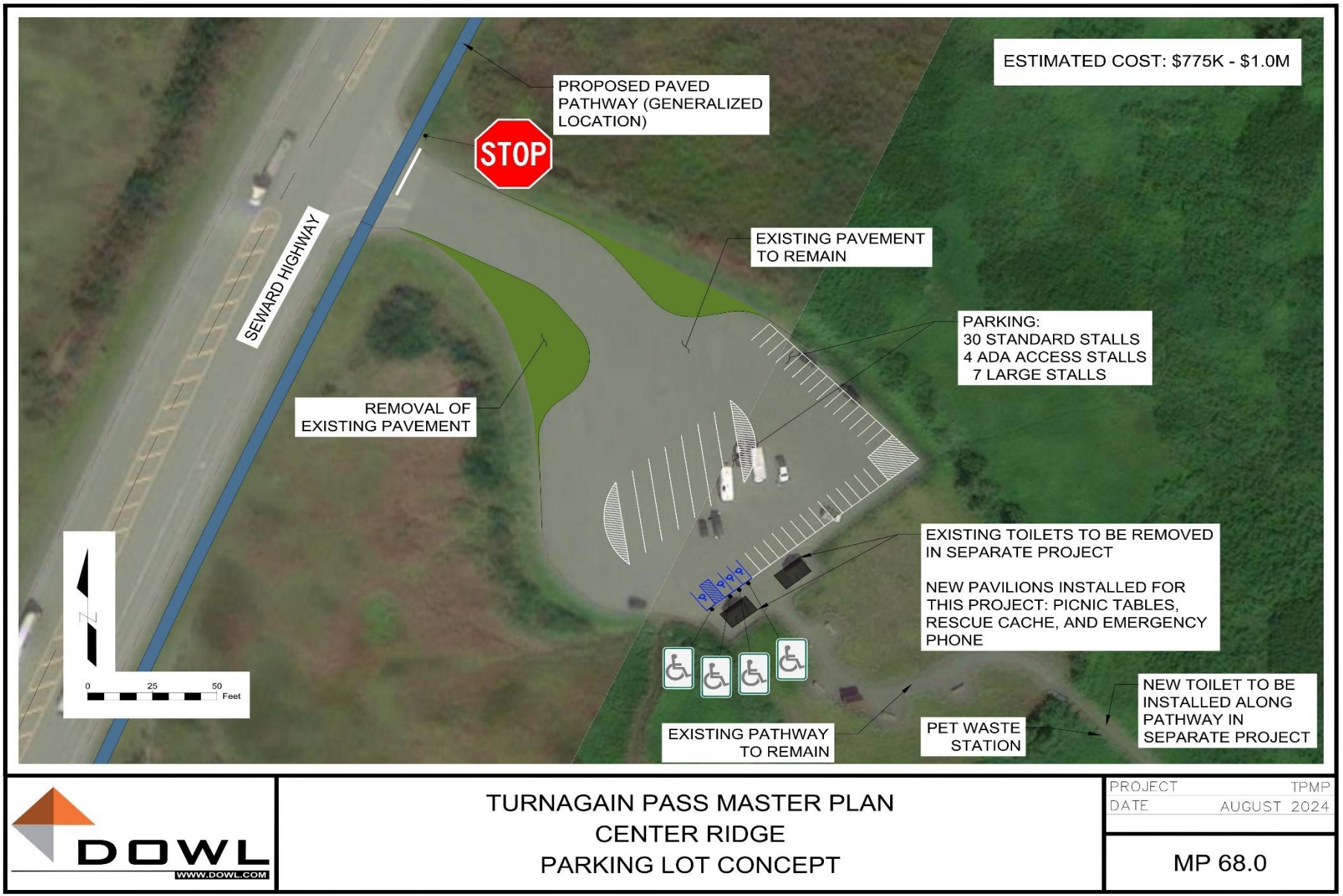

Figure 3 Center Ridge Trailhead Parking Lot Improvements, Conceptual Design

Cost Estimate Breakdown

Table 4 Center Ridge Trailhead Parking Lot Improvements, Cost Estimate Breakdown

Center Ridge Trailhead Parking Lot Improvements					
Item No.	**Item Description**	**Pay Unit**	**Total Quantity**	**Unit Cost ($ USD)**	**Total Cost ($ USD)**
202.0002.0000	REMOVAL OF PAVEMENT	SY	1,050	20.00	21,000.00
615.0001.0000	STANDARD SIGN	SF	13	175.00	2,275.00
618.0001.0000	SEEDING	ACRE	0.3	7,500.00	2,250.00
620.0001.0000	TOPSOIL	SY	1,150	10.00	11,500.00
622.2020.0000	SHELTER	EACH	2	150,000.00	300,000.00
622.2029.0000	ACCESSIBLE PICNIC TABLE	EACH	4	5,000.00	20,000.00
622.2031.0000	TRASH CAN/ PET WASTE STATION	EACH	1	5,000.00	5,000.00
-	EMERGENCY PHONE	EACH	1	10,000.00	10,000.00
-	RESCUE CACHE	EACH	1	5,000.00	5,000.00
670.0013.0000	PAINTED TRAFFIC MARKINGS	LF	3,450	5.00	17,250.00
				PAY ITEMS SUBTOTAL	**$394,275.00**
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQ'D	40,000.00	40,000.00
641.0003.0000	TEMPORARY EROSION AND POLLUTION CONTROL	LS	ALL REQ'D	12,000.00	12,000.00
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQ'D	4,000.00	4,000.00
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQ'D	8,000.00	8,000.00
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LS	ALL REQ'D	8,000.00	8,000.00
				30% CONTINGENCY	$139,882.50
				PAY ITEMS TOTAL	**$606,157.50**
				PERMITTING COST	$40,000.00
				DESIGN COST (20% OF TOTAL)	$121,231.50
				2024 ESTIMATE	**$767,389.00**
				2025 ESCALATION	**$792,712.84**
				2030 ESCALATION	**$923,510.46**

Site Specific Assumptions

- This site will be used during all seasons
- The USFS has funding and will complete a project that will remove the existing toilets and relocate the facility towards the trailhead

Site Specific Agency and Public Input

Engineers Round Table

- Parking stall size, location, layout, and amount

Public Open Houses

- Parking stall size, location, and amount

2.2.4 Sunburst Parking Lot

Existing Site

The existing Sunburst Parking Area is located at MP 66.8 on the east side of the highway and is intended to be a pullout. Currently the parking area is used as a skiing trailhead during the winter months.

