Alaska Department of Transportation and Public Facilities

HSIP FFY 2023 Project Nominations

Recommended for funding eligibility

Contents

Department of Transportation & Public Facilities
Statewide Design & Engineering Services Division
Phone: 907-465-6966
Fax: 907-465-3124

MEMORANDUM

TO: Carolyn Morehouse, P.E.
Chief Engineer

DATE: August 16, 2022

FROM: Matt Walker, P.E.
State Traffic & Safety Engineer

SUBJECT: FFY 2023 HSIP
Project Nominations

I request funding eligibility approval for the enclosed proposed Highway Safety Improvement Projects for federal fiscal year 2023. We have analyzed the proposed projects and determined they are eligible under 23 CFR 924 and are consistent with our Alaska HSIP selection criteria and the Alaska SHSP.

Please confirm that the projects identified on the summary sheet are approved. Your approval will enable funding of these projects under the FFY 2023 HSIP program.

If approved, these projects will be advanced as project priority and funding allow. The FFY 2023 HSIP Funding Plan will be developed to incorporate these projects along with projects from prior years previously approved for funding.

Approved Carolyn H Morehouse 8/31/2022

Carolyn Morehouse, P.E, Chief Engineer — Date

Summary of Projects

Statewide Proposed Project Listing

FFY 2023 Approved HSIP Projects - Northern Region

Project Name:	Project Type			IRIS No.	HSIP Project Number	B/C	Safety Index	Crashes Susc. to Corr.					Region	Phase	Federal Fiscal Year			Longterm View			Constr by M&O?	Bundle?	Project Description
	New	FO	UFO					PDO	POS	MIN	SER	FAT			23	24	25	26	27	28			
Parks Highway Sheep Creek Ext Traffic Signal	1				23NR01	0.66:1		6	0	2	**1**	**0**	NR	2		$ 420,000	$ 280,000	$ -	$ -	$ -	N	N	construct a continuous green T signal on the Parks Highway at the intersection with Sheep Creek Extension
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ -	$ -	$ -	$ 3,012,000	$ -	$ -			
														7	$ -	$ -	$ 50,000	$ -	$ -	$ -			
														Total	$ -	$ 420,000	$ 330,000	$ 3,012,000	$ -	$ -			
Murphy Dome Rd Shoulder Widening	1				23NR02	0.3:1		7	0	0	**0**	**1**	NR	2	$ 785,000	$ -	$ 696,000	$ -	$ -	$ -	N	N	widen Murphy Dome Rd from Goldstream Rd/Sheep Creek Rd to Spinach Creek Rd to provide 6' shoulders.
														3	$ -	$ -	$ -	$ 200,000	$ -	$ -			
														4	$ -	$ -	$ -	$ 200,000	$ -	$ -			
														7	$ -	$ -	$ -	$ -	$ 5,351,000	$ -			
														Total	$ 785,000	$ -	$ 696,000	$ 400,000	$ 5,351,000	$ -			
Richardson Highway MP 357-362 Bicycle/Pedestrian Path	1				23NN01	N/A		0	0	0	**0**	**0**	NR	2	$ -	$ -	$ -	$ -	$ -	$ -	N	Possibly, with Z607340000	construct a multi use pathway between Badger 6-mile interchange and GARS intersection.
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ 4,112,755	$ -	$ -	$ -	$ -	$ -			
														7	$ -	$ -	$ -	$ -	$ -	$ -			
														Total	$ 4,112,755	$ -	$ -	$ -	$ -	$ -			
														2	785,000	420,000	976,000	-	-	-			
														3	-	-	-	200,000	-	-			
														4	4,112,755	-	-	3,212,000	-	-			
														7	-	-	50,000	-	5,351,000	-			
														Total	4,897,755	420,000	1,026,000	-	5,351,000	-			

FFY 2023 Approved HSIP Projects - Central Region

Project Name:	Project Type			IRIS No.	HSIP Project Number	B/C	Safety Index	Crashes Susc. to Corr.					Region	Phase	Federal Fiscal Year			Longterm View			Constr by M&O?	Bundle?	Project Description
	New	FO	UFO					PDO	POS	MIN	SER	FAT			23	24	25	26	27	28			
Tudor Road: Baxter Road to Patterson Street Channelization	1			TBD	23CR01	0.73	N/A	3	3	2	**3**	**1**	C	2	$ 366,600	$ 244,400	$ -	$ -	$ -	$ -	N	N	This project proposes to install center median on Tudor Road between Baxter Road and Patterson Street in Anchorage. This project nomination aims to reduce head-on and left-turning angle crashes on this segment of Tudor Road.
														3	$ -	$ -	$ 11,000	$ -	$ -	$ -			
														4	$ -	$ -	$ 4,538,000	$ -	$ -	$ -			
														7	$ -	$ -	$ 7,000	$ -	$ -	$ -			
														Total	$ 366,600	$ 244,400	$ 4,556,000	$ -	$ -	$ -			
Old Seward Hwy: Industry Way/120th Ave Channelization	1			TBD	23CR02	0.38	N/A	11	3	2	**0**	**0**	C	2	$ 171,600	$ 114,400	$ -	$ -	$ -	$ -	N	Y	This project proposes to install left-turn channelizing median on Old Seward Highway at Industry Way and 120th Avenue. This project nomination proposes to reduce angle and access related crashes on this segment of Old Seward Highway. This project will be bundled with Old Seward Hwy and Huffman Rd - O'Malley to Rabbit Creek to Birch PP (CFHWY00886)
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ -	$ -	$ 7,000	$ -	$ -	$ -			
														7	$ -	$ -	$ 1,784,000	$ -	$ -	$ -			
														Total	$ 171,600	$ 114,400	$ 1,791,000	$ -	$ -	$ -			
Seward Hwy Hooligan Fishery Pedestrian Safety Improvements	1			TBD	23CN01	N/A	N/A	0	0	0	**0**	**0**	C	2	$ 611,000	$ -	$ -	$ -	$ -	$ -	N	Y	This project proposes to install a 100-vehicle parking lot at MP 83.0 of the Seward Highway and a 0.82 miles of pathway to provide off-highway parking and pedestrian access to a popular hooligan fishery on the eastern end of the Turnagain Arm. Proposed facilities were designed and permitted under Seward Highway MP: MP 75-90 (Z581040000). This project may be bundled with Portage Curve Multimodal Connector - Twentymile to MP 81.5 (23CN02) for construction.
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ 13,449,000	$ -	$ -	$ -	$ -	$ -			
														7	$ -	$ -	$ -	$ -	$ -	$ -			
														Total	$ 14,060,000	$ -	$ -	$ -	$ -	$ -			
Portage Curve Multimodal Connector - Twentymile to MP 81.5	1			TBD	23CN02	N/A	N/A	0	0	0	**0**	**0**	C	2	$ -	$ -	$ -	$ -	$ -	$ -	N	Y	This project proposes to install 1.18 of multi-use pathway on the Seward Highway between Twentymile River and MP 81.5 and complete the connection between Ingram Creek and the proposed MP 83.0 parking lot. Proposed facilities were designed and permitted under Portage Curve Multimodal Connector (CFHWY00308). This project may be bundled with Seward Hwy Hooligan Fishery Pedestrian Safety Improvements (23CN01) for construction.
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ 1,177,000	$ -	$ -	$ -	$ -	$ -			
														7	$ -	$ -	$ -	$ -	$ -	$ -			
														Total	$ 1,177,000	$ -	$ -	$ -	$ -	$ -			
Ocean Dock Road RR Crossing Device Upgrades	1			TBD	23CN03	N/A	N/A	0	0	0	**0**	**0**	C	2	$ 37,500	$ -	$ -	$ -	$ -	$ -	N	N	This project proposes to upgrade existing at-grade crossing devices from passive to active on Ocean Dock Rd (Crossing #868543R). This project will be constructed through utilitiy agreement with Alaska Railroad Corporation.
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ -	$ -	$ -	$ -	$ -	$ -			
														7	$ -		$ 1,241,600	$ -	$ -	$ -			
														Total	$ 37,500	$ -	$ 1,241,600	$ -	$ -	$ -			
Seward Highway Rockfall Mitigation, MP 113.2			1	TBD	19CN05 (23)	N/A	N/A	0	0	0	**0**	**0**	C	2	$ 514,200	$ 342,800	$ -	$ -	$ -	$ -	N	N	This project proposes to perform rockfall mitigation at Seward Highway MP 113.2 to reduce the risk of rockfall-related crashes on the Seward Highway.
														3	$ -	$ 54,000	$ -	$ -	$ -	$ -			
														4	$ -	$ -	$ 19,398,000	$ -	$ -	$ -			
														7	$ -	$ -	$ 34,000	$ -	$ -	$ -			
														Total	$ 514,200	$ 396,800	$ 19,432,000	$ -	$ -	$ -			
														2	1,700,900	701,600	-	-	-	-			
														3	-	54,000	11,000	-	-	-			
														4	14,626,000	-	23,943,000	-	-	-			
														7	-	-	3,066,600	-	-	-			
														Total	16,326,900	755,600	27,020,600	-	-	-			

FFY 2023 Approved HSIP Projects - Southcoast Region

Project Name:	Project Type			IRIS No.	HSIP Project Number	B/C	Safety Index	Crashes Susc. to Corr.					Region	Phase	Federal Fiscal Year			Longterm View			Constr by M&O?	Bundle?	Project Description
	New	FO	UFO					PDO	POS	MIN	SER	FAT			23	24	25	26	27	28			
JNU Glacier Hwy Safety Improvements HSIP - McNugget to Loop Rd	1				23SR02	2.54		5	0	7	**0**	**0**		2	$ 250,000	$ 250,000	$ -	$ -	$ -	$ -	No	No	Improve uncontrolled crosswalks along Glacier Hwy and convert Jordan Ave - McNugget into a superstreet.
														3	$ -	$ 100,000	$ -	$ -	$ -	$ -			
														4	$ -	$ -	$ 1,327,823	$ -	$ -	$ -			
														7	$ -	$ 100,000	$ -	$ -	$ -	$ -			
														Total	$ 250,000	$ 450,000	$ 1,327,823	$ -	$ -	$ -			
JNU Vanderbilt Continuous Green T HSIP	1				23SR01	0.64		7	3	4	**0**	**0**		2	$ 100,000	$ 200,000	$ -	$ -	$ -	$ -	No	No	Convert Egan/Vanderbilt intersection into a Continuous Green T intersection with SB Thru lanes not stopping and new median acceleration lane.
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ -		$ 1,534,112	$ -	$ -	$ -			
														7	$ -	$ -	$ -	$ -	$ -	$ -			
														Total	$ 100,000	$ 200,000	$ 1,534,112	$ -	$ -	$ -			
HNH Harbor Way Pedestrian Improvements	1			SFHWY 00278	23SN02	N/A		0	0	0	**0**	**0**		2	$ 140,000	$ -	$ -	$ -	$ -	$ -	No	Yes	Install new sidewalk along Harbor Way for pedestrian safety. Bundle with a TAP project that will install a bridge landing at the sidewalk.
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ -	$ 1,089,138	$ -	$ -	$ -	$ -			
														7	$ -	$ -	$ -	$ -	$ -	$ -			
														Total	$ 140,000	$ 1,089,138	$ -	$ -	$ -	$ -			
SR Regionwide Passing Zones Inventory and Restriping HSIP	1				23SN01	N/A		0	0	0	**0**	**0**		2	$ 500,000	$ 200,000	$ -	$ -	$ -	$ -	No	No	Assess and correct passing zone deficiencies along Two-Way Two-Lane Highways with posted speeds of 40mph or greater, published AADT between 500-6000, and 1 mile or greater in length.
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ -	$ -	$ 1,479,084	$ -	$ -	$ -			
														7	$ -	$ -	$ -	$ -	$ -	$ -			
														Total	$ 500,000	$ 200,000	$ 1,479,084	$ -	$ -	$ -			
														2	990,000	650,000	-	-	-	-			
														3	-	100,000	-	-	-	-			
														4	-	1,089,138	4,341,019	-	-	-			
														7	-	100,000	-	-	-	-			
														Total	990,000	1,939,138	4,341,019	-	-	-			

Project Description and Backup

Northern Region

MEMORANDUM

State of Alaska
Department of Transportation & Public Facilities
Northern Region Design & Engineering Services

TO: Matt Walker, P.E.
State Traffic & Safety Engineer
Statewide DE&S

DATE: June 30, 2022

THRU: Sarah Schacher, P.E.
Preconstruction Engineer
Northern Region

FILE NO: H:\Preconstruction\Support_Traffic&Safety\Resources\HSIP\2023 HSIP\HSIP FFY23 Transmittal

TELEPHONE NO: 451-2283
FAX NO: 451-5390

FROM: Pam Golden, P.E.
Regional Traffic & Safety Engineer
Northern Region

SUBJECT: Highway Safety Improvement Program – Candidate Projects FFY23

The following candidate projects are submitted for consideration in the Highway Safety Improvement Program. Project descriptions, estimates, and benefit/cost computations are attached.

FFY23 Proposed Highway Safety Improvement Projects

Project	Project Name Benefit/Cost	Cost Estimate by Fiscal Year			Project Total
		FY23	FY24	FY25+	
23NR01	Parks Hwy/ Sheep Creek Ext Traffic Signal B/C ratio: 0.66:1		$420,000	$330,000 (FY25) $3,012,000 (FY26)	$3,762,000
23NR02	Murphy Dome Rd Shoulder Widening B/C ratio: 0.26:1	$785,000		$696,000 (FY25) $400,000 (FY26) $6,517,000 (FY27)	$8,398,000
23NN0	Richardson Hwy MP 357-362 Bicycle/Pedestrian Path	$4,112,755			$4,112,755
	TOTAL				**$16,272,755**

A copy of the screening spreadsheets for the years 2015-2019 is attached. Please contact Pam Golden at 451-2283 with any questions.

Attachments: FFY23 Screening
Project Nominations

User:	pkgolden
Analysis Type:	Overlapping Bucket Analysis
Data Source:	Alaska eCrash V3
Start Date:	1/1/2015
End Date:	12/31/2019
Region	Northern
Return Top:	100.00%
Bucket Size:	2.00
Bucket Size:	2.00
Step Size:	1.00
Fatal Weight:	2645
Serious Injury Weight:	1322
Minor Injury Weight:	502
Possible Injury Weight:	158.7
No Injury Weight:	26.4
Percent To Return:	100.00%
Minimum Crashes In Each Spot:	1
Minimum Fatal Crashes In Each Spot:	1
Minimum Serious Injury Crashes In Each Spot:	2
Minimum Minor Injury Crashes In Each Spot:	0
Minimum Possible Injury Crashes In Each Spot	0
Use Crash Counts/Rates:	Counts

Alaska DOT&PF
Highway Safety Improvement Program

High Crash Location Screening Process

Screening Date
4/18/2022

NOTES:
1. Explanations are required in the "Comments" column for all segments including at least one fatal crash or two major injury crashes occurred, where improvements are not recommended.
2. The location screening process flags locations with one or more fatals and/or two or more serious injury crashes for further study.
3. Only locations meeting criteria are shown on this template.
4. The Crash Costs per Mile column is used to sort locations in descending order.

Route Name	Route	FromMp	ToMp	Crash Costs (1000s)	Crash Costs / Mile (1000s)	Crashes / Mile	PDO Crash Count	Minor Injury Crash Count	Possible Injury Crash Count	Serious Injury Crash Count	Fatal Crash Count	Comments
Geist Road (Fairbanks)	2581068X000	0.00	1.73	18313	10558	90	113	18	23	2	0	The majority of crashes in this segment are located at the signalized intersections of Loftus/Thompson, Fairbanks St, and the Geist/University/Johansen. Loftus/Thompson and Fairbanks St had signal upgrades constructed in 2019. The Geist/Johansen/University intersection was reconstructed in 2018 to add capacity. A proposal is before FAST Planning to consider a corridor study to address Geist and Chena Pump and future projects may be identified upon completion of the study
College Road (Fairbanks)	2581128X000	0.00	2.00	19503	9751	77	113	19	19	3	0	Crashes in this segment include several HSIP projects recently constructed: College/Margaret/Antoinette, College Road Right Turn Lanes (@Steese Expwy), Fairbanks Area Signal Upgrades, College/Illinois (Fairbanks Ramp Realignments) and College Rd Median Extension. A proposal is before FAST Planning to consider a corridor study to take a fresh look at reconfiguration of College Rd and future projects may be identified upon completion of the study
University Avenue (Fairbanks)	2581185X000	2.00	5.00	27800	9267	79	172	28	33	3	0	A project to reconstruct University Avenue is underway. The initial construction package, which included reconstruction of the University/Geist/Johansen intersection was constructed in 2018. Rewak to Airport Way was reconstructed in 2020 and the Chena River bridge to Airport Way was completed in 2021. The Mitchell Expressway to Holden is currently under construction and the final piece from Holden to Rewak is anticipated to be completed in 2023.
Cushman Street (Fairbanks)	2581181X000	1.00	3.40	16912	7047	60	114	16	12	3	0	Cushman Street north of Airport Way was reconfigured in a complete streets project in 2017. South of Airport Way to the Mitchell Expressway was upgraded in 2015. Remaining signal upgrades are currently in design.

Route Name	Route	FromMp	ToMp	Crash Costs (1000s)	Crash Costs / Mile (1000s)	Crashes / Mile	PDO Crash Count	Minor Injury Crash Count	Possible Injury Crash Count	Serious Injury Crash Count	Fatal Crash Count	Comments
Airport Way (Fairbanks)	2581179I000	3.00	5.00	11733	5867	32	42	14	6	2	0	Crashes along Airport Way are concentrated at the signalized intersections. The signals were upgraded in the recent HSIP Fairbanks area signal upgrades project. The University/Airport intersection was reconfigured in 2021 with the University Ave project, the Airport/Cushman intersection is in design for construction in CY23 and GARS intersection is currently in construction
Steese Expressway/Highway (Steese Highway)	1240000I000	0.00	2.00	11469	5734	51	78	10	11	2	0	The Steese Expwy from Airport to 3rd Street is currently in construction, including capacity and safety improvments at Airport Way and 3rd Street. Signals have recently been upgraded to include retroreflective backplates and flashing yellow left turn arrow heads at College, Trainor Gate and the Johansen Expwy. The Steese/Johansen intersection will be converted to a diverging diamond interchange in (anticipated) 2025.
Steese Expressway/Highway WB (Steese Highway)	1240000D000	5.00	8.05	16018	5252	27	56	10	10	4	1	The Steese Expwy from Airport to 3rd Street is currently in construction, including capacity and safety improvments at Airport Way and 3rd Street. Signals have recently been upgraded to include retroreflective backplates and flashing yellow left turn arrow heads at College, Trainor Gate and the Johansen Expwy. The Steese/Johansen intersection will be converted to a diverging diamond interchange in (anticipated) 2025.
Airport EB Way (Fairbanks)	2581179D000	1.00	4.00	15566	5189	36	76	15	13	3	0	Crashes along Airport Way are concentrated at the signalized intersections. The signals were upgraded in the recent HSIP Fairbanks area signal upgrades project. The University/Airport intersection was completed in 2021 with the University Ave project, the Airport/Cushman intersection is in design for construction in CY23 and GARS intersection is currently in construction
Davis Road (Fairbanks)	2581021X000	0.00	2.01	7721	3841	10	11	3	4	0	2	Davis Road is straight, with good sight distance and a TWLTL. The two fatal crashes on the route are not representative of a crash pattern on the route. Davis Road was repaved and signs and striping were refreshed in 2020.
Chena Pump Road (Fairbanks)	2581017X000	3.00	4.60	6078	3800	23	29	5	1	2	0	The serious injury crashes on this segment include a pedestrianwho ran into the road after dog and a reckless driver exceeding speed limit(70 in 45). Other crashes reveal issues at intersections that vary in type. A right turn lane was constructed at Chena Point Ave in 2021. A roundabout at Chena Small Tracts/Old Chena Ridge is currently in design. FAST Planning is currently considering initiating a study of the Geist/Chena Pump corridor

Route Name	Route	FromMp	ToMp	Crash Costs (1000s)	Crash Costs / Mile (1000s)	Crashes / Mile	PDO Crash Count	Minor Injury Crash Count	Possible Injury Crash Count	Serious Injury Crash Count	Fatal Crash Count	Comments
Sheep Creek Road (Upper Fairbanks)	2601022X000	4.00	5.27	4681	3690	5	2	1	1	1	1	Approximately 1/3 of crashes on Sheep Creek Rd (including the fatality) involve a moose collision, and this segment ranks in the top 25% for moose collisions statewide. Moose warning signs are posted; however curves/superelevation in the roadway to square up the road at the "Ann's Greenhouse" (Happy) railroad crossing limit sight distance for seeing moose in and entering the roadway. These curves experience run-off road crashes but are signed/striped in accordance with the MUTCD/ATM. Curve flattening/realignment of the roadway is cost-prohibitive due to the parallel railroad tracks and swampy ground conditions. Pavement and subsurface conditions are not conducive to HFST.
Farmers Loop (Fairbanks)	2581106X000	0.00	8.42	29632	3519	18	98	19	27	6	2	Farmers Loop was reconstructed in 2018
Badger Road (North Pole)	2561040X000	3.00	10.00	23577	3368	17	79	17	15	6	1	A TWLTL was constructed on Badger Road in 2019.
Richardson Highway SB (Richardson Highway)	1100000D000	5.00	13.00	26038	3255	10	50	19	4	5	3	This segment includes the 2019 constructed Richardson Highway 353-357 acess management project, the Rich 351 interchange currently in design and the Peridot median modification project.
Third Avenue (Kotzebue)	9341020X000	0.00	1.07	3278	3062	7	5	1	0	2	0	Third Ave was reconstructed in 2021
Hurst Road (North Pole)	2561005X000	1.00	3.00	6052	3026	16	22	5	2	2	0	Serious injury crashes on this route are at two different intersections. No project proposed at this time, but we will monitor for future years.
Chena Hot Springs Road (Chena Hot Springs Road)	1200000X000	0.00	2.00	5842	2921	20	33	4	2	0	1	CHSR was reconstructed in 2020 and roundabouts were added at the Steese ramp terminals.
Ahkovak Street (Barrow)	9661015X000	0.00	1.72	4837	2809	17	21	2	4	2	0	Ahkovak Street was reconstructed in 2021.
Johansen Expressway (Fairbanks)	2581113I000	1.00	4.00	8115	2705	19	40	5	12	0	1	Signals were recently upgraded along the Johansen. Concrete barrier replacement will complete this season that includes barrier delineation to enhance conspicuity of the alignment along the route
Van Horn Road (Fairbanks)	2581086X000	0.00	3.00	8064	2688	8	17	2	0	3	1	Crashes on this segment are clustered at the Peger Rd and Lathrop St intersections. The Lathrop intersection is included in the FY20 nominated Signal Upgrades project currently in design. Peger Road is currently stop controlled for 3 of 4 approaches; however review of individual crash reports does not suggest any changes are needed.
Old Steese @ Fox (Fairbanks)	2581130X000	5.00	8.53	9441	2674	3	7	0	0	3	2	Old Steese shoulder widening was nominated in FY21 and is currently in design
Roland Road (Fairbanks)	2581022X000	0.00	1.28	3385	2650	5	3	1	1	0	1	Crash pattern is live animal (moose and dog avoidance) on a narrow roadway. The fatality was of an impaired driver who had been reported via the REDDI system as driving erratically on a nearby road before striking mailboxes and trees on Roland Rd.
Chena Hot Springs Road (Chena Hot Springs Road)	1200000X000	3.00	13.00	26066	2607	9	59	15	7	6	3	CHSR was reconstructed in 2020 from the Old Steese to Nordale Rd (roughly MP 6). A rehabilitation project is proposed for the STIP for MP 6-13
Nordale Road (North Pole)	2561002X000	1.00	3.00	4996	2498	7	7	4	1	2	0	No strong crash pattern. Serious injury crashes on this route are at two different intersections. No project proposed at this time, but we will monitor for future years.
Dennis Road (North Pole)	2561003X000	0.00	1.83	4441	2430	6	5	3	1	2	0	No strong crash pattern. Serious injury crashes on this route are at two different intersections. No project proposed at this time, but we will monitor for future years.

Route Name	Route	FromMp	ToMp	Crash Costs (1000s)	Crash Costs / Mile (1000s)	Crashes / Mile	PDO Crash Count	Minor Injury Crash Count	Possible Injury Crash Count	Serious Injury Crash Count	Fatal Crash Count	Comments
Richardson Highway (Richardson Highway)	1100000I000	343.00	346.00	7244	2415	6	11	3	1	2	1	This portion of the Richardson Highway is being studied by the independent analysis associated with the proposed ore haul route.
Old Steese @ Fox (Fairbanks)	2581130X000	1.00	3.00	4652	2326	7	7	3	2	2	0	Serious injury crashes in this segment are located at/near the CHSR intersection, which was reconstructed in 2020.
Ballaine Road (Fairbanks)	2581125X000	1.00	4.00	6926	2309	6	11	5	1	1	1	Unusual circumstances suggest the highway fatality on this route should not be contributed to the vehicle leaving the road (homicide with the deceased being transported in the passenger side of the vehicle).
Steese Expressway/Highway (Steese Highway)	1240000I000	11.00	15.00	8832	2208	5	9	3	3	1	2	This portion of the Steese Highway is being studied by the independent analysis associated with the proposed ore haul route.
Peede Road (North Pole)	2561024X000	0.00	2.00	4125	2064	4	6	0	0	1	1	Fatal crash on this segment resulted from driver failing to stop at a stop sign leaving a small residential street.
Landfill Road (Tanana)	8421002X000	1.00	2.28	2645	2059	1	0	0	0	0	1	Single crash. No pattern present.
Parks Highway (Parks Highway)	1140000I000	312.00	315.00	6081	2027	8	17	3	1	1	1	NR will be doing outreach in the Ester Community regarding the Parks Highway. Project(s) may be nominated for HSIP in FY24, but no specific mitigations have been identified at this time.
Richardson Highway (Richardson Highway)	1100000I000	356.00	360.00	7562	1891	8	19	1	8	2	1	Frontage roads and other improvements were completed from Mileposts 353-357 in 2019 (corresponds to these milepoints). Further, this portion of the Richardson Highway is being studied by the independent analysis associated with the proposed ore haul route.
Parks Highway (Parks Highway)	1140000I000	269.00	271.00	3754	1877	4	4	2	0	2	0	This segment of the Parks Highway is in the Parks 305-325 project, currently in design.

Route Name	Route	FromMp	ToMp	Crash Costs (1000s)	Crash Costs / Mile (1000s)	Crashes / Mile	PDO Crash Count	Minor Injury Crash Count	Possible Injury Crash Count	Serious Injury Crash Count	Fatal Crash Count	Comments
Plack Road (North Pole)	2561000X000	1.00	3.00	3754	1877	4	4	2	0	2	0	No strong crash pattern. Serious injury crashes on this route are at two different intersections. No project proposed at this time, but we will monitor for future years.
Parks Highway (Parks Highway)	1140000I000	277.00	280.00	5579	1860	3	4	3	0	1	1	Crashes in this segment are mostly located within the limits of the Parks Hwy MP 315-325 Reconstruction project, which is currently in design.
Copper River Highway (Cordova)	5241018X000	0.00	3.00	5500	1833	5	8	2	2	1	1	No crash pattern identified.
Holmes Road (North Pole)	2561011X000	0.00	3.00	5498	1833	7	14	2	1	3	0	No strong crash pattern. Serious injury crashes on this route are at two different intersections. No project proposed at this time, but we will monitor for future years.
Elliott Highway (Elliott Highway)	1220000X000	1.00	4.00	5474	1825	3	7	0	0	2	1	This portion of the Elliott Highway was reconstructed in 2019.
Tok Cutoff Highway (Tok Cutoff Highway)	1080000X000	101.00	104.00	5472	1824	2	0	3	0	3	0	Crash pattern is live animal (moose). No project proposed.
Richardson Highway SB (Richardson Highway)	1100000D000	15.00	18.00	5420	1807	5	11	2	1	1	1	This portion of the Richardson Highway is being studied by the independent analysis associated with the proposed ore haul route.
Richardson Highway (Richardson Highway)	1100000I000	270.00	272.00	3569	1784	7	10	1	1	2	0	This portion of the Richardson Highway is being studied by the independent analysis associated with the proposed ore haul route.
Parks Highway (Parks Highway)	1140000I000	157.00	159.00	3385	1692	6	9	1	0	0	1	These crashes are located in the Broad Pass area which was realigned in association with the railroad grade separation in 2017.
Steese Expressway/Highway (Steese Highway)	1240000I000	6.00	9.00	4997	1666	8	15	2	6	0	1	This portion of the Steese Highway is being studied by the independent analysis associated with the proposed ore haul route.
Parks Highway (Parks Highway)	1140000I000	139.00	141.00	3199	1599	3	2	1	0	2	0	Crashes in this segment are mostly located within the limits of the Parks Hwy MP 163-183 Rehabilitation project, which is currently in design.
Parks Highway (Parks Highway)	1140000I000	214.00	223.00	13774	1530	4	20	5	1	6	1	Reconstruction of the Parks Highway between mileposts 250-260 (this segment is approx mileposts 250-258) was recommended in the recently completed Parks Cantwell-Healy PEL.
Glenn Highway (Glenn Highway)	1060000I000	136.00	138.00	2908	1454	4	4	0	1	2	0	Live animal is the predominant crash pattern in this segment. No project proposed.
Elliott Highway (Elliott Highway)	1220000X000	9.00	12.00	4311	1437	3	7	0	1	1	1	This portion of the Elliott Highway was reconstructed in 2019.
Glenn Highway (Glenn Highway)	1060000I000	116.00	118.00	2670	1335	2	1	0	0	2	0	No crash pattern identified.
Parks Highway (Parks Highway)	1140000I000	236.00	238.00	2670	1335	2	1	0	0	2	0	No crash pattern identified.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
Northern Region Traffic & Safety Section

FFY23 Highway Safety Improvement Program Candidate Projects
Project Description and Cost Estimate

Candidate Project Name:

23NR01 Parks Highway/Sheep Creek Road Extension Traffic Signal

Candidate Project Location:

This project is located at the intersection of the Parks Highway and Sheep Creek Road Extension on the west side of Fairbanks.

Background

This intersection is the primary access from the Parks Highway to residential areas off Sheep Creek Road, including the Ester Dome and Murphy Dome areas. Sheep Creek Road to Goldstream Road is a designated truck route used to bypass Fairbanks to access points to the north. It is also a main access point to the University of Alaska Fairbanks from points south along the Parks Highway. Left and right turn lanes are present on the Parks Highway for turning traffic. Further, the northbound Parks Highway transitions from 1 to 2 lanes at the intersection. A multiuse pathway parallels the Parks Highway along the north side (highway southbound side) in this area and crosses the Sheep Creek Rd Extension at the intersection.

Safety Problem Description:

The Parks Highway is in a large horizontal curve at this location, with the Sheep Creek Rd Extension located on the outside of the curve. When a vehicle is in the Ester-bound (highway south) right turn deceleration lane, it commonly blocks the view of vehicles in the adjacent thru lane for vehicles waiting to turn off of Sheep Creek Rd Extension. This is exacerbated when a larger vehicle is in the right turn deceleration lane.

While underrepresented in crash data, the superelevation of the curve compounded with the quick acceleration because of short gaps in Ester-bound traffic results in vehicles sliding off into ditch at the head of the T intersection when winter precipitation/temperatures result in slippery conditions.

Striping modifications with supplemental signing for the northbound Parks Hwy were implemented in 2012 to extend the separation of turning and through traffic by keeping through traffic in the right lane and turning traffic in the left lane for

approximately 700’ past the intersection to address sideswipe crashes in the Fairbanks-bound lanes (highway north).

Lastly, the users of the multi-use pathway have difficulty crossing at this location during peak hours when there is a lot of turning traffic.

Between 2015 and 2019, there were 9 angle crashes at this intersection comprised of 1 serious injury, 2 minor injury, and 6 property damage crashes.

Proposed Mitigation:

To mitigate angle crashes at this intersection, installation of a traffic signal is proposed. A roundabout was not considered due to potential impacts to freight and likelihood of needing a special design to accommodate oversize loads. Further, other intersections on the Parks Highway/Mitchell Expressway that warrant a higher level of traffic control and are not grade separated are signalized (University Ave, Peger Rd, and Lathrop St), so signalization provides consistency within the local area.

To minimize stopping, a continuous green T style configuration is proposed. Under this option, northbound through traffic would not stop under normal operating conditions. There are no pedestrian crossings of the Parks Highway as there are no pedestrian facilities on the northbound side of the road. Signal outages and emergency operations are the only reasons northbound through traffic would ever be stopped.

Per the HSIP Handbook, a new traffic signal is anticipated to provide a 60% crash reduction for angle crashes. A 25% increase in rear end crashes is also suggested by the Handbook, however there are no rear end crashes in the current crash dataset. Active Advance Warning Flashers are proposed to be installed with the project to mitigate the potential for rear end collisions and for consistency along the route.

Publication No. FHWA-HRT-16-036, *Safety Evaluation of Continuous Green T Intersections (2016),* found that continuous green T intersections improve safety performance over conventional signalized T intersections by 4.2% for all crash types. However, no modification to the 60% crash reduction for angle crashes published in the HSIP Handbook was made.

Turning movement counts from April 2021 were used to verify traffic signal warrants are met. The peak hour warrant was met during both the 4-5 pm and 5-6 pm hours. It is notable that volumes were close to meeting the 8 hour warrant (6 hours easily met, we did not have full day counts, and the remaining 2 that were counted would not take much more volume to meet the warrant). As reference, 2021 AADT does not vary much on the Parks Highway from previous years, but 2021 AADT on Sheep Creek extension is approximately 33% lower than May 2020 and 45% lower than April 2019. It is within reason that the 8 hour volume warrant could be met if other turning movement counts were available.

Conformance with the Strategic Traffic Safety Plan:

Reducing intersection crashes is Strategy 2 of the Roadway Emphasis Area of the Strategic Highway Safety Plan.

Benefit/Cost Ratio:

This project has a benefit/cost ratio of **0.66:1**.

Cost Estimate:

Preliminary Engineering (Phase 2):	$420,000	FFY 24
	$280,000	FFY 25
Right of Way (Phase 3):		
Utilities (Phase 7):	$50,000	FFY 25
Construction (Phase 4):	$3,012,000	FFY 26
TOTAL:	**$3,762,000**	

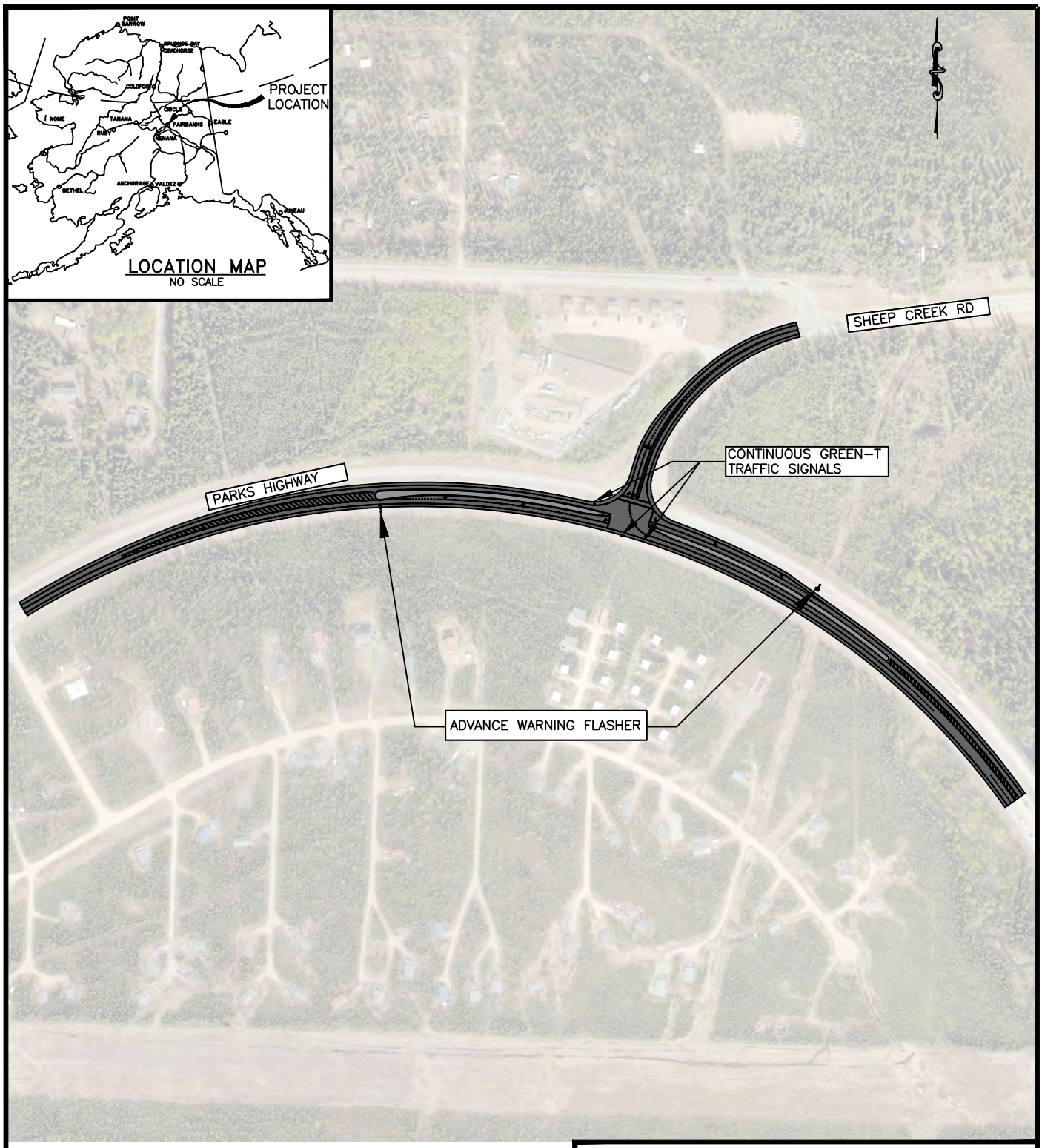
HQ Reporting Information

	Parks Highway SB	*Parks Highway*	*Sheep Creek Road (Extension)*
Route ID	1140000D000(170000)	1140000I000(170000)	2601022X000 (175400)
Milepoint Range	5.83415- 6.8053 (end of route)	316.8440-317.7000	0.0000-0.1427
Ownership	State	State	State
Speed Limit	55 mph	55 mph	40 mph
Functional Class	Principal Arterial (Interstate)	Principal Arterial (Interstate)	Major Collector
2021 ADT	7,170 south of intersection 10,200 north of intersection[1]	7,170 south of intersection 10,200 north of intersection[1]	2,340

[1] Parks Highway AADTs are combined directions

Attachments

Project Concept/Vicinity Map
Project Ranking Worksheet
Construction Cost Estimate
Crash Data
Signal Warrant Checks



State of Alaska

Department of Transportation and Public Facilities

Northern Region Traffic & Safety Section

FFY23 Highway Safety Improvement Program

23NR01 Parks Highway/Sheep Creek Road
Continuous Green–T
VICINITY MAP

Drawn By: NJS	Date: 06/21/2022
Scale: NTS	

Alaska DOT&PF

Highway Safety Improvement Program

Project Ranking Worksheet

Red fields are input fields. Black fields are fixed, computed, or derived.

HSIP Project Name:	**23NR01 Parks Highway/Sheep Creek Rd Extension Signal**				
Analysis Period:	1/1/15 **to** 12/31/19	Form Completed by:	Pam Golden	Date:	6/21/22

Miscellaneous Data

Rate of Return:	3%
No of years of crash analysis	5

Crash Cost Data

Crash Severity	Crash Cost
Property Damage Only:	$26,400
Possible Injury:	$158,700
Minor Injury:	$502,000
Serious Injury:	$1,322,000
Fatality:	$2,645,000

Predicted Change in Crashes due to Improvement(s)

Imprv Type Num	Improvement	Type of Crash Susceptible to Reduction or Increase due to Improvement	Reduction Factor (+ or -)	# of Crashes Susceptible to Reduction or Increase				
				PDO	Poss	Min	Ser	Fat
109	New Traffic Signal	Angle crashes	-60%	6		2	1	
		Rear-end crashes (expected to increase)	25%					
		Total Crashes Susceptible to Reduction or Increase:		6		2	1	
		Predicted Change in Crashes:		-4		-1.2	-0.6	
		Predicted Change in Crash Cost ($1,000):		-95		-602	-793	

Benefit/Cost of Improvements (Safety and M&O Benefits Only)

Improvement	Total Proj Cost (K)	Ann M/O Cost (K)	Life of Impvt (yrs)	Predicted Change in Crashes					Predicted Change in Crash Cost	Annualized Safety and M&O Benefits	Annualized Constr. and M&O Costs	Benefit Cost (Safety and M&O Benefits only)
				PDO	Poss	Min	Ser	Fat				
New Traffic Signal	3762	10.0	10	-3.6		-1.2	-0.6		-$1,490,640	**$298,128**	**$451,021**	**0.7 : 1**
Subtotals:				-3.6		-1.2	-0.6					
Totals/Averages:	**3762**	**10.0**	**10.0**	**-5.4**					**-$1,490,640**	**$298,128**	**$451,021**	**0.66 : 1**

Benefit Cost Formula (Safety and M&O Benefits Only)

B/C Ratio = (Estimated Annual Reduction in Crash Cost)+(Decrease in Ann Maintenance Cost, 0 if increase) / (Annualized Construction Project cost)+(Increase in Ann Maintenance cost, 0 if decrease)

Combined Effects of Multiple Countermeasures

$$CRF_{combined} = \left[1 - \left(1 - \frac{CRF_1}{100}\right)\left(1 - \frac{CRF_2}{100}\right) \ldots \left(1 - \frac{CRF_n}{100}\right)\right] * 100$$

Compute a combined Crash Reduction Factor (CRF) only for crash types jointly influenced by dissimilar improvements at the location of interest. Consider limitations of this formula as discussed in TRB Special Report 214 Designing Safer Roads, 1987, pg. 253-255.

Date Range Chosen:
01/01/2015 - 12/31/2019

Filters Used:
Map\sheepcreekparks

Time of report run: 4/21/2022 9:44:52 AM

Crash Number	Form Type	Case Number	Milepoint	DateTime	Day of the Week	Street	Intersecting Street	At Intersection	Number of Motorized Units	Crash Severity	First Harmful Event	Manner of Collision	Crash Type	Relation to Trafficway	Weather	Road Surface	Lighting	CU 1st Event	CU 2nd Event	CU Most Harmful Event
201585718	12200	AK15061892	317.1732	8/2/2015 11:32:00 PM	Sunday	PARKS HIGHWAY	SHEEP CREEK ROAD	No	1	No Apparent Injury	Utility Pole/Light Support	Not a Collision with a Motor Vehicle In-Transport	Single Vehicle Run-Off-Road	Outside Trafficway	Unknown	Dry	Dark - Lighted	Utility Pole/Light Support	Cross Median	Utility Pole/Light Support
201587614	12200	AK15018092	6.6217	3/13/2015 12:00:00 AM	Friday	PARKS HIGHWAY SB FAIRBANKS	SHEEP CREEK ROAD	No	1	No Apparent Injury	Utility Pole/Light Support	Not a Collision with a Motor Vehicle In-Transport	Single Vehicle Run-Off-Road	Outside Trafficway	Clear	Ice/Frost	Daylight	Ran Off Roadway-Right	Utility Pole/Light Support	Utility Pole/Light Support
201637579	12209	DRIVER REPORT	317.0923	2/24/2016 7:25:00 AM	Wednesday	PARKS HIGHWAY	SHEEP CREEK RD	Yes	2	No Apparent Injury	Motor Vehicle In-Transport	Angle	Angle - T-Bone	On Roadway	Clear	Ice/Frost	Daylight	Motor Vehicle In-Transport	Snow Bank	Motor Vehicle In-Transport
201657650	12200	AK16041670	6.561	6/10/2016 9:17:00 AM	Friday	PARKS HIGHWAY SB FAIRBANKS	SHEEP CREEK RD.	Yes	2	No Apparent Injury	Motor Vehicle In-Transport	Angle	Angle - Left Turning	On Roadway	Clear	Dry	Daylight	Motor Vehicle In-Transport	Null value	Motor Vehicle In-Transport
201659568	12200	AK16093189	0.0016	12/29/2016 2:47:00 PM	Thursday	PARKS HIGHWAY	SHEEP CREEK ROAD	Yes	2	No Apparent Injury	Motor Vehicle In-Transport	Other	Undetermined	On Roadway	Blowing Snow	Snow	Daylight	Motor Vehicle In-Transport	Null value	Motor Vehicle In-Transport
201714395	12209	DRIVER REPORT	0.001	1/21/2017 7:45:00 PM	Saturday	SHEEP CREEK ROAD	SHEEP CREEK	Yes	2	Possible Injury	Motor Vehicle In-Transport	Angle	Angle - Left Turning	Outside Trafficway	Null value	Ice/Frost	Dark - Lighted	Motor Vehicle In-Transport	Null value	Motor Vehicle In-Transport
201734253	12209	DRIVER REPORT	6.537	3/31/2017 8:00:00 AM	Friday	PARKS HIGHWAY SB FAIRBANKS	SHEEP CREEK RD	Yes	1	No Apparent Injury	Traffic Sign Support	Not a Collision with a Motor Vehicle In-Transport	Undetermined	On Shoulder	Clear	Ice/Frost	Daylight	Traffic Sign Support	Null value	Traffic Sign Support
201743109	12209	DRIVER REPORT	6.5107	12/26/2017 4:00:00 PM	Tuesday	PARKS HIGHWAY SB FAIRBANKS	SHEEP CREEK RD	Yes	1	No Apparent Injury	Ditch	Not a Collision with a Motor Vehicle In-Transport	Single Vehicle Run-Off-Road	On Roadside	Clear	Ice/Frost	Dusk	Ditch	Null value	Ditch
201756236	12200	AK17085499	317.1033	12/3/2017 5:24:00 PM	Sunday	PARKS HIGHWAY	SHEEP CREEK ROAD EXTENSION	Yes	2	No Apparent Injury	Motor Vehicle In-Transport	Front-To-Rear	Angle - Left Turning	On Roadway	Clear	Ice/Frost	Dark - Lighted	Motor Vehicle In-Transport	Null value	Motor Vehicle In-Transport
201850582	12200	AK18058468	-7922816251426433759354395033S	8/15/2018 5:00:00 PM	Wednesday	no data	SHEEP CREEK ROAD	Yes	2	Suspected Serious Injury	Motor Vehicle In-Transport	Angle	Angle - Left Turning	On Roadway	Clear	Dry	Daylight	Motor Vehicle In-Transport	Null value	Motor Vehicle In-Transport
201850596	12200	AK18010396	-7922816251426433759354395033S	2/13/2018 8:56:00 PM	Tuesday	no data	SHEEP CREEK RD.	Yes	1	No Apparent Injury	Traffic Sign Support	Not a Collision with a Motor Vehicle In-Transport	Undetermined	On Median	Cloudy	Ice/Frost	Dark - Lighted	Other Non-Collision	Traffic Sign Support	Traffic Sign Support
201850696	12200	AK18012755	317.1707	2/23/2018 3:29:00 PM	Friday	PARKS HIGHWAY	SHEEP CREEK	Yes	2	Suspected Minor Injury	Motor Vehicle In-Transport	Angle	Angle - T-Bone	On Roadway	Clear	Ice/Frost	Daylight	Motor Vehicle In-Transport	Null value	Motor Vehicle In-Transport
201851160	12200	AK18041962	317.2633	6/19/2018 10:46:00 PM	Tuesday	PARKS HIGHWAY	SHEEP CREEK	No	1	No Apparent Injury	Utility Pole/Light Support	Not a Collision with a Motor Vehicle In-Transport	Single Vehicle Run-Off-Road	On Roadside	Clear	Dry	Daylight	Ran Off Roadway-Right	Re-Entering Roadway	Utility Pole/Light Support
201851596	12200	AK18071884	317.1701	10/3/2018 7:21:00 PM	Wednesday	PARKS HIGHWAY	SHEEP CREEK EXTENSION	Yes	2	Suspected Minor Injury	Motor Vehicle In-Transport	Angle	Head-On	On Roadway	Clear	Dry	Dusk	Motor Vehicle In-Transport	Null value	Motor Vehicle In-Transport
201852006	12200	AK18083341	317.2059	11/30/2018 7:49:00 AM	Friday	PARKS HIGHWAY	SHEEP CREEK RD.	Yes	2	No Apparent Injury	Motor Vehicle In-Transport	Sideswipe - Same Direction	Sideswipe	On Roadway	Cloudy	Ice/Frost	Dark - Lighted	Motor Vehicle In-Transport	Null value	Motor Vehicle In-Transport

not subject to correction by signal
subject to correction - red text is serious injury, blue is minor injury, black is PDO (none are possible)
1 SI, 2 MI, 6 PDO

PHASE 4 PLANNING LEVEL ESTIMATE

INSTRUCTION: Enter information into YELLOW fields. Insert new rows for additional/special items. Do not change print area.