Conceptual Design

Improvements to the Sunburst Parking Lot, shown in Figure 4, widen the existing dual entry points providing gravel shoulders, suitable for larger winter maintenance vehicles. This design includes the expansion of the existing parking area from the current 20,304 Sq Ft (2,256 Sq Yd) to approximately 31,248 Sq Ft (3,472 Sq Yd), providing more streamlined parking as well as increased separation from the highway. Parking will include 38 standard stalls and four ADA accessible stalls with dedicated avalanche and emergency response parking. Additional amenities will include a pavilion able to accommodate picnic tables, rescue cache, and emergency phone as well as interpretive signage and a 511 camera.

Cost Estimate: $2.0 to $2.4 Million, full cost estimate breakdown included in Table 5.

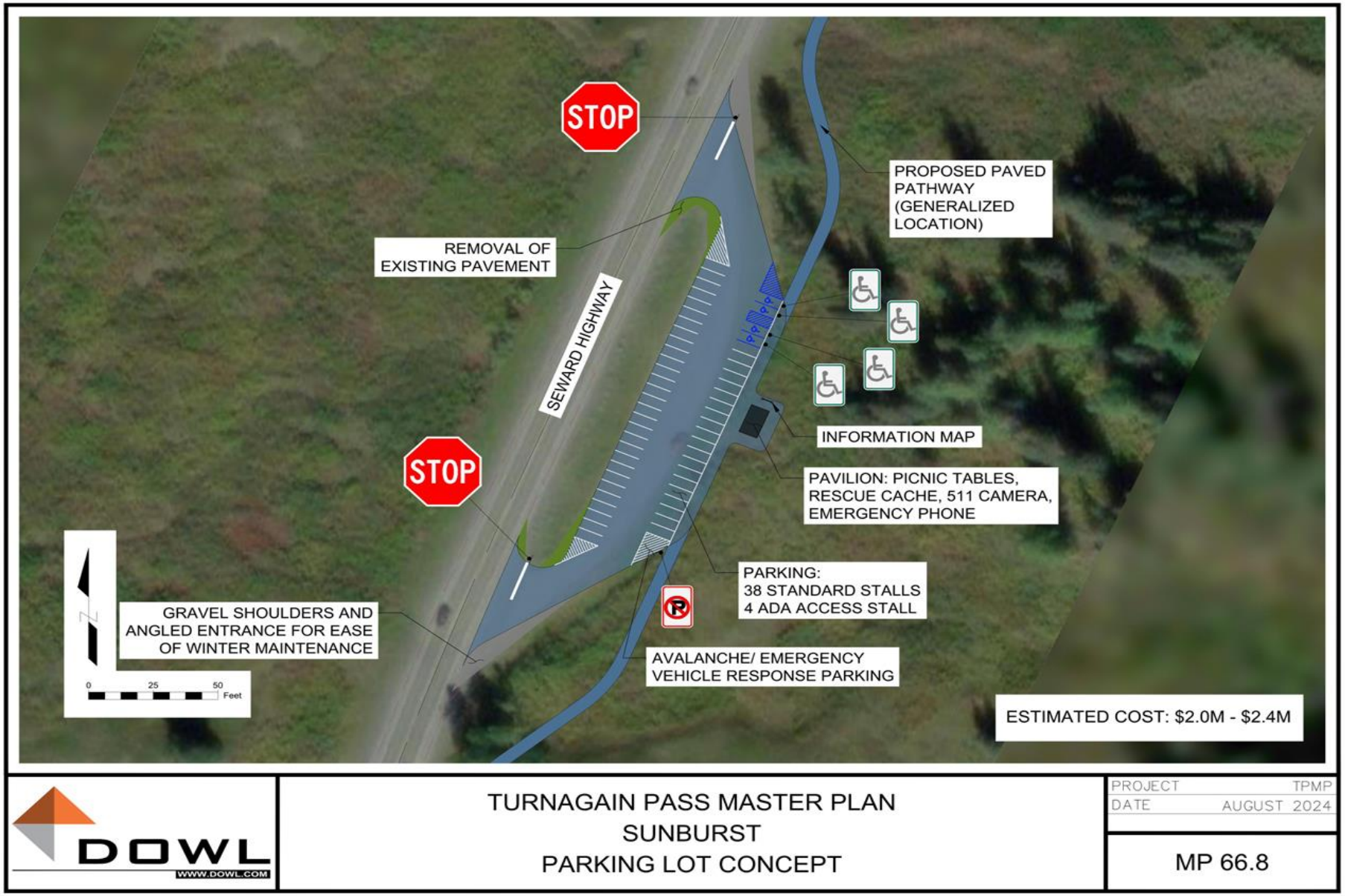

Figure 4 Sunburst Parking Lot Improvements, Conceptual Design

Cost Estimate Breakdown

Table 5 Sunburst Parking Lot Improvements, Cost Estimate Breakdown

Sunburst Parking Lot Improvements					
Item No.	**Item Description**	**Pay Unit**	**Total Quantity**	**Unit Cost ($ USD)**	**Total Cost ($ USD)**
201.0003.0000	CLEARING AND GRUBBING	ACRE	2.0	40,000.00	80,000.00
202.0002.0000	REMOVAL OF PAVEMENT	SY	2,300.0	20.00	46,000.00
202.0004.0000	REMOVAL OF CULVERT PIPE	LF	200.0	150.00	30,000.00
203.0003.0000	UNCLASSIFIED EXCAVATION	CY	4,150	25.00	103,750.00
203.0006.0000	BORROW	TON	7,250	35.00	253,750.00
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	423	45.00	19,035.00
401.0001.002B	HMA, TYPE II; CLASS B	TON	413	250.00	103,250.00
603.0021.0018	18 INCH CORRUGATED POLYETHYLENE PIPE	LF	200	150.00	30,000.00
615.0001.0000	STANDARD SIGN	SF	20	175.00	3,500.00
618.0001.0000	SEEDING	ACRE	1	7,500.00	9,000.00
620.0001.0000	TOPSOIL	SY	5,800	10.00	58,000.00
622.2011.0000	INTERPRETIVE SIGN	EACH	1	50,000.00	50,000.00
622.2020.0000	SHELTER	EACH	1	150,000.00	150,000.00
622.2029.0000	ACCESSIBLE PICNIC TABLE	EACH	2	5,000.00	10,000.00
-	EMERGENCY PHONE	EACH	1	10,000.00	10,000.00
-	RESCUE CACHE	EACH	1	5,000.00	5,000.00
-	511 CAMERA	EACH	1	15,000.00	15,000.00
670.0013.0000	PAINTED TRAFFIC MARKINGS	LF	2,650	5.00	13,250.00
				PAY ITEMS SUBTOTAL	**$989,535.00**
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQ'D	99,0000.00	99,0000.00
641.0003.0000	TEMPORARY EROSION AND POLLUTION CONTROL	LS	ALL REQ'D	30,000.00	30,000.00
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQ'D	10,000.00	10,000.00
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQ'D	20,000.00	20,000.00
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LS	ALL REQ'D	20,000.00	20,000.00
				30% CONTINGENCY	$350,560.50
				PAY ITEMS TOTAL	**$1,519,095.5**
				PERMITTING COST	$90,200.00
				DESIGN COST (20% OF TOTAL)	$303,819.10
				2024 ESTIMATE	**$1,913,114.60**
				2025 ESCALATION	**$1,976,247.38**
				2030 ESCALATION	**$2,302,328.20**

Site Specific Assumptions

- This site will experience a high volume of use during the winter months
- The primary user group at this site are backcountry adventurers

Site Specific Agency and Public Input

Engineers Round Table

- Sunburst's status as a top back country ski location (ranking number two) versus Cornbiscuit's number eight ranking
- Safety concerns regarding the possible placement of the proposed new facility
- Need for additional trails to provide access
- Desire for improvements to existing lots

Public Open Houses

- Desire for wider turning radii for easy winter maintenance
- Sunburst is easier to ski and gets more snow than Cornbiscuit
- Additional comments and suggestions indicate expanding Sunburst is preferred over a new location between Sunburst and Cornbiscuit

2.2.5 Johnson Pass Trailhead Parking Lot

Existing Site

The current Johnson Pass Trailhead Parking Lot is 17199 Sq Ft, located at MP 63.6 of the Seward Highway. It is a gravel lot with restroom facilities and interpretive signage maintained by the US Forest Service. The current entry is a single, two-way entry point and has been identified as a pinch point for larger vehicles, including snow removal equipment.

Conceptual Design

The improvements to the Johnson Pass Trailhead Parking Lot, shown in Figure 5, include widening the entrance from Seward Highway to accommodate the entry and exit of larger vehicles. This design also includes a vehicle turnaround area closer to the widened entry point, allowing vehicles the opportunity to complete their turnarounds without entering the main parking lot. This turnaround area will also serve as parking if the main parking area is not cleared after snowfall. This design is focused on providing the opportunity to turn around prior to the Hope cutoff as well as an opportunity to turn around even if the main Johnson Pass Trailhead Parking Lot is unplowed during the winter months.

Image 5 Existing Johnson Pass Trailhead Parking Lot

The main Johnson Pass Trailhead Parking Lot will remain as a gravel surface with a teardrop-shaped, one-way layout and be approximately 44,253 Sq Ft (4,917 Sq Yd). A single lane driveway with one-way signage will direct traffic through the teardrop-shaped lot and no parking signage will indicate areas unsuitable for parking. There will be enough unmarked parking to accommodate ten standard vehicles on the west side of the lot with an additional parking area to accommodate oversized vehicles along the roadway shoulder on the east side of the lot. Additional amenities at this site include a new trail leading to picnic tables, pet waste station, emergency phone, 511 camera, and rescue cache.

Estimated Cost: $1.6 to $1.9 Million, full cost estimate breakdown included in Table 6.