Project Name: HSIP: Parks / Sheep Creek CRT
IRIS #:

Estimated By: Nathan S.
Date: 6/21/2022

General Reference	
Project Length (ft):	0
Project Length (mi):	0.00

Data for Asphalt Cement Estimation	
% Oil for HMA:	5.6%
% Oil for ATB:	4.5%

Data for Automatic CSP Estimation		
Crossings: 36" - 48" CSP		
Approx No.	Avg Length	Total (LF)
		0
Driveways: 18" - 24" CSP		
Approx No.	Avg Length	Total (LF)
		0

Standard Estimating Factors		
Borrow	2.0	tons/cy
Subbase	2.0	tons/cy
D-1	2.0	tons/cy
ATB	2.0	tons/cy
Asphalt Concrete	110	lb/sy-in
Double AST Agg	60	lb/sy
High Float Agg	75	lb/sy
Prime/Tack	0.2	gallon/sy
Asphalt Oil	8.2	lb/gallon
CRS2 Oil	0.80	gallon/sy
HFMS Oil	0.75	gallon/sy

Item	*Avg Width*		*Avg Depth*		*Avg Length*		*Quantity*	*Unit*	*Unit Price**	*Cost*	*Design Comments*
Remove Structures & Obstructions								LS	$0	$0	
Clearing & Grubbing		ft				ft	0.0	ACRE	$10,500	$0	
Excavation		ft		ft		ft	0	CY	$11.00	$0	
Borrow	12	ft	1.0	ft	600	ft	533	TON	$13.00	$6,933	
Geotextile		ft				ft	0	SY	$3	$0	
Reconditioning						ft	0	STA	$1,500	$0	
Aggregate Base Course, Grading D-1		ft		in		ft	0	TON	$30	$0	
ATB		ft		in		ft	0	TON	$65	$0	
Asphalt Cem PG 52-28							0	TON	$600	$0	
Temporary Pavement								LS	$0	$0	
Prime/Tack Coat		ft				ft	0	TON	$700	$0	
Asphalt Concrete	12	ft	3.0	in	16,144	ft	3,552	TON	$70	$248,618	
Asphalt Cem PG 52-28 or 52-40							199	TON	$600	$119,336	
Asphalt Price Adjustment								CS	$0	$0	
18" - 24" CSP							0	LF	$120	$0	
36" - 48" CSP							0	LF	$250	$0	
Fish CSP, Complete							0	EA	$200,000	$0	
Stormdrain System, Complete								LS	$0	$0	
Oil/Sediment Separator							0	EA	$70,000	$0	
Bridge, Complete		ft				ft	0	SF	$260	$0	
Bridge Detour								LS	$0	$0	
Guardrail							0	LF	$35	$0	
End Treatments							0	EA	$4,000	$0	
Concrete Sidewalk	4	ft			6,075	ft	2,700	SY	$50	$135,000	
Curb Ramps							0	EA	$2,000	$0	
Curb & Gutter							3,320	LF	$30	$99,600	
Concrete Barrier							0	LF	$100	$0	
New Traffic Signal							3	EA	$150,000	$450,000	
Crash Cushion							2	EA	$50,000	$100,000	
Advanced Warning Flasher							2	EA	$200,000	$400,000	
Striping, Paint						ft	0	LF	$1.00	$0	
Striping, Methyl					18,100	ft	66,970	LF	$4.00	$267,880	
Special Urban Traffic Markings								LS	$25,000	$25,000	

PHASE 4 PLANNING LEVEL ESTIMATE

Item	Avg Width		Avg Depth	Avg Length		Quantity	Unit	Unit Price *	Cost	Design Comments
Driveway Approach						0	EA	$1,500	$0	
Permanent Seeding		ft			ft	0.0	ACRE	$6,000	$0	
Landscaping							LS	$0	$0	
Erosion & Pollution Control Admin							LS	$5,000	$5,000	
Temporary Erosion & Pollution Control							LS	$15,000	$15,000	
SWPPP Manager							LS	$10,000	$10,000	
Utility Relocates (GVEA, ACS, GCI, etc.)							LS	$0	$0	
Construction Surveying						10	Crewday	$2,500	$25,000	
Camp							LS	$0	$0	
Lodging / Perdiem							LS	$0	$0	
								Subtotal	*$1,907,367*	
Traffic Maintenance & Traffic Control (use 8% rural to 18% urban)						12%	of Subtotal		$228,884	
Miscellaneous Items (consider removal items, inlets, fence, signing, detours, etc.)						10%	of Subtotal		$190,737	
								Subtotal	*$2,326,988*	
Mob/Demob						5%	of Subtotal		$116,349	
								Subtotal	*$2,443,338*	
Construction Engineering (CENG)						15%	of Subtotal		$366,501	
								Subtotal	*$2,809,838*	
ICAP						7.18%	of Subtotal		$201,746	
								Total Phase 4 Cost	***$3,012,000***	

count date	Parks Hwy	Sheep Creek Ext	8 hour	8 hour	4 hour	Peak Hour
4/29/2021	2 lane approaches	2 lane approach	MUTCD Table 4C-1	MUTCD Table 4C-1	MUTCD Figure 4C-2	MUTCD Figure 4C-4
hour	approach volume	approach volume	Condition A met?	Condition B met?	met?	met?
7-8 am	417	241	yes	no	no	no
8-9 am	403	163	yes	no	no	no
9-10 am	346	110	no	no	no	no
11-12 am	372	90	no	no	no	no
12-1 pm	425	122	yes	no	no	no
3-4 pm	586	148	yes	yes	no	no
4-5 pm	684	148	yes	yes	yes	yes
5-6 pm	740	164	yes	yes	yes	yes
		warrant satisfied?	NO	NO	NO	YES

Movements

AKDOT_TM - 000039219030 - Parks Hwy and Sheep Creek Ext., 29/04/2021 - Thursday, April 29, 2021

From: Sheep Creek Ext.											
To: Sheep Creek Ext.				**To: Parks Hwy (East)**				**To: Parks Hwy (West)**			
Period	Pcl	Ped	Total	Period	Pcl	Ped	Total	Period	Pcl	Ped	Total
07:00	0	0	0	07:00	29	0	29	07:00	2	0	2
07:15	0	0	0	07:15	**49**	0	**49**	07:15	6	0	6
07:30	0	0	0	07:30	**63**	0	**63**	07:30	4	0	4
07:45	0	0	0	07:45	**80**	0	**80**	07:45	8	0	8
08:00	0	0	0	08:00	**41**	0	**41**	08:00	3	0	3
08:15	0	0	0	08:15	42	0	42	08:15	2	0	2
08:30	0	0	0	08:30	30	0	30	08:30	4	0	4
08:45	0	0	0	08:45	39	0	39	08:45	2	0	2
09:00	0	0	0	09:00	22	0	22	09:00	2	0	2
09:15	0	0	0	09:15	28	0	28	09:15	5	0	5
09:30	0	0	0	09:30	23	0	23	09:30	5	0	5
09:45	0	0	0	09:45	20	0	20	09:45	5	0	5
10:00				10:00				10:00			
10:15				10:15				10:15			
10:30				10:30				10:30			
10:45				10:45				10:45			
11:00	0	0	0	11:00	16	0	16	11:00	4	0	4
11:15	0	0	0	11:15	23	0	23	11:15	1	0	1
11:30	0	0	0	11:30	17	0	17	11:30	1	0	1
11:45	0	0	0	11:45	24	0	24	11:45	4	0	4
12:00	0	0	0	12:00	23	0	23	12:00	6	0	6
12:15	0	0	0	12:15	13	0	13	12:15	6	0	6
12:30	0	0	0	12:30	22	0	22	12:30	7	0	7
12:45	0	0	0	12:45	39	0	39	12:45	6	0	6
13:00				13:00				13:00			
13:15				13:15				13:15			
13:30				13:30				13:30			
13:45				13:45				13:45			
14:00				14:00				14:00			
14:15				14:15				14:15			
14:30				14:30				14:30			
14:45				14:45				14:45			
15:00	0	0	0	15:00	35	0	35	15:00	9	0	9
15:15	0	0	0	15:15	22	0	22	15:15	7	0	7
15:30	0	0	0	15:30	31	0	31	15:30	10	0	10
15:45	0	0	0	15:45	29	0	29	15:45	5	0	5
16:00	0	0	0	16:00	29	0	29	16:00	5	0	5
16:15	0	0	0	16:15	30	0	30	16:15	6	0	6
16:30	0	0	0	16:30	20	0	20	16:30	**14**	0	**14**
16:45	0	0	0	16:45	28	0	28	16:45	**16**	0	**16**
17:00	0	0	0	17:00	23	0	23	17:00	**15**	0	**15**
17:15	0	0	0	17:15	31	0	31	17:15	**15**	0	**15**
17:30	0	0	0	17:30	21	0	21	17:30	13	0	13
17:45	0	0	0	17:45	30	0	30	17:45	16	0	16
Total	0	0	0	Total	972	0	972	Total	214	0	214

From: Parks Hwy (East)											
To: Sheep Creek Ext.				**To: Parks Hwy (East)**				**To: Parks Hwy (West)**			
Period	Pcl	Ped	Total	Period	Pcl	Ped	Total	Period	Pcl	Ped	Total
07:00	4	0	4	07:00	0	0	0	07:00	12	0	12
07:15	6	0	6	07:15	0	0	0	07:15	18	0	18
07:30	6	0	6	07:30	0	0	0	07:30	28	0	28
07:45	19	0	19	07:45	0	0	0	07:45	25	0	25
08:00	7	0	7	08:00	0	0	0	08:00	29	0	29
08:15	19	0	19	08:15	0	0	0	08:15	25	0	25
08:30	17	0	17	08:30	0	0	0	08:30	30	0	30
08:45	17	0	17	08:45	0	0	0	08:45	42	0	42
09:00	10	0	10	09:00	0	0	0	09:00	31	0	31
09:15	16	0	16	09:15	0	0	0	09:15	25	0	25
09:30	18	0	18	09:30	0	0	0	09:30	27	0	27
09:45	13	0	13	09:45	0	0	0	09:45	30	0	30
10:00				10:00				10:00			
10:15				10:15				10:15			
10:30				10:30				10:30			
10:45				10:45				10:45			
11:00	25	0	25	11:00	0	0	0	11:00	29	0	29
11:15	12	0	12	11:15	0	0	0	11:15	31	0	31
11:30	16	0	16	11:30	0	0	0	11:30	34	0	34
11:45	16	0	16	11:45	0	0	0	11:45	35	0	35
12:00	26	0	26	12:00	0	0	0	12:00	29	0	29
12:15	27	0	27	12:15	0	0	0	12:15	39	0	39
12:30	25	0	25	12:30	0	0	0	12:30	46	0	46
12:45	25	0	25	12:45	0	0	0	12:45	39	0	39
13:00				13:00				13:00			
13:15				13:15				13:15			
13:30				13:30				13:30			
13:45				13:45				13:45			
14:00				14:00				14:00			
14:15				14:15				14:15			
14:30				14:30				14:30			

14:45				14:45				14:45			
15:00	40	0	40	15:00	**1**	0	**1**	15:00	39	0	39
15:15	50	0	50	15:15	0	0	0	15:15	44	0	44
15:30	53	0	53	15:30	0	0	0	15:30	47	0	47
15:45	47	0	47	15:45	0	0	0	15:45	**61**	0	**61**
16:00	52	0	52	16:00	0	0	0	16:00	**66**	0	**66**
16:15	52	0	52	16:15	0	0	0	16:15	**69**	0	**69**
16:30	42	0	42	16:30	0	0	0	16:30	**60**	0	**60**
16:45	60	0	60	16:45	0	0	0	16:45	60	0	60
17:00	**71**	0	**71**	17:00	0	0	0	17:00	58	0	58
17:15	**72**	0	**72**	17:15	0	0	0	17:15	72	0	72
17:30	**65**	0	**65**	17:30	0	0	0	17:30	66	0	66
17:45	**63**	0	**63**	17:45	0	0	0	17:45	59	0	59
Total	991	0	991	Total	1	0	1	Total	1305	0	1305
From: Parks Hwy (West)											
To: Sheep Creek Ext.				**To: Parks Hwy (East)**				**To: Parks Hwy (West)**			
Period	Pcl	Ped	Total	Period	Pcl	Ped	Total	Period	Pcl	Ped	Total
07:00	4	0	4	07:00	28	0	28	07:00	0	0	0
07:15	7	0	7	07:15	**54**	0	**54**	07:15	0	0	0
07:30	5	0	5	07:30	**94**	0	**94**	07:30	0	0	0
07:45	8	0	8	07:45	**99**	0	**99**	07:45	0	0	0
08:00	9	0	9	08:00	**44**	0	**44**	08:00	0	0	0
08:15	8	0	8	08:15	52	0	52	08:15	0	0	0
08:30	6	0	6	08:30	49	0	49	08:30	0	0	0
08:45	7	0	7	08:45	42	0	42	08:45	0	0	0
09:00	2	0	2	09:00	40	0	40	09:00	0	0	0
09:15	5	0	5	09:15	41	0	41	09:15	0	0	0
09:30	11	0	11	09:30	32	0	32	09:30	0	0	0
09:45	6	0	6	09:45	39	0	39	09:45	0	0	0
10:00				10:00				10:00			
10:15				10:15				10:15			
10:30				10:30				10:30			
10:45				10:45				10:45			
11:00	5	0	5	11:00	31	0	31	11:00	0	0	0
11:15	7	0	7	11:15	38	0	38	11:15	0	0	0
11:30	7	0	7	11:30	45	0	45	11:30	0	0	0
11:45	2	0	2	11:45	39	0	39	11:45	0	0	0
12:00	5	0	5	12:00	37	0	37	12:00	0	0	0
12:15	2	0	2	12:15	36	0	36	12:15	0	0	0
12:30	5	0	5	12:30	41	0	41	12:30	0	0	0
12:45	4	0	4	12:45	39	0	39	12:45	0	0	0
13:00				13:00				13:00			
13:15				13:15				13:15			
13:30				13:30				13:30			
13:45				13:45				13:45			
14:00				14:00				14:00			
14:15				14:15				14:15			
14:30				14:30				14:30			
14:45				14:45				14:45			
15:00	4	0	4	15:00	35	0	35	15:00	**0**	0	**0**
15:15	7	0	7	15:15	49	0	49	15:15	**1**	0	**1**
15:30	4	0	4	15:30	58	0	58	15:30	0	0	0
15:45	5	0	5	15:45	43	0	43	15:45	0	0	0
16:00	8	0	8	16:00	50	0	50	16:00	0	0	0
16:15	6	0	6	16:15	46	0	46	16:15	0	0	0
16:30	8	0	8	16:30	48	0	48	16:30	0	0	0
16:45	**15**	0	**15**	16:45	42	0	42	16:45	0	0	0
17:00	**7**	0	**7**	17:00	45	0	45	17:00	0	0	0
17:15	**7**	0	**7**	17:15	56	0	56	17:15	0	0	0
17:30	**11**	0	**11**	17:30	50	0	50	17:30	0	0	0
17:45	8	0	8	17:45	30	0	30	17:45	0	0	0
Total	205	0	205	Total	1472	0	1472	Total	1	0	1

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
Northern Region Traffic & Safety Section

FFY23 Highway Safety Improvement Program Candidate Projects
Project Description and Cost Estimate

Candidate Project Name:

23NR02 Murphy Dome Road Shoulder Widening

Candidate Project Location:

This project is located on Murphy Dome Road, between Sheep Creek Road and Spinach Creek Road (Milepost 0-2).

Background

Murphy Dome Road was constructed in the 1960's as a Defense Access Road to the Murphy Dome Air Force Station, located northwest of Fairbanks. Lands adjacent to the road were primarily government owned. Over time, the area has developed into a rural residential area on the outskirts of Fairbanks. The route provides access to the fire station serving the west Goldstream area and to a downhill ski area, Moose Mountain, located off Spinach Creek Road. The road is popular with cyclists and roller skiers.

Safety Problem Description:

The road is posted 50 mph, but operating speeds are often much higher. Shoulders vary from 6" or less to approximately 2 feet wide. A vertical curve near Ivans Alley restricts sight distance of slower vehicles, bicycles and roller skiers in the lane ahead.

Between 2015 and 2019, there were 2 sideswipe and 6 road departure crashes between Sheep Creek Road and Spinach Creek Road. Seven of the crashes resulted in property damage and the remaining crash, a lane departure, resulted in a fatality.

Proposed Mitigation:

To mitigate these crashes, it is proposed to add 6' shoulders to the facility. Because of the variation in shoulder width, the before condition is assumed to be an average of a 1' wide paved shoulder. The proposed width of the future paved shoulder of 6' provides a recovery area and as well as accommodate bicycles, roller skiers and pedestrians in this area.

Per the shoulder widening CRF worksheet, providing a 6' shoulder where there was once a 1' shoulder at an AADT of 1,730 is anticipated to provide a 26% crash reduction.

The Moose Creek Bridge (#0358) is located near the Spinach Creek Rd end of the proposed project. It is cost prohibitive to widen the bridge as a part of this project, and there are no crashes associated with the bridge. Approach guardrail and associated markers will be upgraded to current standards.

Conformance with the Strategic Traffic Safety Plan:

Reducing lane departure crashes is Strategy 1 of the Roadway Emphasis Area of the Strategic Highway Safety Plan.

Benefit/Cost Ratio:

This project has a benefit/cost ratio of **0.3:1**.

Cost Estimate:

Preliminary Engineering (Phase 2):	$785,000	FFY 23
	$696,000	FFY 25
Right of Way (Phase 3):	$200,000	FFY 26
Utilities (Phase 7):	$200,000	FFY 26
Construction (Phase 4):	$5,351,000	FFY 27
TOTAL:	**$7,232,000**	

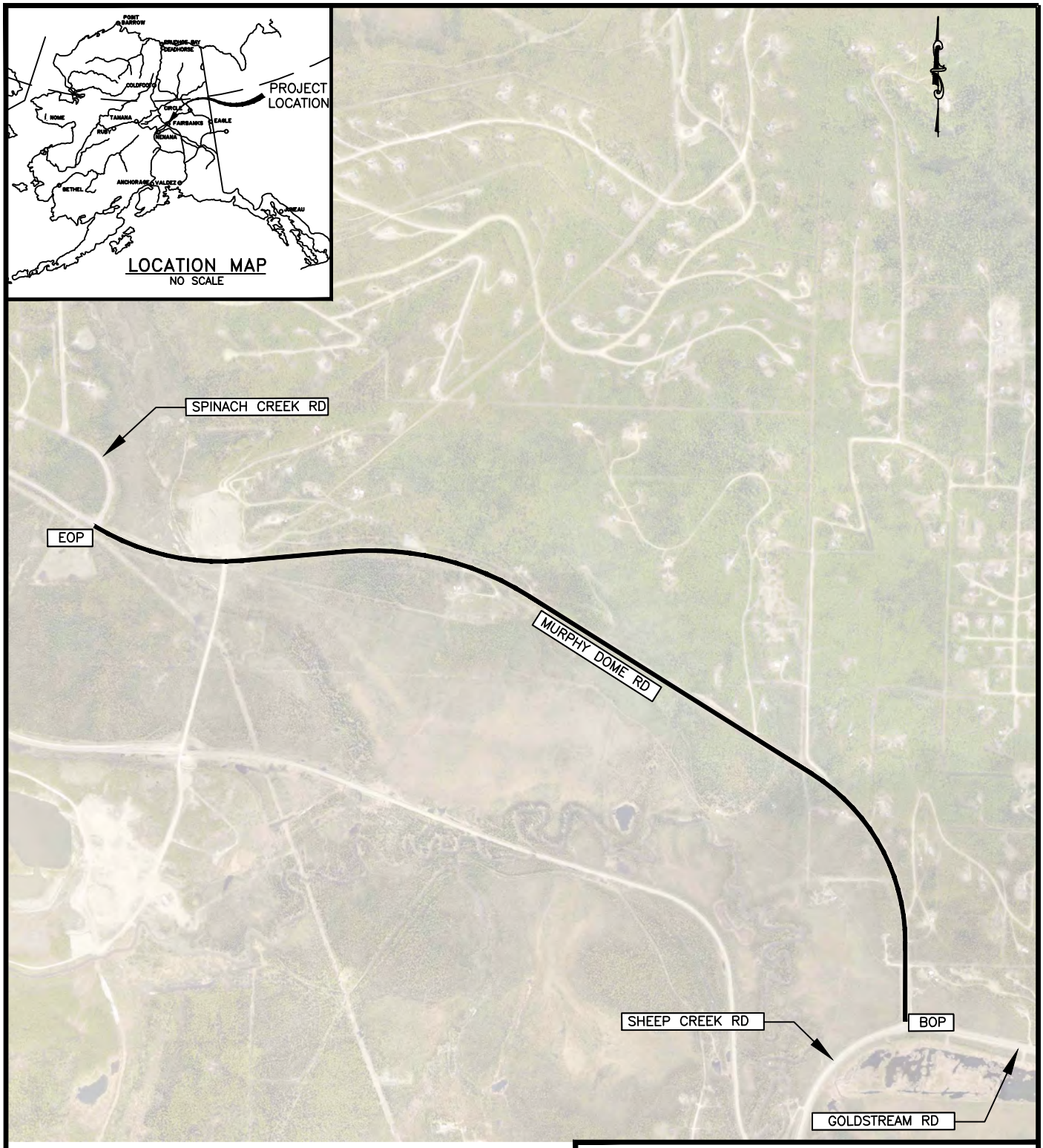
HQ Reporting Information

	Murphy Dome Road
Route ID	2601010X000 (175480)
Milepoint Range	0.0000-2.0100
Ownership	State
Speed Limit	50 mph
Functional Class	Minor Collector[1]
2021 ADT	1730

[1] This route meets the definition of a High Risk Rural Road

Attachments

Project Concept/Vicinity Map
Shoulder Widening CMF
Project Ranking Worksheet
Construction Cost Estimate
Crash Data



State of Alaska

Department of Transportation and Public Facilities

Northern Region Traffic & Safety Section

FFY23 Highway Safety Improvement Program

23NR02 Murphy Dome Road Shoulder Widening

VICINITY MAP

Drawn By: NJS	Date: 06/27/2022
Scale: NTS	

Crash Reduction Factor for Shoulder Improvements on RURAL TWO-LANE HIGHWAYS				
	Road: Murphy Dome Rd	***From:*** Sheep Creek Rd	***To:*** Spinach Creek Rd	
I N P U T	**AADT (assumed constant across improvement)**			**1730**
	BEFORE Improvement			
	Existing Shoulder Width, in feet	select from pulldown list ==>		**1**
	Existing Shoulder Type	select from pulldown list ==>		**Paved**
	AFTER Improvement			
	Proposed Shoulder Width, in feet	select from pulldown list ==>		**6**
	Proposed Shoulder Type	select from pulldown list ==>		**Paved**
C O M P		AMF - Accident Prediction based on Shoulder Width (Figure 3.)	1.347	
		AMF - Accident Prediction based on Shoulder Type (Table 3.)	1.000	
		AMF Product - Accident Prediction for BEFORE Shoulder Width & Type		1.347
		AMF - Accident Prediction based on Shoulder Width (Figure 3.)	1.000	
		AMF - Accident Prediction based on Shoulder Type (Table 3.)	1.000	
		AMF Product - Accident Prediction for BEFORE Shoulder Width & Type		1.000
Crash Reduction Factor (- is reduction, + is increase)				**-26%**

Accidents susceptible to correction: Single Vehicle ROR, Same and Opposite Lane Sideswipe, Head-on

Source: FHWA -RD-99-207

"Prediction of the Expected Performance of Rural Two-Lane Highways"

The composite shoulders represent a shoulder for which 50 percent of the shoulder width is paved and 50 percent of the shoulder width is turf.

Alaska DOT&PF

Highway Safety Improvement Program

Project Ranking Worksheet

Red fields are input fields. Black fields are fixed, computed, or derived.

HSIP Project Name:	***23NR02- Murphy Dome Rd Shoulder Widening***				
Analysis Period:	*1/1/15* **to** *12/31/19*	Form Completed by:	*Pam Golden*	Date:	*6/1/22*

Miscellaneous Data

Rate of Return:	3%
No of years of crash analysis	5

Crash Cost Data

Crash Severity	*Crash Cost*
Property Damage Only:	$26,400
Possible Injury:	$158,700
Minor Injury:	$502,000
Serious Injury:	$1,322,000
Fatality:	$2,645,000

Predicted Change in Crashes due to Improvement(s)

Imprv Type Num	Improvement	Type of Crash Susceptible to Reduction or Increase due to Improvement	Reduction Factor (+ or -)	# of Crashes Susceptible to Reduction or Increase				
				PDO	Poss	Min	Ser	Fat
	Widen 1' shoulder to 6' shoulder	SVROR, Same and Opposite direction sideswipe, Head on	-26%	7				1
		Total Crashes Susceptible to Reduction or Increase:		7				1
		Predicted Change in Crashes:		-2				-0.3
		Predicted Change in Crash Cost ($1,000):		-48				-688

Benefit/Cost of Improvements (Safety and M&O Benefits Only)

Improvement	Total Proj Cost (K)	Ann M/O Cost (K)	Life of Impvt (yrs)	Predicted Change in Crashes					Predicted Change in Crash Cost	Annualized Safety and M&O Benefits	Annualized Constr. and M&O Costs	Benefit Cost (Safety and M&O Benefits only)
				PDO	Poss	Min	Ser	Fat				
Widen 1' shoulder to 6' shoulder	8398	6.0	20	-1.8				-0.3	-$735,748	**$147,150**	**$570,478**	**0.3 : 1**
Subtotals:				-1.8				-0.3				
Totals/Averages:	**8398**	**6.0**	**20.0**	**-2.1**					**-$735,748**	**$147,150**	**$570,478**	**0.26 : 1**

Benefit Cost Formula (Safety and M&O Benefits Only)

B/C Ratio = (Estimated Annual Reduction in Crash Cost)+(Decrease in Ann Maintenance Cost, 0 if increase) / (Annualized Construction Project cost)+(Increase in Ann Maintenance cost, 0 if decrease)

Combined Effects of Multiple Countermeasures

$$CRF_{combined} = \left[1 - \left(1 - \frac{CRF_1}{100}\right)\left(1 - \frac{CRF_2}{100}\right) \ldots \left(1 - \frac{CRF_n}{100}\right)\right] * 100$$

Compute a combined Crash Reduction Factor (CRF) only for crash types jointly influenced by dissimilar improvements at the location of interest. Consider limitations of this formula as discussed in TRB Special Report 214 Designing Safer Roads, 1987, pg. 253-255.

Murphy Dome Road Shoulder Widening
PHASE 4 PLANNING LEVEL ESTIMATE

Project Name: Murphy Dome MP 0-2
IRIS #: Pending
Estimated By: Russ Johnson
Date: July 15, 2021

General Reference	
Project Length (ft):	10,600
Project Length (mi):	2.01

Data for Asphalt Cement Estimation	
% Oil for HMA:	5.6%
% Oil for ATB:	4.5%

Data for Automatic CSP Estimation		
Crossings: 36" - 48" CSP		
Approx No.	Avg Length	Total (LF)
		0
Driveways: 18" - 24" CSP		
Approx No.	Avg Length	Total (LF)
		0

Standard Estimating Factors		
Borrow	2.0	tons/cy
Subbase	2.0	tons/cy
D-1	2.0	tons/cy
ATB	2.0	tons/cy
Asphalt Concrete	110	lb/sy-in
Double AST Agg	60	lb/sy
High Float Agg	75	lb/sy
Prime/Tack	0.2	gallon/sy
Asphalt Oil	8.2	lb/gallon
CRS2 Oil	0.80	gallon/sy
HFMS Oil	0.75	gallon/sy

Item	Avg Width	Avg Depth	Avg Length	Quantity	Unit	Unit Price *	Cost	Design Comments
Remove Structures & Obstructions					LS	$30,000	$30,000	includes culverts
Clearing & Grubbing	80 ft		10,000 ft	18.4	ACRE	$5,000	$91,827	40' each side of the road
Excavation	30 ft	3.5 ft	10,600 ft	41,222	CY	$12.00	$494,667	reconstruct pavement structure
Borrow	50 ft	2.0 ft	10,600 ft	78,519	TON	$13.00	$1,020,741	reconstruct pavement structure
Geotextile, Wicking	ft		0 ft	0	SY	$8	$0	
Subbase, Grading F	40 ft	8.0 in	10,600 ft	20,938	TON	$14	$293,136	reconstruct pavement structure
Aggregate Base Course, Grading D-1	ft	in	10,600 ft	0	TON	$22	$0	
ATB	38 ft	2.0 in	10,600 ft	4,973	TON	$70	$348,099	reconstruct pavement structure
Asphalt Cem PG 52-28				224	TON	$650	$145,456	
Temporary Pavement					LS	$0	$0	
Prime/Tack Coat	ft		ft	0	TON	$700	$0	
Asphalt Concrete	36 ft	2.0 in	10,600 ft	4,664	TON	$80	$373,120	entire project length
Asphalt Cem PG 52-28 or 52-40				261	TON	$700	$182,829	entire project length
Asphalt Price Adjustment					CS	$50,000	$50,000	
18" - 24" CSP				120	LF	$140	$16,800	WAG
36" CSP				120	LF	$225	$27,000	WAG
Fish CSP, Complete				0	EA	$250,000	$0	
Stormdrain System, Complete					LS	$0	$0	
Oil/Sediment Separator				0	EA	$70,000	$0	
Bridge, Upgrades				0	LS	$0	$0	
Bridge Detour					LS	$0	$0	
Guardrail				750	LF	$38	$28,500	
End Treatments				4	EA	$4,000	$16,000	
Concrete Sidewalk	ft		ft	0	SY	$50	$0	
Curb Ramps				0	EA	$2,000	$0	
Curb & Gutter				0	LF	$30	$0	
Concrete Barrier				0	LF	$100	$0	
New Traffic Signal				0	EA	$400,000	$0	
ModifyTraffic Signal				0	EA	$200,000	$0	
Luminaires				0	EA	$15,000	$0	
Striping, Paint				1	LS	$50,000	$50,000	
Striping, Methyl			ft	0	LF	$4.00	$0	
Special Urban Traffic Markings					LS	$0	$0	
Driveway Approach				20	EA	$1,625	$32,500	

Murphy Dome Road Shoulder Widening
PHASE 4 PLANNING LEVEL ESTIMATE

Item	Avg Width	Avg Depth	Avg Length	Quantity	Unit	Unit Price *	Cost	Design Comments
Permanent Seeding				1.0	LS	$76,000	$76,000	
Landscaping					LS	$0	$0	
Erosion & Pollution Control Admin					LS	$12,000	$12,000	
Temporary Erosion & Pollution Control					LS	$100,000	$100,000	
SWPPP Manager					LS	$30,000	$30,000	
Utility Relocates					LS	$0	$0	
Construction Surveying				1	LS	$50,000	$50,000	
Camp					LS	$0	$0	
Lodging / Perdiem					LS	$0	$0	
						Subtotal	$3,468,674	
Traffic Maintenance & Traffic Control	(use 8% rural to 18% urban)			4%	of Subtotal		$138,747	
Miscellaneous Items:	Signs, uncertainty in the length of pavement structure reconstruction, # of "fish-pass" culverts, # of culverts that will be replaced and price escalations over time			10%	of Subtotal		$346,867	
						Subtotal	$3,954,288	
Mob/Demob				7%	of Subtotal		$276,800	
						Subtotal	$4,231,088	
Construction Engineering (CENG)				18%	of Subtotal		$761,596	
						Subtotal	$4,992,684	
ICAP				7.18%	of Subtotal		$358,475	
						Total Phase 4 Cost	$5,351,000	
						USE	$5,350,000	

Variable Filters:

Route

Murphy Dome Road (Upper Fairbanks) - 2601010X000 - 175480 From: 0 To: 2.0

Time of report run: 5/6/2022 7:20:11 AM

Crash Number	Form Type	Case Number	Milepoint	DateTime	Day of the Week	Street	Intersecting Street	At Intersection	Num	Crash Severity	First Harmful Event	Manner of Collision	Crash Type	Relation to Traffic way	Weather	Road Surface	Lighting	CU 1st Event	CU 2nd Event	CU Most Harmful Event
201569375	12209	DRIVER REPORT	0.0126	11/22/2015 10:45:00 AM	Sunday	MURPHY DOME ROAD	GOLDSTREAM RD/SHEEPCREEK RD	Yes	2	No Apparent Injury	Motor Vehicle In-Transport	Sideswipe - Opposite Direction	Undetermined	On Roadway	Clear	Snow	Daylight	Motor Vehicle In-Transport	Null value	Motor Vehicle In-Transport
~~201580422~~	~~12200~~	~~AK15074527~~	~~0.2667~~	~~9/11/2015 8:38:00 AM~~	~~Friday~~	~~MURPHY DOME ROAD~~	~~MILE 0.25~~	~~Yes~~	~~1~~	~~No Apparent Injury~~	~~Live Animal~~	~~Not a Collision with a Motor Vel~~	~~Animal-Vehicle~~	~~On Roadway~~	~~Cloudy~~	~~Dry~~	~~Daylight~~	~~Live Animal~~	~~Null value~~	~~Live Animal~~
201850100	12200	AK18067502	0.3195	9/18/2018 8:22:00 AM	Tuesday	MURPHY DOME ROAD	ALDERBERRY TRAIL	No	1	Fatal Injury (Killed)	Overturn/Rollover	Not a Collision with a Motor Vel	Single Vehicle Run-Off-Road	On Shoulder	Cloudy	Dry	Daylight	Ran Off Roadway-Left	Ditch	Overturn/Rollover
201705617	12209	DRIVER REPORT	0.4908	3/7/2017 1:30:00 PM	Tuesday	MURPHY DOME ROAD	COYOTE TRAIL	Yes	2	No Apparent Injury	Mail Box	Not a Collision with a Motor Vel	Undetermined	On Shoulder	Clear	Ice/Frost	Daylight	Other Non-Collision	Null value	Other Non-Collision
201983055	12200	AK19004719	0.4939	1/21/2019 12:00:00 AM	Monday	MURPHY DOME ROAD	COYOTE TRAIL	Yes	1	No Apparent Injury	Snow Bank	Not a Collision with a Motor Vel	Single Vehicle Run-Off-Road	On Shoulder	Clear	Snow	Daylight	Snow Bank	Tree (Standing Only)	Tree (Standing Only)
201977659	12200	AK19004719	0.4959	1/21/2019 12:00:00 AM	Monday	MURPHY DOME ROAD	COYOTE TRAIL	Yes	1	No Apparent Injury	Snow Bank	Not a Collision with a Motor Vel	Single Vehicle Run-Off-Road	On Shoulder	Clear	Snow	Daylight	Snow Bank	Tree (Standing Only)	Tree (Standing Only)
201706935	12209	DRIVER REPORT	0.6495	3/13/2017 12:30:00 PM	Monday	MURPHY DOME ROAD	IVANS ALLEY	Yes	2	No Apparent Injury	Motor Vehicle In-Transport	Sideswipe - Same Direction	Sideswipe	On Roadway	Clear	Ice/Frost	Daylight	Motor Vehicle In-Transport	Null value	Motor Vehicle In-Transport
201580712	12200	AK15085132	0.9051	10/18/2015 6:30:00 PM	Sunday	MURPHY DOME ROAD	IVANS ALLEY	No	1	No Apparent Injury	Overturn/Rollover	Not a Collision with a Motor Vel	Single Vehicle Run-Off-Road	On Roadway	Freezing Ra	Ice/Frost	Dark - Not Lighted	Ran Off Roadway-Right	Overturn/Rollover	Overturn/Rollover
201744758	12200	AK17015158	1.8958	3/7/2017 7:25:00 AM	Tuesday	MURPHY DOME ROAD	SPINACH CREEK ROAD	No	1	No Apparent Injury	Overturn/Rollover	Not a Collision with a Motor Vel	Single Vehicle Run-Off-Road	On Shoulder	Clear	Ice/Frost	Daylight	Overturn/Rollover	Null value	Overturn/Rollover

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
Northern Region Traffic & Safety Section

FFY23 Highway Safety Improvement Program Candidate Projects
Project Description and Cost Estimate

Candidate Project Name:

23NN01 Richardson Hwy MP 357-362 Bicycle/Pedestrian Path

Candidate Project Location:

This project is located on the Richardson Highway, between Badger Road (6-mile) and end of the Richardson Highway at the Gaffney Road, Airport Way and Steese Expressway intersection (GARS).

Background

This is a current project in design, Project No Z615970000, which will construct a non-motorized connection between Fairbanks and North Pole. Construction funding is not currently assigned. The Richardson Highway is an access controlled facility, and pedestrian use outside of emergencies is prohibited. Bicycle use of the highway in this area was prohibited until the early-2010's after the route was designated as part of US Bicycle Route 8. No alternate routes are available for non-motorized users as the highway is bordered by US Army facilities on both sides and parallel facilities are not open to the public.

Safety Problem Description:

While there are no reported crashes at this time, cyclists using the roadway are riding alongside 60 mph traffic, and the risk of serious injury or death is high should a collision occur.

Proposed Mitigation:

The proposed project will construct approximately 4.3 miles of 10' wide multi-use pathway with 2' gravel shoulders to connect existing facilities on Badger Road to existing facilities on Airport Way, Gaffney Road and the Steese Expressway. This project is coordinated with the grade separation of the ARRC line at approximate milepost 359, and the pathway will cross over the railroad. The path will be constructed to go behind the existing weigh station to limit conflicts, and an existing levee will be bridged. Safety rail will be installed along the pathway where warranted. Once constructed, bicycles will again be prohibited from using the mainline roadway in this segment.

Using HSIP funding to construct the pathway would accelerate removal of vulnerable users from the mainline of the highway.

Conformance with the Strategic Traffic Safety Plan:

Reducing pedestrian and bicycle fatalities and serious injury crashes are Strategies 1 and 2 of the Special Users Emphasis Area of the Strategic Highway Safety Plan.

Benefit/Cost Ratio:

No benefit costs calculations were performed as there is not a current crash history. This project is targeting the high risk of a serious injury or fatal crash should one occur by constructing a connection that will removed vulnerable users from the mainline highway in an area where bicycles have only been allowed for approximately 10 years.

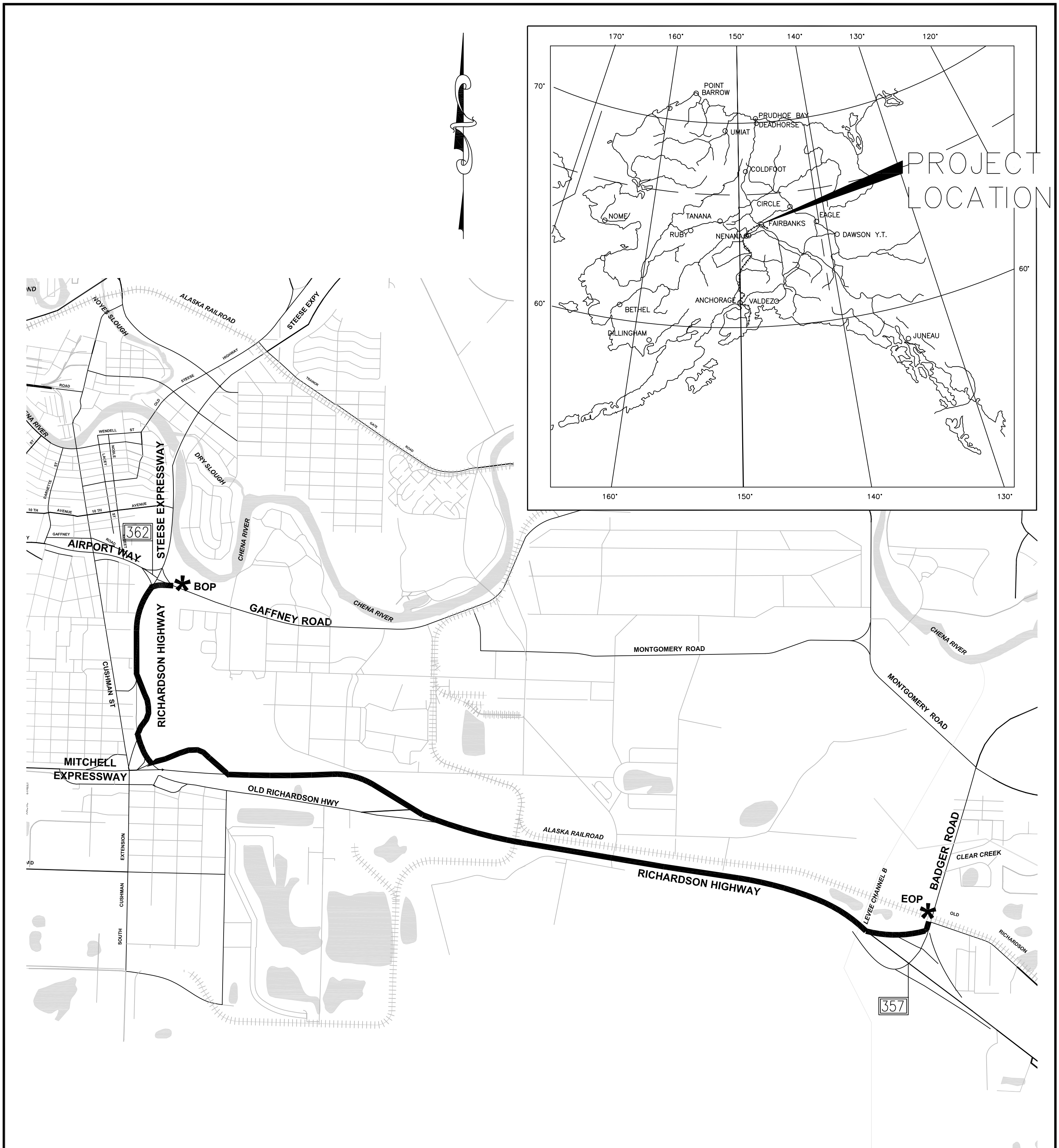
Cost Estimate:

Preliminary Engineering (Phase 2):	$0	
Right of Way (Phase 3):	$0	
Utilities (Phase 7):	$0	
Construction (Phase 4):	$4,112,755	FFY 23
TOTAL:	**$4,112,755**	

HQ Reporting Information

Route ID	1100000I000	1100000N040
Route Name	Richardson Highway	Richardson Highway NB On Ramp (Badger)
Milepoint Range	358.2762-363.6516	0-0.639
Ownership	State	State
Speed Limit	60 mph	N/A
Functional Class	Interstate	Interstate
2021 ADT	25,500	5,080

Attachments
Project Concept/Vicinity Map
Construction Cost Estimate



LEGEND

PROPOSED BICYCLE/PEDESTRIAN PATH

362 MILEPOST

* BOP/EOP

STATE OF ALASKA
Department of Transportation and Public Facilities

2301 Peger Rd, Fairbanks, AK 99709

PROJECT # Z615970000/0A24032
RICHARDSON HIGHWAY
MP 357–362
BICYCLE/PEDESTRIAN PATH

LOCATION & VICINITY MAP

DATE:	MAY 2017	FIGURE 1

H:\Projects\Fbks_MP\61597_RichHwy_356-362_BikePath\10 Reports\Draft DSR\61597-VICMAP-Env-1 Mon, 01/May/17 04:13pm

Review PS&E Project Engineer's Estimate

State Project Number: Z615970000 **Federal Project Number: 0A24032**

Project Description: Richardson Highway MP 357-362 Bicycle/Pedestrian Path

Project Line #	Proposal Line #	Item #	Description	Unit	Qty.	Price	Ext. Amount	Owner Furnished Material
Category: Basic Bid								
10		201.0009.0000	Clearing and Grubbing	LS	All Required	183,000.00	183,000.00	
20		202.0001.0000	Removal of Structures and Obstructions	LS	All Required	9,000.00	9,000.00	
30		203.0003.0000	Unclassified Excavation	CY	12,100.00	13.00	157,300.00	
40		203.0006.0000	Borrow	TON	64,000.00	10.00	640,000.00	
50		205.0006.0000	Structural Fill	CY	175.00	50.00	8,750.00	
60		301.0001.00D1	Aggregate Base Course, Grading D-1	TON	12,200.00	25.00	305,000.00	
70		401.2010.0000	HMA, Sidewalks and Paths	TON	2,950.00	120.00	354,000.00	
80		501.0001.0000	Class A Concrete	LS	All Required	55,500.00	55,500.00	
90		503.0001.0000	Reinforcing Steel	LS	All Required	14,250.00	14,250.00	
100		503.0002.0000	Epoxy-Coated Reinforcing Steel	LS	All Required	2,430.00	2,430.00	
110		504.2000.0000	Prefabricated Steel Bridge 14' x 123'	EACH	1.00	350,000.00	350,000.00	
120		505.0005.0001	Furnish Structural Steel H-Piles, HP 14x117	LF	385.00	150.00	57,750.00	
130		505.0006.0001	Drive Structural Steel H-Piles, HP 14x117	EACH	4.00	20,000.00	80,000.00	
140		507.0002.0000	Pedestrian Railing	LF	48.00	260.00	12,480.00	
150		603.0001.0018	CSP 18 Inch	LF	208.00	80.00	16,640.00	
160		603.0001.0024	CSP 24 Inch	LF	98.00	180.00	17,640.00	
170		603.0001.0036	CSP 36 Inch	LF	27.00	200.00	5,400.00	
180		603.0003.0018	End Section for CSP 18 Inch	EACH	16.00	440.00	7,040.00	
190		603.0003.0024	End Section for CSP 24 Inch	EACH	7.00	590.00	4,130.00	
200		603.0003.0036	End Section for CSP 36 Inch	EACH	2.00	710.00	1,420.00	
210		606.2002.0000	Steel Bollard, Removable	EACH	4.00	1,000.00	4,000.00	
220		607.0003.0000	Chain Link Fence	LF	600.00	52.00	31,200.00	
230		608.2017.0000	Detectable Warning Tile	EACH	5.00	1,100.00	5,500.00	
240		613.0002.0000	Culvert Marker Post	EACH	16.00	166.00	2,656.00	

Review PS&E Project Engineer's Estimate

State Project Number: Z615970000 **Federal Project Number: 0A24032**

Project Description: Richardson Highway MP 357-362 Bicycle/Pedestrian Path

Project Line #	Proposal Line #	Item #	Description	Unit	Qty.	Price	Ext. Amount	Owner Furnished Material
250		615.0001.0000	Standard Sign	SF	7.00	112.00	784.00	
260		615.0002.0000	Remove and Relocate Sign	EACH	1.00	230.00	230.00	
270		616.0002.0050	Thaw Pipe 1/2 Inch Diameter	EACH	8.00	2,550.00	20,400.00	
280		618.0001.0000	Seeding	ACRE	850.00	60.00	51,000.00	
290		630.0002.0001	Geotextile, Stabilization, Class 1	SY	40,000.00	2.00	80,000.00	
300		640.0001.0000	Mobilization and Demobilization	LS	All Required	160,000.00	160,000.00	
310		641.0001.0000	Erosion, Sediment and Pollution Control Administration	LS	All Required	10,000.00	10,000.00	
320		641.0003.0000	Temporary Erosion, Sediment and Pollution Control	LS	All Required	15,000.00	15,000.00	
330		641.0004.0000	Temporary Erosion, Sediment and Pollution Control Additives	CS	All Required	30,000.00	30,000.00	
340		641.0006.0000	Withholding	CS	All Required	0.00	0.00	
350		641.0007.0000	SWPPP Manager	LS	All Required	15,000.00	15,000.00	
360		642.0001.0000	Construction Surveying	LS	All Required	90,000.00	90,000.00	
370		642.0013.0000	Three Person Survey Party	CS	All Required	40,000.00	40,000.00	
380		643.0002.0000	Traffic Maintenance	LS	All Required	240,000.00	240,000.00	
390		643.0003.0000	Permanent Construction Signs	LS	All Required	10,000.00	10,000.00	
400		643.0023.0000	Traffic Price Adjustment	CS	All Required	0.00	0.00	
410		643.0025.0000	Traffic Control	CS	All Required	260,000.00	260,000.00	
420		643.2005.0000	Public Information Program	LS	All Required	15,000.00	15,000.00	
430		644.0001.0000	Field Office	LS	All Required	20,000.00	20,000.00	
440		644.0006.0000	Vehicle	LS	All Required	60,000.00	60,000.00	
450		644.0015.0000	Nuclear Testing Equipment Storage Shed	EACH	1.00	1,000.00	1,000.00	
460		645.0001.0000	Training Program, 2 Trainees / Apprentices	LH	1,000.00	1.00	1,000.00	
470		646.0001.0000	CPM Scheduling	LS	All Required	2,500.00	2,500.00	

Category Basic Bid Total: **$3,447,000.00**

Minus Contractor Furnished CENG Items: $81,000.00

Review PS&E Project Engineer's Estimate

State Project Number: Z615970000 **Federal Project Number: 0A24032**

Project Description: Richardson Highway MP 357-362 Bicycle/Pedestrian Path

Project Line #	Proposal Line #	Item #	Description	Unit	Qty.	Price	Ext. Amount	Owner Furnished Material
						Exc Subtotal:	$3,366,000.00	
						Construction Engineering Percent/Amount: 14%	$471,240.00	
						Minus Contractor Furnished CENG Items:	$81,000.00	
						State Forces CENG Amount:	**$390,240.00**	
						Basic Bid Owner Furnished Material Total:	**$0.00**	
						Category Subtotal (Pay Items + SF CENG + Furn Materials):	$3,837,240.00	
						Indirect Cost Allocation Plan (ICAP) Percent/Amount: 7.18%	**$275,513.83**	
						Category Basic Bid Estimate Total:	**$4,112,753.83**	
						Pay Item Total: Z615970000	**$3,447,000.00**	**47 Items**
						SF CENG Amount:	**$390,240.00**	
						Owner Furnished Materials (Not part of the Contract):	**$0.00**	
						ICAP Amount:	**$275,513.83**	
						Project Estimate Total:	**$4,112,753.83**	
						Estimate Bid Contingency Percent/Amount: %	**$0.00**	
						Project Estimate Total + Estimate Bid Contingency:	**$4,112,753.83**	

Project Description and Backup

Central Region

MEMORANDUM

STATE OF ALASKA

Department of Transportation and Public Facilities
Central Region-Division of Design and Engineering Services
Traffic, Safety, & Utilities Section

To: **Matt Walker, P.E.**
State Traffic and Safety Engineer
Headquarters

Date: July 19, 2022

Thru: **Luke S Bowland, P.E**
Preconstruction Engineer
Central Region

Phone No.: 907-269-0588

From: **Cindy Ferguson, P.E.**
Traffic, Safety, & Utilities Chief
Central Region

Subject: Central Region Highway Safety Improvement Program FFY 2023 Nominations

Infrastructure nominations for the Highway Safety Improvement Program (HSIP) eligibility, Federal Fiscal Year 2023, are attached for review and approval.

Nomination Number	Project Name	B/ C Ratio	Project Cost ($1000)	HSIP Handbook M&O Cost ($/yr)	Estimated Actual M&O Cost Increase ($/yr)	Strategic Highway Safety Plan (SHSP) Strategy	Bundle with other Project?
23CR01	Tudor Road: Baxter Road to Patterson Street Channelization	0.73:1	$5,167	$3.5k	$3.5k	Roadways Plan: Strategies 1 and 2	No
23CR02	Old Seward Hwy: Industry Way/120th Ave Channelization	0.38:1	$2,077	$1.2k	$1.2k	Roadways Plan: Strategy 2	Yes, Old Seward Hwy and Huffman Road – O'Malley to Rabbit Creek to Birch Pavement Preservation. (CFHWY00886)
23CN01	Seward Hwy Hooligan Fishery Pedestrian Safety Improvements	N/A	$14,060	N/A	Responsible agency deferred to Seward Highway Corridor Plan	Special Users Plan: Strategy 1	Likely, Portage Curve Multimodal Connector – Twentymile to MP 81.5 (23CN02).
23CN02	Portage Curve Multimodal Connector – Twentymile to MP 81.5	N/A	$1,177	N/A	By USFS under project agreement	Special Users Plan: Strategies 1 and 2	Likely, Seward Hwy Hooligan Fishery Pedestrian Safety Improvements (23CN01)
23CN03	Ocean Dock Road RR Crossing Device Upgrades	N/A	$1,279.1	$3k	Per Master Agreement with ARRC	Roadways Plan, Strategy 2	No
19CN05 (23)	Seward Highway Rockfall Mitigation, MP 113.2	N/A	$20,343	N/A	$0	Roadways Plan, Strategy 5	No
		TOTAL	$44,103.1	$7.7k	$4.7k		

Prepared by: Orion LeCroy, P.E., HSIP Engineer

Attachments: High Crash Screening List
Project Summary List
Project Nominations

cc: Scott Thomas, P.E., Traffic & Safety Engineer
Sean Baski, P.E., Highway Design Chief
Kirk Warren, P.E., Maintenance and Operations Chief
Todd Vanhove, Planning Chief

User:	sriopelle
Analysis Type:	Overlapping Bucket Analysis
Data Source:	Alaska eCrash V3
Start Date:	01/01/2015
End Date:	12/31/2019
Region	Central Region
Return Top:	100.00%
Spot Size:	2.00
Step Size:	1.00
Fatal Weight:	2645
Serious Injury Weight:	1322
Minor Injury Weight:	502
Possible Injury Weight:	158.7
No Injury Weight:	26.4
Percent To Return:	100.00%
Minimum Crashes In Each Spot:	1
Minimum Fatal Crashes In Each Spot:	1
Minimum Serious Injury Crashes In Each Spot:	2
Minimum Minor Injury Crashes In Each Spot:	0
Minimum Possible Injury Crashes In Each Spot:	0
Use Crash Counts/Rates:	Counts

Alaska DOT&PF
Highway Safety Improvement Program

High Crash Location Screening Process

Screening Date
4/18/2022

NOTES:
1. Explanations are required in the "Comments" column for all segments including at least one fatal crash or two major injury crashes occurred, where improvements are not recommended.
2. The location screening process flags locations with one or more fatals and/or two or more serious injury crashes for further study.
3. Only locations meeting criteria are shown on this template.
4. The Crash Costs per Mile column is used to sort locations in descending order.

No.	Route Name	Route ID	From Milepoint	To Milepoint	Crash Costs (1000s)	Crash Costs / Mile (1000s)	Crashes / Mile	PDO Crash Count	Possible Injury Crash Count	Minor Injury Crash Count	Serious Injury Crash Count	Fatal Crash Count	Comments
1	Gambell Street (Anchorage)	2281207X000	0.00	1.25	52121	41697	220	182	36	46	8	3	HSIP Utility Pole Removal & Increased Lighting (19CR01 in Design, est. 2023 Construction); HSIP Signal Display Improvements (19CR02 in Design; est. 2023 Construction)
2	6th Avenue (Anchorage)	2281246X000	0.00	1.55	59461	38362	259	280	53	58	11	0	HSIP Signal Display Improvements at Gambell and Ingra (19CR02 in Design, est. 2023 Construction);
3	5th Avenue (Anchorage)	2281247X000	0.00	2.70	100776	37324	239	450	87	89	13	5	HSIP Pedestrian Improvements (21CR01 in Design, est. 2023 Construction); HSIP Pedestrian Warning Signs (06CN01; Completed 2016); Discussion of Urban Safety Corridor potential underway.
4	Bragaw Street (Anchorage)	2281019X000	0.00	2.26	78651	34801	227	339	83	81	6	3	Forward to MOA; HSIP FYA and Signal Display at Debarr (22CR01, est. 2025/2026 Construction); HSIP Channelization and TWLTL at 16th Ave (09CR03, Completed 2017)
5	Benson Boulevard (Anchorage)	2281253X000	0.00	2.31	77639	33610	242	375	89	91	4	1	HSIP Signal Display Improvements at A St (20CR01; Construction in 2022); HSIP Lighting at Seward Hwy (16CR01; In Construction); HSIP Pedestrian Warning Signs (06CN01; Completed 2016)
6	Debarr Road (Anchorage)	2281273X000	0.00	3.53	114140	32334	223	512	143	121	11	1	HSIP FYA and Signal Display Improvements at Pine, Edward, Beaver, and Turpin (22CR01, est. 2025/2026 Construction); HSIP Channelization Boniface to Beaver Place (06CR02, Completed 2010); HSIP Channelization Bragaw St. to Hoyt Street (08CR5, Completed 2011); HSIP Pedestrian Warning Signs (06CN01; Completed 2016)
7	Tudor Road (Anchorage)	2281107X000	0.00	5.94	185271	31190	198	808	175	158	33	5	HSIP Channelization Baxter to Patterson (New HSIP Project Nomination 23CR01; est. 2025 Construction); HSIP Ped Lighting Lake Otis to Piper (16CR01, In Construction); HSIP Right Turn Lane Channelization at C St (2017CR02, In Construction)
8	Muldoon Road (Anchorage)	2281205X000	0.00	3.98	119247	29962	178	456	117	116	17	3	HSIP Ped Lighting Debarr to Old Harbor (16CR01; In Construction); Pavement Preservation Debarr to 36th Ave (2022 Construction); HSIP Median 11th Ct to Boundary (13CR02, Completed 2016); HSIP Pedestrian Warning Signs (06CN01; Completed 2016); Discussion of Urban Safety Corridor potential underway.

No.	Route Name	Route ID	From Milepoint	To Milepoint	Crash Costs (1000s)	Crash Costs / Mile (1000s)	Crashes / Mile	PDO Crash Count	Possible Injury Crash Count	Minor Injury Crash Count	Serious Injury Crash Count	Fatal Crash Count	Comments
9	Ingra Street (Anchorage)	2281126X000	0.00	1.38	39403	28553	192	173	45	42	5	0	HSIP Gambell & Ingra Street Overhead Signal Indications (19CR02 in Design; est. 2023 Construction)
10	36th Avenue (Anchorage)	2281060X000	0.00	2.49	63322	25431	165	257	82	63	9	0	Forward to MOA; HSIP FYA at C St (22CR01, est. 2025/2026 Construction); Seward Highway Interchange (In Design; est 2028 construction); HSIP Signal Display Improvements at LaTouche (04CR05; Completed 2018); HSIP FYA at A St (10CR01; Completed 2017); ; HSIP 5 Lane Conversion Arctic Blvd to C St (01CR10; Completed 2016)
11	Boniface Parkway (Anchorage)	2281189X000	0.00	3.46	86870	25107	168	385	99	82	13	1	HSIP FYA and Signal Display Improvements at Northern Lights Blvd (22CR01, est. 2025/2026 Construction); Pavement Preservation Tudor to JBER Gate (Construction Completed 2021); HSIP Signal Improvements at 4th Ave (11CR01, Completed 2014)
12	15th Avenue (Anchorage)	2281237X000	0.00	2.17	54130	24945	162	245	54	41	10	2	Forward to MOA; HSIP Overhead Signal Indications at Gambell and Ingra Streets (19CR02 in Design; est. 2023 Construction)
13	Northern Lights Boulevard (Anchorage)	2281163X000	0.00	8.00	194903	24363	167	902	209	201	20	4	Forward to MOA. HSIP Signal Display Improvements at A St (20CR01; Begin Construction in 2022); HSIP Lighting at Minnesota Dr (16CR01 in Design, Begin Construction in 2022); AMATS Sidewalk Repairs Minnesota Dr to Seward Hwy (In Design; est. 2025 Construction); HSIP Lighting at Seward Hwy (16CR01, In Construction); HSIP Pedestrian Warning Signs (06CN01; Completed 2016)
14	Dimond Boulevard (Anchorage)	2281232X000	0.00	5.00	111576	22315	145	451	139	123	12	0	HSIP FYA and Signal Display Improvements at Victor Rd, Minnesota SB Ramp, and Dimond Center Dr (22CR01, est. 2025/2026 Construction); HSIP Right Turn Lane Channelization at C St (17CR02, In Construction); Dimond Mall Intermodal Facility and Split Phase Removal (Completed 2017); MOA Roundabout at Sand Lake (Completed 2016)
15	Old Seward Highway (Anchorage)	2281251X000	0.00	7.96	155245	19503	120	605	175	151	19	4	HSIP Median Channelization (New HSIP Project Nomination 23CR02; est. 2025 Construction) HSIP FYA at 76th Ave (22CR01, est. 2025/2026 Construction); Pavement Preservation O'Malley to Rabbit Creek (In Design; est. 2025 Construction); 1R Dimond to Dowling Rd (In Design, est. 2022 Construction)
16	Mountain View Drive (Anchorage)	2281143X000	0.00	1.88	36658	19499	94	115	19	32	9	1	Forward to MOA; AMATS Pathway Bunn St to Bliss St (In Construction); Mountain View Dr Pedestrain Lighting Improvements: Taylor ST to Boniface (MOA Project; Construction Completed 2017); Mountain View Dr Surface Rehab: Taylor St to McCarrey St (MOA Project; Construction to Begin 2022)
17	Fireweed Lane (Anchorage)	2281041X000	0.00	1.49	28172	18908	120	122	25	26	6	0	HSIP FYA and Signal Display at C St (22CR01, est. 2025/2026 Construction); AMATS Road Diet (In Design; est. 2027 Construction) Fireweed Ln Seward to Spenard Pavement Preservation (Completed 2020);
18	A Street (Anchorage)	2281101X000	0.00	2.87	52752	18380	113	220	44	48	10	1	HSIP Signal Display at Benson and Northern Lights (20CR01; Construction to Begin 2021); Pavement Preservation Northern Lights to 40th (Construction to Begin 2022)
19	Lake Otis Parkway (Anchorage)	2281130X000	0.00	7.40	134858	18224	117	537	161	150	15	0	Forward to MOA; HSIP Channelization at 68th Ave (03CR07, Completed 2018); HSIP High Friction Surface Treatment at Waldron Dr (14CN02, Experimental Feature Completed 2016; Removal 2021)

No.	Route Name	Route ID	From Milepoint	To Milepoint	Crash Costs (1000s)	Crash Costs / Mile (1000s)	Crashes / Mile	PDO Crash Count	Possible Injury Crash Count	Minor Injury Crash Count	Serious Injury Crash Count	Fatal Crash Count	Comments
20	Spenard Road (Anchorage)	2281044X000	0.00	3.07	55339	18026	126	259	65	55	8	0	1R Signal Operation Changes at Minnesota Dr (Begin Construction 2022); AMATS Road Diet Minnesota to Benson (In Design; est. 2025 construction); Spenard Road Rehabilitation: Hillcrest to Benson (MOA Project; Completed 2018);
21	Dowling Road (Anchorage)	2281323X000	0.00	3.00	52908	17636	134	285	60	53	3	2	Seward Highway Interchange Reconstruction with Improved Roundabout Design (Begin Construction 2022)
22	Seward Highway (Seward Highway)	1020000X000	122.00	125.08	52542	17059	114	240	56	48	4	3	HSIP Lighting Benson to Northern Lights (Construction to Begin 2022); 36th Ave Interchange (In Design; est 2028 construction); HSIP Pedestrian Warning Signs (
23	C Street (Anchorage)	2281321X000	0.00	8.00	134946	16868	119	648	165	122	17	3	HSIP Right Turn Channelization at Tudor and Dimond (17CR02, In Construction); HSIP FYA at 36th, Fireweed, and International Airport (22CR01, est. 2025/2026 Construction)
24	3rd Avenue (Anchorage)	2281257X000	0.00	2.28	35446	15546	104	175	31	20	8	2	Forward to MOA; Continue to monitor Pedestrian Crashes at Karluk for Potential Improvements.
25	Seward Highway SB (Seward Highway)	1020000D000	0.00	2.00	30315	15158	124	172	48	23	3	1	HSIP Lighting Benson to Northern Lights (Construction to Begin 2022); 36th Ave Interchange (In Design; est 2028 construction); HSIP Pedestrian Warning Signs (06CN01; Completed 2016)
26	Abbott Road (Anchorage) (Hillside)	2281038X000	1.00	3.82	42520	15078	104	196	45	47	5	0	HSIP FYA at 88th Ave (22CR01, est. 2025/2026 Construction); AMATS Abbott Rehab Phase II Elmore to Birch (Completed 2019); Abbott Rd Reconst Ph 1: Lake Otis to Jupiter (Completed 2017).
27	4th Avenue (Anchorage)	2281248X000	0.00	1.52	21539	14170	111	122	24	21	1	1	AMATS Signal & Lighting Upgrades A St to Ingra St (In Design; est. 2024 Construction)
28	Arctic Boulevard (Anchorage)	2281326X000	0.00	4.59	64942	14149	79	235	62	50	12	3	Forward to MOA; Arctic Blvd RR Signal Relocation (18CN04, Completed 2020)
29	O'Malley Road (Anchorage)	2281016X000	0.00	3.00	40488	13496	81	162	35	40	6	1	Reconstruction Phase II: Livingston to Hillside (In Construction); Seward Interchange Reconstruction (In Design, est. 2023 Construction); AMATS: O'Malley Rd Reconstruction Phase I: New Seward to Livingston (Completed 2019)
30	Minnesota Drive SB (Anchorage)	2281216D000	0.00	3.00	39385	13128	89	183	49	27	4	3	HSIP FYA at 26th Ave (22CR01, est. 2025/2026 Construction); HSIP Pedestrian Lighting 31st Ave to Northern Lights Blvd (16CR01, Construction Begin in 2022); 1R Lighting Improvements Tudor to 31st and Northern Lights to 26th Ave (Begin Construction in 2022); HSIP Pedestrian Warning Signs (06CN01; Completed 2016); Minnesota Drive Reconnaissance Study (Completed 2016)
31	9th Avenue (Anchorage)	2281024X000	0.00	2.00	25052	12526	81	109	21	27	4	0	Forward to MOA. Continue to monitor crashes. MOA Road Diet Gambell to L St (2015 Completion)
32	International Airport Road (Anchorage)	2281235X000	0.00	3.70	46169	12478	81	202	42	47	6	1	HSIP FYA and Signal Display at C St (22CR01, est. 2025/2026 Construction); Pavement Preservation Aircraft Dr to Homer Dr (Completed 2016)
33	Jewel Lake Road (Anchorage)	2281234X000	0.00	2.00	21883	10942	75	98	27	22	1	1	HSIP: Jewel Lake Widening: 88th to Strawberry (13CR10, Improve Roadway Lighting, Completed 2019)
34	Glenn Highway SB (Glenn Highway)	1060000D000	30.00	34.31	44722	10376	57	161	38	37	6	3	Airport Heights to Parks Hwy Rehab (In design; est. 2024 Construction); HSIP Ped Fencing Turpin to Muldoon (Completed 2019); AMATS: Glenn Hwy Intergrated Corridor Management (Completed 2019)

No.	Route Name	Route ID	From Milepoint	To Milepoint	Crash Costs (1000s)	Crash Costs / Mile (1000s)	Crashes / Mile	PDO Crash Count	Possible Injury Crash Count	Minor Injury Crash Count	Serious Injury Crash Count	Fatal Crash Count	Comments
35	Palmer/Wasilla Highway (Wasilla)	2381092X000	1.00	11.00	95813	9581	51	331	81	82	13	6	HSIP Center Two Way Left Turn Lane Widening Hemmer Rd to Hurley Cir. (Completed 2021)
36	Knik-Goose Bay Road (Wasilla)	2381037X000	0.00	14.00	125199	8943	33	288	59	76	25	14	HSIP Wider Lane Lines (Completed in 2019) Reconstruction 0.3 to 6.8 (Phase I Fairview Lp to PH Hwy to Begin Construction in 2022: Phase II Vine Rd to Fairview Lp est. 2024 Construction); Reconstruction Vine Rd to Settlers Bay (In Design, est. 2023 Construction)
37	Parks Highway (Parks Highway)	1140000I000	0.00	12.00	99583	8299	58	483	101	91	13	3	Seward Meridian to Lucas Preventative Maintenance (In Construction); Reconstruction Church to Pittman (Completed 2018)
38	Old Glenn @ Eagle River (Eagle River)	2301056X000	0.00	5.00	40732	8146	51	165	51	30	6	2	Continue to monitor multivehicle angle crashes at Eagle River Loop Rd Signalized intersection and lane departure crashes north of Darby Rd.
39	68th Avenue (Anchorage)	2281209X000	0.00	1.70	13082	7695	38	38	10	13	3	0	Forward to MOA. HSIP Channelization on Lake Otis at 68th Ave (03CR07; Completed 2018)
40	Bogard Road (Wasilla)	2381095X000	3.00	11.00	61006	7626	35	164	51	52	7	5	HSIP Roundabout at Engstrom/Green Forest (18CR01; est. 2023 Construction); Pavement Preservation Trunk to Wasilla Fishhook Rd (In Design; est. 2024 Construction)
41	Minnesota Drive (Anchorage)	2281216I000	0.00	7.56	57563	7614	50	265	49	51	7	3	HSIP Ped Lighting 31st to Northern Lights (16CR01, Begin Construction in 2022); 1R Lighting Tudor to 31st and Northern Lights to 26th (Begin Construction in 2022); HSIP Overhead Signs (2021 Completion); HSIP Weaving Lane (2021 Completion); HSIP Pedestrian Warning Signs (06CN01; Completed 2016); Minnesota Drive Reconnaissance Study (Completed 2016)
42	Boundary Avenue (Anchorage)	2281262X000	0.00	2.20	16335	7425	45	64	21	12	2	1	AMATS 1R Boniface to Oklahoma (In Construction); HSIP Ped Fencing Turpin to Muldoon (Completed 2019)
43	Raspberry Road (Anchorage)	2281324X000	2.00	5.94	28624	7265	48	134	27	23	5	1	HSIP Dual Left Turn Lanes at Jewel Lake (05CR01, Completed 2016)
44	Vine Road (Wasilla)	2381063X000	0.00	2.00	14328	7164	19	16	6	10	4	1	HSIP Roundabout at Hollywood (18CR02 In Design; est. 2024 Construction); Reconstruction Knik Goose Bay to Hollywood (In Design; est. 2024 Construction)
45	Wisconsin Street (Anchorage)	2281258X000	0.00	1.19	8299	6974	46	39	7	7	2	0	Forward to MOA. Two serious injury motorcycle crashes occurred at 31st and 34th Ave Intersections.
46	Elmore Road (Anchorage) (Abbott)	2281274X000	0.00	3.98	27697	6959	52	154	25	26	1	2	BLM Rd Realignment at 68th Ave (In design, est. 2023 Construction); Pavement Preservation Abbott Rd to Providence (In Design, est. 2023 Construction)
47	Seward Meridian Parkway (Wasilla)	2381005X000	0.00	2.00	13267	6633	52	72	17	12	2	0	Reconstruction and Extension Palmer-Wasilla Hwy to Seldon (In Design, est. 2023 construction)
48	Kenai Spur Highway (Kenai)	2141077X000	1.00	13.00	74214	6184	36	303	49	69	10	4	Phase II Rehab Sports Lake to Robin Drive (In Design; est. 2023 Construction); Phase I Rehab Robin Drive to Swires Road (Completed 2020)
49	Lucille Street (Wasilla)	2381011X000	0.00	3.08	18874	6128	37	74	25	10	4	1	Forward to City of Wasilla and MSB. MSB project to widen roadway/shoulder, improve pathway, and add turn lanes (Design to Begin 2022; est. 2023/2024 Construction)
50	Glenn Highway (Glenn Highway)	1060000I000	23.00	26.00	17657	5886	24	42	12	16	1	2	Airport Heights to Parks Hwy Rehab (In design; est. 2024 Construction);

FFY 2023 Proposed HSIP Projects - Central Region

Project Name:	Project Type			IRIS No.	HSIP Project Number	B/C	Safety Index	Crashes Susc. to Corr.					Region	Phase	Federal Fiscal Year			Longterm View			Constr by M&O?	Bundle?	Project Description
	New	FO	UFO					PDO	POS	MIN	SER	FAT			23	24	25	26	27	28			
Tudor Road: Baxter Road to Patterson Street Channelization	1			TBD	23CR01	0.73	N/A	3	3	2	**3**	**1**	C	2	$ 366,600	$ 244,400	$ -	$ -	$ -	$ -	N	N	This project proposes to install center median on Tudor Road between Baxter Road and Patterson Street in Anchorage. This project nomination aims to reduce head-on and left-turning angle crashes on this segment of Tudor Road.
														3	$ -	$ -	$ 11,000	$ -	$ -	$ -			
														4	$ -	$ -	$ 4,538,000	$ -	$ -	$ -			
														7	$ -	$ -	$ 7,000	$ -	$ -	$ -			
														Total	$ 366,600	$ 244,400	$ 4,556,000	$ -	$ -	$ -			
Old Seward Hwy: Industry Way/120th Ave Channelization	1			TBD	23CR02	0.38	N/A	11	3	2	**0**	**0**	C	2	$ 171,600	$ 114,400	$ -	$ -	$ -	$ -	N	Y	This project proposes to install left-turn channelizing median on Old Seward Highway at Industry Way and 120th Avenue. This project nomination proposes to reduce angle and access related crashes on this segment of Old Seward Highway. This project will be bundled with Old Seward Hwy and Huffman Rd - O'Malley to Rabbit Creek to Birch PP (CFHWY00886)
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ -	$ -	$ 7,000	$ -	$ -	$ -			
														7	$ -	$ -	$ 1,784,000	$ -	$ -	$ -			
														Total	$ 171,600	$ 114,400	$ 1,791,000	$ -	$ -	$ -			
Seward Hwy Hooligan Fishery Pedestrian Safety Improvements	1			TBD	23CN01	N/A	N/A	0	0	0	**0**	**0**	C	2	$ 611,000	$ -	$ -	$ -	$ -	$ -	N	Y	This project proposes to install a 100-vehicle parking lot at MP 83.0 of the Seward Highway and a 0.82 miles of pathway to provide off-highway parking and pedestrian access to a popular hooligan fishery on the eastern end of the Turnagain Arm. Proposed facilities were designed and permitted under Seward Highway MP: MP 75-90 (Z581040000). This project may be bundled with Portage Curve Multimodal Connector - Twentymile to MP 81.5 (23CN02) for construction.
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ 13,449,000	$ -	$ -	$ -	$ -	$ -			
														7	$ -	$ -	$ -	$ -	$ -	$ -			
														Total	$ 14,060,000	$ -	$ -	$ -	$ -	$ -			
Portage Curve Multimodal Connector - Twentymile to MP 81.5	1			TBD	23CN02	N/A	N/A	0	0	0	**0**	**0**	C	2	$ -	$ -	$ -	$ -	$ -	$ -	N	Y	This project proposes to install 1.18 of multi-use pathway on the Seward Highway between Twentymile River and MP 81.5 and complete the connection between Ingram Creek and the proposed MP 83.0 parking lot. Proposed facilities were designed and permitted under Portage Curve Multimodal Connector (CFHWY00308). This project may be bundled with Seward Hwy Hooligan Fishery Pedestrian Safety Improvements (23CN01) for construction.
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ 1,177,000	$ -	$ -	$ -	$ -	$ -			
														7	$ -	$ -	$ -	$ -	$ -	$ -			
														Total	$ 1,177,000	$ -	$ -	$ -	$ -	$ -			
Ocean Dock Road RR Crossing Device Upgrades	1			TBD	23CN03	N/A	N/A	0	0	0	**0**	**0**	C	2	$ 37,500	$ -	$ -	$ -	$ -	$ -	N	N	This project proposes to upgrade existing at-grade crossing devices from passive to active on Ocean Dock Rd (Crossing #868543R). This project will be constructed through utilitiy agreement with Alaska Railroad Corporation.
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ -	$ -	$ -	$ -	$ -	$ -			
														7	$ -		$ 1,241,600	$ -	$ -	$ -			
														Total	$ 37,500	$ -	$ 1,241,600	$ -	$ -	$ -			
Seward Highway Rockfall Mitigation, MP 113.2			1	TBD	19CN05 (23)	N/A	N/A	0	0	0	**0**	**0**	C	2	$ 514,200	$ 342,800	$ -	$ -	$ -	$ -	N	N	This project proposes to perform rockfall mitigation at Seward Highway MP 113.2 to reduce the risk of rockfall-related crashes on the Seward Highway.
														3	$ -	$ 54,000	$ -	$ -	$ -	$ -			
														4	$ -	$ -	$ 19,398,000	$ -	$ -	$ -			
														7	$ -	$ -	$ 34,000	$ -	$ -	$ -			
														Total	$ 514,200	$ 396,800	$ 19,432,000	$ -	$ -	$ -			

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
Central Region Traffic & Safety Section

Federal Fiscal Year (FFY) 2023 Highway Safety Improvement Program (HSIP)
Candidate Description and Cost Estimate

Name:

23CR01: Tudor Road: Baxter Road to Patterson Street Channelization

Location and Existing Conditions:

Proposed improvements are located on Tudor Road (Route ID 2281107X000) between Baxter Road (Route ID 2281040X000) and Patterson Street (Route ID 2281113X000). The study area is 0.50 miles long, beginning at milepoint 5.197 of Tudor Road and ending at milepoint 5.696. The roadway is located within the Municipality of Anchorage and is owned and maintained by the Alaska Department of Transportation & Public Facilities (DOT&PF).

Surrounding land use includes a mixture of residential housing, commercial businesses, parks, schools, and an Anchorage Fire Department fire station. The surrounding municipal zoning areas are designated as single family residential, mixed residential, general business, local and neighborhood business, and public lands and institutions.

Tudor Road is classified as a principal arterial and serves as a primary east-west corridor in Anchorage. The posted speed limit is 50 miles per hour (mph) in the study area. The 2017 Annual Average Daily Traffic, representing the middle year of the study period, was 23,186 vehicles per day (vpd).

Tudor Road within the study area is a 5-lane roadway with a center two-way left turn lane (TWLTL). This TWLTL segment was constructed by a DOT&PF project in 1975. A raised median was considered by this project and deferred for future needs. At the time of its construction, the traffic volumes on this segment of Tudor Road were 9,800 vpd and future traffic volumes were projected to reach 20,400 vpd in the 1997 design year. Current traffic volumes now exceed this past project's design year traffic.

Baxter Road and Campbell Airstrip Road form a four-leg signalized intersection with Tudor Road at the west end of the study area. This intersection has eastbound and westbound left turn lanes on Tudor Road. Left turn signal operations were upgraded in 2017 under an HSIP project (Z527970000). This project removed existing protected-permissive 5-section doghouse signal heads and installed flashing yellow arrow.

Patterson Street forms a three-leg T intersection with the north side of Tudor Road at the east end of the study area. Tudor Road is free flowing at the intersection with Patterson Street, while Patterson is stop-controlled.

An existing separated pathway is located on the north side of Tudor Road in the study area. A new multi-use path is planned for the south side of Tudor Road between Regal Mountain Drive and Campbell Airstrip Road. Construction of this project is anticipated to begin summer of 2022.

Tudor Road was recently resurfaced under a preventative maintenance project (Z585070000) in 2019. The project milled the existing asphalt and reinstalled new asphalt and pavement markings but did not modify the lane use or access control on this segment of Tudor Road.

Safety Problem Description:

The segment of TWLTL on Tudor Road between Baxter Road and Patterson Street experienced a pattern of lane departure crashes between 2015 and 2019. Intersection crashes at the Baxter Road signal were excluded from the summaries presented in the project nomination.

Tudor Road ranks 7th highest by crash cost per mile in the 2022 Central Region High Crash Location Screening List. The crash rate for the TWLTL segment between 2015 and 2019 was 0.20 fatal and serious injury crashes per million vehicle miles (MVM) and 1.46 total crashes per MVM.

With AADT volumes greater than 20,000 vehicles per day and posted speed of 45 mph or higher, a non-traversable median in warranted within this segment in accordance with DOT&PF Policy and Procedure 05.05.050. At the time of this project nomination, there are no projects planned for this segment of Tudor Road, nor are there any projects anticipated in the next ten years.

Summary of Crash Patterns:

Tudor Road in the study area experienced a total of 30 crashes between 2015 and 2019. A summary of crashes by severity and crash type is outlined in the table below.

Tudor Road - Baxter Road to Patterson Street TWLTL Segment Crash Summary By Type and Severity (2015-2019)						
	Fatal Injury	Suspected Serious Injury	Suspected Minor Injury	Possible Injury	No Apparent Injury	Total
SVROR	0	0	1	1	3	5
Head-on	1	1	1	0	2	5
Animal-Vehicle	0	0	1	0	2	3
Ped	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0
Angle Left-Turning	0	1	1	2	1	5
Angle Right-Turning	0	0	0	1	1	2
Angle T-Bone	0	1	0	0	0	1
Rear End	0	0	0	0	3	3
OHV	0	0	0	0	0	0
Sideswipe	0	0	1	2	3	6
Total	1	3	5	6	15	30

Four KSI crashes occurred on Tudor Road between Baxter Road and Patterson Street during the study period. Two of these were head-on crashes involving vehicles that crossed over the TWLTL and collided with opposing direction traffic. A 2019 head-on crash resulted in fatalities of both drivers involved. Two others were angle crashes involving left turning vehicles at the Chugach Square driveway entrances. One of these crashes involved a vehicle making a left turn into Chugach Square and the other involved a vehicle making a left turn out of Chugach Square.

The study area also experienced five single-vehicle-run-off-road (SVROR) crashes between 2015 and 2019. One of these crashes occurred on the north side of the Tudor Road, where a steep fore slope without existing roadside barrier is located east of Kingston Drive. Comments and photos provided by residents at local community council meetings indicate that other SVROR crashes have occurred here, although these are not documented crashes within the 2015-2019 HSIP study period.

Safety Problem Solution and Project Description:

This project nomination proposes to install non-traversable median and roadside barrier to target lane departure crashes on Tudor Road between Baxter Road and Patterson Street. The proposed median targets head-on and access-related crashes by providing physical separation between vehicles, identifying specific left turn locations, and promoting through trips. This median may be raised concrete curb, concrete barrier, or a combination of both median types.

The median will extend from the westbound left turn lane at Baxter Road to a point east of Patterson Street. The following access related changes are proposed as part of this project nomination:

- Kingston Drive: Close median opening. Right-in/Right-out only.
- AWWU Driveway at milepoint 5.504: Close median opening. Right-in/Right-out only.
- Western Chugach Square Driveway – Close median opening. Right-in/Right-out only.
- Eastern Chugach Square Driveway – Close median opening. Right-in/Right-out only.
- Patterson Street – Full median opening allowing left turns in and out.

The access control changes presented above may not be the final median configuration installed by the project. Additional traffic impacts including side street traffic volumes and growth potential, out-of-direction travel, and public involvement will be reviewed during the design process to determine the final configuration of median openings.

In addition to non-traversable median, this project nomination proposes to install roadside barrier to shield the fore slope east of Kingston Drive. To support this, DOT&PF performed a ROADSIDE guardrail analysis that compared the annualized costs of existing conditions verses that of barrier installation. This analysis indicated that roadside barrier is a cost-effective treatment for this fore slope.

Design Considerations:

DOT&PF met with the Scenic Park Foothills Community Council in February 2022 in response to safety concerns for this road segment. DOT&PF presented safety options and recommended non-traversable medians per State Policy, consistent with past HSIP median work to the west. These conclusions were shared with the area's elected legislators upon request as well. This HSIP nomination is a continuation of DOT&PF's recommendations to the community to consider next available steps.

In Spring 2022, the Alaska Legislature passed a capital budget which includes funding for a new traffic signal proposed for Tudor Road at Patterson Drive. Any design work for raised median will also include coordination with state funded design work for a new traffic signal.

Access to the Century Village Condominiums, west of Chugach Square, should be reviewed by the design team to consider impacts to emergency vehicle access, out-of-direction travel, and circulation within the adjacent commercial parking lot.

The installation of roadside barrier east of Kingston Drive was determined to be cost effective by DOT&PF if the proposed barrier were either located at the face of curb or behind pathway. The design team should select the final barrier location based on field conditions and impacts to existing facilities.

The existing Continuous Count station and Weigh-in-Motion station on Tudor Road at milepoint 5.55 will be impacted by the installation of median. The existing equipment and concrete pad are anticipated to require removal by the project. The design team should coordinate with the Highway Data Section to determine replacement equipment for these traffic stations.

Strategic Highway Safety Plan Conformance:

The proposed improvements are consistent with the Alaska Strategic Highway Safety Plan, Roadways Plan, Strategy 1: Reduce the number of fatal and serious injury lane departure crashes and Roadway Plan, Strategy 2: Reduce the number of fatal and serious injury intersection crashes.

Benefit/Cost Ratio:

This candidate has a benefit/cost ratio of **0.73:1**, which exceeds the minimum benefit/cost ratio of 0.2:1 listed in the current Alaska HSIP Handbook.

Cost Estimate:

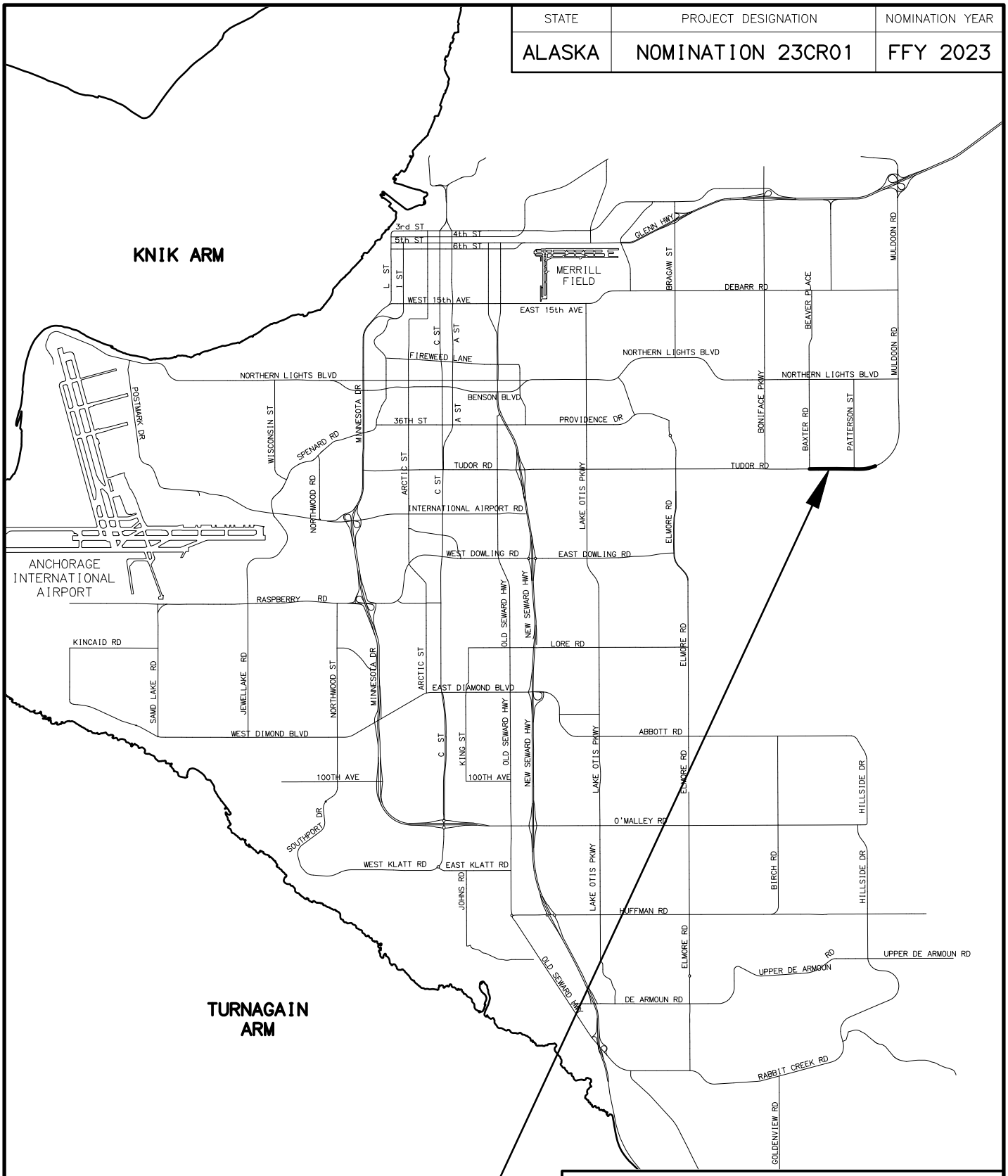
PHASE	AMOUNT	Estimated Start Date
Pre Environmental Engineering (Phase 2):	$366,600	FFY 2023
Post Environmental Engineering (Phase 2):	$244,400	FFY 2024
Right of Way (Phase 3):	$11,000	FFY 2025
Utilities (Phase 7):	$7,000	FFY 2025
Construction (Phase 4):	$4,538,000	FFY 2025

TOTAL: $5,167,000

(Note: All phases include an Indirect Cost Allocation Plan (ICAP) rate of 7.18%)

Attachments:

STATE	PROJECT DESIGNATION	NOMINATION YEAR
ALASKA	NOMINATION 23CR01	FFY 2023



23CR01: TUDOR RD: BAXTER RD TO PATTERSON ST CHANNELIZATION

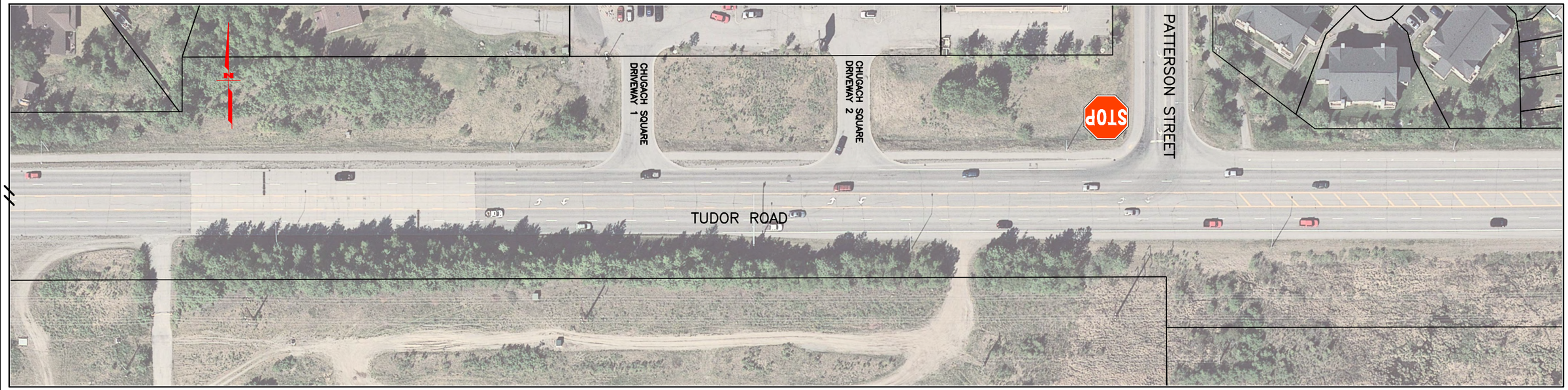
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
CENTRAL REGION
TRAFFIC AND SAFETY GROUP

TUDOR RD: BAXTER RD TO PATTERSON ST CHANNELIZATION

VICINITY MAP

DEVELOPED BY: JOL	DATE: 6/1/2022
	PAGE: 5 OF 11

STATE	PROJECT DESIGNATION	NOMINATION YEAR
ALASKA	NOMINATION 23CR01	FFY 2023



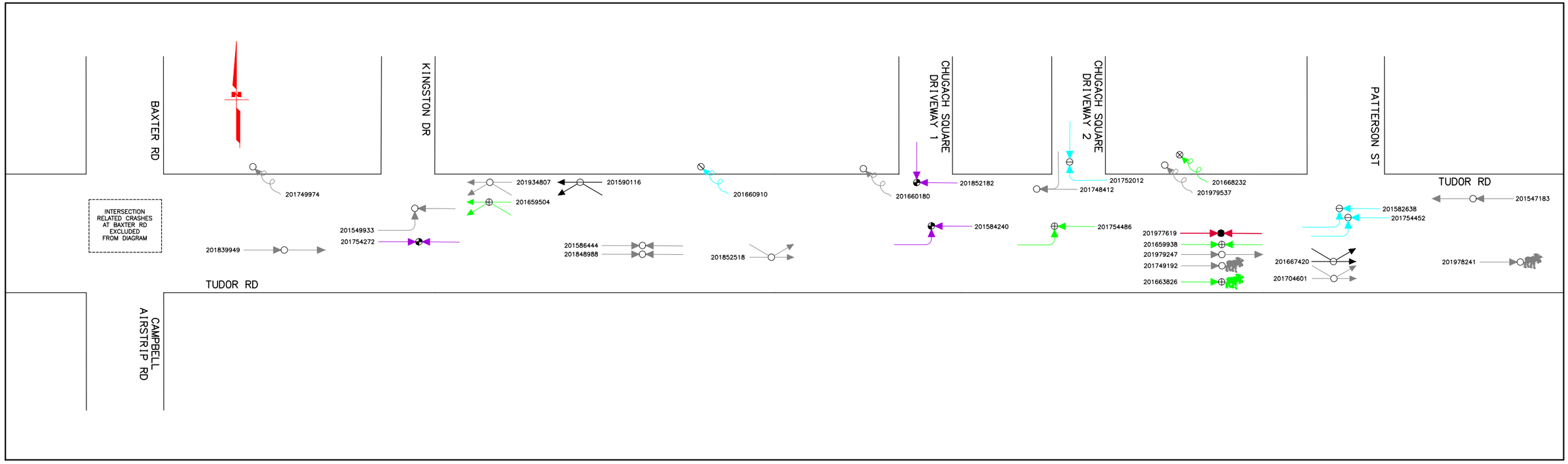
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
CENTRAL REGION
TRAFFIC AND SAFETY GROUP

TUDOR RD: BAXTER RD TO PATTERSON ST CHANNELIZATION

EXISTING CONDITIONS

DEVELOPED BY: JOL	DATE: 6/1/2022
SCALE: 1" = 100'	PAGE 6 OF 11

STATE	PROJECT DESIGNATION	NOMINATION YEAR
ALASKA	NOMINATION 23CR01	FFY 2023



LEGEND

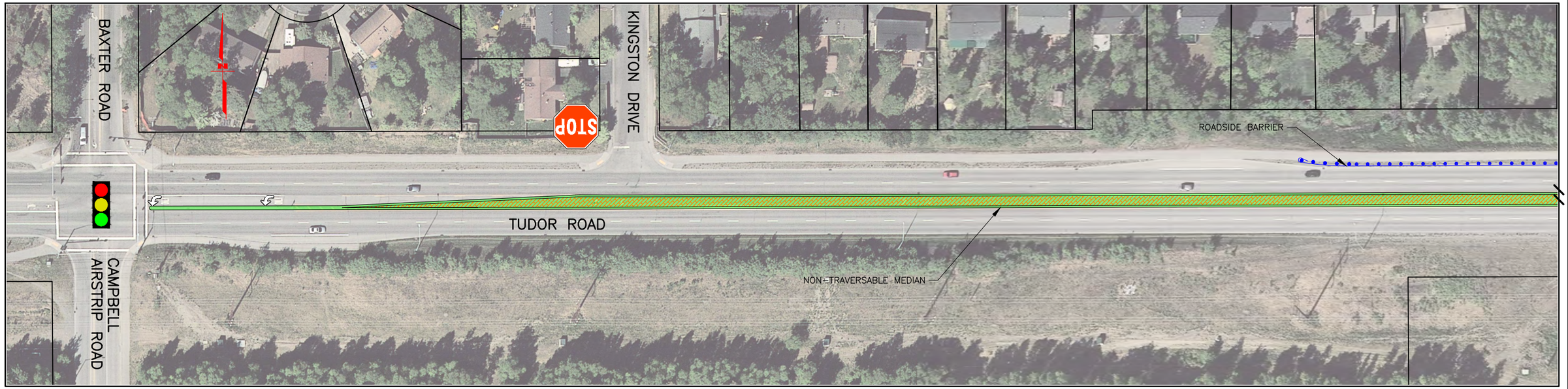
CRASH TYPE	SEVERITY
REAR END	FATAL
SIDE SWIPE	SERIOUS INJURY
ANGLE – T BONE	MINOR INJURY
ANGLE – LEFT/RIGHT TURNING	POSSIBLE INJURY
HEAD ON	NO APPARENT INJURY
RUN OFF ROAD	
BICYCLE	
PEDESTRIAN	
ANIMAL–VEHICLE	

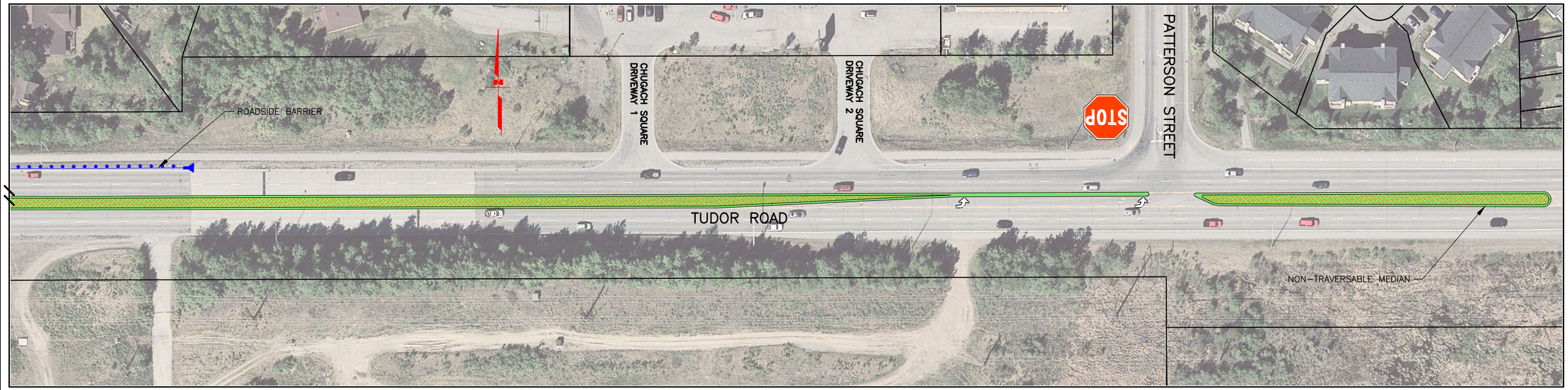
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
CENTRAL REGION
TRAFFIC AND SAFETY GROUP

TUDOR RD: BAXTER RD TO PATTERSON ST CHANNELIZATION
CRASH DIAGRAM
ALL CRASHES (2015-2019)

DEVELOPED BY: JOL	DATE: 6/1/2022
SCALE: NONE	PAGE 7 OF 11

STATE	PROJECT DESIGNATION	NOMINATION YEAR
ALASKA	NOMINATION 23CR01	FFY 2023





STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
CENTRAL REGION
TRAFFIC AND SAFETY GROUP

TUDOR RD: BAXTER RD TO PATTERSON ST CHANNELIZATION

CONCEPT DESIGN

DEVELOPED BY: JOL	DATE: 6/1/2022
SCALE: 1" = 100'	PAGE 8 OF 11

Tudor Road: Baxter Road to Patterson Street Channelization
Project Nomination Cost Estimate

Work		Quantity	Unit	Unit Cost	Total Cost	Remarks
REMOVALS						
201.0003.0000	Clearing and Grubbing	0	ACRES	$40,000.00	$0	
202.0001.0000	Removal of Structures and Obstructions	1	LS	$50,000.00	$50,000	Removal of concrete pad for WIM
202.0002.0000	Removal of Pavement	4000	SY	$5.00	$20,000	
202.0004.0000	Removal of Culvert Pipe	0	LF	$20.00	$0	As required for median installation
202.2023.0000	Pavement Planing	28000	SY	$5.00	$140,000	
INSTALLATIONS						
203.0003.0000	Unclassified Excavation	1000	CY	$12.00	$12,000	
203.0006.000A	Borrow, Type A	1300	TON	$35.00	$45,500	
301.0001.00D1	Aggregate Base Course, Grading D-1	900	TON	$35.00	$31,500	
401.0001.002A	HMA, Type II, Class VH	2600	TON	$200.00	$520,000	
401.0004.5240	Asphalt Binder, Grade 64-40	150	TON	$400.00	$60,000	
603.0001.0000	18" 24" and 36" CSP	0	LF	$125.00	$0	
606.0001.0000	W-Beam Guardrail	800	LF	$50.00	$40,000	
606.0013.0000	Parallel Guardrail Terminal	2	EACH	$5,000.00	$10,000	
608.2013.E006	Concrete, Type V, 6 inches thick, Colored and Imprinted	2600	SY	$120.00	$312,000	
609.0002.0001	Curb and Gutter, Type 1	6500	LF	$110.00	$715,000	
615.0001.0000	Standard Sign	300	SF	$150.00	$45,000	
615.0002.0000	Remove and Relocate Sign	10	EACH	$500.00	$5,000	
618.0002.0000	Seeding	200	LB	$200.00	$40,000	
602.0001.0000	Topsoil	1000	SY	$4.00	$4,000	
639.2000.0000	Approach	4	EA	$2,000.00	$8,000	
669.____.____	CCS and WIM Items				$150,000	New WIM in asphalt
670.0010.0000	MMA Pavement Markings	1	LS	All Req'd	$80,000	
CONSTRUCTION SUPPORT ITEMS						
644.0001.0000	Field Office	1	LS	All Req'd	$20,000	
644.0001.0000	Engineering Communications	1	CS	All Req'd	$8,800	0.25% of pay items
646.0001.0000	CPM Scheduling	1	LS	All Req'd	$1,800	0.05% of pay items
682.2000.0000	Vac-Truck Pothole	1	CS	All Req'd	$10,000	Utilities
OTHER						
640 items	Mobilization/Demobilization	1	LS	All Req'd	$317,500	9% of pay items
641 items	Erosion/Pollution Control	1	LS	All Req'd	$105,800	3% of pay items
642 items	Construction Surveying/Survey Party	1	LS	All Req'd	$70,600	2% of pay items
643 items	Traffic Maintenance/Flagging/Control	1	LS	All Req'd	$705,600	20% of pay items
				Construction Subtotal	$3,528,100	
UTILITIES						
	GCI	0	LS	All Req'd	$0	
	CEA	0	LS	All Req'd	$0	
	AWWU	0	LS	All Req'd	$5,000	
	Enstar	0	LS	All Req'd	$0	
	Utility Administration	0	-	-	$900	
				Utilities Subtotal	$5,900	
COST ESTIMATE SUMMARY					COST	WITH 7.18% ICAP
	Preliminary Design (Phase 2)	1	LS	All Req'd	$530,000	$568,000
	Right-of-Way - Easements or Partial Acquisitions (Phase 3)	1	LS	All Req'd	$10,000	$11,000
	Temporary Construction Permit (Phase 2)	4	EA	$10,000.00	$40,000	$43,000
	Utilities (Phase 7) + 10% Contingency	1	LS	All Req'd	$6,490	$7,000
	Construction (Phase 4)	1	LS		$3,528,000	$3,781,000
	Construction Administration (Phase 4)		%	20.00%	$706,000	$757,000

Improvements:

Median Channelization between Baxter Rd and Patterson St - Guardrail Installation East of Kingston Dr

Total: $5,167,000

Alaska DOT&PF

Highway Safety Improvement Program

Project Ranking Worksheet

Red fields are input fields. Black fields are fixed, computed, or derived.