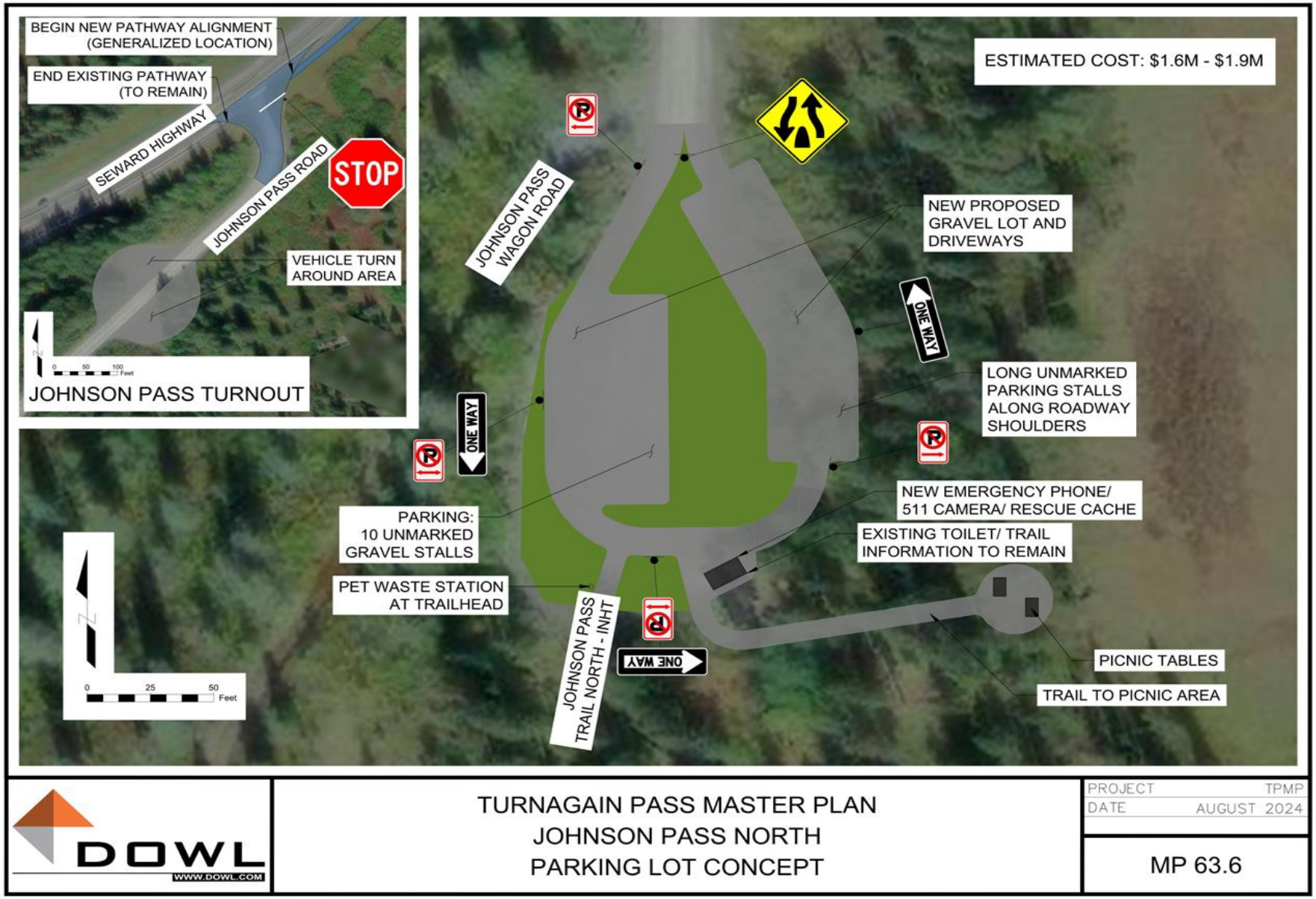

Figure 5 Johnson Pass Trailhead Access and Parking Lot Improvements, Conceptual Design

Cost Estimate Breakdown

Table 6 Johnson Pass Trailhead Parking Lot Improvements, Cost Estimate Breakdown

Johnson Pass Trailhead Parking Lot Improvements					
Item No.	**Item Description**	**Pay Unit**	**Total Quantity**	**Unit Cost ($ USD)**	**Total Cost ($ USD)**
201.0003.0000	CLEARING AND GRUBBING	ACRE	1.6	40,000.00	4,000.00
203.0003.0000	UNCLASSIFIED EXCAVATION	CY	5,450	25.00	136,250.00
203.0006.0000	BORROW	TON	9,600	35.00	336,000.00
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	1,150	45.00	51,750.00
401.0001.002B	HMA, TYPE II; CLASS B	TON	146	250.00	36,500.00
615.0001.0000	STANDARD SIGN	SF	28.00	175.00	4,900.00
618.0001.0000	SEEDING	ACRE	2.1	7,500.00	15,750.00
620.0001.0000	TOPSOIL	SY	9,900	10.00	99,000.00
622.2029.0000	ACCESSIBLE PICNIC TABLE	EACH	2	5,000.00	10,000.00
622.2031.0000	TRASH CAN/ PET WASTE STATION	EACH	1	5,000.00	5,000.00
-	EMERGENCY PHONE	EACH	1	10,000.00	10,000.00
-	RESCUE CACHE	EACH	1	5,000.00	5,000.00
-	511 CAMERA	EACH	1	15,000.00	15,000.00
670.0013.0000	PAINTED TRAFFIC MARKINGS	LF	312	5.00	1,560.00
				PAY ITEMS SUBTOTAL	**$989,535.00**
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQ'D	80,0000.00	80,0000.00
641.0003.0000	TEMPORARY EROSION AND POLLUTION CONTROL	LS	ALL REQ'D	24,000.00	24,000.00
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQ'D	8,000.00	8,000.00
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQ'D	16,000.00	16,000.00
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LS	ALL REQ'D	16,000.00	16,000.00
				30% CONTINGENCY	$280,413.00
				PAY ITEMS TOTAL	**$1,215,123.00**
				PERMITTING COST	$40,000.00
				DESIGN COST (25% OF TOTAL)	$303,780.75
				2024 ESTIMATE	**$1,558,903.75**
				2025 ESCALATION	**$1,610,347.57**
				2030 ESCALATION	**$1,876,054.92**

Site Specific Assumptions

- This site be used during all seasons
- An area to turn around even when the main lot is unmaintained during the winter is beneficial
- The entrance to the parking lot will need to be widened to accommodate larger vehicles including snow removal equipment

Site Specific Agency and Public Input

Engineers Round Table

- Parking lot material choice (gravel versus paved surface)
- Improvement of entrance from highway and design for winter maintenance
- Accommodations for large vehicles, including areas for turning around
- Additional amenities near the parking lot

Public Open Houses

- Interpretive signage
- Accommodations for large vehicles, including areas for turning around and additional parking

2.2.6 Raft Launch/River Access Parking Lot

Existing Site

The existing raft launch and the associated parking lot is 17,199 Sq Ft (1,911 Sq Yd) and is a state-owned facility located on the west side of the Seward Highway at MP 59.0. The current parking lot has a single, two-way entry point. This location is often referred to as the East Fork Boat Launch or Six Mile Raft Launch and is primarily used by pack rafting guides and the public. The proposed Raft Launch/ River Access Parking Lot Improvements aim to meet goals established for the Turnagain Pass Master Plan, while also seeking to improve recreation opportunities during the summer season.

Image 6 Raft Launch in Use by Commercial Guide

Conceptual Design

The improvements to the Raft Launch/River Access Parking lot, shown in Figure 6, include the addition of a second, two-way entry point north of the existing entry point and will increase the lot to 26,843 Sq Ft (2,983 Sq Yd). This project will improve the current raft launch ramp, providing river access with an improved slope and pavement. The design includes the addition of three large stalls along the west side of the lot and eight standard stalls and one ADA accessible stall on the east side, as well as the inclusion of interpretive signage and benches near the raft launch ramp.

Estimated Cost: $1.2 to $1.5 Million, full cost estimate breakdown included in Table 7.