HSIP Project Name:	***Tudor Road: Baxter Road to Patterson Street Channelization***					
Analysis Period:	*1/1/15*	***to***	*12/31/19*	Form Completed by:	*O. LeCroy*	Date: *6/1/22*

Miscellaneous Data

Rate of Return:	3%
No of years of crash analysis	5

Crash Cost Data

Crash Severity	*Crash Cost*
Property Damage Only:	$26,400
Possible Injury:	$158,700
Minor Injury:	$502,000
Serious Injury:	$1,322,000
Fatality:	$2,645,000

Predicted Change in Crashes due to Improvement(s)

Imprv Type Num	Improvement	Type of Crash Susceptible to Reduction or Increase due to Improvement	Reduction Factor (+ or -)	# of Crashes Susceptible to Reduction or Increase				
				PDO	Poss	Min	Ser	Fat
304.2	Install Raised Median	Install Raised Median to Replace Two Way Left Turn Lane (cross over and segment access-related crashes)	-15%	3	2	2	3	1
311	Install Shoulder Guardrail	Single car run-off-the-road crashes that would have been contained by the rail and resulted in fatal, serious, or minor injuries	-45%		1			
		Total Crashes Susceptible to Reduction or Increase:		3	3	2	3	1
		Predicted Change in Crashes:		0	-1	-0.3	-0.5	-0.2
		Predicted Change in Crash Cost ($1,000):		-12	-119	-151	-595	-397

Benefit/Cost of Improvements (Safety and M&O Benefits Only)

Improvement	Total Proj Cost (K)	Ann M/O Cost (K)	Life of Impvt (yrs)	Predicted Change in Crashes					Predicted Change in Crash Cost	Annualized Safety and M&O Benefits	Annualized Constr. and M&O Costs	Benefit Cost (Safety and M&O Benefits only)
				PDO	Poss	Min	Ser	Fat				
Install Raised Median	5167	2.7	20	-0.5	-0.3	-0.3	-0.5	-0.2	-$1,201,740	**$240,348**	**$350,004**	**0.7 : 1**
Install Shoulder Guardrail		0.8	10		-0.5				-$71,415	**$14,283**	**$800**	**17.9 : 1**
Subtotals:				-0.5	-0.8	-0.3	-0.5	-0.2				
Totals/Averages:	**5167**	**3.5**	**20.0**	**-2.1**					**-$1,273,155**	**$254,631**	**$350,804**	**0.73 : 1**

Benefit Cost Formula (Safety and M&O Benefits Only)

B/C Ratio = (Estimated Annual Reduction in Crash Cost)+(Decrease in Ann Maintenance Cost, 0 if increase) / (Annualized Construction Project cost)+(Increase in Ann Maintenance cost, 0 if decrease)

Combined Effects of Multiple Countermeasures

$$CRF_{combined} = \left[1 - \left(1 - \frac{CRF_1}{100}\right)\left(1 - \frac{CRF_2}{100}\right) \ldots \left(1 - \frac{CRF_n}{100}\right)\right] * 100$$

Compute a combined Crash Reduction Factor (CRF) only for crash types jointly influenced by dissimilar improvements at the location of interest. Consider limitations of this formula as discussed in TRB Special Report 214 Designing Safer Roads, 1987, pg. 253-255.

2015-2019 Tudor Road Crashes - Baxter Rd to Patterson St

Date Range Chosen:
01/01/2015 - 12/31/2019

Variable Filters:
Route
Tudor Road (Anchorage) - 2281107X000 - 133899 From: 5.197 To: 5.800
Data set excludes intersection crashes at Baxter Road/Campbell Airstrip Road*

Crash Susceptible to Reduction by Improvement 304.2
Crash Susceptible to Reduction by Improvement 311
Data Cell Corrected Based on Review of Narrative
Indicates Night Time Crash
Serious Injury Crash
Fatal Crash

Time of report run: 2/28/2022 3:10:26 PM

Crash Number	Form Type	Route	Milepoint	DateTime	Street	Intersecting Street	Crash Severity	Crash Type[1]	Weather	Environmental Conditions 1	Road Surface	Lighting
201839949	12209	2281107X000	5.3042	12/3/2018 12:30:00 PM	TUDOR ROAD	KINGSTON DR	No Apparent Injury	Rear End	Clear	Null value	Ice/Frost	Daylight
201934807	12209	2281107X000	5.3095	11/16/2019 10:52:00 PM	TUDOR ROAD	BAXTER RD	No Apparent Injury	Sideswipe	Snow	Null value	Snow	Dark - Lighted
201754272	12200	2281107X000	5.3268	2/25/2017 4:46:00 PM	TUDOR ROAD	KINGSTON DRIVE	Suspected Serious Injury	Head-On	Clear	None	Ice/Frost	Daylight
201549933	12209	2281107X000	5.328	7/6/2015 4:40:00 PM	TUDOR ROAD	KINGSTON ROAD	No Apparent Injury	Angle - Left Turning	Cloudy	Null value	Dry	Daylight
201659504	12200	2281107X000	5.3342	1/18/2016 4:58:00 PM	TUDOR ROAD	KINGSTON DRIVE	Suspected Minor Injury	Sideswipe	Clear	Null value	Ice/Frost	Dark - Not Lighted
201749974	12200	2281107X000	5.3371	5/23/2017 8:52:00 AM	TUDOR ROAD	CAMPBELL AIRSTRIP ROAD	No Apparent Injury	Single Vehicle Run-Off-Road	Cloudy	Null value	Dry	Daylight
201586444	12200	2281107X000	5.3573	12/5/2015 2:02:00 AM	TUDOR ROAD	KINGSTON DR	No Apparent Injury	Head-On	Clear	Weather Conditions	Ice/Frost	Dark - Lighted
201590116	12200	2281107X000	5.3611	10/1/2015 1:00:00 PM	TUDOR ROAD	KINGSTON	Possible Injury	Sideswipe	Freezing Rain or Freezing Drizzle	Null value	Dry	Daylight
201979247	12200	2281107X000	5.3911	11/16/2019 8:27:00 PM	TUDOR ROAD	BAXTER	No Apparent Injury	Rear End	Snow	Weather Conditions	Snow	Dark - Lighted
201848988	12200	2281107X000	5.3926	3/16/2018 11:36:00 PM	TUDOR ROAD	KINGSTON DR	No Apparent Injury	Head-On	Cloudy	Null value	Ice/Frost	Dark - Lighted
201749192	12200	2281107X000	5.4393	3/24/2017 10:34:00 PM	TUDOR ROAD	PATTERSON STREET	No Apparent Injury	Animal-Vehicle	Clear	Animal(s) in Roadway	Ice/Frost	Dark - Lighted
201852518	12200	2281107X000	5.4532	6/27/2018 8:17:00 AM	TUDOR ROAD	BAXTER RD	No Apparent Injury	Sideswipe	Cloudy	None	Dry	Daylight
201660910	12200	2281107X000	5.4887	10/2/16 9:59 AM	TUDOR ROAD	BAXTER RD	Possible Injury	Single Vehicle Run-Off-Road	Cloudy	Null value	Dry	Daylight
201852182	12200	2281107X000	5.5931	6/2/2018 3:27:00 PM	TUDOR ROAD	CHUGACH SQUARE	Suspected Serious Injury	Angle - T-Bone	Clear	None	Dry	Daylight
201659938	12200	2281107X000	5.6267	4/6/2016 4:08:00 PM	TUDOR ROAD	PATTERSON STREET	Suspected Minor Injury	Head-On	Clear	Unknown	Dry	Daylight
201748412	12200	2281107X000	5.6349	4/11/2017 7:54:00 AM	TUDOR ROAD	PATTERSON STREET	No Apparent Injury	Angle - Right Turning	Clear	Null value	Dry	Daylight
201977619	12200	2281107X000	5.6588	1/9/2019 9:27:00 PM	TUDOR ROAD	PATTERSON	Fatal Injury (Killed)	Head-On	Clear	None	Ice/Frost	Dark - Lighted
201752012	12200	2281107X000	5.6676	11/16/2017 7:16:00 AM	TUDOR ROAD	PATTERSON DRIVE	Possible Injury	Angle - Right Turning	Snow	Null value	Snow	Dark - Lighted
201754486	12200	2281107X000	5.6685	1/1/2017 4:00:00 PM	TUDOR ROAD	PATTERSON STREET	Suspected Minor Injury	Angle - Left Turning	Cloudy	Null value	Dry	Daylight
201704601	12209	2281107X000	5.6721	3/1/2017 3:27:00 PM	TUDOR ROAD	PATTERSON STREET	Null value	Sideswipe	Clear	None	Ice/Frost	Daylight
201584240	12200	2281107X000	5.6845	6/17/2015 9:23:00 PM	TUDOR ROAD	PATTERSON	Suspected Serious Injury	Motorcycle - Angle - Left Turning	Clear	Null value	Dry	Daylight
201979537	12200	2281107X000	5.6956	12/29/2019 4:24:00 AM	TUDOR ROAD	PATTERSON	No Apparent Injury	Single Vehicle Run-Off-Road	Clear	None	Ice/Frost	Dark - Lighted
201663826	12200	2281107X000	5.6988	10/25/2016 7:19:00 AM	TUDOR ROAD	PATTERSON	Suspected Minor Injury	Animal-Vehicle	Clear	Animal(s) in Roadway	Dry	Dark - Lighted
201660180	12200	2281107X000	5.7076	1/24/2016 2:10:00 PM	TUDOR ROAD	PATTERSON	No Apparent Injury	Single Vehicle Run-Off-Road	Cloudy	None	Ice/Frost	Daylight
201667420	12200	2281107X000	5.7182	1/26/2016 10:15:00 AM	TUDOR ROAD	PATTERSON RD	Possible Injury	Sideswipe	Cloudy	Null value	Dry	Daylight
201582638	12200	2281107X000	5.7295	4/2/2015 5:04:00 PM	TUDOR ROAD	PATTERSON STREET	Possible Injury	Angle - Left Turning	Cloudy	Null value	Dry	Daylight
201754452	12200	2281107X000	5.732	6/4/2017 4:54:00 PM	TUDOR ROAD	PATTERSON STREET	Possible Injury	Angle - Left Turning	Cloudy	None	Dry	Daylight
201547183	12209	2281107X000	5.7725	6/20/2015 1:23:00 AM	TUDOR ROAD	PATTERSON	Null value	Rear End	Clear	Null value	Dry	Dark - Lighted
201668232	12200	2281107X000	5.7889	11/19/2016 4:53:00 PM	TUDOR ROAD	PATTERSON STREET	Suspected Minor Injury	Single Vehicle Run-Off-Road	Clear	Weather Conditions	Ice/Frost	Dark - Unknown Lighting
201978241	12200	2281107X000	5.7964	11/5/2019 5:39:00 PM	TUDOR ROAD	PATTERSON ST	No Apparent Injury	Animal-Vehicle	Cloudy	Animal(s) in Roadway	Wet	Dark - Lighted

1) Crash type assigned by reviewer based on review of narrative.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
Central Region Traffic & Safety Section

Federal Fiscal Year (FFY) 2023 Highway Safety Improvement Program (HSIP)
Candidate Description and Cost Estimate

Name:

23CR02: Old Seward Hwy: Industry Way/120th Ave Channelization

Location:

Proposed improvements are located on Old Seward Highway (Route ID: 2281251X000) at the intersections of Industry Way (Route ID: 2281153X000) and East 120th Avenue (Route ID : 2282776X000) in Anchorage. Industry Way and 120th Avenue form two offset-T stop-controlled intersections at milepoint 2.556 and milepoint 2.502 of Old Seward Highway, respectively.

Old Seward Highway is a 5-lane roadway within the study area with a center two-way left turn lane (TWLTL). It is owned and maintained by the Alaska Department of Transportation & Public Facilities (DOT&PF). The roadway is classified as a principal arterial and has a posted speed limit of 45 miles per hour (mph). The Annual Average Daily Traffic (AADT) in 2017, representing the middle year of the study period, was 16,827 vehicles per day (vpd) at the intersection.

Industry Way is a two-lane two-way roadway within the study area. It is owned and maintained by the Municipality of Anchorage (MOA) and it is classified as a minor collector with a posted speed limit of 25 mph. The AADT on Industry Way in 2017 was 5,519 vpd.

120th Avenue is also a two-lane two-way roadway within the study area. It is owned and maintained by the Municipality of Anchorage and is classified as a local road with a posted speed limit of 20 mph. There are no dedicated eastbound turn lanes on 120th Avenue at Old Seward Highway. No published traffic volumes by MOA were available for 120th Avenue at the time of this nomination.

A continuous lighting system is located on the east side of Old Seward Highway. The existing lighting system is owned and maintained by DOT&PF.

A 10-foot-wide asphalt pathway is located on the west side and a 5-foot-wide sidewalk is located on the east side of Old Seward Highway. Both facilities are adjacent to the roadway behind curb and gutter. No dedicated pedestrian facilities are located on Industry Way or 120th Avenue within the study area.

Old Seward Highway was last reconstructed in 2010, when the roadway was upgraded from a 2-lane roadway into a 5-lane section with TWLTL.

Background:

Central Region DOT&PF previously submitted an HSIP project nomination in 2020 (21CR03 Old Seward and Industry Way Intersection Improvements) for safety improvements on Old Seward Highway at Industry Way and 120th Avenue. This project nomination proposed the installation of a new traffic signal at Industry Way and median channelization at 120th Ave. Plans for advancing a new signal project were discussed with MOA traffic engineering staff in 2020 and 2021. MOA cited concerns regarding an increase in maintenance and operations costs, ongoing development in Huffman Park, and that signal warrants did not support a new traffic signal at Industry Way. Although the work was found to be eligible for HSIP funding at the time, this project nomination did not proceed to the design phase.

Currently MOA has a project in design to upgrade 120th Ave between John's Road and Old Seward Highway. This project's scope includes upgrades to 120th Ave and the existing railroad crossing and includes the addition of new pedestrian facilities along the roadway. The project's scope does not include plans to upgrade the intersection of 120th Ave and Old Seward Highway. This project is scheduled for construction in 2025.

Safety Problem Description:

The Industry Way and 120th Avenue intersections experience significant vehicular turning conflicts due to their proximity, high mainline traffic volumes, and limited mainline gaps during peak hours. Left-turning traffic at both intersections must judge gaps across two lanes of Old Seward Highway traffic. In coordination with the local community council, residents expressed concerns regarding excessive speeds on Old Seward Highway, the difficultly of making a left turn out of 120th Avenue, as well as cut-through traffic on 120th Avenue.

Industry Way and its internally connected streets provide access to several businesses and services including restaurants, retail shops, office buildings, banks, gas stations, a United States Post Office, and a large grocery store. These trip destinations create a high southbound left-turning demand at Industry Way, which commonly forms a queue of southbound left-turning traffic within the TWLTL during peak hours. Traffic counts obtained at this intersection on 11/04/20 indicate that 24.2% of the southbound traffic on Old Seward Hwy made a left turn at Industry Way and 97.8% of westbound traffic on Industry Way turned right onto Old Seward Highway.

120th Avenue is classified as a local road; however, it is commonly used by motorists as a cut-through connection to John's Road, a major collector. 120th Avenue and it's interconnected streets provide access to high density housing, an elementary school, and a small number of commercial businesses. Traffic counts obtained at this intersection on 11/04/20 indicate there were 1145 westbound vehicles on 120th Ave during a 16 hour period, 46.8% of which turned left onto northbound Old Seward Highway and the remaining turned right towards the Huffman Road roundabouts.

The intersection of Old Seward Highway and Industry Way is ranked #2 out of 118 intersections currently being monitored on the 2019 Central Region Unsignalized Intersection Monitoring List.

Existing Crash Patterns:

Old Seward Highway in the study area experienced a pattern of angle crashes between 2015 and 2019. These crashes were primarily caused by westbound left-turning vehicles from 120th Avenue onto Old Seward and southbound left-turning vehicles from Old Seward Highway onto Industry Way. A total of 17 angle crashes occurred within this 5 year window. Of these angle crashes, 2 were minor injury, 3 were possible injury, and 12 were no apparent injury.

A fatal crash involving a southbound left-turning vehicle and northbound motorcycle occurred at the Industry Way intersection in 2013. This fatal crash is not included in the benefit-cost calculation for this project nomination because it is outside of the 5-year HSIP study period.

Safety Problem Solution and Project Description:

To mitigate angle crashes occurring within the study area, DOT&PF proposes the installation raised median on Old Seward Highway with directional left-in only median openings at Industry Way and 120th Avenue. This is expected to reduce the number of angle crashes at these intersections by limiting the allowable left-turning movements and by simplifying a motorist's decision-making at the stop-controlled approaches. This proposed mitigation does not affect future signal location options and does not require additional maintenance or approvals from the MOA. Instead, raised median has been shown to the Community Council as one DOT&PF option, it has no objection from MOA, and falls within DOT&PF authority to manage access to highways under AS 19.05.040.

Left-turning motorists from 120th Avenue and Industry Way will be served by routing them to other suitable locations without significant out-of-direction travel. The left-turning demand from Industry Way is very low and impacts are expected to be minimal for this approach. Left-turners from 120th Avenue will have two alternatives to continue northbound on Old Seward Highway. The first alternative will be to turn right and continue around the Huffman Road roundabout. The second alternative will be to take Johns Road northbound and Klatt Road eastbound to the signalized intersection of Klatt Road and Old Seward Highway. Both alternatives are estimated to increase travel time by no more than one minute.

The project is being nominated for HSIP funding to construct with the Old Seward Highway and Huffman Road - O'Malley to Rabbit Creek Rd to Birch Pavement Preservation project (CFHWY00886). This preventative maintenance project plans to resurface Old Seward Highway within the study area; however, the installation of raised median channelization is not typically included in the scope of preventative maintenance projects in accordance with Section 1140.2 of the Highway Preconstruction Manual. This project will begin design efforts in the Summer of 2022 and is planned for construction in 2024 or 2025. Aligning the design, advertisement, and construction these two projects is anticipated to reduce construction costs and limit the negative impacts of installing raised median outside of repaving efforts.

Strategic Highway Safety Plan Conformance:

The proposed improvements are consistent with the Alaska Strategic Highway Safety Plan, Roadways Plan, Strategy 2: Reduce the number of fatal and serious injury intersection crashes.

Benefit/Cost Ratio:

This candidate has a benefit/cost ratio of **0.38:1**, which exceeds the minimum benefit/cost ratio of 0.2:1 listed in the current Alaska HSIP Handbook.

Cost Estimate:

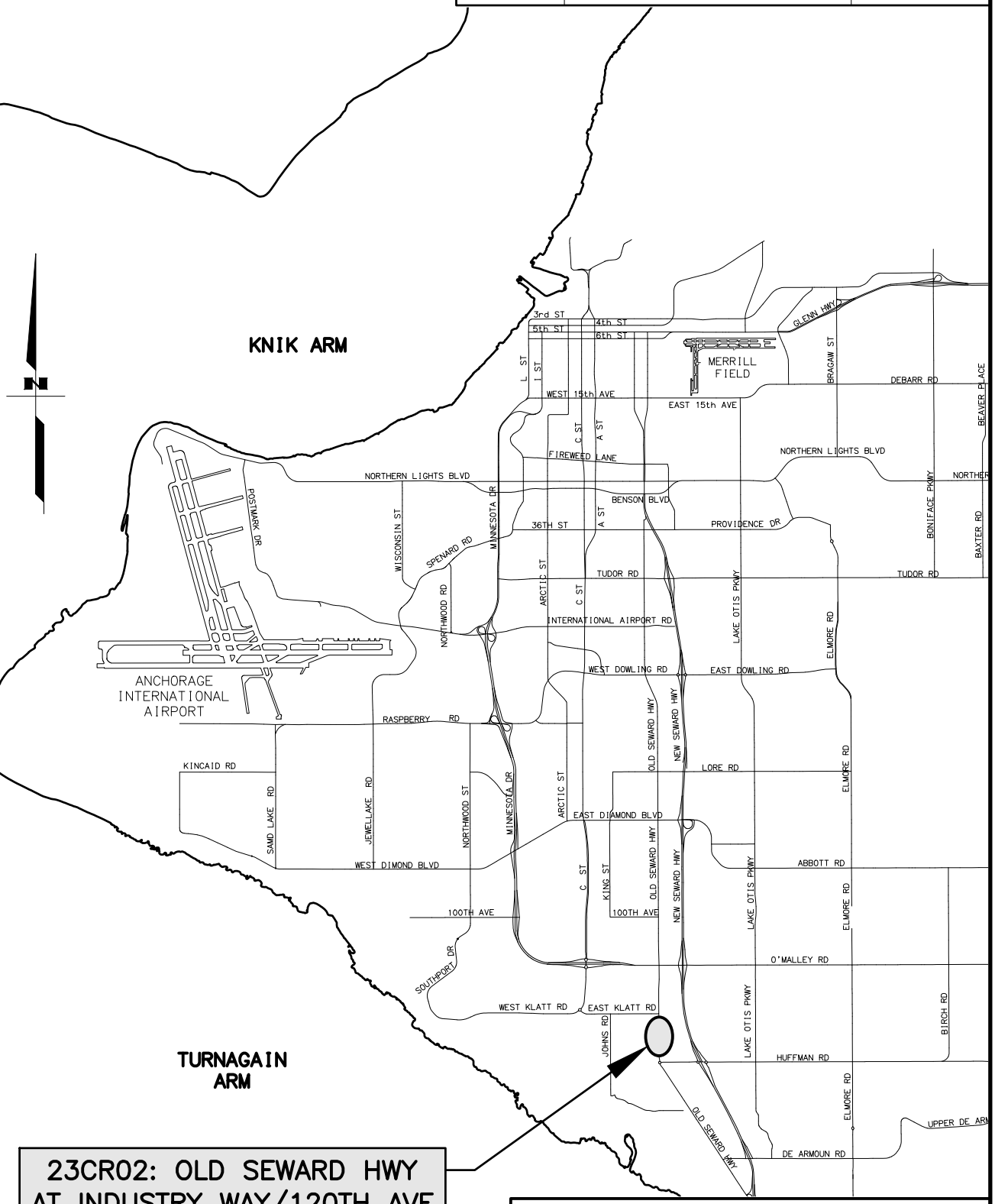
PHASE	AMOUNT	Estimated Start Date
Pre Environmental Engineering (Phase 2):	$171,600	FFY 2023
Post Environmental Engineering (Phase 2):	$114,400	FFY 2023
Right of Way (Phase 3):	$0	FFY 2024
Utilities (Phase 7):	$7,000	FFY 2025
Construction (Phase 4):	$1,784,000	FFY 2025

TOTAL: $2,077,000

(Note: All phases include an Indirect Cost Allocation Plan (ICAP) rate of 7.18%)

Attachments:

STATE	PROJECT DESIGNATION	NOMINATION YEAR
ALASKA	NOMINATION 23CR02	FFY 2023



23CR02: OLD SEWARD HWY AT INDUSTRY WAY/120TH AVE CHANNELIZATION

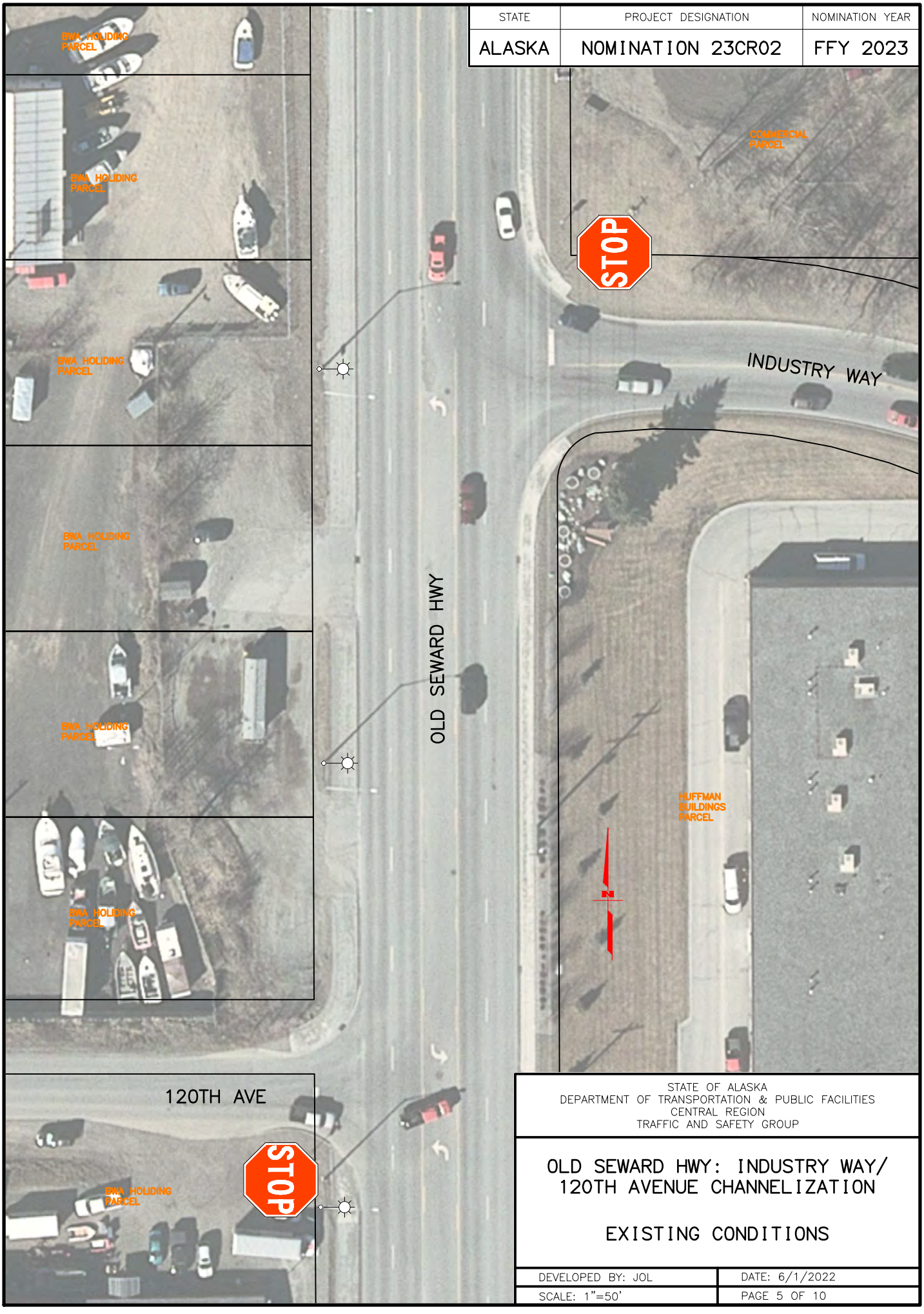
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
CENTRAL REGION
TRAFFIC AND SAFETY GROUP

OLD SEWARD HWY: INDUSTRY WAY/ 120TH AVENUE CHANNELIZATION

VICINITY MAP

DEVELOPED BY: JOL	DATE: 6/1/2022
	PAGE: 4 OF 10

STATE	PROJECT DESIGNATION	NOMINATION YEAR
ALASKA	NOMINATION 23CR02	FFY 2023



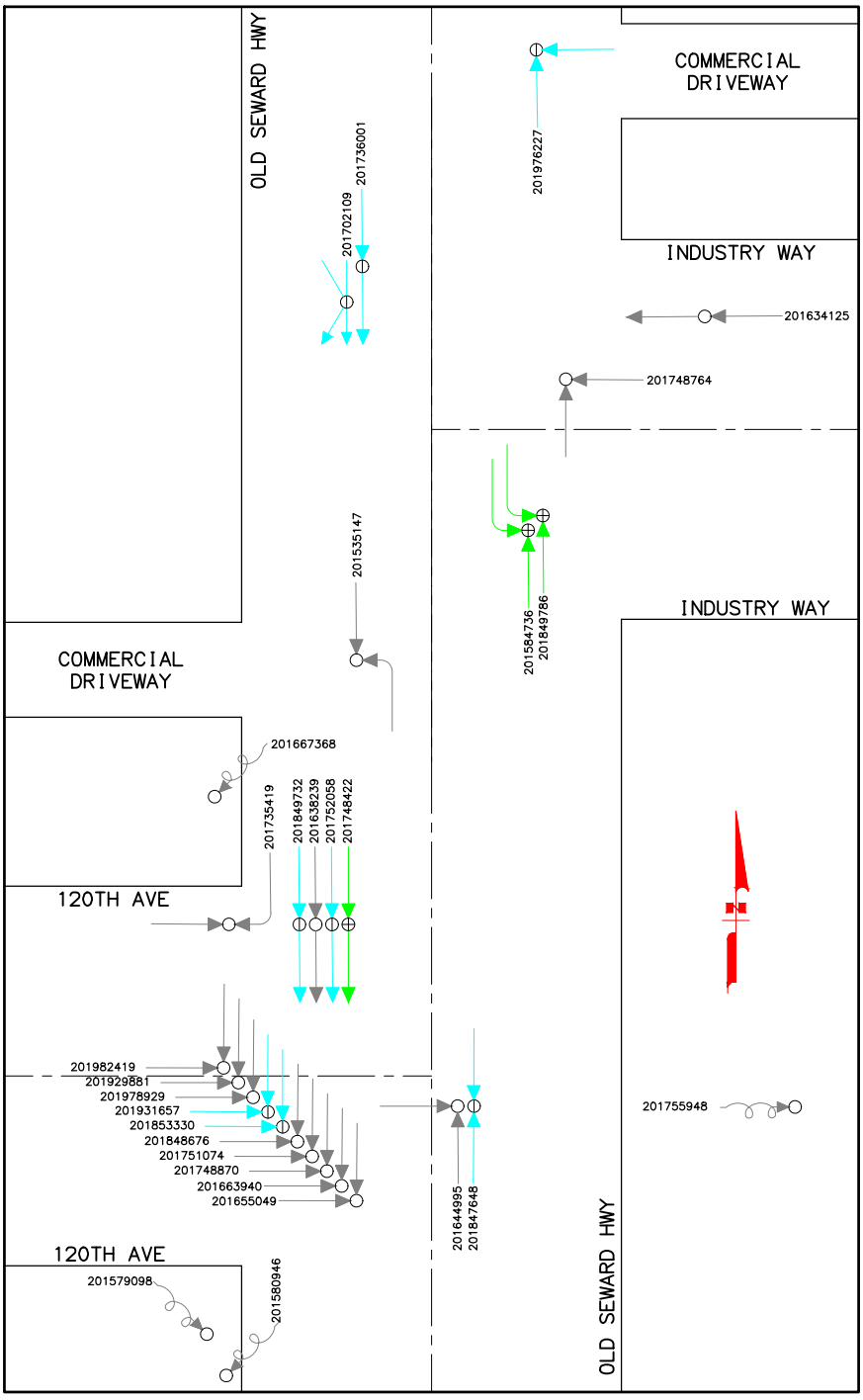
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
CENTRAL REGION
TRAFFIC AND SAFETY GROUP

OLD SEWARD HWY: INDUSTRY WAY/ 120TH AVENUE CHANNELIZATION

EXISTING CONDITIONS

DEVELOPED BY: JOL	DATE: 6/1/2022
SCALE: 1"=50'	PAGE 5 OF 10

STATE	PROJECT DESIGNATION	NOMINATION YEAR
ALASKA	NOMINATION 23CR02	FFY 2023



LEGEND

SEVERITY

- FATAL
- SERIOUS INJURY
- MINOR INJURY
- POSSIBLE INJURY
- NO APPARENT INJURY

CRASH TYPE

- REAR END
- SIDE SWIPE
- ANGLE – T BONE
- ANGLE – LEFT/RIGHT TURNING
- HEAD ON
- RUN OFF ROAD
- BICYCLE
- PEDESTRIAN
- ANIMAL–VEHICLE

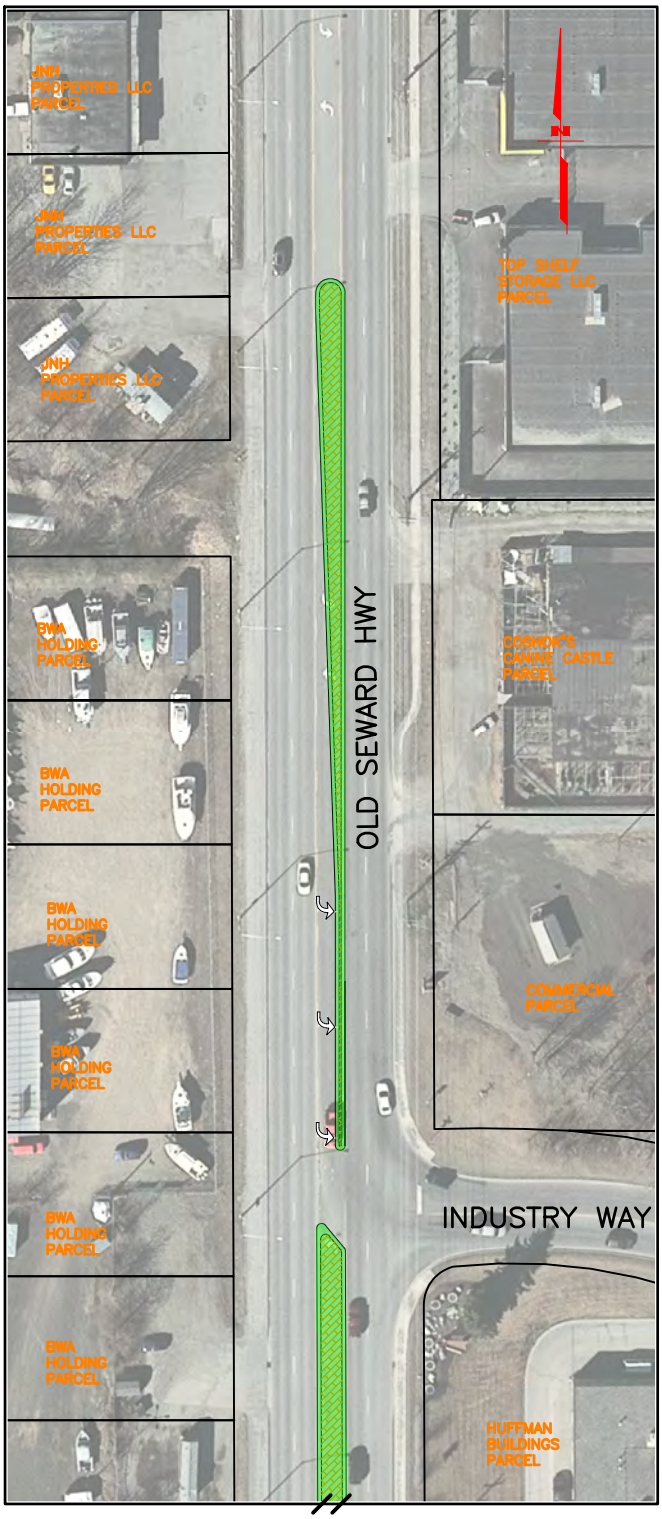
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
CENTRAL REGION
TRAFFIC AND SAFETY GROUP

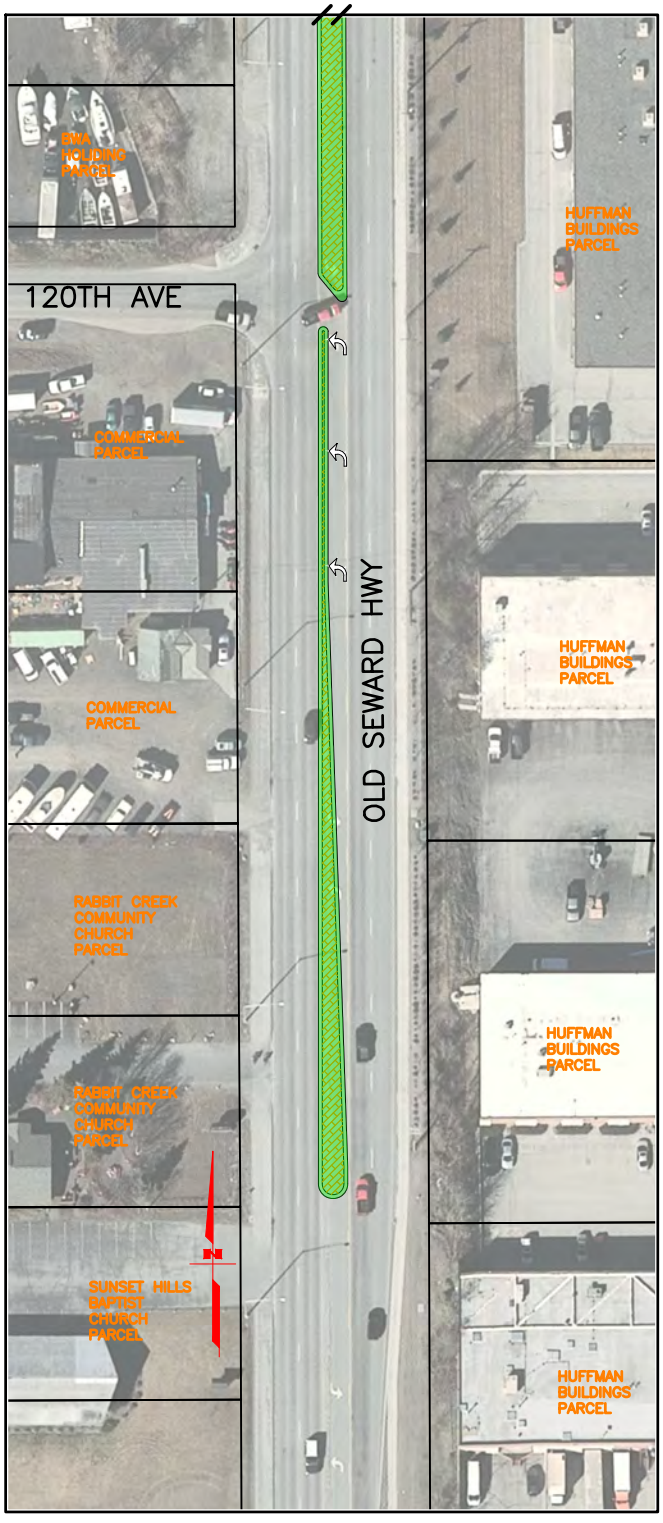
OLD SEWARD HWY: INDUSTRY WAY/ 120TH AVENUE CHANNELIZATION

CRASH DIAGRAM
ALL CRASHES (2015–2019)

DEVELOPED BY: JOL	DATE: 6/1/2022
SCALE: NONE	PAGE 6 OF 10

STATE	PROJECT DESIGNATION	NOMINATION YEAR
ALASKA	NOMINATION 23CR02	FFY 2023





STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
CENTRAL REGION
TRAFFIC AND SAFETY GROUP

OLD SEWARD HWY: INDUSTRY WAY/ 120TH AVENUE CHANNELIZATION

CONCEPT DESIGN

DEVELOPED BY: JOL	DATE: 6/1/2022
SCALE: 1"=100'	PAGE 7 OF 10

Old Seward Hwy: Industry Way/120th Ave Channelization
Cost Estimate

Work		Quantity	Unit	Unit Cost	Total Cost	Remarks
REMOVALS						
201.0003.0000	Clearing and Grubbing	0	ACRES	$40,000.00	$0	
202.0002.0000	Removal of Pavement	2000	SY	$5.00	$10,000	As required for
202.0009.0000	Removal of Curb and Gutter	0	LF	$10.00	$0	median installation
202.2023.0000	Pavement Planing	7700	SY	$5.00	$38,500	
INSTALLATIONS						
203.0003.0000	Unclassified Excavation	1000	CY	$12.00	$12,000	
203.0006.000A	Borrow, Type A	670	TON	$35.00	$23,450	
301.0001.00D1	Aggregate Base Course, Grading D-1	420	TONS	$35.00	$14,700	
401.0001.002A	HMA, Type II, Class VH	950	TON	$200.00	$190,000	
401.0004.5240	Asphalt Binder, Grade 64-40	51	TON	$400.00	$20,400	
603.0001.0000	18" 24" and 36" CSP	0	LF	$125.00	$0	
608.2013.E006	Concrete, Type V, 6 inches thick, Colored and Imprinted	850	SY	$120.00	$102,000	
609.0002.0001	Curb and Gutter, Type 1	3000	LF	$110.00	$330,000	
615.0001.0000	Standard Sign	200	SF	$150.00	$30,000	
615.0002.0000	Remove and Relocate Sign	10	EACH	$500.00	$5,000	
618.0002.0000	Seeding	200	LB	$200.00	$40,000	
602.0001.0000	Topsoil	1000	SY	$4.00	$4,000	
639.2000.0000	Approach	2	EA	$2,000.00	$4,000	
670.0010.0000	MMA Pavement Markings	1	LS	All Req'd	$20,000	
CONSTRUCTION SUPPORT ITEMS						
644.0001.0000	Field Office	1	LS	All Req'd	$20,000	
644.0001.0000	Engineering Communications	1	CS	All Req'd	$3,300	0.25% of pay items
646.0001.0000	CPM Scheduling	1	LS	All Req'd	$700	0.05% of pay items
682.2000.0000	Vac-Truck Pothole	1	CS	All Req'd	$10,000	Utilities
OTHER						
640 items	Mobilization/Demobilization	1	LS	All Req'd	$119,800	9% of pay items
641 items	Erosion/Pollution Control	1	LS	All Req'd	$39,900	3% of pay items
642 items	Construction Surveying/Survey Party	1	LS	All Req'd	$26,600	2% of pay items
643 items	Traffic Maintenance/Flagging/Control	1	LS	All Req'd	$266,300	20% of pay items
				Construction Subtotal	$1,330,650	
UTILITIES						
	GCI	0	LS	All Req'd	$0	
	CEA	0	LS	All Req'd	$0	
	AWWU	0	LS	All Req'd	$5,000	
	Enstar	0	LS	All Req'd	$0	
	Utility Administration	0	-	-	$900	
				Utilities Subtotal	$5,900	
COST ESTIMATE SUMMARY					COST	WITH 7.18% ICAP
	Preliminary Design (Phase 2)		LS	All Req'd	$267,000	$286,000
	Right-of-Way Partial Acquisition (Phase 3)	0	EA	$0.00	$0	$0
	Temporary Construction Easement (Phase 2)	0	EA	$15,000.00	$0	$0
	Utilities (Phase 7) + 10% Contingency		LS	All Req'd	$6,490	$7,000
	Construction (Phase 4)		LS		$1,331,000	$1,427,000
	Construction Administration		%	25.00%	$333,000	$357,000

Improvements:

Median Channelization at Industry Way and 120th Ave

Total: $2,077,000

Alaska DOT&PF

Highway Safety Improvement Program

Project Ranking Worksheet

Red fields are input fields. Black fields are fixed, computed, or derived.

HSIP Project Name:	***Old Seward Hwy: Industry Way/120th Ave Channelization***					
Analysis Period:	*1/1/15*	**to**	*12/31/19*	Form Completed by:	*O. LeCroy*	Date: *6/1/22*

Miscellaneous Data

Rate of Return:	3%
No of years of crash analysis	5

Crash Cost Data

Crash Severity	*Crash Cost*
Property Damage Only:	$26,400
Possible Injury:	$158,700
Minor Injury:	$502,000
Serious Injury:	$1,322,000
Fatality:	$2,645,000

Predicted Change in Crashes due to Improvement(s)

Imprv Type Num	Improvement	Type of Crash Susceptible to Reduction or Increase due to Improvement	Reduction Factor (+ or -)	# of Crashes Susceptible to Reduction or Increase				
				PDO	Poss	Min	Ser	Fat
304.2	Install Raised Median	Install Raised Median to Replace Two Way Left Turn Lane (cross over and segment access-related crashes)	-15%	11	3	2		
		Total Crashes Susceptible to Reduction or Increase:		11	3	2		
		Predicted Change in Crashes:		-2	0	-0.3		
		Predicted Change in Crash Cost ($1,000):		-44	-71	-151		

Benefit/Cost of Improvements (Safety and M&O Benefits Only)

Improvement	Total Proj Cost (K)	Ann M/O Cost (K)	Life of Impvt (yrs)	Predicted Change in Crashes					Predicted Change in Crash Cost	Annualized Safety and M&O Benefits	Annualized Constr. and M&O Costs	Benefit Cost (Safety and M&O Benefits only)
				PDO	Poss	Min	Ser	Fat				
Install Raised Median	2077	1.2	20	-1.7	-0.5	-0.3			-$265,575	**$53,115**	**$140,807**	**0.4 : 1**
Subtotals:				-1.7	-0.5	-0.3						
Totals/Averages:	**2077**	**1.2**	**20.0**	**-2.4**					**-$265,575**	**$53,115**	**$140,807**	**0.38 : 1**

Benefit Cost Formula (Safety and M&O Benefits Only)

B/C Ratio = (Estimated Annual Reduction in Crash Cost)+(Decrease in Ann Maintenance Cost, 0 if increase) / (Annualized Construction Project cost)+(Increase in Ann Maintenance cost, 0 if decrease)

Combined Effects of Multiple Countermeasures

$$CRF_{combined} = \left[1 - \left(1 - \frac{CRF_1}{100}\right)\left(1 - \frac{CRF_2}{100}\right) \ldots \left(1 - \frac{CRF_n}{100}\right)\right] * 100$$

Compute a combined Crash Reduction Factor (CRF) only for crash types jointly influenced by dissimilar improvements at the location of interest. Consider limitations of this formula as discussed in TRB Special Report 214 Designing Safer Roads, 1987, pg. 253-255.

2015-2019 Old Seward Highway Crashes near 120th Avenue/Industry Way

Date Range Chosen:
01/01/2015 - 12/31/2019

Filters Used:
Map\OldSewardMap1719
Route
Old Seward Highway (Anchorage) - 2281251X000 - 133200 From: 2.516 To: 2.542
East 120th Avenue (Anchorage) - 2282776X000 From: 0.459 To: 0.5
Industry Way (Anchorage) - 2281153X000 - 133224 From: 0 To: 0.04

Crash Susceptible to Reduction by Improvement
Data Cell Corrected Based on Review of Narrative
Indicates Night Time Crash
Serious Injury Crash
Fatal Crash

Time of report run: 1/19/2022 7:53:24 AM

Crash Number	Form Type	Route	Milepoint	DateTime	Street	Intersecting Street	Crash Severity	Crash Type[1]	Weather	Environmental Conditions 1	Road Surface	Lighting
201702109	12209	2281251X000	2.5519	2/12/2017 2:50:00 PM	OLD SEWARD HIGHWAY	INDUSTRY WAY	Possible Injury	Sideswipe	Cloudy	None	Snow	Daylight
201735419	12209	2282776X000	0.499	11/10/2017 3:29:00 PM	EAST 120TH AVENUE	OLD SEWARD HWY	No Apparent Injury	Angle - Right Turning	Clear	None	Ice/Frost	Daylight
201736001	12209	2281251X000	2.5416	11/14/2017 4:22:00 PM	OLD SEWARD HWY	INDUSTRY WAY	Possible Injury	Rear End	Clear	None	Ice/Frost	Daylight
201748764	12200	2281251X000	2.547	6/1/2017 12:06:00 PM	OLD SEWARD HIGHWAY	INDUSTRY WAY	No Apparent Injury	Angle - T-Bone	Clear	Unknown	Dry	Daylight
201748870	12200	2281251X000	2.4865	6/15/2017 6:43:00 PM	OLD SEWARD HIGHWAY	120TH AVENUE	No Apparent Injury	Angle - T-Bone	Clear	Null value	Dry	Daylight
201751074	12200	2281251X000	2.4882	7/2/2017 12:25:00 PM	OLD SEWARD HIGHWAY	120TH AVENUE	No Apparent Injury	Angle - T-Bone	Rain	None	Wet	Daylight
201752058	12200	2281251X000	2.4874	10/27/2017 9:59:00 AM	OLD SEWARD HIGHWAY	120TH AVENUE	Possible Injury	Rear End	Cloudy	None	Wet	Daylight
201755948	12200	2281251X000	2.4879	9/6/2017 5:19:00 AM	OLD SEWARD HIGHWAY	120TH AVENUE	Null value	Single Vehicle Run-Off-Road	Null value	Null value	Dry	Dark - Lighted
201840715	12209	2282776X000	0.4756	12/10/2018 12:35:00 PM	EAST 120TH AVENUE	OLD SEWARD HWY	No Apparent Injury	Other	Cloudy	Null value	Ice/Frost	Daylight
201847648	12200	2281251X000	2.478	2/1/2018 3:12:00 PM	OLD SEWARD HIGHWAY	120TH	Possible Injury	Head-On	Clear	Null value	Ice/Frost	Daylight
201848676	12200	2282776X000	0.4857	3/4/2018 3:04:00 PM	EAST 120TH AVENUE	OLD SEWARD	No Apparent Injury	Angle - T-Bone	Clear	Null value	Ice/Frost	Daylight
201849732	12200	2282776X000	0.4921	5/5/2018 4:43:00 PM	EAST 120TH AVENUE	E 120TH AVE	Possible Injury	Rear End	Cloudy	Null value	Dry	Daylight
201978929	12200	2281251X000	2.5011	10/4/2019 5:25:00 PM	OLD SEWARD HIGHWAY	120TH AVE	No Apparent Injury	Angle - T-Bone	Cloudy	Null value	Dry	Daylight
201982419	12209	2282776X000	0.4792	6/17/2019 11:27:00 AM	EAST 120TH AVENUE	OLD SEWARD HWY	No Apparent Injury	Angle - T-Bone	Clear	Null value	Dry	Daylight
201535147	12209	2281251X000	2.5376	2/19/2015 6:00:00 PM	OLD SEWARD HIGHWAY	11950 OLD SEWARD HIGHWAY	No Apparent Injury	Angle - Left Turning	Clear	Null value	Dry	Dusk
201644995	12209	2281251X000	2.4874	4/19/2016 5:09:00 PM	OLD SEWARD HIGHWAY	120TH	No Apparent Injury	Angle - T-Bone	Clear	Null value	Dry	Daylight
201655049	12209	2281251X000	2.4886	12/29/2016 5:38:00 PM	OLD SEWARD HIGHWAY	120TH AVE	No Apparent Injury	Angle - T-Bone	Clear	Null value	Dry	Dark-Lighted
201663940	12200V2	2281251X000	2.4893	12/16/2016 9:24:00 AM	OLD SEWARD HIGHWAY	E 120TH AVENUE	No Apparent Injury	Angle - T-Bone	Cloudy	Null value	Ice/Frost	Dawn
201929881	12209	2281251X000	2.505	10/21/2019 12:00:00 AM	OLD SEWARD HIGHWAY	120TH	No Apparent Injury	Angle - T-Bone	Clear	Null value	Unknown	Dusk
201748422	12200	2281251X000	2.4394	4/12/2017 10:00:00 AM	OLD SEWARD HIGHWAY	INDUSTRY WAY	Suspected Minor Injury	Rear End	Clear	Null value	Dry	Daylight
201853330	12200	2281251X000	2.489	10/11/2018 11:23:00 AM	OLD SEWARD HIGHWAY (ANCHORAC	EAST 120TH AVENUE	Possible Injury	Angle - T-Bone	Clear	Null value	Dry	Dark - Lighted
201579098	12200V2	2281251X000	2.4864	1/3/2015 1:40:00 PM	OLD SEWARD HIGHWAY	120TH AVENUE	No Apparent Injury	Single Vehicle Run-Off-Road	Clear	Null value	Ice/Frost	Daylight
201580964	12200V2	2281251X000	2.4787	2/5/2015 2:20:00 PM	OLD SEWARD HIGHWAY	120TH AVENUE	Null value	Single Vehicle Run-Off-Road	Clear	Null value	Ice/Frost	Daylight
201931657	12209	2281251X000	2.5025	10/22/2019 4:45:00 PM	OLD SEWARD HIGHWAY	120TH	Possible Injury	Angle - T-Bone	Clear	Null value	Dry	Daylight
201634125	12209	2281251X000	2.5577	12/14/2016 3:45:00 PM	OLD SEWARD HIGHWAY	INDUSTRY WAY	Null value	Rear End	Clear	Null value	Ice/Frost	Daylight
201638239	12209	2281251X000	2.493	3/5/2016 1:30:00 PM	OLD SEWARD HIGHWAY	120TH AVE	No Apparent Injury	Rear End	Clear	Null value	Ice/Frost	Daylight
201976227	12200	2281251X000	2.5596	1/28/2019 7:55:00 PM	OLD SEWARD HIGHWAY	INDUSTRY WAY	Possible Injury	Angle - T-Bone	Null value	Null value	Snow	Dark - Not Lighted
201849786	12200	2281251X000	2.5417	5/9/2018 9:25:00 PM	OLD SEWARD HIGHWAY	INDUSTRY WAY	Suspected Minor Injury	Motorcycle - Angle - Left Turning	Cloudy	None	Dry	Dusk
201584736	12200V2	2281251X000	2.5409	7/14/2015 2:50:00 AM	OLD SEWARD HIGHWAY	INDUSTRY WAY	Suspected Minor Injury	Angle - Left Turning	Clear	Null value	Dry	Dark-Lighted
201667368	12200V2	2281251X000	2.5014	1/25/2016 10:54:00 PM	OLD SEWARD HIGHWAY	INDUSTRY WAY	No Apparent Injury	Single Vehicle Run-Off-Road	Cloudy	Null value	Ice/Frost	Dark-Lighted

1) Crash type assigned by reviewer based on review of crash narrative.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
Central Region Traffic & Safety Section

Federal Fiscal Year (FFY) 2023 Highway Safety Improvement Program (HSIP)
Candidate Description and Cost Estimate

Name:

23CN01: Seward Hwy Hooligan Fishery Pedestrian Safety Improvements

Location:

Proposed improvements are located adjacent to the Seward Highway (Route ID 1020000X000) between Milepost (MP) 82.0 and 83.0. The highway is owned by the Alaska Department of Transportation and Public Facilities (DOT&PF). The Seward Highway within the proposed project area is a two-lane two-way roadway, and is in a segment classified as Interstate, which runs between Anchorage and the Sterling Wye. The highway serves a mixed-use of traffic during summer months including passenger cars, single and multi-trailer trucks, buses, recreational vehicles, motorcycles, and nonmotorized users. Traffic volumes within the proposed project area have a high seasonal variability. The Average Annual Daily Traffic in 2021 was 6,040 vehicles per day (vpd), while the Monthly Average Daily Traffic was 13,905 vpd in July of that year.

This segment of the Seward Highway was recently reconstructed by the Seward Highway MP 75-90 Road and Bridge Rehabilitation, Phase I (0001(578)/CFHWY00212) project. Construction efforts for Phase I were completed in 2020. A second project phase is currently in construction south of the proposed project area. Seward Highway MP 75-90 Road and Bridge Rehabilitation, Phase II (0001(579)/CFHWY00213) is currently performing highway improvements between the Twentymile River (MP 80.7) and Placer River Overflow (MP 77.9) bridges. Construction efforts for Phase II will continue through the summer of 2023. Both projects are realigning highway segments, improving shoulder widths, installing passing and axillary turn lanes, and constructing seven new bridges to replace those installed after the 1964 earthquake. Upon completion of the Phase II reconstruction project, the existing 55 mile per hour (mph) speed zone within the project area will be removed and a continuous posted speed limit of 65-mph will be established throughout the project limits.

Background:

Each year from the end of April through May, Alaska residents converge along the eastern end of the Turnagain Arm for a popular hooligan (eulachon) fishery. Residents are permitted fish for hooligan in salt and fresh waters using dipnets along the shoreline of the Turnagain Arm and Twentymile River. Public access to the fishery is concentrated to a couple of small parking facilities adjacent to the Twentymile River Bridge (MP 80.6) and highway shoulder parking between MP 81.6 and MP 83.0, sometimes extending to MP 83.3.

Due to safety concerns at the fishery, a multiagency meeting was held in January 2009 between Alaska Department of Fish and Game (ADFG), United States Forest Service, Alaska Department of Public Safety, Municipality of Anchorage, and DOT&F to review conditions and consider improvements. A series of potential solutions to maintain pedestrian and motorist safety were reviewed to take all possible steps to retain public access to the fishery. Closure of the fishery is beyond the participating agencies authority without higher level involvement at the State Fisheries Board. That option was held off until other measures can be taken to meet the usage and solve conflicts. In April of 2009, DOT&PF implemented the first seasonal speed zone at this location as a short term regulatory solution, as well as instructed its Design Consultant to study the fishery options further. This study resulted in the design and permitting of two 100-vehicle

parking lots and a connecting 1.42 miles asphalt pathway behind guardrail adjacent to the saltwater fishery.

Originally part of Phase I, the parking lots and pathway were designed to 95% completion and permitted under the Seward Highway reconstruction project. The two parking lots, one at MP 81.5 and the other at MP 83.0, were sized with the intent to handle peak fishery parking demand and the pathway in intended to allow safe access to the saltwater fishery and reduce pedestrian conflicts on the highway. Due to limited project funding at the time Seward Highway MP 75-90 Phase I was advertised for construction, the MP 83.0 parking lot and 0.82 miles of the asphalt pathway were removed from the final plans in early 2018. The construction project did complete one parking lot at MP 81.5 and 0.60 miles of the asphalt pathway extending north. Due to MP 81.5 parking lot's distance from the primary fishing locations in recent years, this existing parking lot has been underutilized since it completion in 2020.

Safety Problem Description:

With limited shoulder space and the presence of guardrail on the Turnagain Arm side of the Seward Highway, access to the saltwater fishery requires that users park along the opposite shoulder and cross the highway. This shoulder parking causes significant congestion and safety conflicts as vehicles slow or turn to access available parking locations, as well as accelerate to re-enter through traffic. Fishery users, both adults and children, must enter and exit vehicles while loading and unloading their fishing gear near traffic lanes. Users must judge gaps to cross the busy highway, often darting from beside parked cars while carrying nets and coolers. People are commonly seen waiting or walking along the shoulder of the highway in front of guardrail due to lack of other pedestrian facilities in this segment.

Each May, DOT&PF installs temporary seasonal 45-mph speed zone for the fishery as a measure to reduce vehicle speeds and improve pedestrian safety. Even under these reduced speeds, a driver's limited decision sight distance requires extra attention due to the dense parallel parking and the difficulty of watching for pedestrians between vehicles. Safe operating speeds for through drivers are often less than the posted 45-mph. Drivers are forced to react to ever changing conditions in the zone and will sometimes reduce to speeds as low as 20 MPH during the busiest times of the fishery. No amount of sight distance or speed reduction can offset poor pedestrian choices when darting or dashing is involved. The current high level of conflicts require that all parties are alert and use due care. Although the seasonal speed zone and increased enforcement have had positive effect of reducing vehicle speeds and increasing motorists attention to conditions, more measures are needed to improve pedestrian safety for the fishery.

Despite the implementation of a seasonal speed zone, a 6-year-old boy was struck by a vehicle in 2011 causing injuries to his head and legs. The boy was taken to the hospital with what eventually turned out to be minor injuries.

Safety Problem Solution and Project Description:

Pedestrian levels of conflict at the hooligan fishery are increasing each year based on observations by DOT&PF and ADFG. To improve pedestrian safety around the hooligan fishery and provide separation between non-motorized users and the adjacent high-speed roadway, DOT&PF proposes to fund the construction of the Seward Highway MP 83.0 parking lot and remaining 0.82 miles of pathway behind guardrail. This will complete the safety improvements originally proposed by the reconstruction project and connect two 100-vehicle parking lots near the saltwater fishery with 1.42 miles of pathway behind guardrail to provide fishery access along the Turnagain Arm shoreline. Shoulder parking along the mainline highway would be prohibited, while parking off the highway would cumulatively provide 200 spaces to meet the parking demand. The proposed interconnecting pathway will provide fishery access that is separated from highway traffic.

The proposed improvements have been designed to 95% completion and permitted under the Seward Highway reconstruction project. Remaining design work will be completed by the current project. This project nomination is requesting funding to complete wetland mitigation already permitted to the project, and funding for construction completion of the remaining parking lot and pathway segment.

Strategic Highway Safety Plan Conformance:

The proposed improvements are consistent with the Alaska Strategic Highway Safety Plan, Special Users Plan, Strategy 1: Reduce the number of pedestrian fatalities and serious injury crashes.

Benefit/Cost Ratio:

This candidate aims to prevent vulnerable user crashes on the Seward Highway. It is being submitted as a non-ranked project because there have been no reported vulnerable user crashes during the study period and there is no crash reduction factor for this improvement in the HSIP Handbook.

Cost Estimate:

PHASE	AMOUNT	Estimated Start Date
Pre Environmental Engineering (Phase 2):	N/A	N/A
Post Environmental Engineering (Phase 2):	$611,000	FFY2023
Right of Way (Phase 3):	N/A	N/A
Utilities (Phase 7):	N/A	N/A
Construction (Phase 4):	$13,449,000	FFY2023

TOTAL: $14,060,000

(Note: All phases include an Indirect Cost Allocation Plan (ICAP) rate of 7.18%)

Attachments:

Figure 1: Parked vehicles, through traffic, and pedestrians cause highway conflicts during the Turnagain Arm hooligan fishery.

Figure 2: A vehicle maneuvers into a parallel parking space along the Seward Highway during the Turnagain Arm hooligan fishery.

Figure 3: Pedestrians walk across the Seward Highway and along the guardrail to access the saltwater fishery.

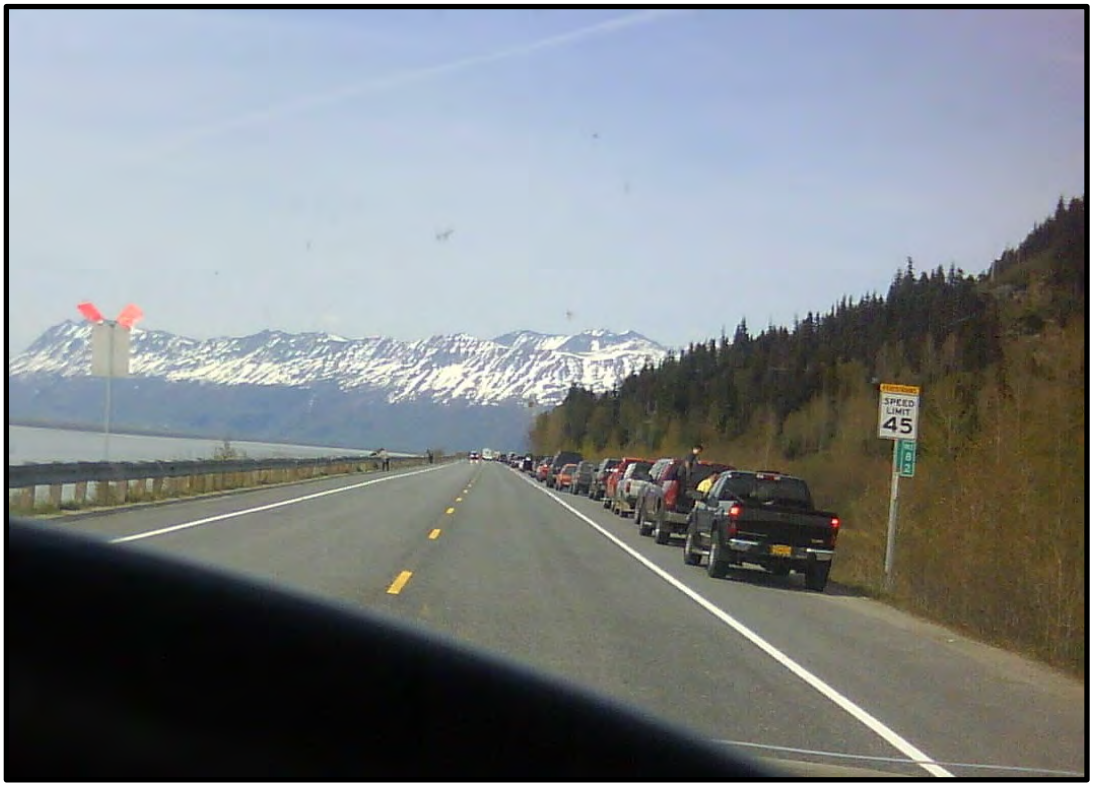
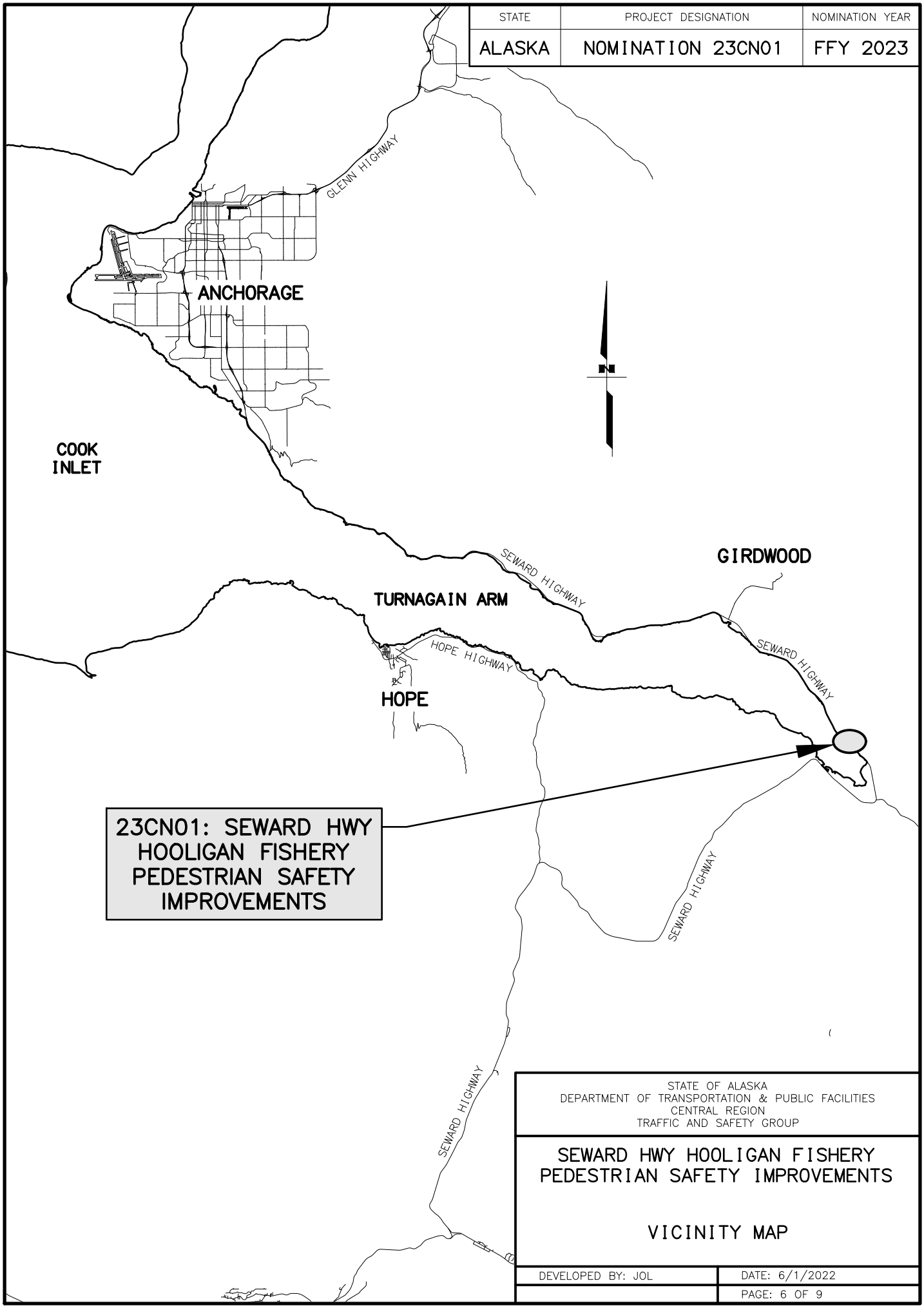


Figure 4: Parked vehicles line shoulder of the Seward Highway during the hooligan fishery within the limits of the seasonal speed zone.

STATE	PROJECT DESIGNATION	NOMINATION YEAR
ALASKA	NOMINATION 23CN01	FFY 2023



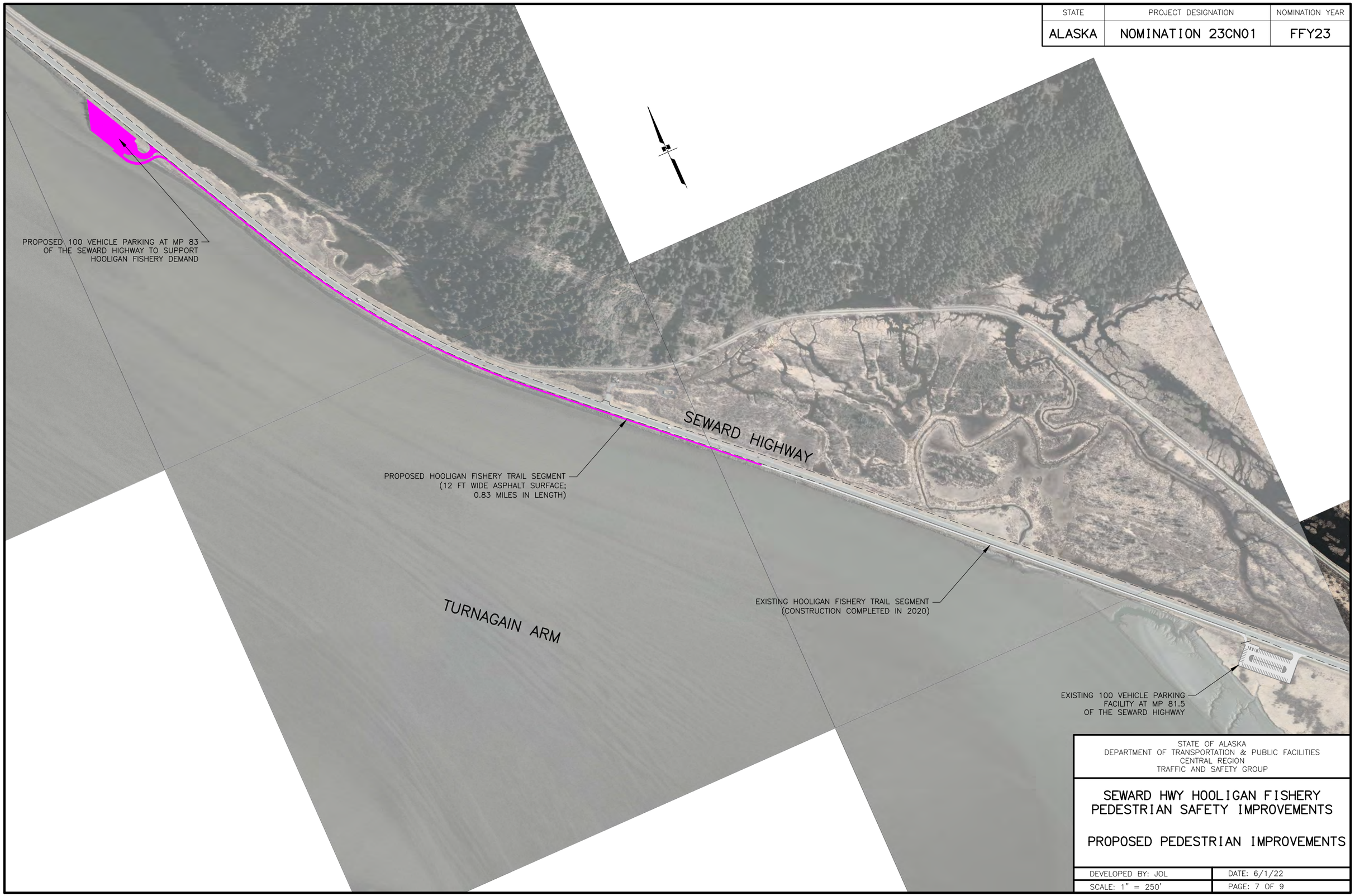
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
CENTRAL REGION
TRAFFIC AND SAFETY GROUP

SEWARD HWY HOOLIGAN FISHERY PEDESTRIAN SAFETY IMPROVEMENTS

VICINITY MAP

DEVELOPED BY: JOL	DATE: 6/1/2022
	PAGE: 6 OF 9

STATE	PROJECT DESIGNATION	NOMINATION YEAR
ALASKA	NOMINATION 23CN01	FFY23



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
CENTRAL REGION
TRAFFIC AND SAFETY GROUP

SEWARD HWY HOOLIGAN FISHERY PEDESTRIAN SAFETY IMPROVEMENTS

PROPOSED PEDESTRIAN IMPROVEMENTS

DEVELOPED BY: JOL	DATE: 6/1/22
SCALE: 1" = 250'	PAGE: 7 OF 9

KTUU-TV
updated 5/19/2011 11:20:08 AM ET

Alaska State Troopers say a 6-year-old boy suffered minor injuries Wednesday afternoon when he was struck by a car on the Seward Highway.

Troopers received a report at about 12:45 p.m. that the boy had been hit and possibly suffered severe injuries near Mile 81.5 of the highway, in an area where the speed limit has been temporarily reduced from 65 mph to 45 mph due to a nearby hooligan fishery.

An investigation found that Conrad Mentjes, 65, had been headed south at about 45 mph when the boy sprinted in front of his 2003 Toyota Corolla, which hit him and threw him a short distance.

The child suffered injuries to his head and legs, and was transported to an Anchorage hospital by ambulance due to concerns about possible head trauma. He has been treated and released.

Seward Highway Hooligan Fishery Pedestrian Safety Improvements
Cost Estimate

Work		Quantity	Unit	Unit Cost	Total Cost	Remarks
REMOVALS						
201.0001.0000	Clearing	2.00	ACRES	$10,000.00	$20,000	
201.0002.0000	Grubbing	2.00	ACRES	$20,000.00	$40,000	
INSTALLATIONS						
203.0003.0000	Unclassified Excavation	26,000	CY	$30.00	$780,000	
203.0006.000A	Borrow, Type A	17,500	TON	$30.00	$525,000	
203.0006.000C	Borrow, Type C	51,000	TON	$15.00	$765,000	
301.0001.00D1	Aggregate Base Course, Grading D-1	3,400	TON	$40.00	$136,000	
401.0001.002A	HMA, Type II, Class A	1,600	TON	$200.00	$320,000	
401.0004.5240	Asphalt Binder, Grade 52-40	85	TON	$1,000.00	$85,000	
603.0009.0024	24" Corrugated Aluminum Pipe	105	LF	$500.00	$52,500	
603.2032.0024	End Section for Corrugated Aluminum Pipe 24 Inch	4	EACH	$1,200.00	$4,800	
606.0006.0000	Removing and Disposing of Guardrail	150	LF	$5.00	$750	
606.0009.0000	Short Radius Guardrail	1	EACH	$6,000.00	$6,000	
606.0009.0000	Parallel Guardrail Terminal	1	EACH	$5,000.00	$5,000	
606.2002.0000	Steel Bollard - Removable	1	EACH	$2,000.00	$2,000	
611.0001.0001	Riprap, Class I	3,400	CY	$150.00	$510,000	
611.0001.____	Riprap, Class R200	12,910	CY	$175.00	$2,259,250	
611.0001.____	Riprap, Class R1200	14,250	CY	$200.00	$2,850,000	
615.0001.0000	Standard Sign	45	SF	$200.00	$9,000	
618.0002.0000	Seeding	1.3	ACRE	$10,000.00	$13,000	
618.0003.0000	Water for Seeding	56.0	MGAL	$60.00	$3,360	
620.0001.0000	Topsoil	6,300	SY	$4.00	$25,200	
621.2008.0000	Landscape Boulder	90	EACH	$750.00	$67,500	
639.2000.0000	Approach	1	EACH	$2,500.00	$2,500	
650.0009.0000	Double Entrance Gate	1	EACH	$2,500.00	$2,500	
670.2003.0000	MMA Pavement Markings, Longitudinal Surface Applied	5,000	LF	$4.00	$20,000	
670.2004.0000	MMA Pavement Markings, Symbols & Arrow(s) Surface Applie	5	EACH	$1,000.00	$5,000	
670.2005.0000	MMA Pavement Markings, Transverse & Gore Surface Applied	660	LF	$6.00	$3,960	
CONSTRUCTION SUPPORT ITEMS						
644.0001.0000	Field Office	1	LS	All Req'd	$20,000	
644.0001.0000	Engineering Communications	1	CS	All Req'd	$26,100	0.25% of pay items
646.0001.0000	CPM Scheduling	1	LS	All Req'd	$5,200	0.05% of pay items
682.2000.0000	Vac-Truck Pothole	1	CS	All Req'd	$10,000	Utilities
OTHER						
640 items	Mobilization/Demobilization	1	LS	All Req'd	$836,500	8% of pay items
641 items	Erosion/Pollution Control	1	LS	All Req'd	$313,700	3% of pay items
642 items	Construction Surveying/Survey Party	1	LS	All Req'd	$209,100	2% of pay items
643 items	Traffic Maintenance/Flagging/Control	1	LS	All Req'd	$522,800	5% of pay items
				Construction Subtotal	$10,456,720	
UTILITIES						
	GCI	-	LS	All Req'd	$0	
	MTA	-	LS	All Req'd	$0	
	MEA	-	LS	All Req'd	$0	
	Enstar	-	LS	All Req'd	$0	
	Utility Administration	-	-	-	$0	
				Utilities Subtotal	$0	
COST ESTIMATE SUMMARY					COST	WITH 7.18% ICAP
	Wetland Mitigation (Phase 2)	-	-		$570,000	$611,000
	Construction (Phase 4)	-	-		$10,457,000	$11,208,000
	Construction Administration (Phase 4)		%	20.00%	$2,091,000	$2,241,000

Improvements:

Pedestrian Pathway and Parking Area at Milepost 83.0

Total: $14,060,000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
Central Region Traffic & Safety Section

Federal Fiscal Year (FFY) 2023 Highway Safety Improvement Program (HSIP)
Candidate Description and Cost Estimate

Name:

23CN02: Portage Curve Multimodal Connector – Twentymile to MP 81.5

Location and Background:

Proposed improvements are located adjacent to the Seward Highway (Route ID 1020000X000) between Milepost (MP) 80.7 and 81.3. The highway is owned by the Alaska Department of Transportation and Public Facilities (DOT&PF). The Seward Highway within the proposed project area is a two-lane two-way roadway, and is in a segment classified as Interstate, which runs between Anchorage and the Sterling Wye. The highway serves a mixed-use of traffic during summer months including passenger cars, single and multi-trailer trucks, buses, recreational vehicles, motorcycles, and nonmotorized users. Traffic volumes within the proposed project area have a high seasonal variability. The Average Annual Daily Traffic in 2021 was 6,040 vehicles per day (vpd), while the Monthly Average Daily Traffic was 13,905 vpd in July of that year.

This segment of the Seward Highway was recently reconstructed by the Seward Highway MP 75-90 Road and Bridge Rehabilitation, Phase I (0001(578)/CFHWY00212) project. Construction efforts for Phase I were completed in 2020. A second project phase is currently in construction south of the proposed project area. Seward Highway MP 75-90 Road and Bridge Rehabilitation, Phase II (0001(579)/CFHWY00213) is currently performing highway improvements between the Twentymile River (MP 80.7) and Placer River Overflow (MP 77.9) bridges. Construction efforts for Phase II will continue through the summer of 2023. Both projects are realigning highway segments, improving shoulder widths, installing passing and axillary turn lanes, and constructing seven new bridges to replace those installed after the 1964 earthquake. Upon completion of the Phase II reconstruction project, the existing 55 mile per hour (mph) speed zone within the project area will be removed and a continuous posted speed limit of 65-mph will be established throughout the project limits.

The United States Forest Service Glacier Ranger District, in partnership with DOT&PF and the Federal Highway Administration, designed and permitted the Portage Curve Multimodal Connector (0016401/CFHWY00308), a non-motorized facility within the limits of the Seward Highway reconstruction projects. This project was designed in coordination with the DOT&PF highway projects and was combined with Seward Highway MP 75-90 Phase II for bidding and construction.

Upon its completion, the Portage Curve Multimodal Connector will provide 7.25 miles separated non-motorized facility along the Seward and Portage Glacier Highways between Ingram Creek (MP 75.2) and a parking lot north of Twentymile River at MP 81.5. This multimodal facility will connect recreational users to a many of points of interest along the Seward Highway, including the Alaska Railroad Spencer Glacier Whistle stop, the Alaska Wildlife Conservation Center, and the Portage Valley Trail of Blue Ice. This project includes grade-separated undercrossings of the Seward Highway, separated pedestrian and bicycle facilities on the new highway bridges, and some new parking and access points along the route.

Safety Problem Description:

Due to limited project funding at the time that Portage Curve Multimodal Connector was advertised for bidding, a segment of the trail between Twentymile River and a new parking lot at MP 81.5 was removed from the construction contract. As currently funded, the northern terminus of the trail will become a small parking lot on the southwest quadrant of the new Twentymile River bridge. This existing parking lot is primarily utilized as a small boat launch providing access to the Twentymile River. It is commonly at-capacity from late-spring until fall due to the demand for small boat access to the river and parking space requirements for vehicles towing boat trailers. As the Portage Curve Multimodal Connector project is currently funded, this parking lot will also serve as the northernmost access point to the multimodal facility, further increasing its demand. Without construction funding to complete the remaining 1.18-mile multimodal trail to the MP 81.5 parking lot, the Twentymile River parking lot is expected to regularly overflow during busy weekends and cause vehicles to park along the highway shoulder and within the clear zone of this 65-mph roadway segment. The use of this small Twentymile River parking lot as access to the multimodal facility is expected to create pedestrian conflicts that would not likely exist if the multimodal facility were to be completed to the MP 81.5.

Safety Problem Solution and Project Description:

DOT&PF proposes to fund the construction on the remaining 1.18 miles of the Portage Curve Multimodal Connector, which will extend the paved trail from the Twentymile River parking lot to the existing MP 81.5 parking lot. The MP 81.5 parking lot has the capacity for 100 vehicles and will serve as a safer access point for users of the multimodal facility. This connection will complete the pathway system from Ingram Creek and Portage Glacier Road to the proposed pathway and MP 83.0 parking lot nominated under 23CN01 – Seward Highway Hooligan Fishery Pedestrian Safety Improvements.

The design, permitting, and right-of-way efforts are 95% complete for this project. Remaining work to complete and advertise the final construction contract is expected to occur under the remaining Portage Curve Multimodal Connector project funding.

Strategic Highway Safety Plan Conformance:

The proposed improvements are consistent with the Alaska Strategic Highway Safety Plan, Special Users Plan, Strategy 1: Reduce the number of pedestrian fatalities and serious injury crashes and Strategy 2: Reduce the number of bicycle fatalities and serious injury crashes.

Benefit/Cost Ratio:

This candidate aims to prevent vulnerable user crashes on the Seward Highway. It is being submitted as a non-ranked project because there have been no reported vulnerable user crashes during the study period and there are no crash reduction factors for installation of a multi-use pathway in the HSIP Handbook.

Cost Estimate:

PHASE	AMOUNT	Estimated Start Date
Pre Environmental Engineering (Phase 2):	N/A	N/A
Post Environmental Engineering (Phase 2):	N/A	N/A
Right of Way (Phase 3):	N/A	N/A
Utilities (Phase 7):	N/A	N/A
Construction (Phase 4):	$1,177,000	FFY2023

TOTAL: $1,177,000

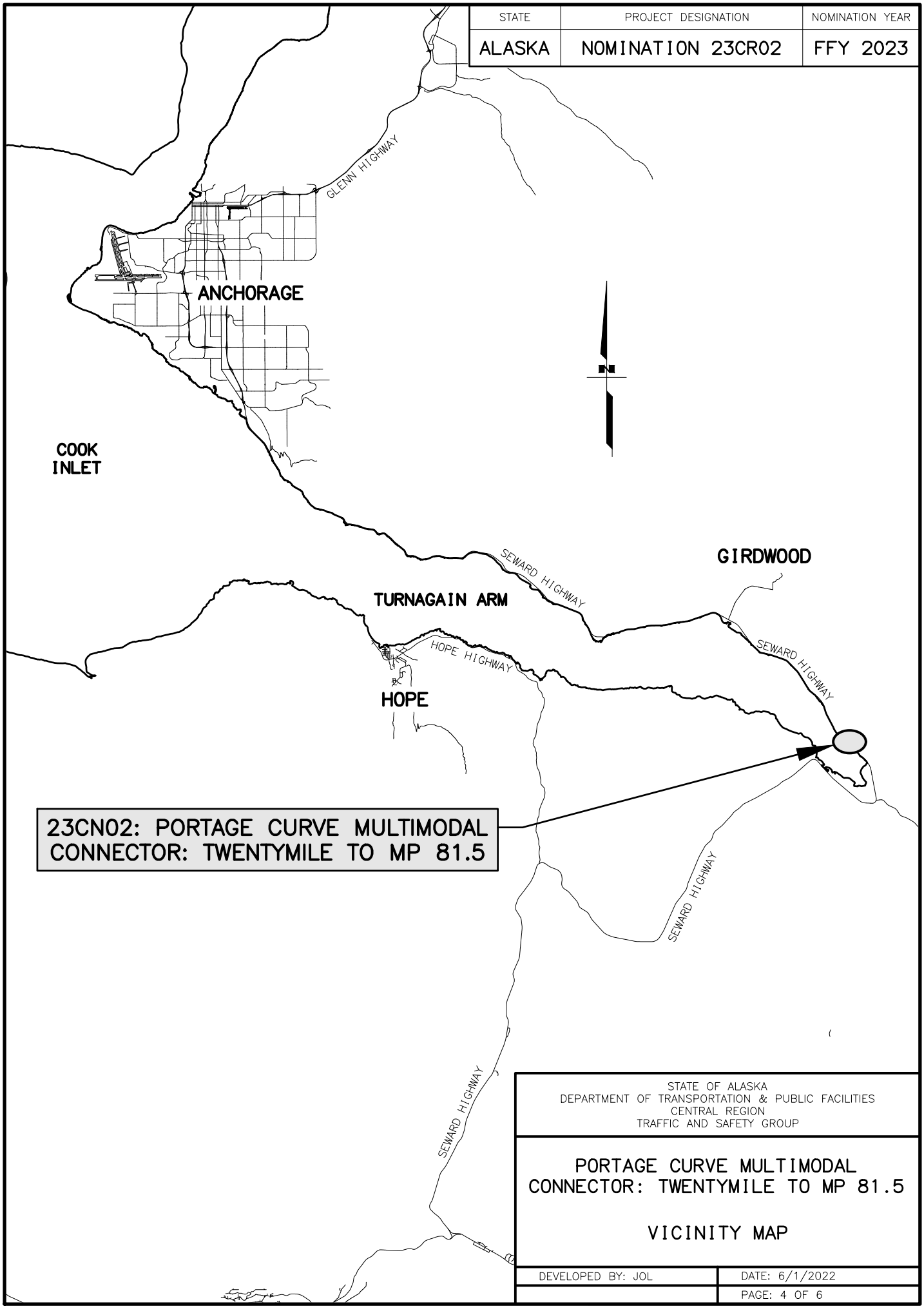
(Note: All phases include an Indirect Cost Allocation Plan (ICAP) rate of 7.18%)

Attachments:

Figure 1: The Twentymile River parking lot is commonly at-capacity during summer months due to the demand for small boat access to the river and parking for vehicles with trailers.

Figure 2: Vehicles with small boat trailers commonly fill the available parking during peak summer months. The Milepost 81.5 parking lot was constructed along the Seward Highway in the background of this photo.

STATE	PROJECT DESIGNATION	NOMINATION YEAR
ALASKA	NOMINATION 23CR02	FFY 2023



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
CENTRAL REGION
TRAFFIC AND SAFETY GROUP

PORTAGE CURVE MULTIMODAL CONNECTOR: TWENTYMILE TO MP 81.5

VICINITY MAP

DEVELOPED BY: JOL	DATE: 6/1/2022
	PAGE: 4 OF 6

STATE	PROJECT DESIGNATION	NOMINATION YEAR
ALASKA	NOMINATION 23CN02	FFY23

EXISTING 100 VEHICLE PARKING FACILITY AT MP 81.5 OF THE SEWARD HIGHWAY (CONSTRUCTION COMPLETED IN 2020)

SEWARD HIGHWAY

PROPOSED PORTAGE CURVE MULTIMODAL CONNECTOR TRAIL SEGMENT (8 FT WIDE ASPHALT SURFACE WITH 2FT GRAVEL SHOULDERS; 1.18 MILES IN LENGTH)

TURNAGAIN ARM

FUTURE PORTAGE CURVE TRAIL MULTIMODAL TRAIL WITH GRADE SEPARATED UNDERCROSSING OF SEWARD HIGHWAY (IN CONSTRUCTION; ESTIMATED 2023 COMPLETION)

FUTURE LIMITS OF TWENTYMILE RIVER PARKING LOT FOR BOAT LAUNCH (IN CONSTRUCTION; ESTIMATED 2023 COMPLETION)

FUTURE TWENTYMILE RIVER BRIDGE WITH SEPARATED PEDESTRIAN FACILITY (IN CONSTRUCTION; ESTIMATED 2023 COMPLETION)

TWENTYMILE RIVER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
CENTRAL REGION
TRAFFIC AND SAFETY GROUP

PORTAGE CURVE MULTIMODAL CONNECTOR: TWENTYMILE TO MP 81.5

PROPOSED PEDESTRIAN IMPROVEMENTS

DEVELOPED BY: JOL	DATE: 6/01/22
SCALE: 1" = 200'	PAGE: 5 OF 6

Portage Curve Multimodal Connector - Twentymile to MP 81.5
Cost Estimate

Work		Quantity	Unit	Unit Cost	Total Cost	Remarks
REMOVALS						
201.0001.0000	Clearing	4.00	ACRES	$10,000.00	$40,000	
201.0002.0000	Grubbing	3.00	ACRES	$20,000.00	$60,000	
INSTALLATIONS						
203.0006.000A	Borrow, Type A	15,400	TON	$30.00	$462,000	
301.0001.00D1	Aggregate Base Course, Grading D-1	1,350	TON	$40.00	$54,000	
606.2004.0000	Wood Bollard - Removable	1	EACH	$1,500.00	$1,500	
608.2002.0000	Asphalt Pathway	121	TON	$300.00	$36,300	
615.0001.0000	Standard Sign	3	SF	$200.00	$600	
618.0001.0000	Seeding	2	ACRE	$11,000.00	$22,000	
618.0003.0000	Water for Seeding	88	MGAL	$60.00	$5,280	
620.0001.0000	Topsoil	7,200	SY	$4.00	$28,800	
CONSTRUCTION SUPPORT ITEMS						
644.0001.0000	Field Office	1	LS	All Req'd	$20,000	
644.0001.0000	Engineering Communications	1	CS	All Req'd	$2,200	0.25% of pay items
646.0001.0000	CPM Scheduling	1	LS	All Req'd	$400	0.05% of pay items
682.2000.0000	Vac-Truck Pothole	1	CS	All Req'd	$20,000	Utilities
OTHER						
640 items	Mobilization/Demobilization	1	LS	All Req'd	$71,900	8% of pay items
641 items	Erosion/Pollution Control	1	LS	All Req'd	$27,000	3% of pay items
642 items	Construction Surveying/Survey Party	1	LS	All Req'd	$18,000	2% of pay items
643 items	Traffic Maintenance/Flagging/Control	1	LS	All Req'd	$44,900	5% of pay items
				Construction Subtotal	$914,880	
UTILITIES						
	GCI	-	LS	All Req'd	$0	
	MTA	-	LS	All Req'd	$0	
	MEA	-	LS	All Req'd	$0	
	Enstar	-	LS	All Req'd	$0	
	Utility Administration	-	-	-	$0	
				Utilities Subtotal	$0	
COST ESTIMATE SUMMARY					COST	WITH 7.18% ICAP
	Construction (Phase 4)	-	-		$915,000	$981,000
	Construction Administration (Phase 4)		%	20.00%	$183,000	$196,000

Improvements:

Portage Curve Multimodal Connector - Twentymile to MP 81.5

Total: $1,177,000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
Central Region Traffic & Safety Section

Federal Fiscal Year (FFY) 2023 Highway Safety Improvement Program (HSIP)
Candidate Description and Cost Estimate

Name:

23CN03: Ocean Dock Road RR Crossing Device Upgrades

Location:

Proposed improvements are located on Ocean Dock Road (Route ID 2281133X000) at Alaska Railroad Corporation (ARRC) crossing #868543R in Anchorage. This crossing is permitted to the Alaska Department of Transportation and Public Facilities (DOT&PF) by ARRC and is maintained by ARRC under the Public Facilities Master Agreement between both agencies. This crossing is located within a secured area at the Port of Alaska. The Port of Alaska (Port) is the state's primary inbound cargo-handling facility, which accounted for the movement of approximately 4.3 million tons of fuel and cargo in 2019.

Ocean Dock Road is a two-lane two-way roadway within the proposed project area. The road is owned by DOT&PF and has a posted speed limit of 30 miles per hour (mph). The road is classified as a Principal Arterial south of the security entry point. Traffic data is collected on Ocean Dock Road by a weigh-in-motion traffic station located south of the Port entrance. In 2021, the Average Annual Daily Traffic (AADT) for this station was 1,970 vehicles per day (vpd) and the truck percentage was very high at 47%, of which the single unit truck AADT was 282 vpd and the combo unit truck AADT was 640 vpd.

Existing Conditions:

Crossing #868543R is presently equipped with passive grade crossing devices, including crossbucks, YIELD signs, and advance striping. Current truck yielding compliance to trains has been observed by DOT&PF, ARRC and the Port to be poor. This is likely due to previous low expectations of train traffic at this crossing.

In 2019, new operations began at an existing fuel tank farm facility within the Port that increased fuel distribution from the Port by train and tractor-trailer. This created a large increase in daily fuel hauling through this crossing, both by train and truck traffic. Tank car transport now occurs two to four times per day, which conflicts with the high truck traffic leaving and entering the Port. Some of this tractor-trailer traffic consists of single and double fuel trailers.

The existing crossing has a high degree of skew between Ocean Dock Road and the railroad tracks, which makes the visual detection of train difficult. The 1988 Alaska Policy on Railroad/Highway Crossing defines requirements for sight triangles of existing railroad crossing. Case II sight triangles (Stopped Sight Distance) are adequate for crossing #868543R, however these sight triangles are not completely free of obstructions. Case I sight triangles (Moving Sight Distance) are not met at this crossing based on a 10 mph maximum train speed and a posted 30 mph vehicle speed limit.

Train crossings at this site currently require that a member of the train crew flag the train over the crossing. This crew member has multiple track management and switching duties outside of stopping vehicles as a train moves through the crossing.