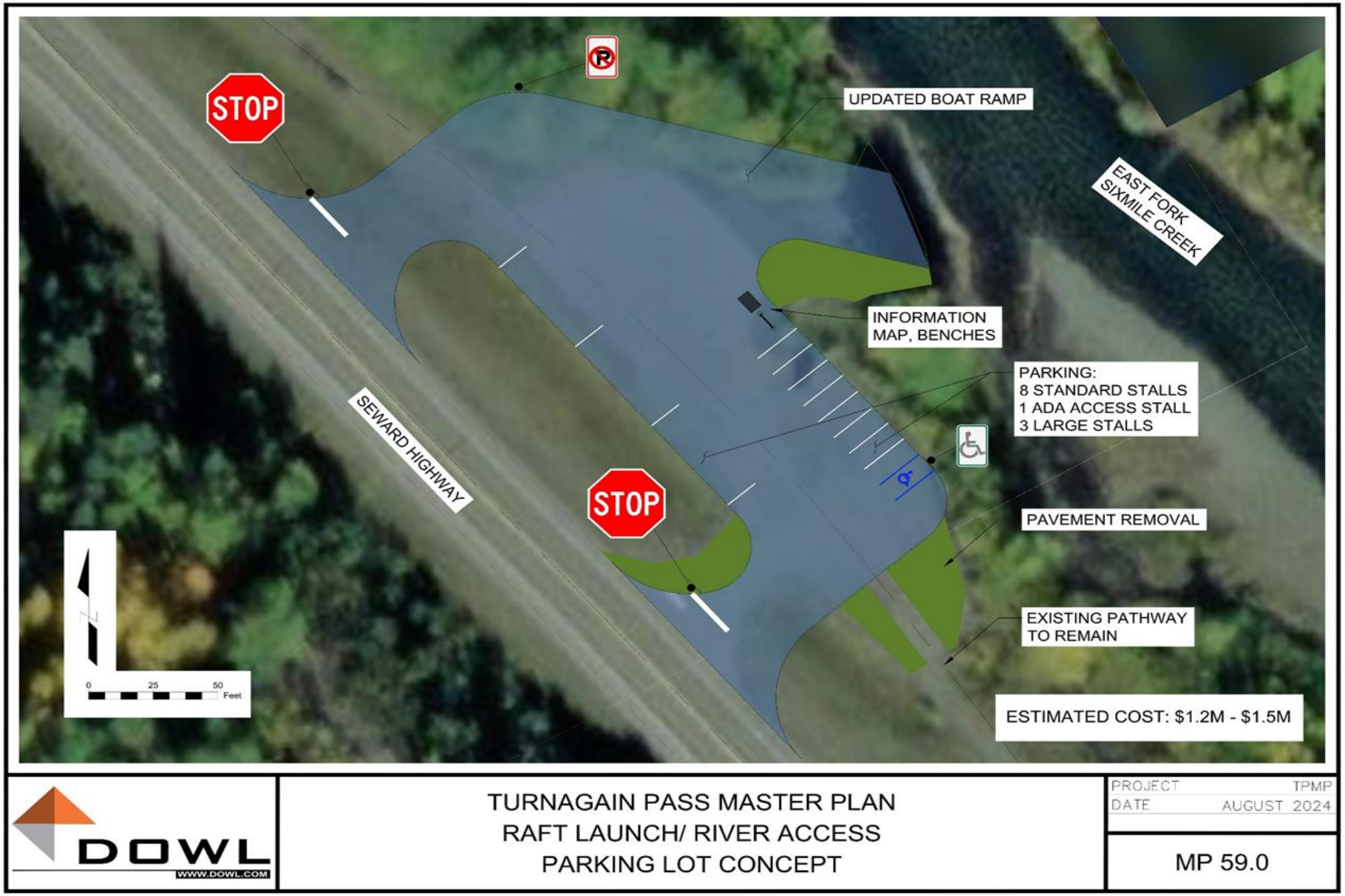

Figure 6 Raft Launch/River Access Parking Lot Improvements, Conceptual Design

Cost Estimate Breakdown

Table 7 Raft Launch/River Access Parking Lot Improvements, Cost Estimate Breakdown

Raft Launch/River Access Parking Lot Improvements					
Item No.	**Item Description**	**Pay Unit**	**Total Quantity**	**Unit Cost ($ USD)**	**Total Cost ($ USD)**
201.0003.0000	CLEARING AND GRUBBING	ACRE	0.7	40,000.00	28,000.00
202.0002.0000	REMOVAL OF PAVEMENT	SY	1,950	20.00	39,000.00
202.0004.0000	REMOVAL OF CULVERT PIPE	LF	60	150.00	9,000.00
203.0003.0000	UNCLASSIFIED EXCAVATION	CY	3,300	25.00	82,500.00
203.0006.0000	BORROW	TON	6,800	35.00	238,000.00
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	339	45.00	15,255.00
401.0001.002B	HMA, TYPE II; CLASS B	TON	355	250.00	88,750.00
603.0021.0018	18 INCH CORRUGATED POLYETHYLENE PIPE	LF	120	150.00	18,000.00
615.0001.0000	STANDARD SIGN	SF	16	175.00	2,800.00
618.0001.0000	SEEDING	ACRE	0.5	7,500.00	3,750.00
620.0001.0000	TOPSOIL	SY	2,050	10.00	20,500.00
622.2011.0000	INTERPRETIVE SIGN	EACH	1	50,000.00	50,000.00
622.2029.0000	ACCESSIBLE PICNIC TABLE	EACH	2	5,000.00	10,000.00
670.0013.0000	PAINTED TRAFFIC MARKINGS	LF	530	5.00	2,650.00
				PAY ITEMS SUBTOTAL	**$608,205.00**
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQ'D	61,0000.00	61,0000.00
641.0003.0000	TEMPORARY EROSION AND POLLUTION CONTROL	LS	ALL REQ'D	19,000.00	19,000.00
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQ'D	7,000.00	7,000.00
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQ'D	13,000.00	13,000.00
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LS	ALL REQ'D	13,000.00	13,000.00
				30% CONTINGENCY	$216,361.50
				PAY ITEMS TOTAL	**$937,566.50**
				PERMITTING COST	$55,100.00
				DESIGN COST (20% OF TOTAL)	$187,513.30
				2024 ESTIMATE	**$1,180,179.80**
				2025 ESCALATION	**$1,219,125.73**
				2030 ESCALATION	**$1,420,281.48**

Site Specific Assumptions

- This site will be most used during the summer months
- The current parking at this site is sufficient for demand
- The primary users at this site include commercial tour guides

Site Specific Agency and Public Input

Engineers Round Table

- Parking stall location, size, and number
- Interpretive signage location
- More amenities

Public Open Houses

- Parking stall location and number

2.2.7 Multi-Use Pathway Addition and Extension

The current multi-use pathway is not continuous. One section extends the length of the Seward Highway from Hope Junction to Johnson Pass turnoff. A second section begins at the base of the Pass and continues towards the 20-mile valley. The multi-use pathway project is designed to meet the goals established for the TPMP and the desires of stakeholders and user groups and connect these two existing segments.