Safety Problem Description:

A preliminary Diagnostic Team (DT) was convened in the Fall of 2021 to review the conflicts at the crossing #868543R. This preliminary DT was comprised of staff from DOT&PF and ARRC and the Port officials from the Municipality of Anchorage. The DT's site visits in September and October of 2021 found the following safety concerns:

- The crossing skew creates a condition where the motorist's ability to see a moving train is very difficult. The hardest crossing movement to visually detect is between southbound trucks on the roadway and southbound trains on the tracks.
- Industrial surrounding of the crossing creates a crowded visual environment. Surroundings include power poles, utility vaults and tall fences for industrial properties that complicates a driver's ability to judge the presence of trains.
- Hazardous Material trucks are not stopping at the crossing in accordance with 49 CFR 392.10. There is limited enforcement at this crossing to issue citations for failure to yield or stop.
- ARRC train crew members are tasked with stopping truck traffic when a train moves through the crossing. Crew members are concerned that truck compliance to the flagging is poor. The continued use of a crew member to flag the crossing is not an ideal long-term solution because it is less effective than an active signaling device and poses a risk to ARRC personnel.

Safety Problem Solution:

According to the 1988 Alaska Policy on Railroad/Highway Crossing, Case II sight triangles are required for all at-grade railroad crossings. Case I sight triangles are desirable at all crossings and when not met require a DT review to consider the following options:

a) Install active warning devices
b) Install advisory speed at crossings with low highway volume and low highway speed (defined as less than 500 vpd and less than 40 mph)
c) Install stop signs per the Alaska Traffic Manual (ATM)

Due to the high traffic volumes at the crossing, installing advisory speed plaques is not an applicable solution. Additionally, the crossing has YIELD signs that follow ATM standards for passive warning devices. Due to the current low compliance of the existing passive devices, changing the YIELD to a STOP sign is not expected to be an improvement over the existing condition.

DOT&PF, ARRC, and Municipality of Anchorage Port officials have continued ongoing discussions in the winter of 2021-2022. Although a formal DT report has not been completed, all agencies agree that the installation of an active traffic control device is urgently needed and will improve stopping compliance by providing a positive and clear message.

Accident Prediction Value

The Accident Prediction Value (APV) for this crossing in 2020 was 0.013322 and no crashes have been reported here during the last 30-year period. While this APV value alone does not trigger an upgrade from passive device to active devices, the crossing's recent change in use, frequency of fuel hauling through the crossing, and low compliance of the existing passive devices leads stakeholder agencies to agree that additional measures are recommended here. Fuel hauling through the crossing increases the risk that a hazardous material-involved crash could occur. This type of crash would likely constitute a major event for all facilities and operations at the Port.

Project Description:

This project nomination proposes to install an active traffic control devices on Ocean Dock Road at crossing #868543R. ARRC has reviewed the feasibility of installing gates at this crossing; however, commonly used gates were determined to be unpracticable given the site's constraints and tight clearances. The proposed active traffic control devices will consist of post-mounted flashing-light signals and may consist of active advance devices. The new devices will be designated by ARRC and will likely be activated by a new advance train detector system that is switched on when the train is preparing to move through crossing. The new equipment will improve safety at this crossing, which experiences the highest frequency of train-versus-truck traffic in the State.

Strategic Highway Safety Plan Conformance:

The proposed improvements are consistent with the Alaska Strategic Highway Safety Plan, Roadways Plan, Strategy 2: Reduce the number of fatal and serious injury intersection crashes.

Benefit/Cost Ratio:

This candidate is submitted as non-ranked because there have been no reported crashes at this location during the study period. The HSIP Handbook identifies a crash reduction factor of -50% for Upgrade of RR Signs to Flasher (Improvement 501) for the safety improvements proposed by this project nomination.

Cost Estimate:

PHASE	AMOUNT	Earliest Start Date
Preliminary Engineering (Phase 2):	$37,500	FFY2023
Right of Way (Phase 3):	N/A	N/A
Utilities (Phase 7):	$1,241,600	FFY2025
Construction (Phase 4):	N/A	N/A

TOTAL: $1,279,100

(Note: All phases include an Indirect Cost Allocation Plan (ICAP) rate of 7.18%)

Attachments:

Figure 1: Ocean Dock RR Crossing (#868543R) looking south.

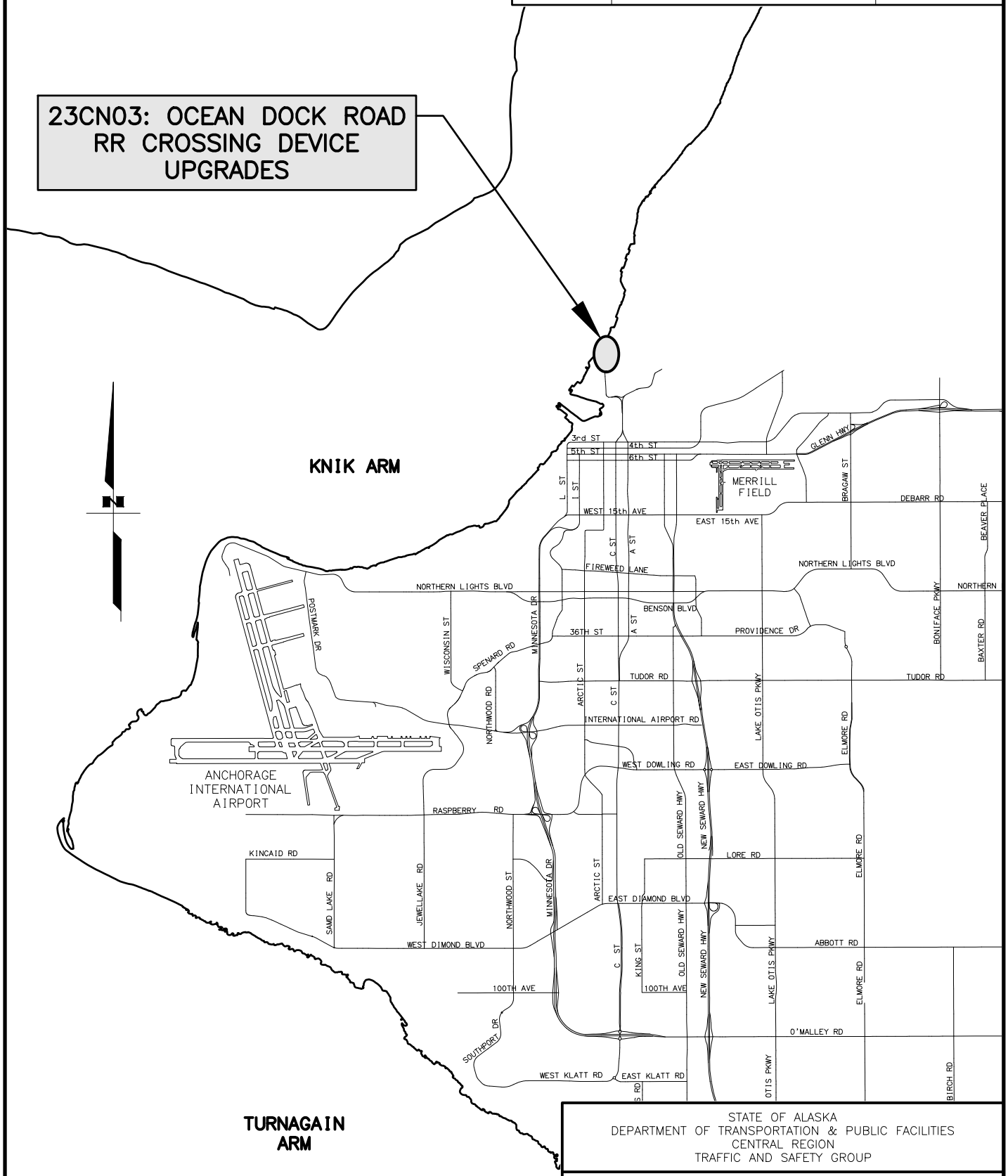
Figure 2: Ocean Dock RR Crossing (#868543R) looking north. Fuel tank farm in background.

Figure 3: ARRC Train with fuel tanker cars cross Ocean Dock Road two to four times per day.

Figure 4 : Example of typical double tanker truck photographed at the Seward Highway Weight Station. Double tanker trucks cross at the Ocean Dock Rd RR crossing multiple times per day.

STATE	PROJECT DESIGNATION	NOMINATION YEAR
ALASKA	NOMINATION 23CN03	FFY 2023

23CN03: OCEAN DOCK ROAD RR CROSSING DEVICE UPGRADES



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
CENTRAL REGION
TRAFFIC AND SAFETY GROUP

OCEAN DOCK ROAD RR CROSSING DEVICE UPGRADES

VICINITY MAP

DEVELOPED BY: JOL	DATE: 6/1/2022
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STATE	PROJECT DESIGNATION	NOMINATION YEAR
ALASKA	NOMINATION 23CN03	FFY 2023

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
CENTRAL REGION
TRAFFIC AND SAFETY GROUP

OCEAN DOCK ROAD RR CROSSING DEVICE UPGRADES

EXISTING CONDITIONS

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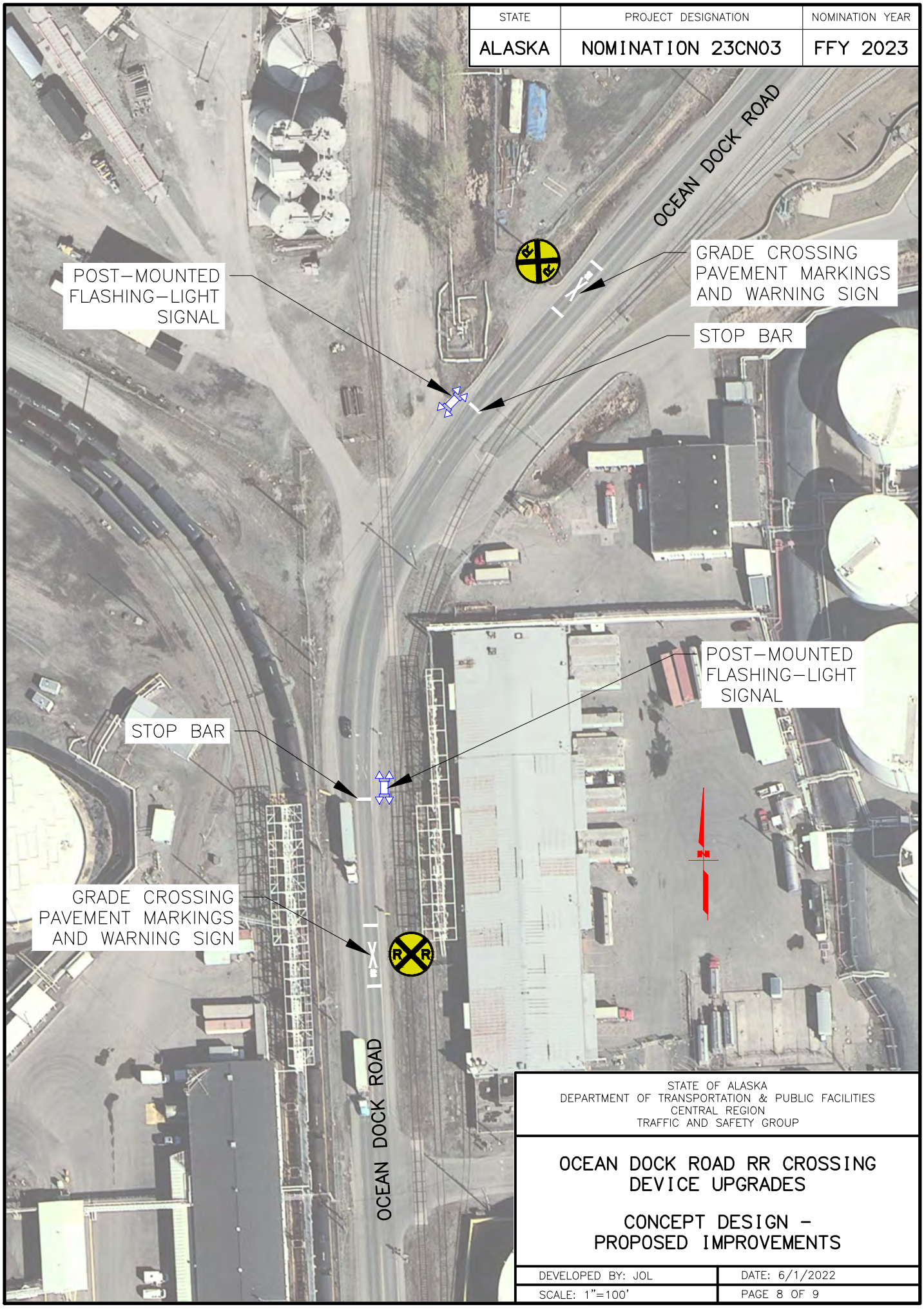
SCALE: 1"=100'	PAGE 7 OF 9

STATE	PROJECT DESIGNATION	NOMINATION YEAR
ALASKA	NOMINATION 23CN03	FFY 2023



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
CENTRAL REGION
TRAFFIC AND SAFETY GROUP

OCEAN DOCK ROAD RR CROSSING DEVICE UPGRADES

CONCEPT DESIGN - PROPOSED IMPROVEMENTS

DEVELOPED BY: JOL	DATE: 6/1/2022
SCALE: 1"=100'	PAGE 8 OF 9

Ocean Dock Rd RR Crossing Device Upgrades
Cost Estimate

Work	Quantity	Unit	Unit Cost	Total Cost	Remarks
PRELIMINARY DESIGN					
ARRC Utility Agreement	1	LS	$5,000.00	$5,000	
Environmental Document	1	LS	$10,000.00	$10,000	
Utility Agreements for Relocations	1	LS	$20,000.00	$20,000	
			Design Subtotal	$35,000	
UTILITIES					
Ocean Dock Road RR Signal (ARRC)	1	LS	$875,000.00	$875,000	
CEA	1	LS	$10,000.00	$10,000	As required for line extension
ARRC Track Flagging	1	LS	$7,500.00	$7,500	
Utility Administration (18%)	1	LS	$160,650.00	$160,650	
			Utilities Subtotal	$1,053,150	
COST ESTIMATE SUMMARY					with 7.18% ICAP
Preliminary Design (Phase 2)	1	LS	All Req'd	$35,000	$37,500
Right-of-Way (Phase 3)	1	LS	All Req'd	$0	$0
Utilities (Phase 7) - + 10% Contingency	1	LS	All Req'd	$1,158,465	$1,241,600
Construction (Phase 4)	1	LS	All Req'd	$0	$0
				Total:	**$1,279,100**

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
Central Region Traffic & Safety Section

Federal Fiscal Year (FFY) 2023 Highway Safety Improvement Program (HSIP)
Candidate Description and Cost Estimate

Name:

19CN05(23): Seward Highway Rockfall Mitigation, MP 113.2

Location and Background:

Proposed improvements are located on the Seward Highway (Route ID: 1020000X000) at Milepost (MP) 113.2, south of Anchorage. The highway is owned by the Alaska Department of Transportation and Public Facilities (DOT&PF). The Seward Highway within the proposed project area is a two-lane two-way roadway, and is in a segment classified as Interstate, which runs between Anchorage and the Sterling Wye. There is an adjacent highway pullout at MP 113.2 that is utilized for detours when needed, as well as for parked vehicles and tractor-trailers.

The posted speed limit within this segment of the Seward Highway is 55 miles per hour. Traffic volumes within the proposed project area have a high seasonal variability. The Average Annual Daily Traffic in 2021 was 10,300 vehicles per day (vpd), while the Monthly Average Daily Traffic was 17,358 vpd in July of that year.

In 2016, Central Region (CR) DOT&PF developed a statewide ranking of high-risk rockfall sites as further outlined under the Slope Management and Site Selection section. Nine Seward Highway rockfall sites were selected of the top twenty sites statewide to be developed as HSIP projects to reduce the frequency and severity rockfall events. These sites were prioritized by CR DOT&PF because the improvement scopes were well-defined, the capital costs were lower than that of other sites, and the sites were not within the project limits of any future projects. These nine sites (outlined in Table 1) were combined into a single project (CFHWY00414 HSIP: Seward Highway Rockfall Mitigation), which has currently been in construction since fall of 2022.

In 2018, CR DOT&PF submitted two additional HSIP project nominations for rockfall mitigation improvements at the Seward Highway MP 109.1 and 113.2 sites. These sites were selected as eligible for HSIP funding under the FFY 2019 program; however, designs for these sites were not initiated due to limited HSIP funding at that time. Since then, the 2020-2023 STIP Amendment 2 extended the project limits on the Seward Highway for Need ID 12641 to include work between MP 105 and 109.5. Rockfall mitigation improvements for sites within the limits of this project will be deferred until the final scope of this project is established.

This project nomination is a resubmittal of scope proposed under 19CN05: Seward Highway Rockfall Mitigation, MP 113.2 and starting this project will be on a conditional basis. Proposed STIP Amendment 4 further extends the project limits on Seward Highway for Need ID 12641 from MP 98.5 to 118. STIP Amendment 4 is currently out for public comment and is not yet approved. Should STIP Amendment 4 be approved, Central Region DOT&PF will defer rockfall mitigation improvements at Milepost 113.2 until the final project scope within these new project limits is established. Should the scope of this larger project not include rockfall mitigation improvements at MP 113.2, CR DOT&PF will continue to pursue the improvements described by the project nomination consistent with Section 1.4 of the HSIP Handbook.

Slope Management and Site Selection:

The Federal Highway Administration encourages agencies to assess and manage infrastructure assets using a performance-based and risk-based management approach. Risk-based management is a process to direct funds by evaluating both the probability of an event and the cost and/or consequence of that event.

Over the last decade, DOT&PF has developed a Geotechnical Asset Management (GAM) Program to assess and manage its infrastructure assets. The Unstable Slope Management Program (USMP) is a component of the GAM Program that monitors and guides response to unstable slopes using DOT&PF Maintenance & Operations (M&O) rockfall response cleanup logs. The USMP rankings quantify the probability of rockfall or slope failure and the possible consequences of such an event. The total USMP score is composed of two sub-scores, hazard and risk.

To identify locations of concern, rock slopes were ranked statewide using sub-score criteria from the USMP that focused on risk to drivers. The following table shows the top 20 sites, with HSIP candidate sites shaded. The comment column documents the reason for not considering a site for HSIP funding.

Table 1: Top 20 Ranked Rock Slopes on DOT&PF Highways (ranked by risk to drivers)

Rank	Score	Highway	Mile Post	Comment
1	406	Seward Hwy	114.2	monitoring slope to identify patterns
2	394	Seward Hwy	109.4	In Construction (CFHWY00414)
3	388	Seward Hwy	111.3	In Construction (CFHWY00414)
4	384	Seward Hwy	106.8	within MP 105-109.5 project
5	380	Seward Hwy	106.1	within MP 105-109.5 project
6	376	Seward Hwy	108.6	within MP 105-109.5 project
7	369	Seward Hwy	109.1	within MP 105-109.5 project
8	359	Seward Hwy	104.7	In Construction (CFHWY00414)
9	330	Glenn Hwy	30	freeway with guardrail/catchment
10	325	Seward Hwy	113.6	In Construction (CFHWY00414)
11	319	Seward Hwy	109.6	In Construction (CFHWY00414)
12	317	Seward Hwy	110.5	In Construction (CFHWY00414)
13	313	North Tongass Hwy	3.06	Right-of-Way impacts
14	277	Seward Hwy	113.2	HSIP candidate - this nomination
15	271	Seward Hwy	106.5	within MP 105-109.5 project
16	267	South Tongass Hwy	Grant St	significant Right-of-Way impacts
17	266	South Tongass Hwy	2nd/Water St	significant Right-of-Way impacts
18	254	Seward Hwy	113.9	In Construction (CFHWY00414)
19	254	North Tongass Hwy	5.76	Intermediate volume
20	247	Seward Hwy	106.6	within MP 105-109.5 project

Safety Problem Solution and Project Description:

Despite recent and ongoing rockfall mitigation improvements on the Seward Highway between Anchorage and Indian, rockfall events within this highway segment are a continued concern for the DOT&PF. The presence of falling rock onto the highway causes a hazard for traveling public, as well as DOT&PF M&O staff who are responsible for responding and performing cleanup efforts. While there is limited crash history associated with rockfall along the Seward Highway, the potential crash severity and risk is high. This is due to the high volume of traffic, regular occurrence of rockfall, proximity of rock slopes to the edge of the highway, and limited rockfall

capture area. There is also the risk that rockfall may impact vehicles waiting for the highway to be cleared by M&O staff at an adjacent rockfall site.

On November 30th, 2018, Southcentral Alaska experienced a 7.1 magnitude earthquake that caused a series of significant rockfall events on this segment of highway. Since the earthquake, the rockfall risk assessment, calculated by the GAM program as a function of documented rockfall events causing crashes or road closures, has increased between MP 113 and MP 114. This increase is shown in Figure 1 on the following page.

The MP 113.2 site also experiences the formation of ice columns each winter due to existing drainage patterns uphill of the rock cut. This ice buildup on the rock face collapses each spring during breakup and large blocks of ice will commonly cover the traffic lanes. Following a serious injury crash in 2012 where this ice column collapsed on a passenger vehicle, M&O now sets up a seasonal speed zone and temporary traffic pattern that utilizes an adjacent highway pullout to divert traffic away from this ice column.

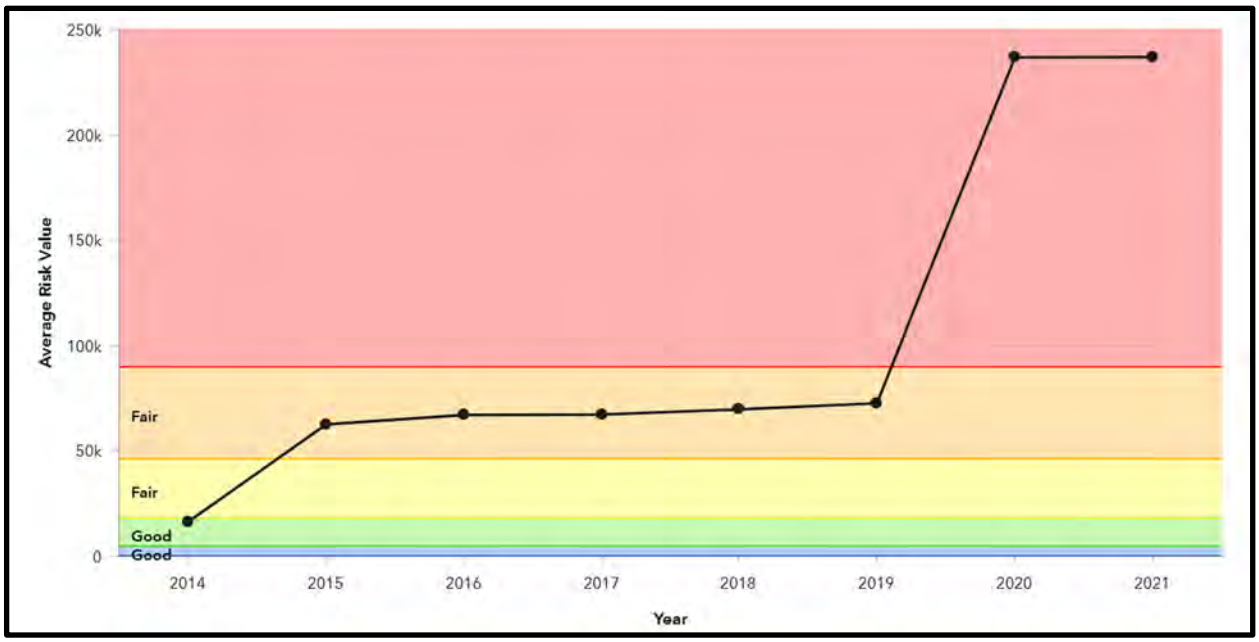


Figure 1: DOT&PF USMP Risk Assessment Value ($1000) by year for Seward Highway between MP 113 and 114.

Proposed Mitigation:

To mitigate future rockfall events from hitting the Seward Highway at MP 113.2, DOT&PF proposes the following improvements at the site:

- Excavate the rock slope to provide a wider ditch and catchment.
- Install wire mesh and rock bolts, as required, to stabilize overburden on top of the rock.
- Provide an upslope drainage diversion to reduce rockfall and winter freeze thaw conditions, which contribute to rock degradation and rockfall.
- Repave/patch the highway damaged from rockfall during excavation operations.

To address ongoing icefall concerns at this site, DOT&PF commissioned icefall mitigation research [FHWA-AK-RD-4000(168)] in 2018 to better understand icefall hazards along state highways. The findings of the report stated that slope regrading, as proposed by this project nomination to mitigate the rockfall hazard, is also a highly effective means of mitigating an icefall hazard.

Minimal right-of-way impacts are anticipated for this site and utility impacts are not expected to be significant. Overhead electric and underground fiber optic lines are estimated to be well beyond the top of slope.

Strategic Highway Safety Plan Conformance:

The proposed improvements are consistent with the Alaska Strategic Highway Safety Plan, Roadways Plan, Strategy 5 - Improve roadway safety through HSIP-qualified activities and projects.

Benefit/Cost Ratio:

This candidate is submitted as non-ranked because there is no crash reduction factor for mitigating rockfall in the HSIP Handbook. While there have been rockfall-related crashes within this segment of the Seward Highway during the study period, CR DOT&PF uses the USMP tool and rankings rather than crash records to the prioritize improvements due to the numerous slopes that create rockfall events on the Seward Highway.

Cost Estimate:

PHASE	AMOUNT	Earliest Start Date
Pre Environmental Engineering (Phase 2):	$514,200	FFY 2023
Post Environmental Engineering (Phase 2):	$342,800	FFY 2024
Right of Way (Phase 3):	$54,000	FFY 2024
Utilities (Phase 7):	$34,000	FFY 2025
Construction (Phase 4):	$19,398,000	FFY 2025

TOTAL: $20,343,000

(Note: All phases include an Indirect Cost Allocation Plan (ICAP) rate of 7.18%.)

Attachments:

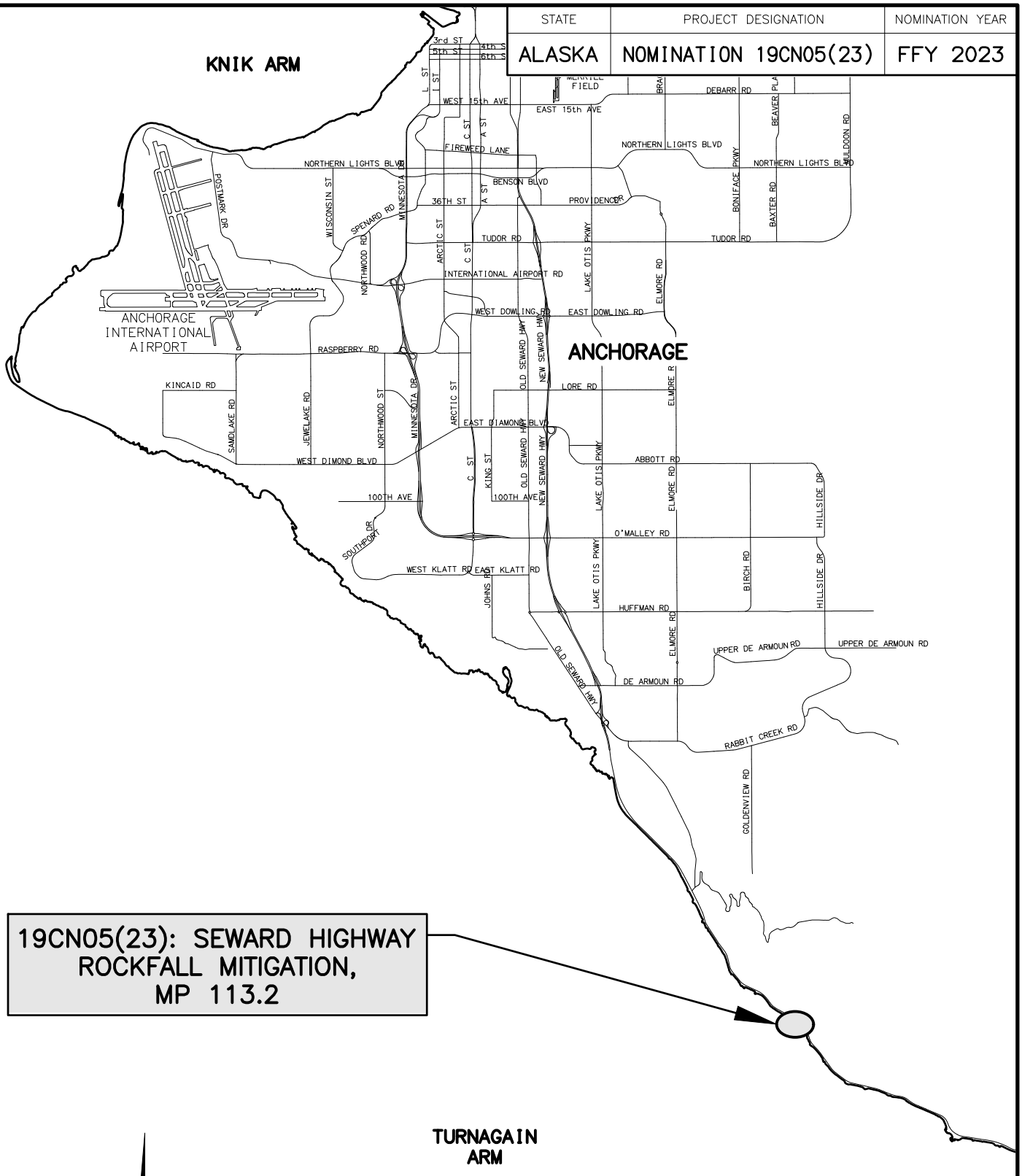
Figure 2: Seward Highway MP 113.2 site photo taken fall of 2018.

Figure 3: Ice buildup at Seward Highway MP 113.2. Photo taken winter of 2020.

Figure 4: Ice collapse at Seward Highway MP 113.2 in March of 2022. DOT&PF M&O annually install a temporary speed zone and traffic pattern to reduce the risk of collision with a motor vehicle.

Figure 5: Photo of motor vehicle involved in 2012 ice fall serious injury crash at Seward Highway MP 113.2.

STATE	PROJECT DESIGNATION	NOMINATION YEAR
ALASKA	NOMINATION 19CN05(23)	FFY 2023



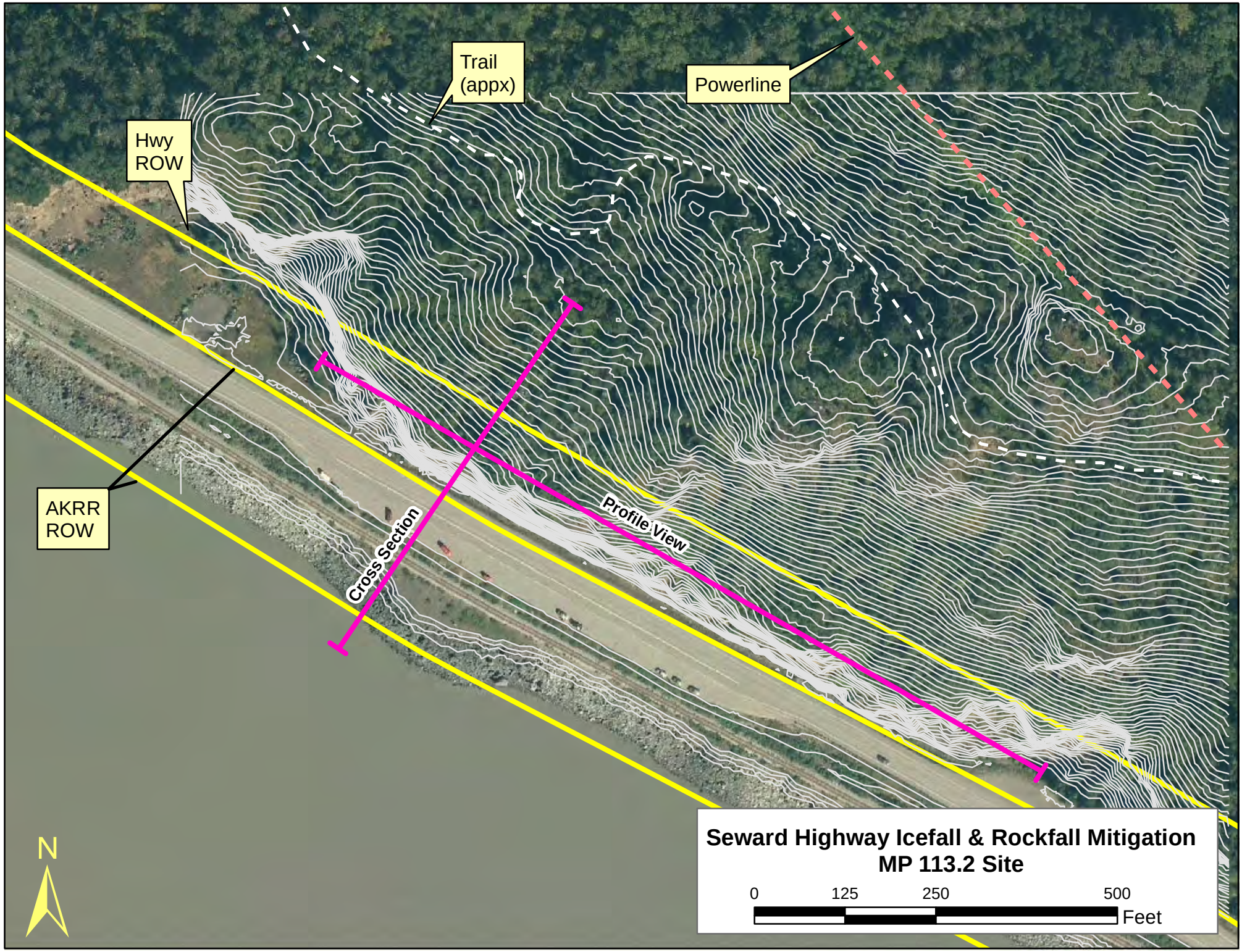
19CN05(23): SEWARD HIGHWAY ROCKFALL MITIGATION, MP 113.2

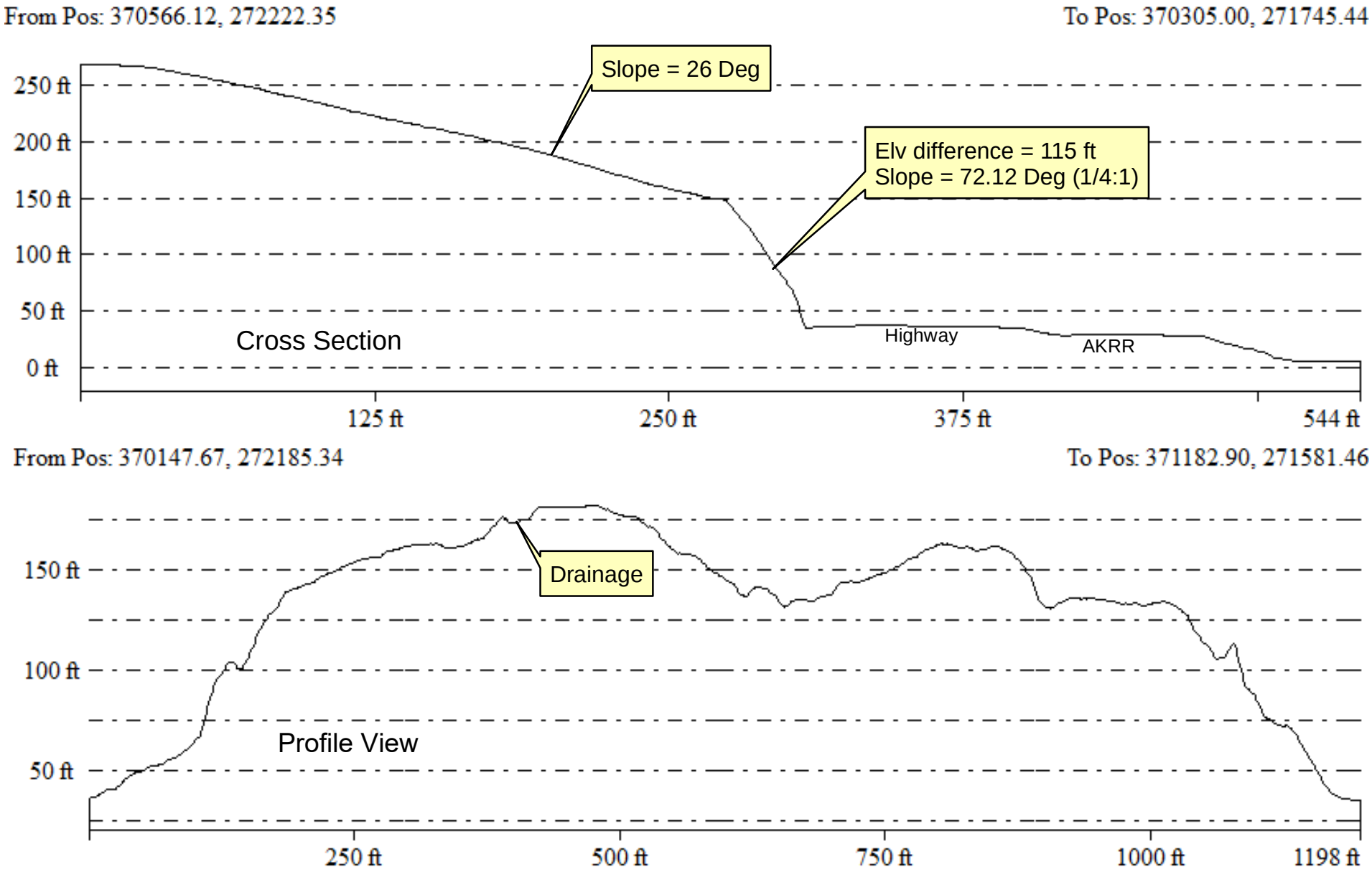
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
CENTRAL REGION
TRAFFIC AND SAFETY GROUP

SEWARD HIGHWAY ROCKFALL MITIGATION, MP 113.2

VICINITY MAP

DEVELOPED BY: JOL	DATE: 6/1/2022
	PAGE: 7 OF 10


Trail
(appx)
Powerline
Hwy
ROW
AKRR
ROW
Cross Section
Profile View
N
Seward Highway Icefall & Rockfall Mitigation
MP 113.2 Site
0
125
250
500
Feet



Seward Highway Icefall & Rockfall Mitigation
MP 113.2 Site

Cross Section & Profile Section

Seward Highway Rockfall Mitigation, MP 113.2
Cost Estimate

Work		Quantity	Unit	Unit Cost	Total Cost	Remarks
REMOVALS						
201.0001.0000	Clearing	2.00	ACRES	$10,000.00	$20,000	
201.0002.0000	Grubbing	2.00	ACRES	$20,000.00	$40,000	
203.0003.0000	Unclassified Excavation	176,000	CY	$35.00	$6,160,000	
INSTALLATIONS						
203.0013.____	Rockfall Mitigation, Pinned Wire Mesh	4,000	SY	$405.00	$1,620,000	
203.0013.____	Stabilization - Rock Bolt, All-Thread (Rolled-In)	500	EACH	$3,700.00	$1,850,000	
401.0001.002A	HMA, Type II; Class A	755	TON	$200.00	$151,000	As required for
401.0004.5240	Asphalt Binder, Grade PG 52-40 V	44	TON	$3,700.00	$162,800	asphalt replacement
406.0008.0000	Rumble Strips, Shoulders	1	MILE	$2,500.00	$2,500	due to damage during
406.0012.0000	Rumble Strips, Centerline	1	MILE	$2,500.00	$2,500	construction.
618.0002.0000	Seeding	1.0	ACRE	$10,000.00	$10,000	
618.0003.0000	Water for Seeding	27.0	MGAL	$60.00	$1,620	
620.0001.0000	Topsoil	3,000	SY	$4.00	$12,000	
CONSTRUCTION SUPPORT ITEMS						
644.0001.0000	Field Office	1	LS	All Req'd	$20,000	
644.0001.0000	Engineering Communications	1	CS	All Req'd	$36,000	0.25% of pay items
646.0001.0000	CPM Scheduling	1	LS	All Req'd	$7,200	0.05% of pay items
682.2000.0000	Vac-Truck Pothole	1	CS	All Req'd	$10,000	Utilities
OTHER						
640 items	Mobilization/Demobilization	1	LS	All Req'd	$1,206,400	8% of pay items
641 items	Erosion/Pollution Control	1	LS	All Req'd	$452,400	3% of pay items
642 items	Construction Surveying/Survey Party	1	LS	All Req'd	$301,600	2% of pay items
643 items	Traffic Maintenance/Flagging/Control	1	LS	All Req'd	$3,016,100	12% of pay items
				Construction Subtotal	$15,082,120	
UTILITIES						
	GCI/ACS	-	-	-	$0	
	CEA	-	-	-	$0	
	Enstar	-	-	-	$0	
	ARRC	-	-	-	$27,000	Flagging and Track Protection
	Utility Administration	-	-	-	$4,860	
				Utilities Subtotal	$31,860	
COST ESTIMATE SUMMARY					COST	WITH 7.18% ICAP
	Preliminary Design (Phase 2)	-	-		$800,000	$857,000
	Right-of-Way - Easements or Partial Acquisitions (Phase 3)	-	-		$50,000	$54,000
	Temporary Construction Easement (Phase 2)	-	EACH	$10,000.00	$0	$0
	Utilities (Phase 7)	-	-	All Req'd	$31,860	$34,000
	Construction (Phase 4)	-	-		$15,082,000	$16,165,000
	Construction Administration (Phase 4)		%	20.00%	$3,016,000	$3,233,000

Improvements:

Cutback and Stablize Slope at Seward Highway MP 113.2

Total: $20,343,000

Project Description and Backup

Southcoast Region

MEMORANDUM

State of Alaska

Department of Transportation & Public Facilities
Division of Design & Engineering Services
Preconstruction Southcoast Region

TO: Matt Walker, PE
State Traffic and Safety Engineer

DATE: July 1, 2022

THRU: Nathan Purves, PE, SR Traffic Engineer
Greg Lockwood, PE, SR PD&E Chief

PHONE NO: 465-4521

FROM: Kirk Miller, PE
SR Preconstruction Engineer

SUBJECT: FFY 2023 HSIP Nomination

This will transmit Southcoast Region's Highway Safety Improvement Program (HSIP) submittal for Federal Fiscal Year 2023. This package has been prepared in accordance with the Alaska Highway Safety Improvement Program Handbook, 21st ed., dated April 18, 2022.

There are 4 new nominations from Southcoast Region based on 2015-2019 screening data:

23SR01 JNU Vanderbilt Continuous Green T HSIP
23SR02 JNU Glacier Hwy Safety Improvements HSIP
23SN01 SR Systemic Passing Lanes & Restriping HSIP
23SN02 HNH Harbor Way Pedestrian Improvements

This submittal includes all information required in pars. 2.2 and 2.3 of the HSIP Handbook.

Please contact Steven Thater at 465-8945 if you have any questions.

FFY 2023 Approved HSIP Projects - Southcoast Region

Project Name:	Project Type: New	Project Type: FO	Project Type: UFO	IRIS No.	HSIP Project Number	B/C	Safety Index	Crashes Susc. to Corr.: PDO	POS	MIN	SER	FAT	Region	Phase	Federal Fiscal Year: 23	24	25	Longterm View: 26	27	28	Constr by M&O?	Bundle?	Project Description
JNU Glacier Hwy Safety Improvements HSIP - McNugget to Loop Rd	X				23SR02	2.54		5	0	7	0	0		2	$ 250,000	$ 250,000	$ -	$ -	$ -	$ -	No	No	Improve uncontrolled crosswalks along Glacier Hwy and convert Jordan Ave - McNugget into a superstreet.
														3	$ -	$ 100,000	$ -	$ -	$ -	$ -			
														4	$ -	$ -	$ 1,327,823	$ -	$ -	$ -			
														7	$ -	$ 100,000	$ -	$ -	$ -	$ -			
														Total	$ 250,000	$ 450,000	$ 1,327,823	$ -	$ -	$ -			
JNU Vanderbilt Continuous Green T HSIP	X				23SR01	0.64		7	3	4	0	0		2	$ 100,000	$ 200,000	$ -	$ -	$ -	$ -	No	No	Convert Egan/Vanderbilt intersection into a Continuous Green T intersection with SB Thru lanes not stopping and new median acceleration lane.
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ -		$ 1,534,112	$ -	$ -	$ -			
														7	$ -	$ -	$ -	$ -	$ -	$ -			
														Total	$ 100,000	$ 200,000	$ 1,534,112	$ -	$ -	$ -			
HNH Harbor Way Pedestrian Improvements	X			SFHWY 00278	23SN02	N/A		0	0	0	0	0		2	$ 140,000	$ -	$ -	$ -	$ -	$ -	No	Yes	Install new sidewalk along Harbor Way for pedestrian safety. Bundle with a TAP project that will install a bridge landing at the sidewalk.
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ -	$ 1,089,138	$ -	$ -	$ -	$ -			
														7	$ -	$ -	$ -	$ -	$ -	$ -			
														Total	$ 140,000	$ 1,089,138	$ -	$ -	$ -	$ -			
SR Regionwide Passing Zones Inventory and Restriping HSIP	X				23SN01	N/A		0	0	0	0	0		2	$ 500,000	$ 200,000	$ -	$ -	$ -	$ -	No	No	Assess and correct passing zone deficiencies along Two-Way Two-Lane Highways with posted speeds of 40mph or greater, published AADT between 500-6000, and 1 mile or greater in length.
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ -	$ -	$ 1,479,084	$ -	$ -	$ -			
														7	$ -	$ -	$ -	$ -	$ -	$ -			
														Total	$ 500,000	$ 200,000	$ 1,479,084	$ -	$ -	$ -			
								0	0	0	0	0		2	$ -	$ -	$ -	$ -	$ -	$ -			
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ -	$ -	$ -	$ -	$ -	$ -			
														7	$ -	$ -	$ -	$ -	$ -	$ -			
														Total	$ -	$ -	$ -	$ -	$ -	$ -			
								0	0	0	0	0		2	$ -	$ -	$ -	$ -	$ -	$ -			
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ -	$ -	$ -	$ -	$ -	$ -			
														7	$ -	$ -	$ -	$ -	$ -	$ -			
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								0	0	0	0	0		2	$ -	$ -	$ -	$ -	$ -	$ -			
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ -	$ -	$ -	$ -	$ -	$ -			
														7	$ -	$ -	$ -	$ -	$ -	$ -			
														Total	$ -	$ -	$ -	$ -	$ -	$ -			
								0	0	0	0	0		2	$ -	$ -	$ -	$ -	$ -	$ -			
														3	$ -	$ -	$ -	$ -	$ -	$ -			
														4	$ -	$ -	$ -	$ -	$ -	$ -			
														7	$ -	$ -	$ -	$ -	$ -	$ -			
														Total	$ -	$ -	$ -	$ -	$ -	$ -			

FFY-2023 HSIP Project Summary

Location: 23SR01 Juneau – Vanderbilt Continuous Green T HSIP

Safety Problem Description: The intersection of Egan Drive (Route ID 4441121I000), and Glacier Highway/Lemon Road (Route ID 4441045X000), Juneau, Alaska, experienced a number of Minor Injury/Possible Injury/PDO crashes during the screening period. At least 14 of these were rear end or angle crashes related to operation of the Traffic Signal, 4 of which were minor injury crashes.

Count of Crash Severity	Crash Type					
	Angle		Front-To-Rear			Grand Total
Street	No Apparent Injury	Possible Injury	No Apparent Injury	Possible Injury	Suspected Minor Injury	
EGAN DRIVE/GLACIER HIGHWAY	2	1	3	1	1	8
EGAN DRIVE/GLACIER HIGHWAY SB			1	1	3	5
GLACIER HIGHWAY/TWIN LAKES DRIVE	1					1
Grand Total	**3**	**1**	**4**	**2**	**4**	**14**

Table 1. Crashes treatable by proposed safety improvement

Safety Problem Solution: Convert the existing Egan & Vanderbilt signalized T intersection into a Continuous Green T (CGT) Intersection.

Project Description: This project will primarily reduce the incidence of rear-end, angle, and sideswipe crashes for the SB Egan thru lanes by converting them to continuous green lanes with no conflicting movements. Left turning traffic from Glacier Hwy will be reduced from two lanes to one lane and merge into SB Egan traffic from a new acceleration lane located in the median of Egan Drive. Reductions to crashes in the NB Egan direction may also result since the traffic signal controller will be better able to optimize for gapping out only considering one direction of traffic instead of two, thereby reducing the number of vehicles forced into the dilemma zone during signal max-outs.

In addition the existing SB left-turn and new SB median acceleration lane will be buffered slightly from the SB thru lanes reducing the incidence of sideswipe crashes between the movements. A mountable raised concrete median will be installed in this buffer space to aid delineation. A new advanced detector will be mounted to serve traffic approaching from Glacier Highway to reduce the incidence of vehicles caught in the dilemma zone.

This project is expected to have negligible impacts to the level of service of the signal operation which already operates at a LOS B according to the most recent study. Capacity is not an objective of this

project and will not be significantly reduced after the project is constructed. Maintenance operations may experience minor changes but should not need any significant new time or effort.

Figure 1 shows the proposed new intersection configuration. Figure 2 shows an example installation.

Crash Reduction Factor

The purpose of the proposed safety improvements is to reduce the number and severity of crashes at the Egan-Vanderbilt intersection. Between 2015 and 2019 there were 18 crashes at this intersection. The most frequent crashes were rear-end crashes involving vehicles failing to stop when the signal indication on Egan Drive changes to red. In the study period, there were 4 minor injury and 3 possible injury crashes, all of the minor injuries and 2 of the possible injuries reported were related to rear-end crashes.

The Crash Reduction Factors (CRFs) for this project are not listed in the HSIP Handbook but instead derive from a report by Wood and Donnell, 2016 published on the CMF Clearing House webpage. These factors are applicable for this project since the study received a quality rating of three stars and the applicability parameters closely match the context of the existing intersection. The two CRFs that were chosen are as follows:

- 15.4% reduction for Fatal & Injury crashes for all crash types
- 8% reduction for all other Angle, Rear-end, and Sideswipe crash types

These CRFs were calculated for the whole intersection and their application in the ranking worksheet reflects this.

FHWA Reporting Requirements

SHSP Strategy: This project falls within Strategy 2 and Strategy 5 of the Roadways Plan Emphasis Area, 2018-2022 Alaska Strategic Highway Safety Plan (Implement HSIP Qualified Projects).

Functional Classification: Egan Drive, Principal Arterial – Other; Glacier Highway/Lemon Road, Minor Arterial.

Average Annual Daily Traffic: Egan Drive, 20440; Glacier Highway/Lemon Road, 6961.

Posted Speed: Egan Drive, 55 mph; Glacier Highway/Lemon Road, 45 mph.

Roadway Ownership: State of Alaska.

Project Cost:

Phase 2 Design **(FFY 2023-24)**	$300,000
Phase 3 Right-of-Way	0
Phase 4 Construction **(FFY 2025)**	$1,534,112
Phase 7 Utilities **(FFY 2025)**	0
TOTAL	$1,834,112

Benefit/Cost Ratio: 0.64:1

Fatal / Major Injury Crashes: 0/0

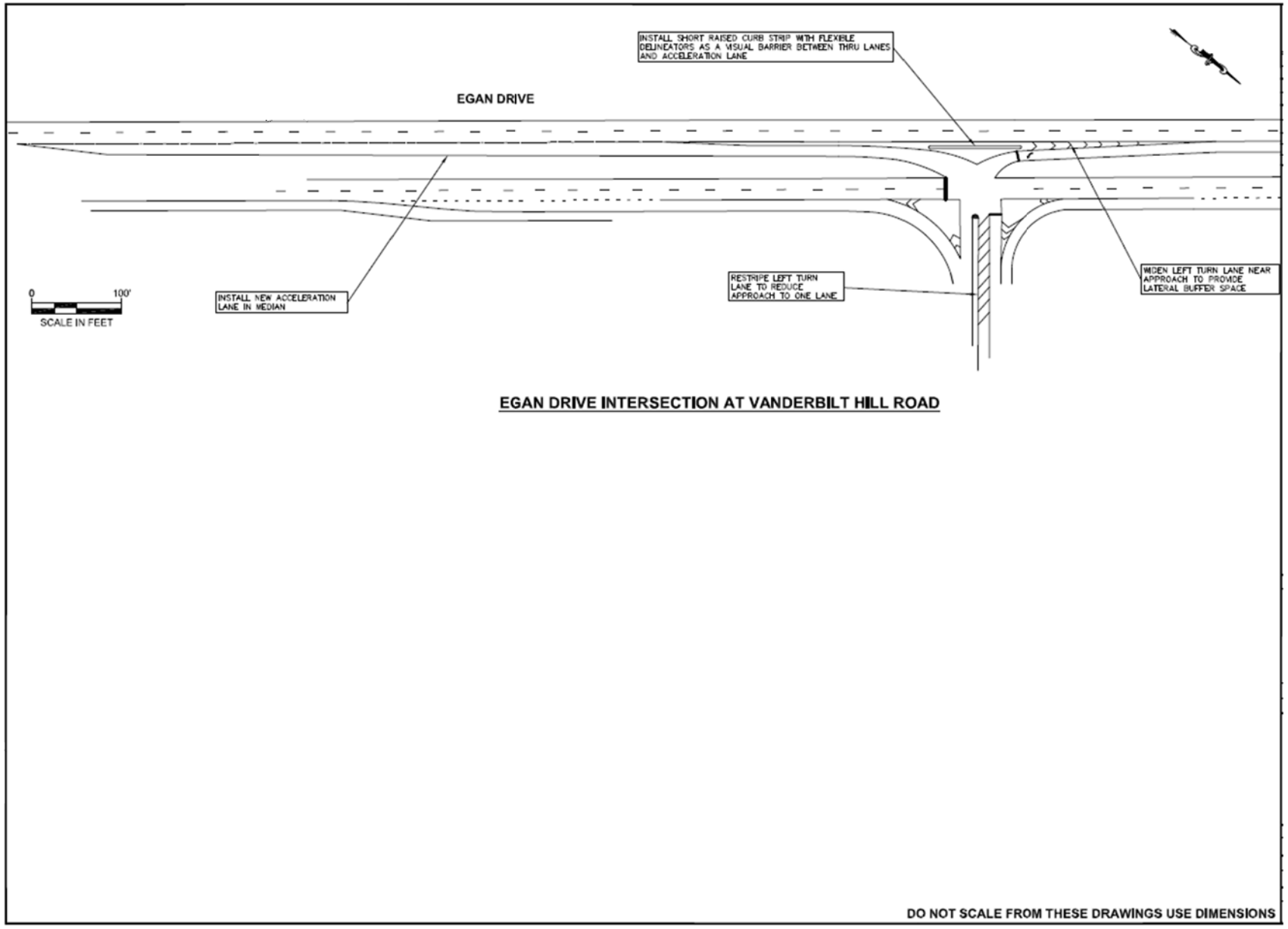


Figure 1. Continuous Green T Intersection Concept

Figure 2. Continuous Green T Intersection Example on High Speed facility (US-160 & US-550 CO)

ENGINEER'S ESTIMATE

State of Alaska
Department of Transportation
& Public Facilities
Southcoast Region

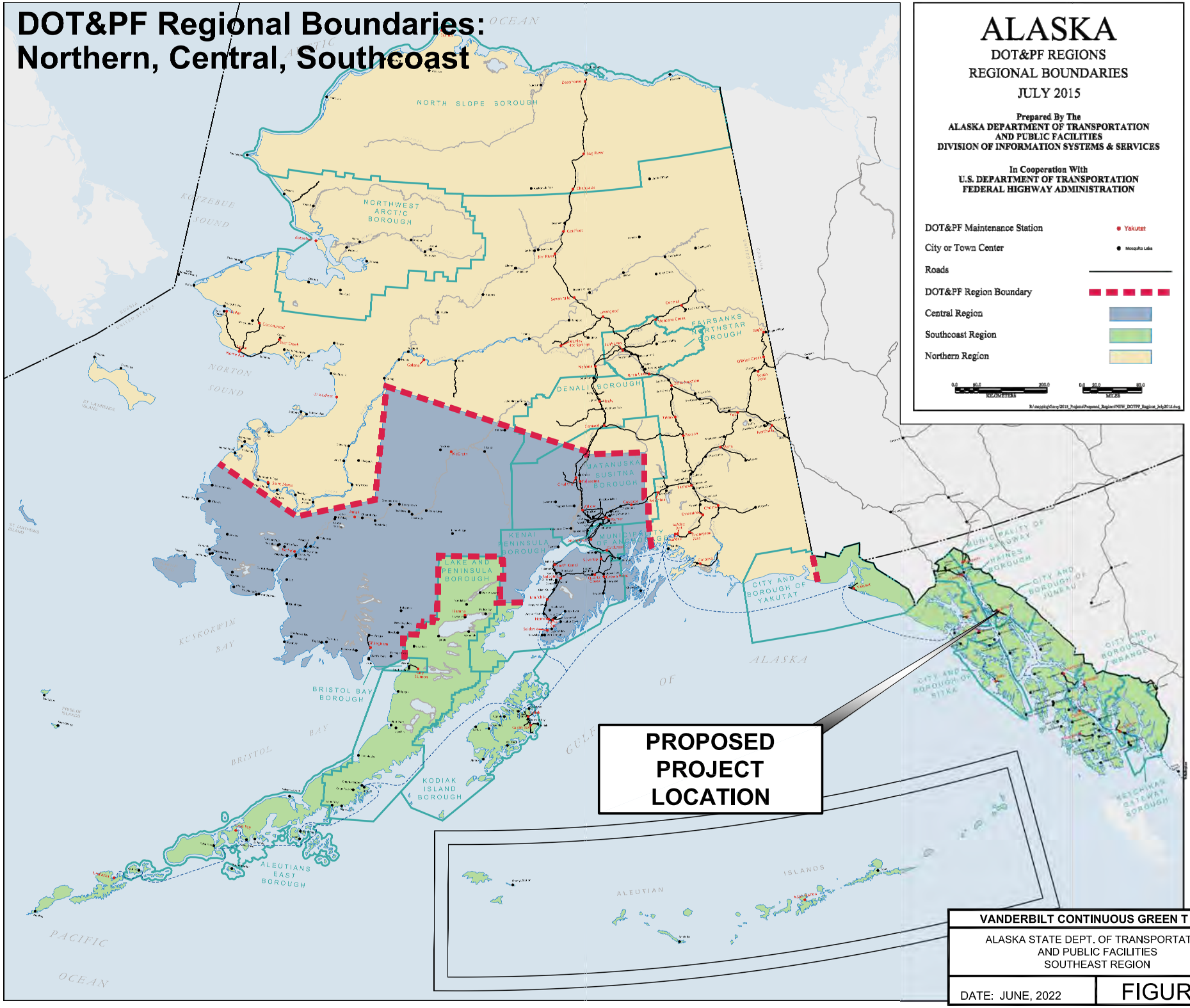
JNU Vanderbilt Continuous Green Upgrade
HSIP Project #: 23SR01

Printed: 6/27/22

Description	Unit	Quantity	Unit Price	Amount
201(3A) Clearing and Grubbing	Acre	1	$25,000.00	$25,000.00
201(2) Invasive Plant Species Control, Removal, and Disposal	Lump Sum	All Required	$5,000.00	$5,000.00
202(1) Removal of Structures	Lump Sum	All Required	$30,000.00	$30,000.00
202(2) Removal of Pavement	Square Yard	400	$15.00	$6,000.00
301(1) Aggregate Base Course, Grading D-1	Ton	500	$65.00	$32,500.00
401(1) HMA, Type II Class B	Ton	450	$200.00	$90,000.00
401(1A) HMA, Type A Class SP	Ton	225	$200.00	$45,000.00
401(4A) Asphalt Binder, Grade PG 58-28	Ton	40.5	$1,300.00	$52,650.00
402(1) STE-1 Asphalt for Tack Coat	Ton	2	$2,000.00	$4,000.00
615(1) Standard Sign	Square Foot	100	$300.00	$30,000.00
618(2) Seeding	Pound	5	$200.00	$1,000.00
619(13) Bonded Fiber Matrix (BFM)	Pound	120	$10.00	$1,200.00
640(1) Mobilization and Demobilization	Lump Sum	All Required	$120,000.00	$120,000.00
641(1) Erosion, Sediment and Pollution Control Administration	Lump Sum	All Required	$5,000.00	$5,000.00
641(3) Temporary Erosion, Sediment and Pollution Control	Lump Sum	All Required	$25,000.00	$25,000.00
641(5) Temporary Erosion, Sediment and Pollution Controil by Directive	Contingent Sum	All Required	$4,000.00	$4,000.00
641(6) Withholding	Contingent Sum	All Required	$0.00	$0.00
641(7) SWPPP Manager	Lump Sum	All Required	$40,000.00	$40,000.00
642(1) Construction Surveying	Lump Sum	All Required	$20,000.00	$20,000.00
643(2) Traffic Maintenance	Lump Sum	All Required	$100,000.00	$100,000.00
643(3) Permanent Construction Signs	Lump Sum	All Required	$8,000.00	$8,000.00
643(23) Traffic Price Adjustment	Contingent Sum	All Required	$0.00	$0.00
643(25) Traffic Control	Contingent Sum	All Required	$50,000.00	$50,000.00
643(32) Flagging	Contingent Sum	All Required	$20,000.00	$20,000.00

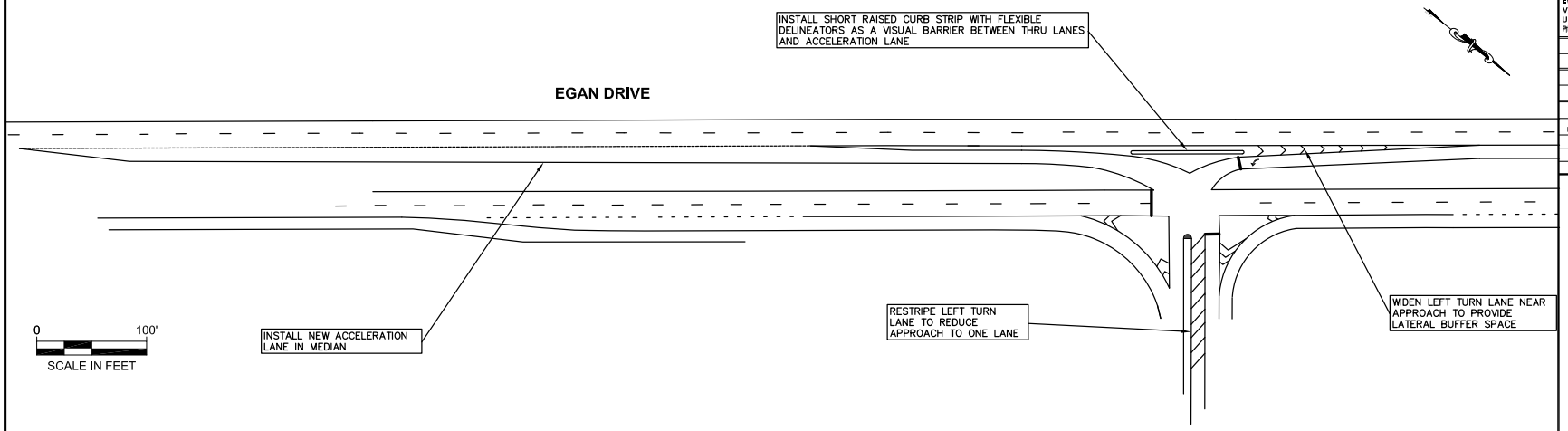
643(33) Public Information Program	Lump Sum	All Required	$10,000.00	$10,000.00
660(1) Traffic Signal System Complete	Lump Sum	All Required	$300,000.00	$300,000.00
670(1) Painted Traffic Markings	Lump Sum	All Required	$10,000.00	$10,000.00
670(10) Methyl Methacrylate Pavement Markings	Lump Sum	All Required	$50,000.00	$50,000.00
				$1,084,350.00
	Pay Item Bid Total			
	Construction Engineering (Fixed Amount)	20%	216,870.00	1,301,220.00
	Indirect Cost Allocation Plan (ICAP) Precent	7.18%	93,427.60	1,394,647.60
	Construction Project Total+Factor of Saftey	10%	139,464.76	1,534,112.36
	Design Engineering		300,000.00	300,000.00
	Project Total			1,834,112.36

DOT&PF Regional Boundaries: Northern, Central, Southcoast



VANDERBILT CONTINUOUS GREEN T HSIP	
ALASKA STATE DEPT. OF TRANSPORTATION AND PUBLIC FACILITIES SOUTHEAST REGION	
DATE: JUNE, 2022	FIGURE 1

I:\TRAFFIC\HSIP\2022 (FY23)\23SR01 VANDERBILT CONTINUOUS GREEN T UPGRADE\DISPLAY\VANDERBILT LOCATION MAP.DWG



EGAN DRIVE INTERSECTION AT VANDERBILT HILL ROAD

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

PATH:
I:\TRAFFIC\HSIP\2022 (FY23)\23SR01 VANDERBILT CONTINUOUS GREEN T UPGRADE\23SR01_SHEET_PLAN.DWG
Monday, June 20, 2022

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

PLAN LEGEND

CHECKED BY:

DESIGNED BY:

DRAWN BY:

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHCOAST REGION

JNU - VANDERBILT CONTINUOUS GREEN T INTERSECTION HSIP

PROPOSED SAFETY SOLUTION

PROJECT DESIGNATION

23SR01

STATE	YEAR
ALASKA	2022
SHEET NUMBER	TOTAL SHEETS
1	1

Date Range Chosen:
01/01/2015 - 12/31/2019

Filters Used:
Map\vanderbilt

Egan & Vanderbilt Crashes 2015-2019

Fatal and Injury Crashes Susceptible to Reduction by Improvement

Other Angle, Rear-End, and Sideswipe Crashes Susceptible to Reduction by Improvement

Time of report run: 6/16/2022 2:01:22 PM

Crash Number	CDS Number	Milepoint	DateTime	Street	Intersecting Street	Crash Severity	Crash Type	Weather	Road Surface	Lighting
201544479	296000	4.8589	6/6/2015 11:00:00 AM	EGAN DRIVE/GLACIER HIGHWAY	VANDERBILT HILL ROAD	No Apparent Injury	Rear End	Rain	Wet	Daylight
201556147	296000	4.8614	3/12/2015 8:15:00 AM	EGAN DRIVE/GLACIER HIGHWAY	VANDERBILT	No Apparent Injury	Angle - Left Turning	Snow	Ice/Frost	Daylight
201560901	296000SB	4.3572	6/13/2015 4:00:00 PM	EGAN DRIVE/GLACIER HIGHWAY SB	VANDERBILT ROAD	Possible Injury	Rear End	Cloudy	Dry	Daylight
201580224	296000SB	4.4623	5/9/2015 12:00:00 AM	EGAN DRIVE/GLACIER HIGHWAY SB	EGAN DR/VANDERBILT HILL ROAD	No Apparent Injury	Rear End	Cloudy	Wet	Daylight
201581174	296000	4.8695	12/7/2015 6:39:00 PM	EGAN DRIVE/GLACIER HIGHWAY	VANDERBILT HILL ROAD	Possible Injury	Angle - Left Turning	Cloudy	Wet	Dark - Lighted
201581194	296000SB	4.3469	12/11/2015 9:00:00 AM	EGAN DRIVE/GLACIER HIGHWAY SB	VANDERBILT HILL ROAD	Suspected Minor Injury	Rear End	Clear	Ice/Frost	Daylight
201646119	296000	4.9099	8/23/2016 10:00:00 AM	EGAN DRIVE/GLACIER HIGHWAY	GLACIER HWY	No Apparent Injury	Rear End	Clear	Dry	Daylight
201668736	296000	4.8624	9/25/2016 2:40:00 PM	EGAN DRIVE/GLACIER HIGHWAY	VANDERBILT HILL	No Apparent Injury	Rear End	Rain	Wet	Daylight
201731001	296000	4.8522	10/2/2017 10:28:00 AM	EGAN DRIVE/GLACIER HIGHWAY	VANDERBELT RD	No Apparent Injury	Angle - T-Bone	Rain	Wet	Daylight
201746816	296000	4.8557	12/30/2017 9:19:00 AM	EGAN DRIVE/GLACIER HIGHWAY	VANDERBILT HILL ROAD	Suspected Minor Injury	Rear End	Other	Dry	Daylight
201819765	296000SB	4.3405	5/29/2018 4:15:00 PM	EGAN DRIVE/GLACIER HIGHWAY SB	OLD GLACIER VANDERBUILT	Suspected Minor Injury	Rear End	Cloudy	Dry	Daylight
201955526	296000SB	4.3483	8/15/2019 8:35:00 AM	EGAN DRIVE/GLACIER HIGHWAY SB	VANDERBILT HILL ROAD	Suspected Minor Injury	Rear End	Clear	Dry	Daylight
201955530	296000	4.8531	7/28/2019 3:00:00 AM	EGAN DRIVE/GLACIER HIGHWAY	VANDERBILT HILL RD	Possible Injury	Rear End	Rain	Wet	Dark - Lighted
201982917	296222	0.2095	12/4/2019 4:20:00 PM	GLACIER HIGHWAY/TWIN LAKES DRIVE	EGAN DR/VANDERBILT HILL ROAD	No Apparent Injury	Angle - Left Turning	Other	Snow	Dark - Lighted

FFY-2023 HSIP Project Summary

Location: 23SR02 JNU Glacier Hwy Safety Improvements HSIP

Safety Problem Description: This project bundles two safety concerns along Glacier Highway (Route ID 4441086X000) from the McNugget intersection to Loop Road:

- There were two minor injuries in uncontrolled crosswalks along the corridor, one at the marked intersection with Glacier Hwy North (Route ID 4441068X000) and another at the unmarked intersection with Trout St (Route ID 4441098X000)
- There is a high incidence of angle crashes occurring at the intersection with Trout St. Currently there are No Left Turn signs restricting left turns at certain times of day but are ineffective at preventing crashes and lack enforcement mechanisms. This location meets signal warrants but is too close to the McNugget intersection to signalize or install a roundabout. Treatable crashes at this intersection are summarized in Table 1.

It was chosen to bundle these problems together due to their close proximity and to achieve associated cost efficiencies.

Count of Crash Severity	Crash Type									Grand Total
	Angle - Left Turning			Angle - T-Bone		Bicycle		Rear End		
Street	No Apparent Injury	Possible Injury	Suspected Minor Injury	No Apparent Injury	Suspected Minor Injury	No Apparent Injury	Suspected Minor Injury	No Apparent Injury	Suspected Minor Injury	
GLACIER HIGHWAY NUGGET	2	1	1	2	2	1	1	1	1	12
Grand Total	**2**	**1**	**1**	**2**	**2**	**1**	**1**	**1**	**1**	**12**

Table 1. Crashes treatable by proposed safety improvement

Safety Problem Solution: This project would install the following safety solutions:

- Install RRFB, and advanced yield markings at the marked crosswalk at Glacier Hwy North
- Install new marked crosswalk and advanced yield markings at a new crosswalk between Trout St and Jordan Ave at one of the entrances to Nugget Mall
- Convert Glacier Hwy to a superstreet from McNugget to Jordan Ave

Project Description: The project will minimize changes to the existing pavement and use restriping and concrete dowel slabs where possible to accommodate geometric changes. Installation of RRFBs along Glacier Hwy aligns with recent FHWA guidance from 2018 that they are particularly effective at multilane crossings with speed limits less than 40 miles per hour. See Sheets 1 and 2 for a preliminary drawing of the proposed changes.

Glacier Hwy North Crosswalk

The intersection of Glacier Hwy and Glacier Hwy North has an existing marked crosswalk across Glacier Hwy on the South side of the intersection. The crosswalk is currently not signed and has substandard illumination on the crosswalk. This project would erect new crosswalk signage and a Rectangular Rapid Flashing Beacon (RRFB) facing traffic on either side of the roadway. RRFBs are actuated by a pedestrian button and would be more cost effective for reducing crashes than changes to the lighting system. The crosswalk meets the following conditions specified in the Alaska Traffic Manual:

- Moderate pedestrian volumes, exceeding 20 ped/h during multiple hours of the day,
- Below minimum PSD (600ft), above minimum SSD (200ft) with high level devices,
- Greater than 2 lanes.

Glacier Hwy/Nugget Mall Crosswalk

The segment of Glacier Hwy extending from Jordan Ave to Egan Drive (McNugget) is approximately 900ft in length, 4-lanes wide, and has no marked crosswalks. There are signal controlled crosswalks at either end of the segment but anecdotal experience and volume data collected shows that there is a significant uncontrolled pedestrian crossing volume between Trout St and the entrance to Nugget Mall. 6-foot medians for refuge are available for making two-stage crossings along most of this segment.

This project would install a new marked crosswalk with advanced yield markings by the Nugget Mall entrance. This location would accommodate several pedestrian desire lines:

- From Glacier Hwy bus stop inbound to McDonalds/Breeze In/Jordan Creek Mall
- From Glacier Hwy bus stop outbound to Nugget Mall
- From Nugget Mall to McDonalds/Breeze In/Jordan Creek Mall

The crosswalk meets the following conditions specified in the Alaska Traffic Manual:

- Moderate pedestrian volumes, exceeding 20 ped/h during multiple hours of the day,
- Below minimum PSD (600ft), above minimum SSD (200ft),
- Greater than 2 lanes.

Glacier Hwy Superstreet

The segment of Glacier Hwy from Jordan Ave to Egan Drive (McNugget) would be converted into a superstreet also known as a restricted crossing U-turn (RCUT). These are common all over the USA and are popular in cities like Las Vegas to reduce the number of conflict points and enhance safety for wide roadways. This work would involve restricting left and thru movements out of Trout Street and Old Dairy Road, requiring drivers to instead make a U-turn at existing left turn locations at Nugget Mall and the McNugget signal respectively. The changes to accommodate the superstreet layout are summarized as:

- Shifting the left turn lane at Nugget Mall entry to provide space for U-turns will require reducing WB thru lanes on Glacier Hwy from 2 to 1 by forcing the right lane to exit into Trout St, maintaining overflow capacity for the McDonalds drive thru. Existing AADTs support the reduction in lanes and the segment beyond Jordan Ave is already reduced to one thru lane in each direction.
- Pedestrian crossing movements will be relocated to a new crosswalk as discussed above.
- Raised channelizing islands will be installed in the existing left turn lanes to prevent left and thru movements from Trout and Old Dairy. These islands will be cast in place concrete installed and secured with dowels over the existing asphalt. New islands will be designed to accommodate appropriate design vehicle turning movements to ensure access is not impaired.
- Demolition and paving over the existing NW island at the Egan/McNugget traffic signal to allow for U-turns from Glacier Hwy. Conduits would be redirected to a new pole with overhead mast arm beyond the existing right turn lane. The crosswalk will be rerouted directly from the multiuse path to the island in the SW quadrant. To prevent conflicts between U-turns or pedestrians and the SB right turn movement the right turn lane will have a new right turn arrow signal control.
- Minor restriping and signage adjustments.

Crash Reduction Factors

The Crash Reduction Factors (CRFs) for this project are not listed in the HSIP Handbook but instead derive from studies published on the CMF Clearing House webpage. These factors were chosen because they received quality ratings of three stars or higher and their applicability parameters closely match the context of the existing roadway. The CRFs chosen are summarized in Table 2:

Countermeasure	CRF	Crash Types	Study Source
Convert a conventional unsignalized intersection to an unsignalized superstreet	-46%	All	Hummer et al., 2010
Install Rectangular Rapid Flashing Beacon (RRFB)	-47.4%	Vehicle/ Pedestrian	Zegeer et al., 2017
Install Advanced Yield or Stop Markings and Signs	-25%	Vehicle/ Pedestrian	Zegeer et al., 2017

Table 2. CRFs used in this HSIP proposal

Both of the pedestrian improvements proposed with this project use the combined effects of multiple countermeasures and are calculated as follows:

CRF at Glacier/Glacier North: $[1 - \left(1 - \frac{47.4}{100}\right)\left(1 - \frac{25}{100}\right) * 100] = 60.5\%$

CRF at Glacier/Trout: $[1 - \left(1 - \frac{25}{100}\right) * 100] = 25\%$

Design Notes

There is another future HSIP or STIP project intended to convert the McNugget & Egan intersection into a 4-way intersection. The timeline for that project has not yet been established and should not result in any conflicts with this project. That project will require significant redesign of the McNugget intersection and should continue incorporating the superstreet configuration in its design.

So far there has been no new outreach to stakeholders on the proposal but once the project is selected public outreach should begin early and continue through construction. Additional design and Right-of-Way funding has been allocated to this project to accommodate this requirement.

Previous Mitigation Attempts

There was a previous HSIP mitigation attempt for the location of the superstreet proposal at Trout Street which involved only restricting left turns from the side streets without any typical superstreet improvements. The FFY 2012 project ended up being disapproved by the CBJ Planning Commission:

> *"…does not comply with Policy 8.1 in the Comprehensive Plan for the reason that it does not show that it is safer, and it certainly is not more convenient, for the users of our road system."*
>
> *CBJ Planning Commission Notice of Recommendation 12/12/2013*

This new project would set itself apart from the previous effort because it has bases in a reliable safety study that has since been published, and it combines the left turn restriction with various other safety improvements to the corridor that should make it more palatable to the commission and public:

- Designated U-Turn locations to facilitate proper use of the superstreet.
- Proper analysis of the convenience/capacity of the intersection showing the current LOS F delay (300+ seconds) during peak hours for left turns compared to 40 seconds for performing a right turn, U-turn and additional travel time. Each of the intersection delays are LOS B or better under the superstreet proposal showing that a capacity benefit is also possible along with the safety benefit.
- Conversion of one WB thru lane into a right turn only onto Trout St, improving ability for right turns from Trout St to judge safe gaps.
- Relocation of uncontrolled pedestrian crossings to a new location with fewer conflict points and enhanced visibility.
- The reduction in lanes along Glacier Hwy WB allows for a protected bus stop.
- Recent changes to land use on Teal St and removal of bus depot on Mallard St means more pedestrians arriving and departing at the bus stops on Glacier Hwy.

FHWA Reporting Requirements

SHSP Strategy: This project falls within Strategy 2 and Strategy 5 of the Roadways Plan Emphasis Area, 2018-2022 Alaska Strategic Highway Safety Plan (Implement HSIP Qualified Projects).

Functional Classification: Egan Drive, Principal Arterial – Other; Glacier Highway, Minor Arterial; Trout Street, Local; Old Dairy Road, Minor Collector.

Average Annual Daily Traffic: Egan Drive, 29000; Glacier Highway, 6840; Trout Street, 5290; Old Dairy Road, 2760.

Posted Speed: Egan Drive, 55 mph; Glacier Highway, 30/35 mph; Trout Street, 25 mph; Old Dairy Road, 35 mph.

Roadway Ownership: State of Alaska.

Project Cost:

Phase 2 Design **(FFY 2023-24)**	$500,000
Phase 3 Right-of-Way	$100,000
Phase 4 Construction **(FFY 2025)**	$1,327,823
Phase 7 Utilities **(FFY 2025)**	$100,000
TOTAL	$2,027,823

Benefit/Cost Ratio: 2.54:1

Fatal / Major Injury Crashes: 0/0

ENGINEER'S ESTIMATE

State of Alaska
Department of Transportation
& Public Facilities
Southcoast Region

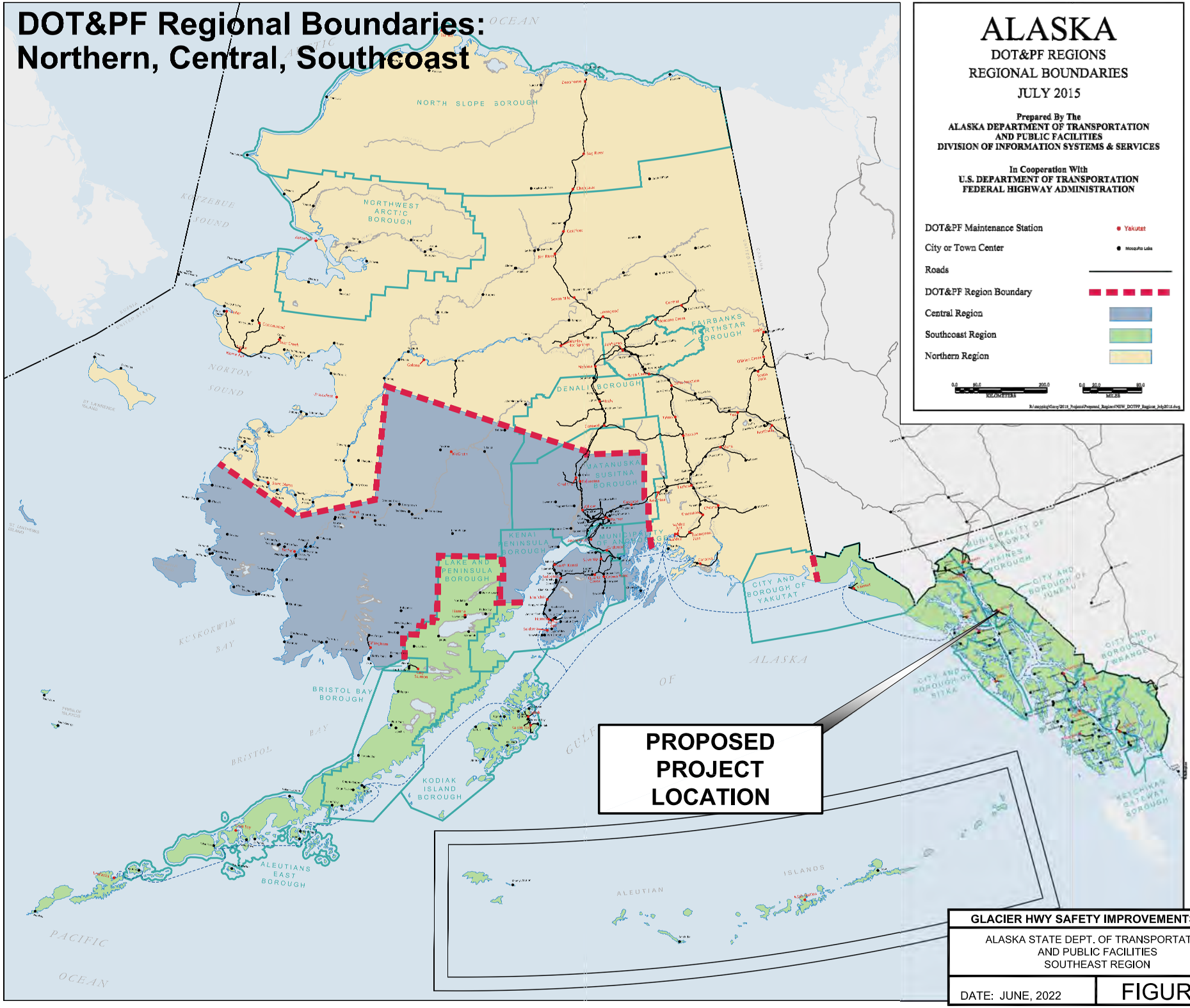
JNU Glacier Hwy Safety Improvements HSIP
HSIP Project #: 23SR02

Printed: 6/20/22

Description	Unit	Quantity	Unit Price	Amount
202.0001.0000 Removal of Structures and Obstructions	Lump Sum	All Required	$30,000.00	$30,000.00
202.0002.0000 Removal of Pavement	Square Yard	120	$15.00	$1,800.00
301.0001.0000 Aggregate Base Course, Grading D-1	Ton	10	$120.00	$1,200.00
401.0001.002B HMA, Type II Class B	Ton	25	$500.00	$12,500.00
408.2001.000B HMA, SP; Type B	Ton	12	$500.00	$6,000.00
401.0004.5828 Asphalt Binder, Grade PG 58-28	Ton	2.22	$2,000.00	$4,440.00
402.0001.STE1 STE-1 Asphalt for Tack Coat	Ton	1	$2,000.00	$2,000.00
608.0006.000 Curb Ramp	EA	12	$800.00	$9,600.00
608.2013.0005 Concrete Slabs, 6 Inches Thick	SY	600	$160.00	$96,000.00
609.0001.0ALL Curb, All Types	LF	500	$30.00	$15,000.00
615(1) Standard Sign	Square Foot	100	$300.00	$30,000.00
640(1) Mobilization and Demobilization	Lump Sum	All Required	$120,000.00	$120,000.00
641(1) Erosion, Sediment and Pollution Control Administration	Lump Sum	All Required	$5,000.00	$5,000.00
641(3) Temporary Erosion, Sediment and Pollution Control	Lump Sum	All Required	$10,000.00	$10,000.00
641(5) Temporary Erosion, Sediment and Pollution Controil by Directive	Contingent Sum	All Required	$5,000.00	$5,000.00
641(6) Withholding	Contingent Sum	All Required	$0.00	$0.00
642(1) Construction Surveying	Lump Sum	All Required	$50,000.00	$50,000.00
643(2) Traffic Maintenance	Lump Sum	All Required	$100,000.00	$100,000.00
643(3) Permanent Construction Signs	Lump Sum	All Required	$10,000.00	$10,000.00
643(23) Traffic Price Adjustment	Contingent Sum	All Required	$0.00	$0.00
643(25) Traffic Control	Contingent Sum	All Required	$50,000.00	$50,000.00
643(32) Flagging	Contingent Sum	All Required	$25,000.00	$25,000.00
643(33) Public Information Program	Lump Sum	All Required	$20,000.00	$20,000.00

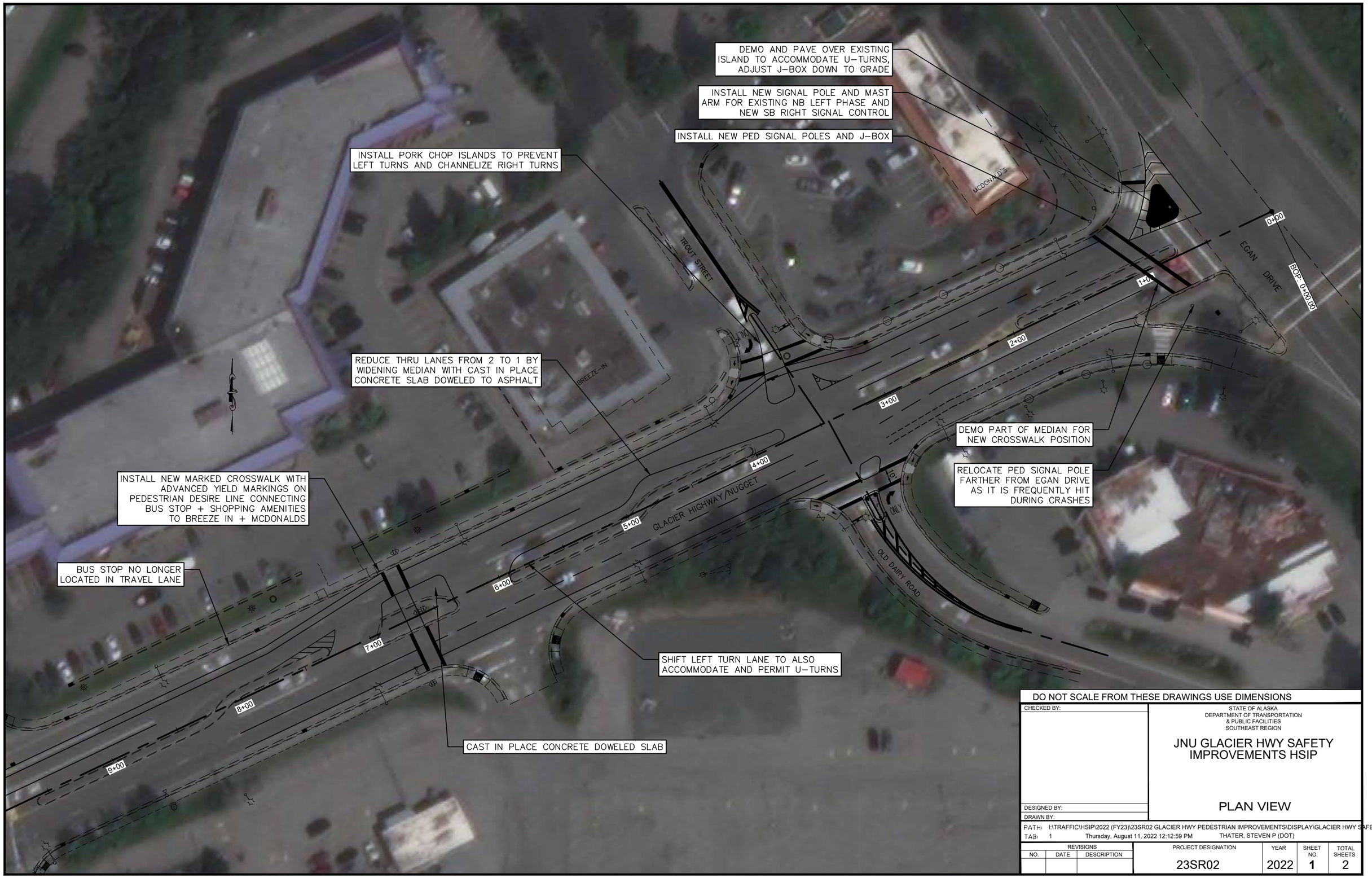
660(1) Traffic Signal System Modifications, McNugget	Lump Sum	All Required	$150,000.00	$150,000.00
660.0001.0000 Flashing Beacon System Complete, Glacier North	Lump Sum	All Required	$100,000.00	$100,000.00
670.0001.0000 Painted Traffic Markings	Lump Sum	All Required	$25,000.00	$25,000.00
670.0014.0000 Removal of Pavement Markings	Lump Sum	All Required	$35,000.00	$35,000.00
670.2002.0000 Methyl Methacrylate Pavement Markings	Lump Sum	All Required	$25,000.00	$25,000.00
				$938,540.00
	Pay Item Bid Total			
	Construction Engineering (Fixed Amount)		20%	187,708.00	1,126,248.00
	Indirect Cost Allocation Plan (ICAP) Precent		7.18%	80,864.61	1,207,112.61
	Construction Project Total+Factor of Saftey		10%	120,711.26	1,327,823.87
	Design			500,000.00	500,000.00
	Right-of-Way			100,000.00	100,000.00
	Utilities			100,000.00	100,000.00
	Project Total				**2,027,823.87**

DOT&PF Regional Boundaries: Northern, Central, Southcoast



GLACIER HWY SAFETY IMPROVEMENTS HSIP	
ALASKA STATE DEPT. OF TRANSPORTATION AND PUBLIC FACILITIES SOUTHEAST REGION	
DATE: JUNE, 2022	FIGURE 1

I:\TRAFFIC\HSIP\2022 (FY23)\23SR02 GLACIER HWY PEDESTRIAN IMPROVEMENTS\DISPLAY\GLACIER LOCATION MAP.DWG



DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

CHECKED BY:

DESIGNED BY:

DRAWN BY:

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
SOUTHEAST REGION

JNU GLACIER HWY SAFETY IMPROVEMENTS HSIP

PLAN VIEW

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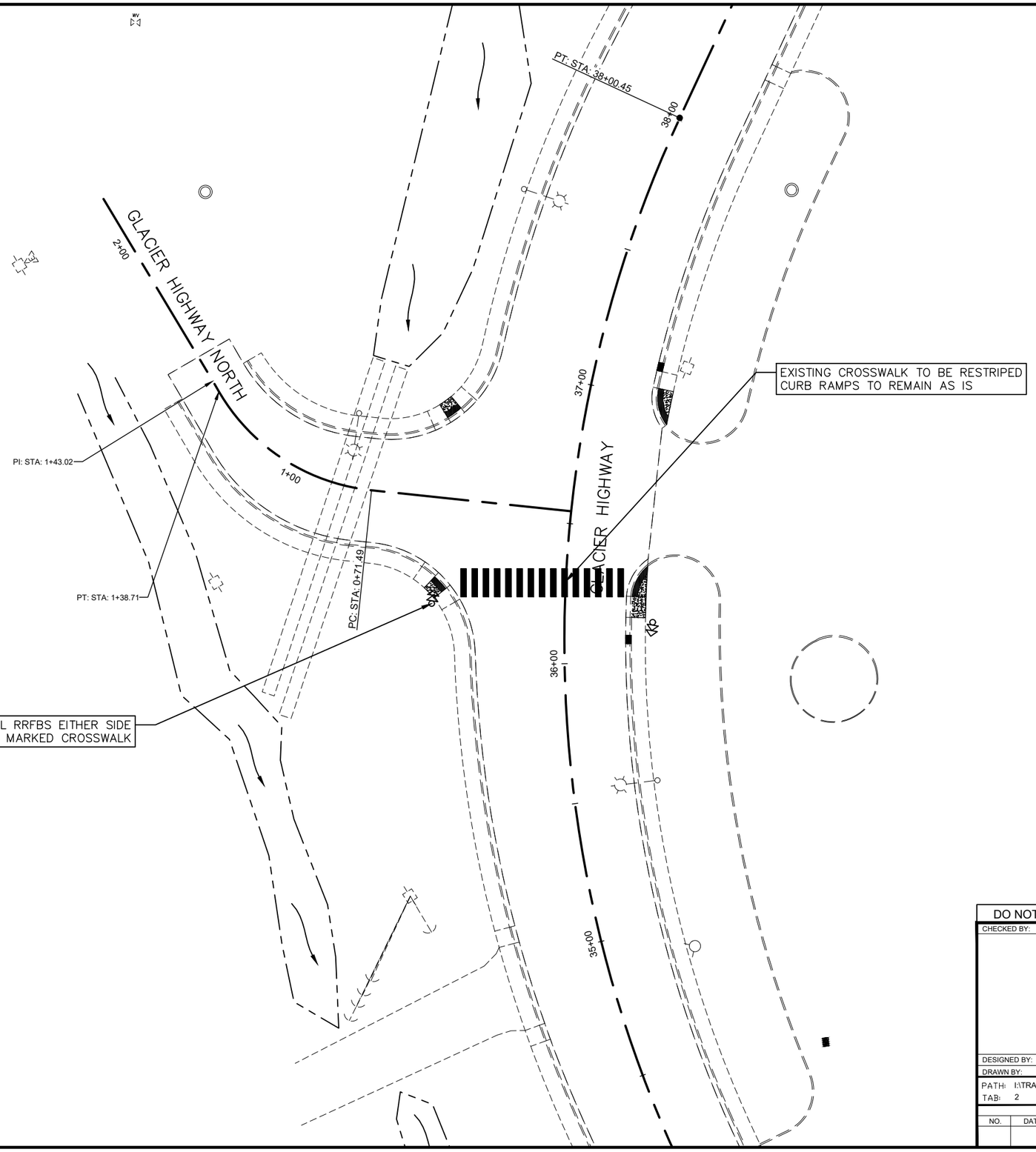
TAB: 1 Thursday, August 11, 2022 12:12:59 PM THATER, STEVEN P (DOT)

REVISIONS		
NO.	DATE	DESCRIPTION

PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
23SR02	2022	1	2



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SOUTHEAST REGION

JNU GLACIER HWY SAFETY IMPROVEMENTS HSIP

PLAN VIEW

PATH: I:\TRAFFIC\HSIP\2022 (FY23)\23SR02 GLACIER HWY PEDESTRIAN IMPROVEMENTS\DISPLAY\GLACIER HWY SAFETY IMPROVE

TAB: 2 Thursday, August 11, 2022 12:13:01 PM THATER, STEVEN P (DOT)

REVISIONS			PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
NO.	DATE	DESCRIPTION				
			23SR02	2022	**2**	2

Alaska DOT&PF

Highway Safety Improvement Program

Project Ranking Worksheet

Red fields are input fields. Black fields are fixed, computed, or derived.

HSIP Project Name:	JNU Glacier Hwy Safety Improvements HSIP				
Analysis Period:	1/1/15 to 12/31/19	Form Completed by:	Steven Thater	Date:	6/20/22

Miscellaneous Data

Rate of Return:	3%
No of years of crash analysis	5

Crash Cost Data

Crash Severity	Crash Cost
Property Damage Only:	$26,400
Possible Injury:	$158,700
Minor Injury:	$502,000
Serious Injury:	$1,322,000
Fatality:	$2,645,000

Predicted Change in Crashes due to Improvement(s)

Imprv Type Num	Improvement	Type of Crash Susceptible to Reduction or Increase due to Improvement	Reduction Factor (+ or -)	# of Crashes Susceptible to Reduction or Increase				
				PDO	Poss	Min	Ser	Fat
Custom	Install RRFB & Advanced Yield Markings @ Glacier/Glacier North	Pedestrian/Vehicle	-61%			1		
Custom	Install Marked Crosswalk & Advanced Yield Markings @ Glacier/Trout	Pedestrian/Vehicle	-25%			1		
Custom	Convert Glacier Hwy/Trout into a Superstreet	All Crashes	-46%	6	1	5		
		Total Crashes Susceptible to Reduction or Increase:		6	1	7		
		Predicted Change in Crashes:		-3	0	-3.2		
		Predicted Change in Crash Cost ($1,000):		-73	-73	-1,584		

Benefit/Cost of Improvements (Safety and M&O Benefits Only)

Improvement	Total Proj Cost (K)	Ann M/O Cost (K)	Life of Impvt (yrs)	Predicted Change in Crashes					Predicted Change in Crash Cost	Annualized Safety and M&O Benefits	Annualized Constr. and M&O Costs	Benefit Cost (Safety and M&O Benefits only)
				PDO	Poss	Min	Ser	Fat				
Install RRFB & Advanced Yield Markings @ Glacier/Glacier North	125		20			-0.6			-$303,710	**$60,742**	**$8,402**	**7.2 : 1**
Install Marked Crosswalk & Advanced Yield Markings @ Glacier/Trout	50		20			-0.3			-$125,500	**$25,100**	**$3,361**	**7.5 : 1**
Convert Glacier Hwy/Trout into a Superstreet	1852		20	-2.8	-0.5	-2.3			-$1,300,466	**$260,093**	**$124,483**	**2.1 : 1**
Subtotals:				-2.8	-0.5	-3.2						
Totals/Averages:	**2027**		**20.0**	**-6.4**					**-$1,729,676**	**$345,935**	**$136,246**	**2.54 : 1**

Benefit Cost Formula (Safety and M&O Benefits Only)

B/C Ratio = (Estimated Annual Reduction in Crash Cost)+(Decrease in Ann Maintenance Cost, 0 if increase) / (Annualized Construction Project cost)+(Increase in Ann Maintenance cost, 0 if decrease)

Combined Effects of Multiple Countermeasures

$$CRF_{combined} = \left[1 - \left(1 - \frac{CRF_1}{100}\right)\left(1 - \frac{CRF_2}{100}\right) \ldots \left(1 - \frac{CRF_n}{100}\right)\right] * 100$$

Compute a combined Crash Reduction Factor (CRF) only for crash types jointly influenced by dissimilar improvements at the location of interest. Consider limitations of this formula as discussed in TRB Special Report 214 Designing Safer Roads, 1987, pg. 253-255.