The proposed pathway, shown in Figure 7, will be ten-feet wide and paved with two-foot gravel shoulders on either side to tie into the existing segments. For the project team to create a feasible pathway project, this 12-mile proposed pathway is divided into six segments with logical termini, allowing it to be completed in prioritized phases. The segments, their termini, corresponding length, and estimated costs are included in Table 8. More detailed cost estimate breakdowns are included in Tables 9 through 14. Segments are identified as paths 1 through 6 in addition to receiving color coding matching the segments displayed in Figure 7.

Table 8 Turnagain Pass, Seward Highway Multi-Use Pathway Segments

Segment ID	Length (ft)	Termini	Estimated Cost
Path 1 (RED)	9,000	Johnson Pass Turnout (MP 63.6) to Granite Creek Campground (MP 62.9)	**$10.0 to $12.0 Million**
Path 2 (ORANGE)	6,900	Granite Creek Campground (MP 62.9) to Sunburst Parking Area (MP 66.8)	**$7.7 to $9.3 Million**
Path 3 (YELLOW)	6,600	Sunburst Parking Area (MP 66.8) to Center Ridge Parking Area (MP 68.0)	**$7.3 to $8.8 Million**
Path 4 (GREEN)	7,900	Center Ridge Parking Area (MP 68.0) to Tincan Parking Area (MP 69.6)	**$9.3 to $11.2 Million**
Path 5 (BLUE)	15,100	Tincan Parking Area (MP 69.6) to Upper Ingram Trailhead (MP 72.5)	**$17.7 to $21.3 Million**
Path 6 (PURPLE)	15,700	Upper Ingram Trailhead (MP 72.5) to Base of Pass (MP 75.5)	**$18.6 to $22.4 Million**

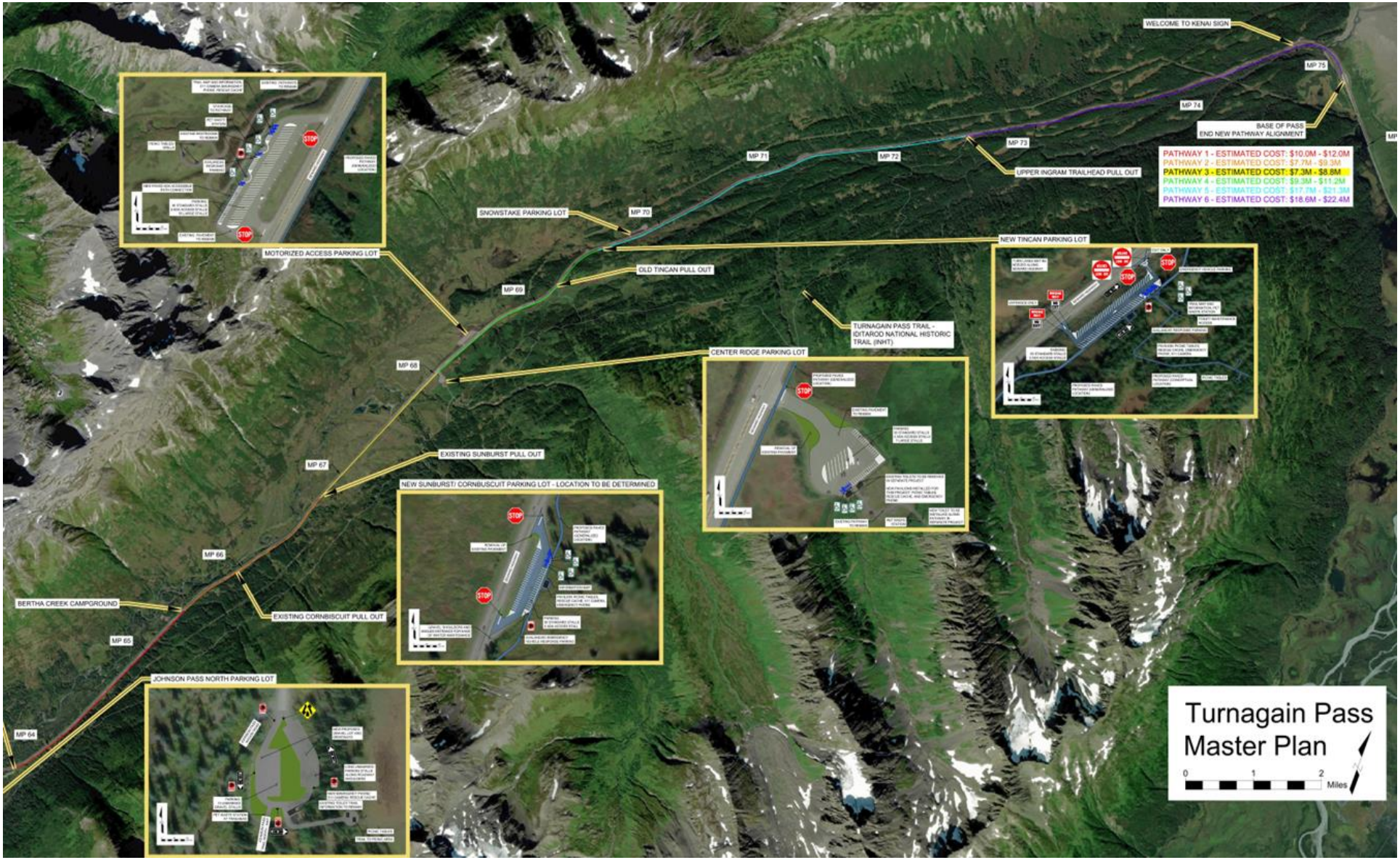

Figure 7 Turnagain Pass Seward Highway Multi-Use Pathway Additions and Improvements, Conceptual Design

Cost Estimate Breakdown

Table 9 Multi-Use Pathway Segment 1, Cost Estimate Breakdown

Multi-Use Pathway					
Segment 1: Johnson Pass to Granite Creek Campground					
Item No.	Item Description	Pay Unit	Total Quantity	Unit Cost ($ USD)	Total Cost ($ USD)
201.0003.0000	CLEARING AND GRUBBING	ACRE	11	40,000.00	440,000.00
203.0002.0000	ROCK EXCAVATION	CY	1,950	200.00	390,000.00
203.0003.0000	UNCLASSIFIED EXCAVATION	CY	36,300	25.00	907,500.00
203.0006.0000	BORROW	TON	75,000	35.00	2,625,000.00
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	1,400	45.00	63,000.00
401.0001.002B	HMA, TYPE II; CLASS B	TON	1,450	250.00	362,500.00
603.0021.0018	12 INCH CORRUGATED POLYETHYLENE PIPE	LF	600	100.00	60,000.00
615.0001.0000	STANDARD SIGN	SF	57	175.00	9,975.00
618.0001.0000	SEEDING	ACRE	8	7,500.00	62,250.00
620.0001.0000	TOPSOIL	SY	44,000	10.00	440,000.00
				PAY ITEMS SUBTOTAL	**$5,360,225.00**
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQ'D	537,000.00	537,000.00
641.0003.0000	TEMPORARY EROSION AND POLLUTION CONTROL	LS	ALL REQ'D	161,000.00	161,000.00
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQ'D	54,000.00	54,000.00
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQ'D	108,000.00	108,000.00
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LS	ALL REQ'D	108,000.00	108,000.00
				30% CONTINGENCY	$1,898,467.50
				PAY ITEMS TOTAL	**$8,226,692.50**
				PERMITTING COST	$50,000.00
				DESIGN COST (20% OF TOTAL)	$1,645,338.50
				2024 ESTIMATE	**$9,922,031.00**
				2025 ESCALATION	**$10,249,458.73**
				2030 ESCALATION	**$11,940,618.60**

Table 10 Multi-Use Pathway Segment 2, Cost Estimate Breakdown

Multi-Use Pathway					
Segment 2: Granite Creek Campground to Sunburst					
Item No.	**Item Description**	**Pay Unit**	**Total Quantity**	**Unit Cost ($ USD)**	**Total Cost ($ USD)**
201.0003.0000	CLEARING AND GRUBBING	ACRE	8	40,000.00	336,000.00
203.0002.0000	ROCK EXCAVATION	CY	1,500	200.00	300,000.00
203.0003.0000	UNCLASSIFIED EXCAVATION	CY	27,800	25.00	695,000.00
203.0006.0000	BORROW	TON	58,000	35.00	2,030,000.00
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	1,050	45.00	47,250.00
401.0001.002B	HMA, TYPE II; CLASS B	TON	1,100	250.00	275,000.00
603.0021.0018	12 INCH CORRUGATED POLYETHYLENE PIPE	LF	460	100.00	46,000.00
615.0001.0000	STANDARD SIGN	SF	176	175.00	30,800.00
618.0001.0000	SEEDING	ACRE	6	7,500.00	48,000.00
620.0001.0000	TOPSOIL	SY	33,800	10.00	338,000.00
				PAY ITEMS SUBTOTAL	**$4,146,050.00**
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQ'D	415,000.00	415,000.00
641.0003.0000	TEMPORARY EROSION AND POLLUTION CONTROL	LS	ALL REQ'D	125,000.00	125,000.00
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQ'D	42,000.00	42,000.00
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQ'D	83,000.00	83,000.00
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LS	ALL REQ'D	83,000.00	83,000.00
				30% CONTINGENCY	$1,468,215.00
				PAY ITEMS TOTAL	**$6,362,265.00**
				PERMITTING COST	$40,000.00
				DESIGN COST (20% OF TOTAL)	$1,272,453.00
				2024 ESTIMATE	**$7,674,718.00**
				2025 ESCALATION	**$7,927,983.69**
				2030 ESCALATION	**$9,236,101.00**

Table 11 Multi-Use Pathway Segment 3, Cost Estimate Breakdown

Multi-Use Pathway					
Segment 3: Sunburst to Center Ridge					
Item No.	**Item Description**	**Pay Unit**	**Total Quantity**	**Unit Cost ($ USD)**	**Total Cost ($ USD)**
201.0003.0000	CLEARING AND GRUBBING	ACRE	8	40,000.00	320,000.00
203.0002.0000	ROCK EXCAVATION	CY	1,400	200.00	280,000.00
203.0003.0000	UNCLASSIFIED EXCAVATION	CY	26,600	25.00	665,000.00
203.0006.0000	BORROW	TON	55,000	35.00	1,925,000.00
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	1,000	45.00	45,000.00
401.0001.002B	HMA, TYPE II; CLASS B	TON	1,050	250.00	262,500.00
603.0021.0018	12 INCH CORRUGATED POLYETHYLENE PIPE	LF	440	100.00	44,000.00
615.0001.0000	STANDARD SIGN	SF	58	175.00	10,150.00
618.0001.0000	SEEDING	ACRE	6	7,500.00	45,750.00
620.0001.0000	TOPSOIL	SY	32,300	10.00	323,000.00
				PAY ITEMS SUBTOTAL	**$4,146,050.00**
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQ'D	393,000.00	393,000.00
641.0003.0000	TEMPORARY EROSION AND POLLUTION CONTROL	LS	ALL REQ'D	118,000.00	118,000.00
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQ'D	40,000.00	40,000.00
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQ'D	79,000.00	79,000.00
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LS	ALL REQ'D	79,000.00	79,000.00
				30% CONTINGENCY	$1,388,820.00
				PAY ITEMS TOTAL	**$6,018,220.00**
				PERMITTING COST	$40,000.00
				DESIGN COST (20% OF TOTAL)	$1,203,644.00
				2024 ESTIMATE	**$7,261,864.00**
				2025 ESCALATION	**$7,501,505.51**
				2030 ESCALATION	**$8,739,253.92**

Table 12 Multi-Use Pathway Segment 4, Cost Estimate Breakdown

Multi-Use Pathway					
Segment 4: Center Ridge to Tincan					
Item No.	**Item Description**	**Pay Unit**	**Total Quantity**	**Unit Cost ($ USD)**	**Total Cost ($ USD)**
201.0003.0000	CLEARING AND GRUBBING	ACRE	10	40,000.00	384,000.00
203.0002.0000	ROCK EXCAVATION	CY	3,350	200.00	670,000.00
203.0003.0000	UNCLASSIFIED EXCAVATION	CY	30,200	25.00	755,000.00
203.0006.0000	BORROW	TON	66,000	35.00	2,310,000.00
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	1,200	45.00	54,000.00
401.0001.002B	HMA, TYPE II; CLASS B	TON	1,300	250.00	325,000.00
603.0021.0018	12 INCH CORRUGATED POLYETHYLENE PIPE	LF	530	100.00	53,000.00
615.0001.0000	STANDARD SIGN	SF	138	175.00	24,150.00
618.0001.0000	SEEDING	ACRE	7	7,500.00	54,750.00
620.0001.0000	TOPSOIL	SY	38,700	10.00	387,000.00
				PAY ITEMS SUBTOTAL	**$5,016,900.00**
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQ'D	502,000.00	502,000.00
641.0003.0000	TEMPORARY EROSION AND POLLUTION CONTROL	LS	ALL REQ'D	151,000.00	151,000.00
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQ'D	51,000.00	51,000.00
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQ'D	101,000.00	101,000.00
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LS	ALL REQ'D	101,000.00	101,000.00
				30% CONTINGENCY	$1,776,870.00
				PAY ITEMS TOTAL	**$7,699,770.00**
				PERMITTING COST	$50,000.00
				DESIGN COST (20% OF TOTAL)	$1,539,954.00
				2024 ESTIMATE	**$9,289,724.00**
				2025 ESCALATION	**$9,596,284.89**
				2030 ESCALATION	**$11,179,671.90**

Table 13 Multi-Use Pathway Segment 5, Cost Estimate Breakdown

Multi-Use Pathway					
Segment 5: Tincan to Upper Ingram					
Item No.	Item Description	Pay Unit	Total Quantity	Unit Cost ($ USD)	Total Cost ($ USD)
201.0003.0000	CLEARING AND GRUBBING	ACRE	19	40,000.00	760,000.00
203.0002.0000	ROCK EXCAVATION	CY	6,400	200.00	1,280,000.00
203.0003.0000	UNCLASSIFIED EXCAVATION	CY	58,000	25.00	1,450,000.00
203.0006.0000	BORROW	TON	126,000	35.00	4,110,000.00
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	2,300	45.00	103,500.00
401.0001.002B	HMA, TYPE II; CLASS B	TON	2,400	250.00	600,000.00
603.0021.0018	12 INCH CORRUGATED POLYETHYLENE PIPE	LF	1,050	100.00	105,000.00
615.0001.0000	STANDARD SIGN	SF	92	175.00	16,100.00
618.0001.0000	SEEDING	ACRE	14	7,500.00	105,000.00
620.0001.0000	TOPSOIL	SY	74,000	10.00	740,000.00
				PAY ITEMS SUBTOTAL	**$9,569,600.00**
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQ'D	957,000.00	957,000.00
641.0003.0000	TEMPORARY EROSION AND POLLUTION CONTROL	LS	ALL REQ'D	288,000.00	288,000.00
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQ'D	96,000.00	96,000.00
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQ'D	192,000.00	192,000.00
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LS	ALL REQ'D	192,000.00	192,000.00
				30% CONTINGENCY	$3,388,380.00
				PAY ITEMS TOTAL	**$14,682,980.00**
				PERMITTING COST	$80,000.00
				DESIGN COST (20% OF TOTAL)	$2,936,596.00
				2024 ESTIMATE	**$17,699,576.00**
				2025 ESCALATION	**$18,283,662.01**
				2030 ESCALATION	**$21,300,466.24**

Table 14 Multi-Use Pathway Segment 6, Cost Estimate Breakdown

Multi-Use Pathway					
Segment 6: Upper Ingram to Base of Pass					
Item No.	**Item Description**	**Pay Unit**	**Total Quantity**	**Unit Cost ($ USD)**	**Total Cost ($ USD)**
201.0003.0000	CLEARING AND GRUBBING	ACRE	19	40,000.00	760,000.00
203.0002.0000	ROCK EXCAVATION	CY	3,350	200.00	670,000.00
203.0003.0000	UNCLASSIFIED EXCAVATION	CY	64,000	25.00	1,600,000.00
203.0006.0000	BORROW	TON	130,000	35.00	4,550,000.00
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	2,400	45.00	108,000.00
401.0001.002B	HMA, TYPE II; CLASS B	TON	2,500	250.00	625,000.00
504.2000.0000	PREFABRICATED STEEL BRIDGE	EACH	1	750,000.00	750,000.00
603.0021.0018	12 INCH CORRUGATED POLYETHYLENE PIPE	LF	1,050	100.00	105,000.00
615.0001.0000	STANDARD SIGN	SF	54	175.00	9,450.00
618.0001.0000	SEEDING	ACRE	15	7,500.00	112,500.00
620.0001.0000	TOPSOIL	SY	77,000	10.00	770,000.00
				PAY ITEMS SUBTOTAL	**$10,059,950.00**
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQ'D	1,006,000.00	1,006,000.00
641.0003.0000	TEMPORARY EROSION AND POLLUTION CONTROL	LS	ALL REQ'D	302,000.00	302,000.00
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQ'D	101,000.00	101,000.00
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQ'D	202,000.00	202,000.00
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LS	ALL REQ'D	202,000.00	202,000.00
				30% CONTINGENCY	$3,561,885.00
				PAY ITEMS TOTAL	**$15,434,835.00**
				PERMITTING COST	$80,000.00
				DESIGN COST (20% OF TOTAL)	$3,086,967.00
				2024 ESTIMATE	**$18,601,802.00**
				2025 ESCALATION	**$19,215,661.47**
				2030 ESCALATION	**$22,386,245.61**

Site Specific Assumptions

- This facility will be used year-round
- Segments that connect campgrounds to other recreation locations will be prioritized
- The same design standards will be used for future segments as existing

Site Specific Agency and Public Input

Engineers Round Table

- Break the pathway project into segments with logical termini rather than a single pathway project