Glacier Hwy Crashes 2015-2019

Date Range Chosen:
01/01/2015 - 12/31/2019

Filters Used:
Map\Trout

Crashes Susceptible to Reduction by Superstreet Improvement
Pedestrian Crashes Susceptible to Reduction by Improvement

Time of report run: 6/20/2022 1:36:32 PM

Crash Number	Route	Milepoint	DateTime	Street	Intersecting Street	Crash Severity	Crash Type	Weather	Road Surface	Lighting
201560663	4441086X000	0.0742	4/29/2015 7:00:00 PM	GLACIER HIGHWAY NUGGET	TROUT STREET	Possible Injury	Angle - Left Turning	Rain	Wet	Daylight
201581038	4441086X000	0.0742	10/7/2015 7:16:00 AM	GLACIER HIGHWAY NUGGET	TROUT STREET	Suspected Minor Injury	Angle - T-Bone	Cloudy	Wet	Dawn
201618795	4441086X000	0.0772	7/25/2016 5:00:00 PM	GLACIER HIGHWAY NUGGET	OLD DAIRY RD	No Apparent Injury	Angle - Left Turning	Rain	Wet	Daylight
201645697	4441086X000	0.0755	7/24/2016 5:00:00 PM	GLACIER HIGHWAY NUGGET	TROUT STREET	No Apparent Injury	Angle - Left Turning	Rain	Wet	Daylight
201656758	4441086X000	0.0611	1/21/2016 11:40:00 AM	GLACIER HIGHWAY NUGGET	TROUT STREET	Suspected Minor Injury	Rear End	Cloudy	Wet	Daylight
201743849	4441086X000	0.0758	7/8/2017 4:32:00 PM	GLACIER HIGHWAY NUGGET	OLD DAIRY RD	Suspected Minor Injury	Angle - Left Turning	Cloudy	Wet	Daylight
201744537	4441086X000	0.0795	12/9/2017 4:05:00 PM	GLACIER HIGHWAY NUGGET	OLD DAIRY ROAD	No Apparent Injury	Angle - T-Bone	Rain	Wet	Dark - Lighted
201744831	4441086X000	0.0801	10/22/2017 12:15:00 PM	GLACIER HIGHWAY NUGGET	TROUT ST	No Apparent Injury	Rear End	Rain	Wet	Daylight
201851088	4441086X000	0.071	5/30/2018 12:49:00 PM	GLACIER HIGHWAY NUGGET	OLD DAIRY ROAD	Suspected Minor Injury	Bicycle	Clear	Dry	Daylight
201851778	4441086X000	0.0706	11/18/2018 5:35:00 PM	GLACIER HIGHWAY NUGGET	TROUT ST	Suspected Minor Injury	Angle - T-Bone	Clear	Dry	Dusk
201858486	4441086X000	0.0709	10/22/2018 7:00:00 AM	GLACIER HIGHWAY NUGGET	OLD DAIRY RD	No Apparent Injury	Bicycle	Rain	Wet	Dark - Lighted
201955604	4441086X000	0.0737	8/28/2019 4:30:00 PM	GLACIER HIGHWAY NUGGET	OLD DAIRY/TROUT RD	No Apparent Injury	Angle - T-Bone	Other	Dry	Daylight
201955532	4441068X000	0	4/5/2019 12:00:00 AM	OLD GLACIER HWY	GLACIER HIGHWAY NUGG	Suspected Minor Injury	Pedestrian	Clear	Dry	Daylight
201656280	4441086X000	0.08	4/4/2016 12:00:00 AM	GLACIER HIGHWAY NUGGET	TROUT ST	Suspected Minor Injury	Pedestrian	Clear	Dry	Dark - Lighted

FFY-2023 HSIP Project Summary

Name: 23SN01 SR Southcoast Region Passing Zones Inventory and Restriping HSIP

Location: This project will address passing zones installed throughout Southcoast Region along Two-Way Two Lane Highways with posted speeds of 40 miles per hour or higher, have a published AADT between 500 and 6000, and are a mile or greater in length. These are roads that have a relatively high occurrence of passing. If deemed appropriate, additional routes may be added through consultation with Southcoast and Statewide Traffic and Safety staff. The routes in question are all state owned and are as follows:

Route Name	Route ID	Miles	Mile Points
Alaska Peninsula Highway	6341007X000	15.32	0-15.32
Rezanof Drive	5081007X000	11.16	0-1.72/4.26-13.7
Chiniak Highway	5081021X000	10.52	0-10.52
Monashka Bay Road	5081025X000	1.35	0-1.35
Airport Road	4461011X000	2.82	0.23-3.06
Haines Highway	2021017X000	38.3	1.32-39.62
Klondike Highway	2041009X000	11.37	1.74 - 13.11
Glacier Highway	4441121I000	26.11	12.83-38.94
Back Loop Road	4441120X000	3.94	0-3.94
North Douglas Highway	4441017X000	11.87	0.16-12.03
Thane Road	4441092X000	2.26	0.71-2.97
Halibut Point Road	4321038X000	4.58	2.02-6.60
Mitkof Highway	4281008X000	29.1	3.17-32.27
Zimovia Highway	4261016X000	11.79	1.59-13.38
Craig/Klawock/Hollis Highway	4161009X000	3.56	2.05-5.61
North Tongass	4041071X000	9.91	6.22-16.13

Safety Problem Description: A road scan conducted June 2022 identified passing zones which may not meet the minimum passing sight distances required by the Alaska Traffic Manual (ATM). Over time with restriping the location of passing zones can drift from their original intended location, disappear altogether, or have their sight lines obstructed.

There have been head on crashes on segments that are proposed for inspection but it is not known if they are locations with substandard passing zones. As such, no crash summary is provided. Where passing zones do not meet the minimum standards provided by the ATM there is an increased risk to road users.

This passing zone on N Douglas Hwy is below the minimum length required

Proposed Mitigation: To correct any deficiencies in passing zones a detailed inventory and restriping plan will consider:

- Locations where minimum passing sight distance is not available:
  - If there is obstructions whether they should be removed, otherwise
  - Identify the extents where passing zones should begin and end
- That no-passing and passing zones meet minimum lengths for the roadway speed

The proposed project will obliterate and restripe any passing or no-passing zones that are found to be deficient.

Areas where existing projects are in design that include passing zone upgrades will be removed from this project. These locations will be documented in the Design Study Report.

Conformance with the Strategic Highway Safety Plan: The proposed improvements are consistent with Action Step 1 of Strategy 1 under the Roadways Plan: Implement infrastructure projects to address lane departure crashes.

Benefit/Cost Ratio: This project is presented as a systemic project because it addresses similar characteristics, risk factors, and potential crash types at multiple locations under one project.

A benefit/cost ratio was not prepared because an acceptable Crash Reduction Factor has not been identified. The CMF Clearinghouse does not identify any studies for passing zones. Due to the nature of the State's crash database it is exceptionally difficult to identify passing zone related crashes and an

attempt to do so would fail to identify many crashes related to passing zones. For that reason this project has no crash summary associated with it.

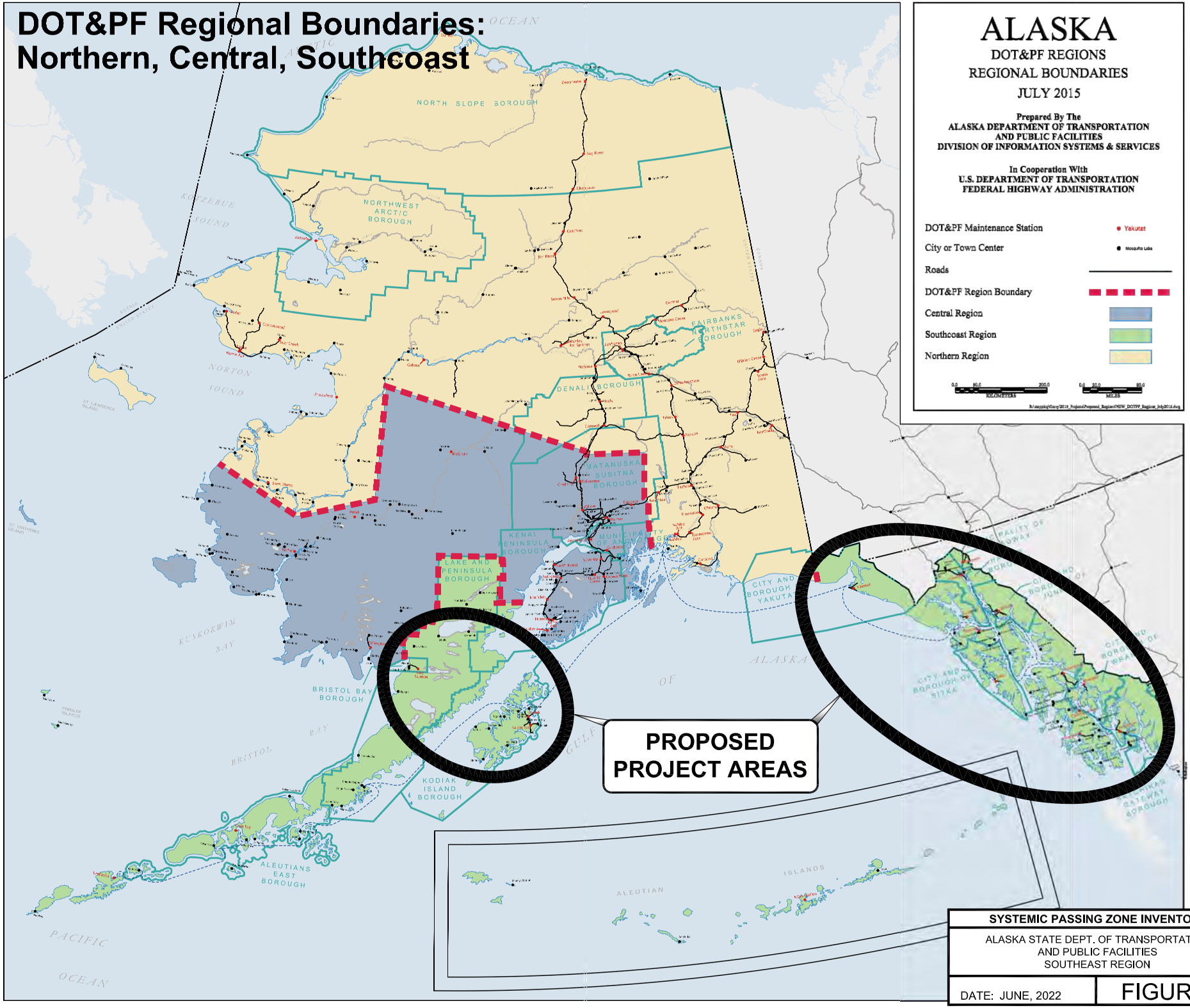
Cost Estimate:

Pre Environmental Phase 2 Design **(FFY 2023)**	$500,000
Post Environmental Phase 2 Design **(FFY2024)**	$200,000
Phase 3 Right-of-Way **(FFY 2024)**	$0
Phase 4 Construction **(FFY 2025)**	$1,479,084
Phase 7 Utilities **(FFY 2025)**	$0
TOTAL	$2,179,084

EINGINEER'S ESTIMATE **State of Alaska** **Department of Transportation** **& Public Facilities** **Southcoast Region**			Southcoast Region Passing Zone Inventory and Restriping HSIP HSIP Project #: 23SN01 Printed: Thursday, August 11, 2022	
Description	Unit	Quantity	Unit Price	Amount
Roadway Painting	Lump Sum	All required	750,000	750,000
Mobilization and Demobilzation	Lump Sum	All required	100,000	100,000
Worker Meals and Lodging, or Per Diem	Lump Sum	All required	50,000	50,000
Traffic Maintenance/Falgging/Control	Lump Sum	All required	100,000	100,000

Pay Item Bid Total			1,000,000
Construction Engineering (Fixed Amount)	20%	$200,000	1,200,000
Indirect Cost Allocation Plan (ICAP) Precent	7.18%	$86,160	1,286,160
Construction Project Total+Factor of Saftey	15%		**$1,479,084**
Design Engineering		700,000.00	700,000.00
Project Total			**$2,179,084**

DOT&PF Regional Boundaries: Northern, Central, Southcoast



I:\TRAFFIC\HSIP\2022 (FY23)\23SN01 SYSTEMIC PASSING LANES INVENTORY AND RESTRIPING\DISPLAY\SYSTEMIC PASSING.DWG

SYSTEMIC PASSING ZONE INVENTORY	
ALASKA STATE DEPT. OF TRANSPORTATION AND PUBLIC FACILITIES SOUTHEAST REGION	
DATE: JUNE, 2022	FIGURE 1

FFY-2023 HSIP Project Summary

Name: 23SN02 Hoonah Harbor Way Pedestrian Improvements

Location: This project will construct a new sidewalk along Harbor Way (Route ID 4401010X000) in Hoonah.

Safety Problem Description: Harbor Way is an important connection in the town of Hoonah, connecting the city center and most of the town's residents with the town's only dock. Hoonah may be a small town but it is expected to receive approximately 500,000 visitors each year who travel around the town largely on foot. The explosion of tourism in Hoonah has led to increased pedestrian activity along the street that is characterized by urban features such as a narrow street, and frequent vehicular parking but lacks key pedestrian facilities like a sidewalk. As such pedestrian traffic is forced to walk on the shoulders of the road between parked vehicles, and light commercial vehicles and boat trailers on the road. Vehicles parked perpendicular to the roadway can pose a significant danger to pedestrians on the shoulder because drivers may not see them while backing out, often resulting in injuries or fatalities to the pedestrian.

A poll of the crash database found no crashes along the street during the screening period.

A view of Harbor Way from the current intersection with Seaplane Access Road

Safety Problem Solution: Constructing a new sidewalk on the seaward side of Harbor Way would clearly separate pedestrian use from vehicular use and reduce conflicts between pedestrians and parked vehicles. The new sidewalk would improve pedestrian access to docks and also connect to a pedestrian bridge to Pitt Island.

Project Description: The proposed safety work will be bundled with a non-HSIP project that will install a pedestrian bridge to Pitt Island. There is a public interest in both improving the safety of pedestrians along Harbor Way and making a pedestrian connection to Pitt Island but a shortfall in funding risks pushing construction back to another year when it can be fully funded. By bundling the safety work the project could go on as scheduled and provide the much needed safety benefits sooner.

FHWA Reporting Requirements

Conformance with the Strategic Highway Safety Plan: The proposed improvements are consistent with Strategy 5 under the Roadways Plan: Implement HSIP qualified projects.

Functional Classification: Harbor Way, Minor Collector.

Average Annual Daily Traffic: 487

Posted Speed: 20 mph

Roadway Ownership: City of Hoonah

Benefit/Cost Ratio: This project is presented as a nonranked project because of a lack of reported crashes over the screening period. Alaska's Highway Safety Improvement Handbook provides a crash reduction factor of -75% for constructing new sidewalk. Since there is a high risk of severe injury or fatality for pedestrians in impacts with vehicles, it is expected that this project should provide a significant benefit compared to its cost.

Cost Estimate:

Phase 2 Design **(FFY2023)**	$140,000
Phase 3 Right-of-Way **(FFY 2024)**	$0
Phase 4 Construction **(FFY 2024)**	$1,089,138
Phase 7 Utilities **(FFY 2025)**	$0
TOTAL	$1,229,138

ENGINEER'S ESTIMATE

State of Alaska
Department of Transportation
& Public Facilities
Southcoast Region

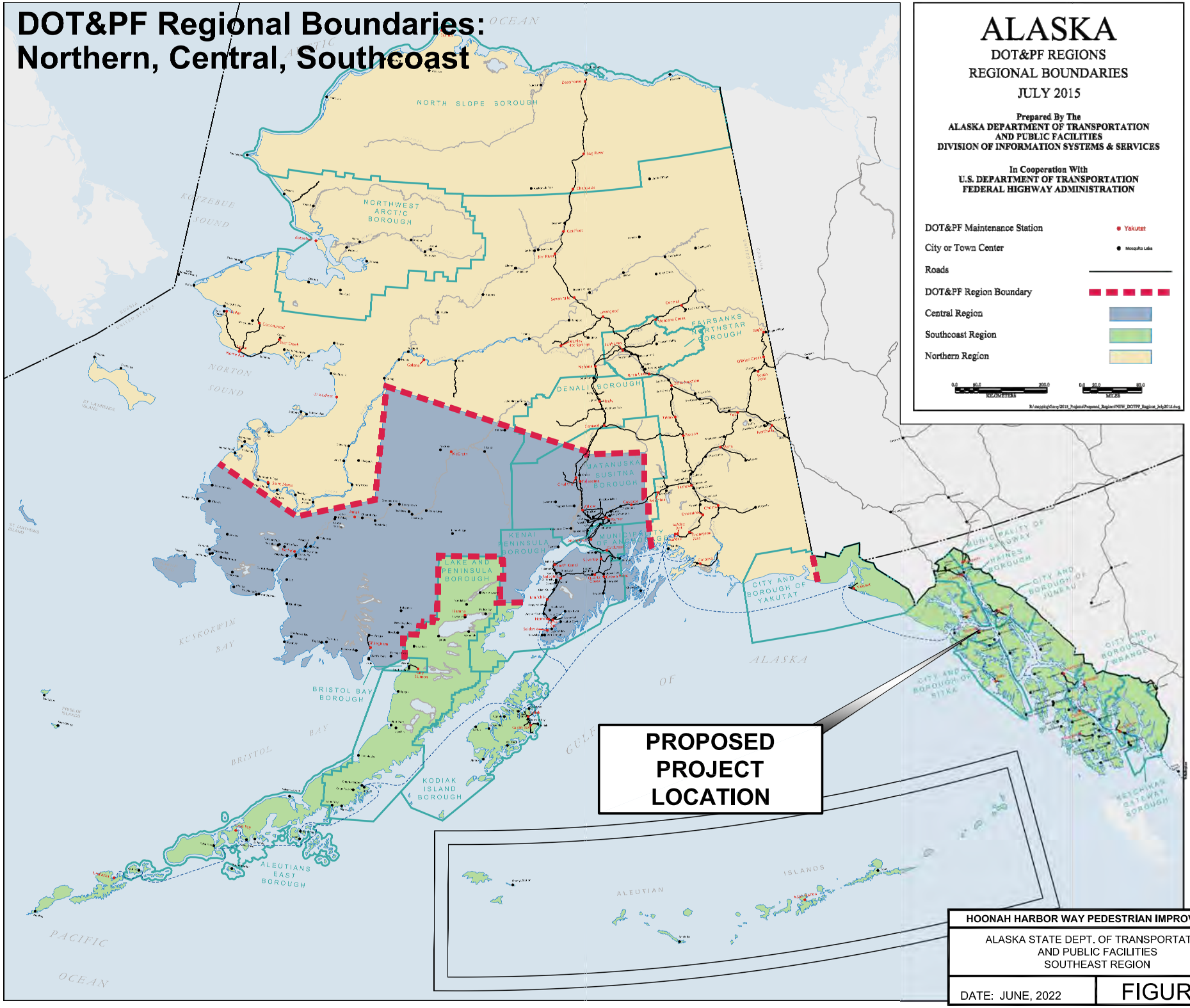
HNH Harbor Way Pedestrian Improvements
HSIP Project #: 23SN02

Printed: 6/30/22

Description	Unit	Quantity	Unit Price	Amount
201.0009.0000 Clearing and Grubbing	Lump Sum	All Required	$20,000.00	$20,000.00
201.2002.0000 Invasive Plant	Lump Sum	All Required	$2,500.00	$2,500.00
201.2003.0000 Invasive Plants Species Control, Removal, and Disposal	Contingent Sum	All Required	$10,000.00	$10,000.00
202.0002.0000 Removal of Pavement	Square Yard	722	$20.00	$14,440.00
203.0003 Unclassified Excavation	Cubic Yard	128	$150.00	$19,200.00
301.0001.00D1 Aggregate Base Course Grading D-1	Ton	356	$80.00	$28,480.00
304.0001.000A Subbase, Grading A	Ton	19	$100.00	$1,900.00
401.0001.002B HMA, Type II, Class B	Ton	31	$250.00	$7,750.00
401.0004.5828 Asphalt Binder, Grade PG 58-28	Ton	2	$1,000.00	$2,000.00
603.0021.0012 Corrugated Polyethylene Pipe 12 Inch	Linear Foot	10	$90.00	$900.00
606.2000.0000 Bollard	Each	3	$1,800.00	$5,400.00
608.0001.0004 Concrete Sidewalk, 4 Inches Thick	Square Yard	1433	$190.00	$272,270.00
608.0001.0006 Concrete Sidewalk, 6 Inches Thick	Square Yard	125	$200.00	$25,000.00
608.0006.0000 Curb Ramp	Each	6	$3,000.00	$18,000.00
609.0001.0000 Curb, Type 1	Linear Foot	997	$40.00	$39,880.00
609.0002.0001 Curb and Gutter Type 1	Linear Foot	30	$100.00	$3,000.00
618.0004.0000 Seeding	Square Yard	38	$10.00	$380.00
619.2013.0000 Bonded Fiber Matrix (BFM)	Pound	32	$10.00	$320.00
620.0001.0000 Topsoil	Square Yard	38	$30.00	$1,140.00
640.0001.0000 Mobilization and Demobilization	Lump Sum	All Required	$67,000.00	$67,000.00
640.0004.0000 Workers Meals and Lodging, or Per Diem	Lump Sum	All Required	$50,000.00	$50,000.00
641.0001.0000 Erosion, Sediment and Pollution Control Administration	Lump Sum	All Required	$15,000.00	$15,000.00
641.0003.0000 Temporary Erosion, Sediment and Pollution Control	Lump Sum	All Required	$10,000.00	$10,000.00

641.0005.0000 Temporary Erosion, Sediment and Pollution Controil by Directive	Contingent Sum	All Required	$5,000.00	$5,000.00
641.0006.0000 Withholding	Contingent Sum	All Required	$0.00	$0.00
642.0001.0000 Construction Surveying	Lump Sum	All Required	$15,000.00	$15,000.00
642.0003.0000 Three Person Survey Party	Hour	12	$650.00	$7,800.00
643.0002.0000 Traffic Maintenance	Lump Sum	All Required	$10,000.00	$10,000.00
643.0003.0000 Permanent Construction Signs	Lump Sum	All Required	$10,000.00	$10,000.00
643.0023.0000 Traffic Price Adjustment	Contingent Sum	All Required	$0.00	$0.00
643.0025.0000 Traffic Control	Contingent Sum	All Required	$10,000.00	$10,000.00
643.0032.0000 Flagging	Contingent Sum	All Required	$25,000.00	$25,000.00
644.0001.0000 Field Office	Lump Sum	All Required	$7,500.00	$7,500.00
644.0006.0000 Vehicle	Lump Sum	All Required	$10,000.00	$10,000.00
644.0015.0000 Nuclear Testing Equipment Storage Shed	Each	1	$11,000.00	$11,000.00
644.2004.0000 Engineering Communications	Contingent Sum	All Required	$500.00	$500.00
670.0001.0000 Painted Traffic Markings	Lump Sum	All Required	$10,000.00	$10,000.00
	Pay Item Bid Total			$736,360.00
	Construction Engineering (Fixed Amount)	20%	147,272.00	883,632.00
	Indirect Cost Allocation Plan (ICAP) Precent	7.18%	63,444.78	947,076.78
	Construction Project Total+Factor of Saftey	15%	142,061.52	1,089,138.29
	Design Engineering		140,000.00	140,000.00
	Project Total			**1,229,138.29**

DOT&PF Regional Boundaries: Northern, Central, Southcoast



HOONAH HARBOR WAY PEDESTRIAN IMPROVEMENTS	
ALASKA STATE DEPT. OF TRANSPORTATION AND PUBLIC FACILITIES SOUTHEAST REGION	
DATE: JUNE, 2022	FIGURE 1

I:\TRAFFIC\HSIP\2022 (FY23)\23SN02 HOONAH HARBOR WAY PEDESTRIAN IMPROVEMENTS\DISPLAY\GLACIER LOCATION MAP.DWG

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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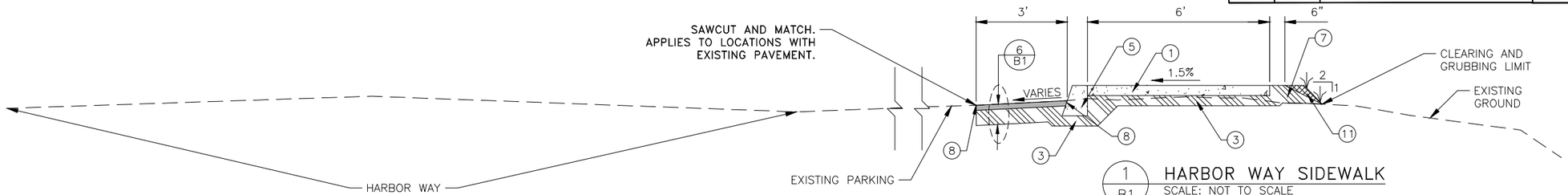

1 B1 HARBOR WAY SIDEWALK
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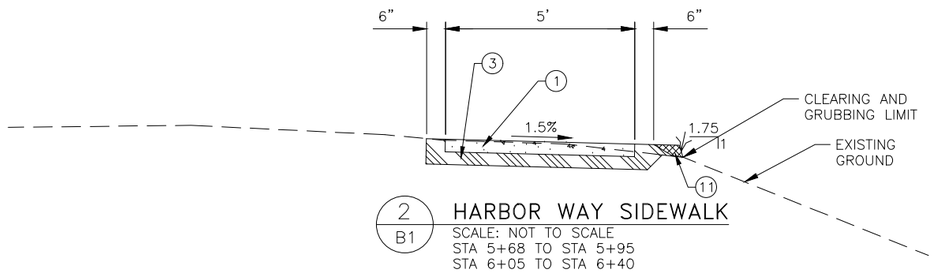
STA 0+80 TO STA 5+51
STA 6+67 TO STA 7+82



2 B1 HARBOR WAY SIDEWALK
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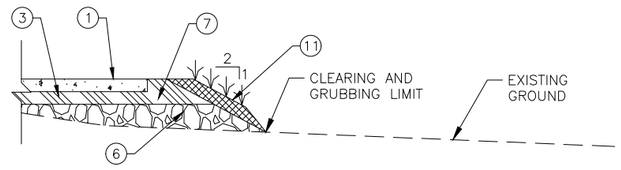
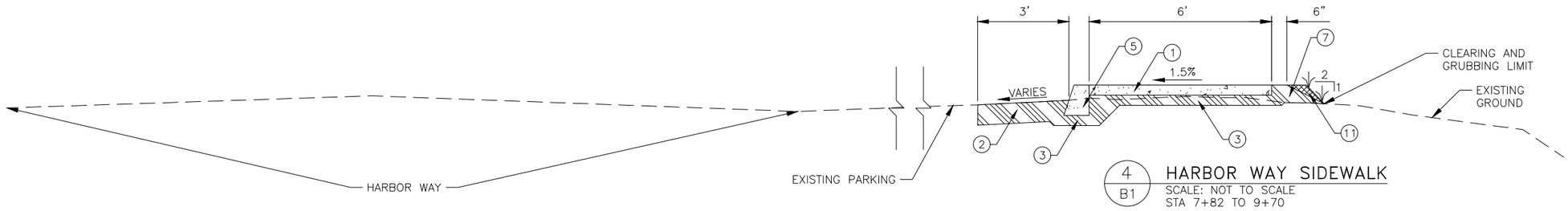
STA 6+05 TO STA 6+40



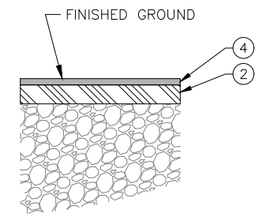
3 B1 HARBOR WAY SIDEWALK
SCALE: NOT TO SCALE
STA 5+95 TO STA 6+05
STA 6+48 TO STA 7+32

LEGEND

1. 4" CONCRETE SIDEWALK
2. 6" AGGREGATE BASE COURSE, GRADING D-1
3. 4" AGGREGATE BASE COURSE, GRADING D-1
4. 2" HOT MIX ASPHALT (HMA), TYPE II; CLASS B
5. CURB
6. 12" SUBBASE, GRADING A
7. AGGREGATE BASE COURSE, GRADING D-1
8. STE-I ASPHALT FOR TACK COAT
9. STANDARD CURB AND GUTTER
10. 6" AGGREGATE SURFACE COURSE, GRADING F-1
11. SEEDING, BFM AND 4" OF TOPSOIL ON DISTURBED SLOPES UNLESS OTHERWISE SPECIFIED
12. DEPRESSED CURB AND GUTTER
13. 6" CONCRETE SIDEWALK



4 B1 HARBOR WAY SIDEWALK
SCALE: NOT TO SCALE
STA 7+82 TO 9+70



6 B1 PAVEMENT STRUCTURAL SECTION
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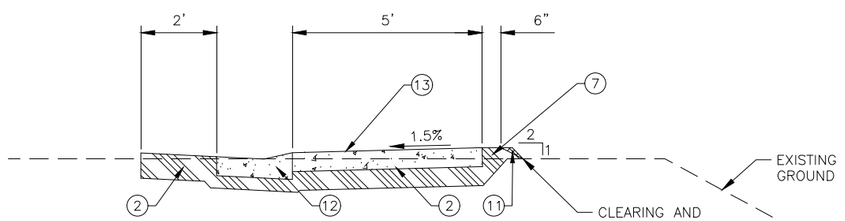

5 B1 HARBOR WAY SIDEWALK
SCALE: NOT TO SCALE
STA 10+55 TO STA 12+00

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

HNH HARBOR WAY PEDESTRIAN IMP &
PITT ISLAND CEMETERY WALKWAY

TYPICAL SECTIONS

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LAYOUT | B1
DESIGNED | DD
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NO.	DATE	REVISION

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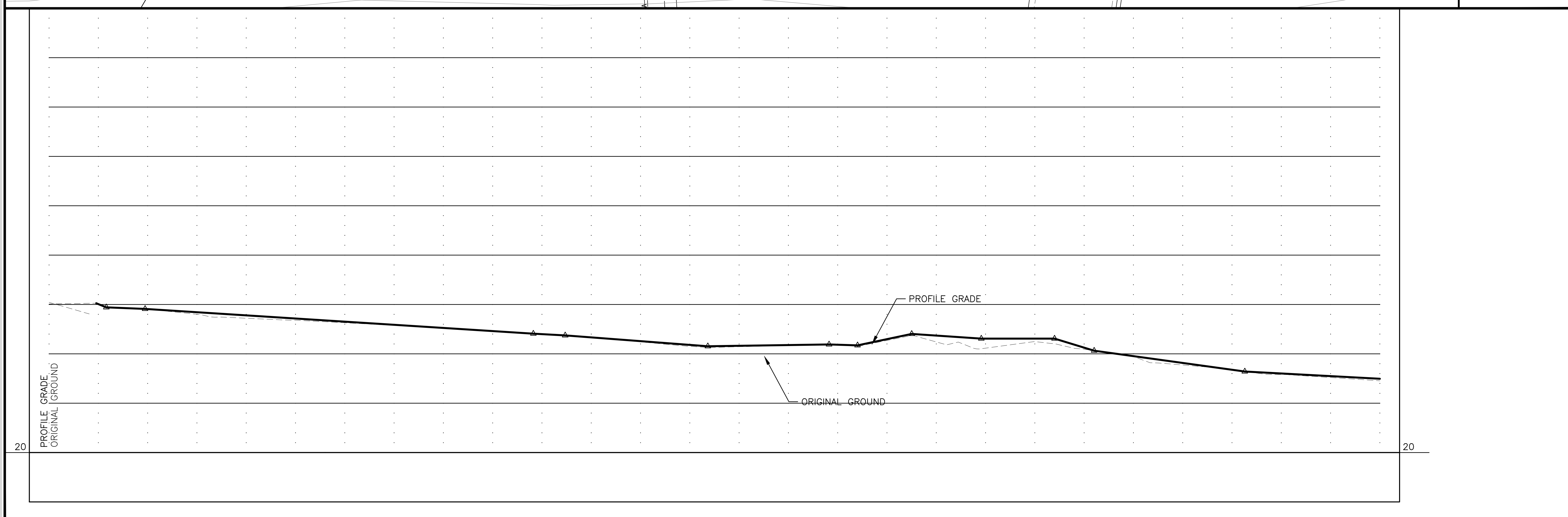

- FIRM: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
- ADDRESS: 6860 GLACIER HWY, JUNEAU, AK 99811
- PHONE: (907) 465-1763
- CERTIFICATE OF AUTH #:
- FILE: Q:\Hnh\SFHWY00278\Planset\00278_F.dwg
- DATE: 6/17/2022 10:42
- LAYOUT: F1
- DESIGNED: DD, CI
- CHECKED: BP
- DRAFTED: MS

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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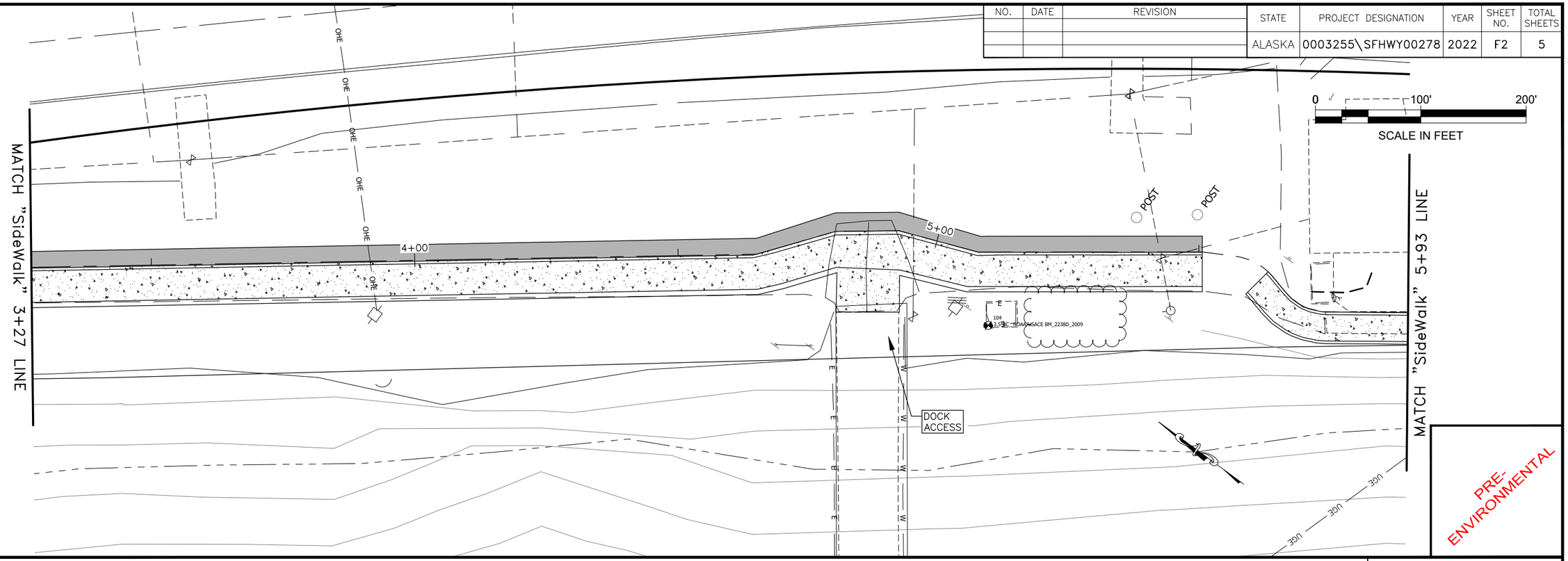

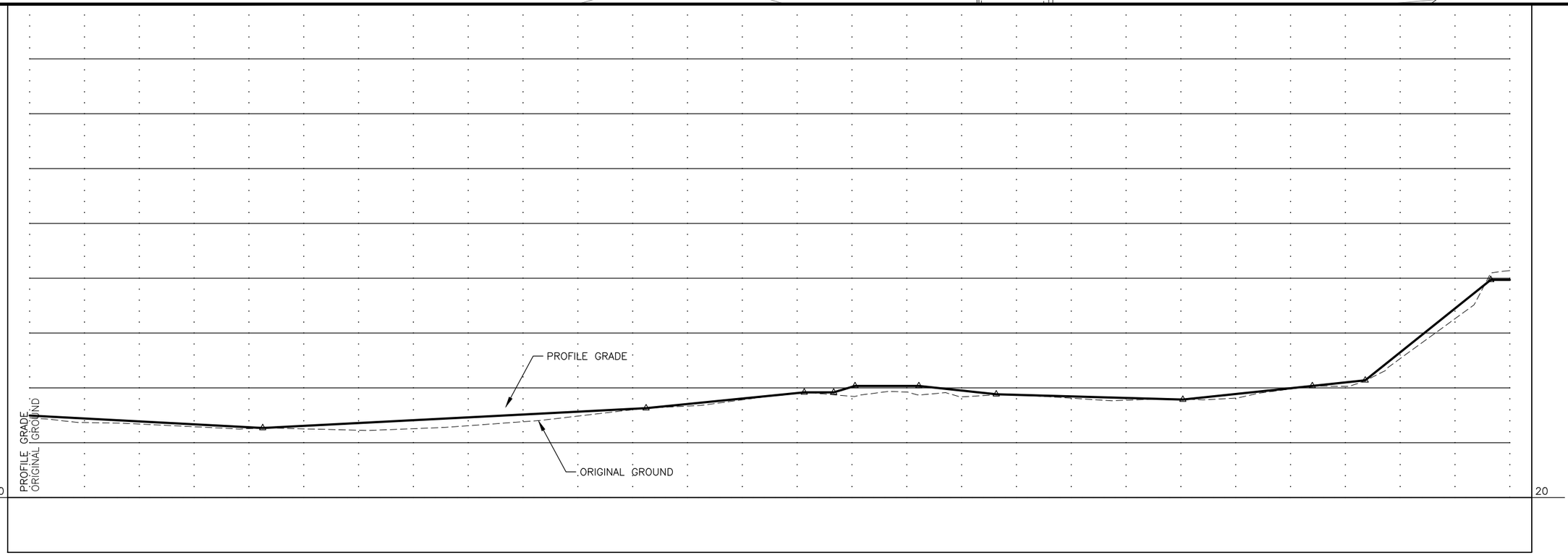

FIRM	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
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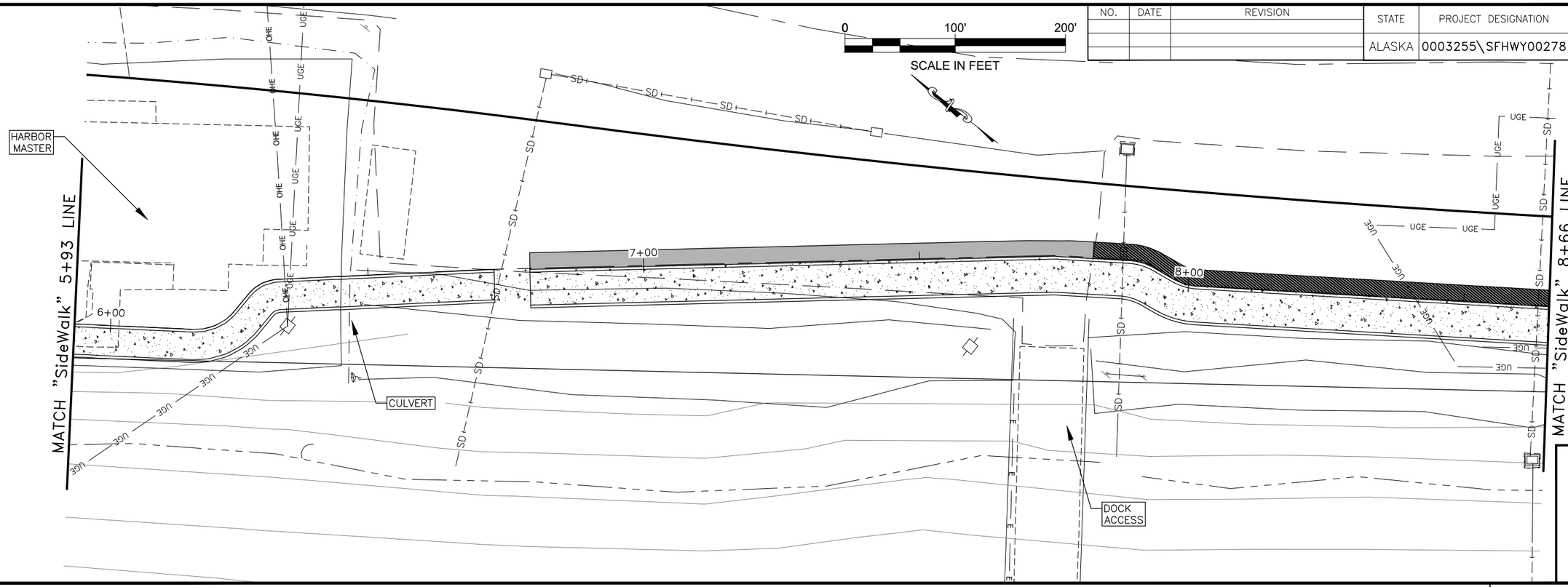
		LAYOUT	F2				

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0003255\SFHWY00278	2022	F3	5

0 100' 200'

SCALE IN FEET



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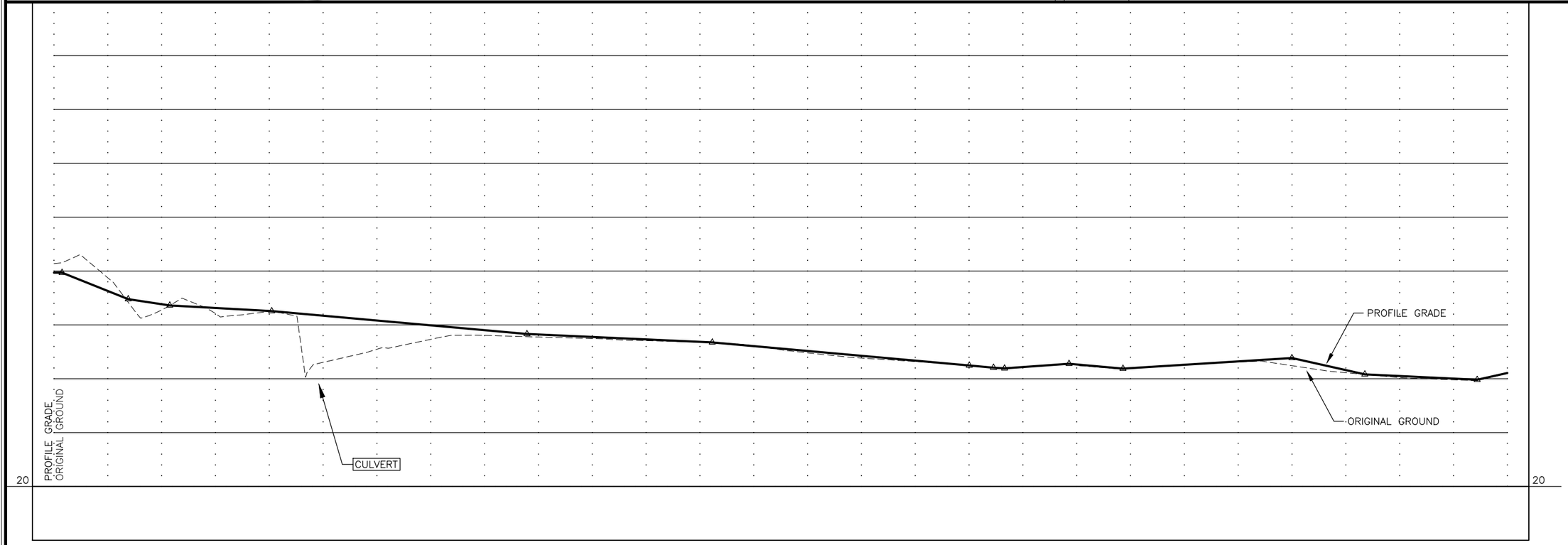

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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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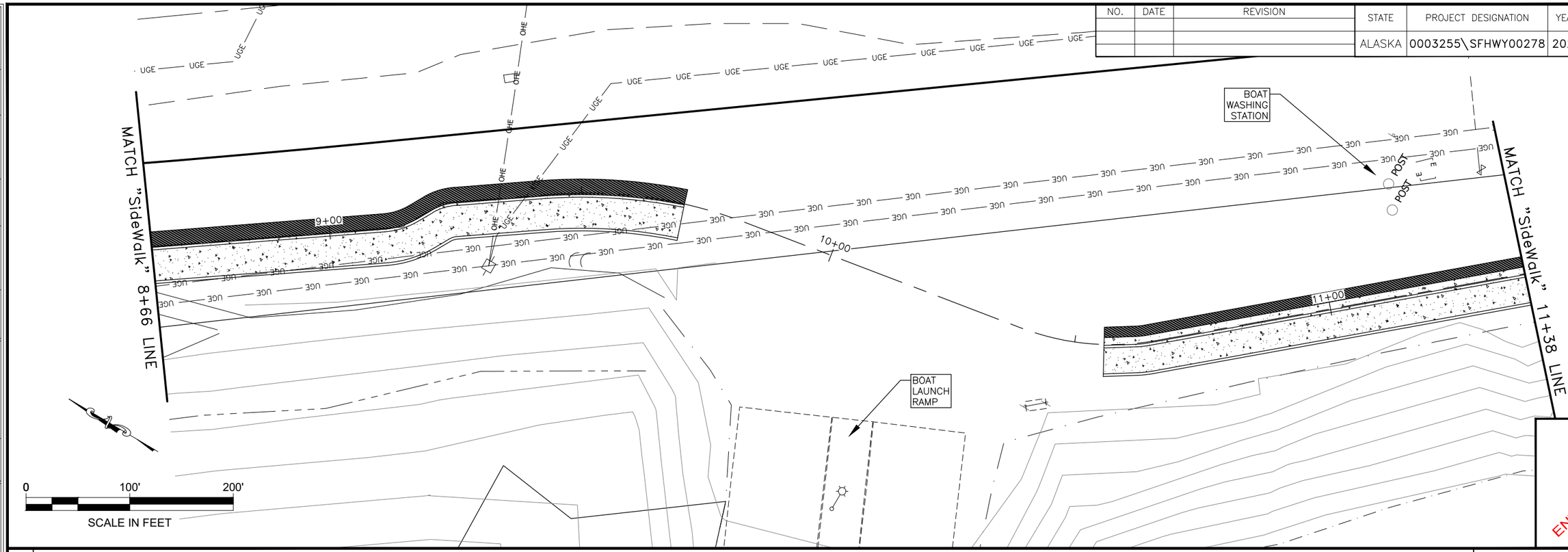

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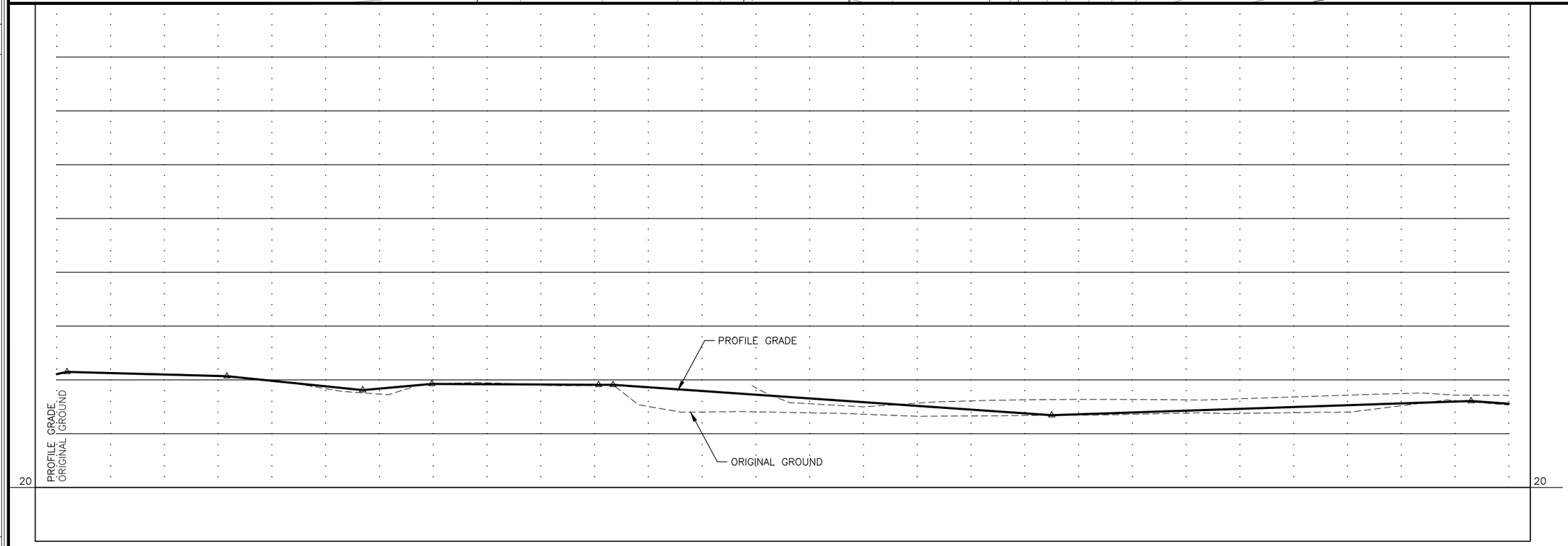

FIRM	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES		ADDRESS	6860 GLACIER HWY, JUNEAU, AK 99811	PHONE	(907) 465-1763	CERTIFICATE OF AUTH #:
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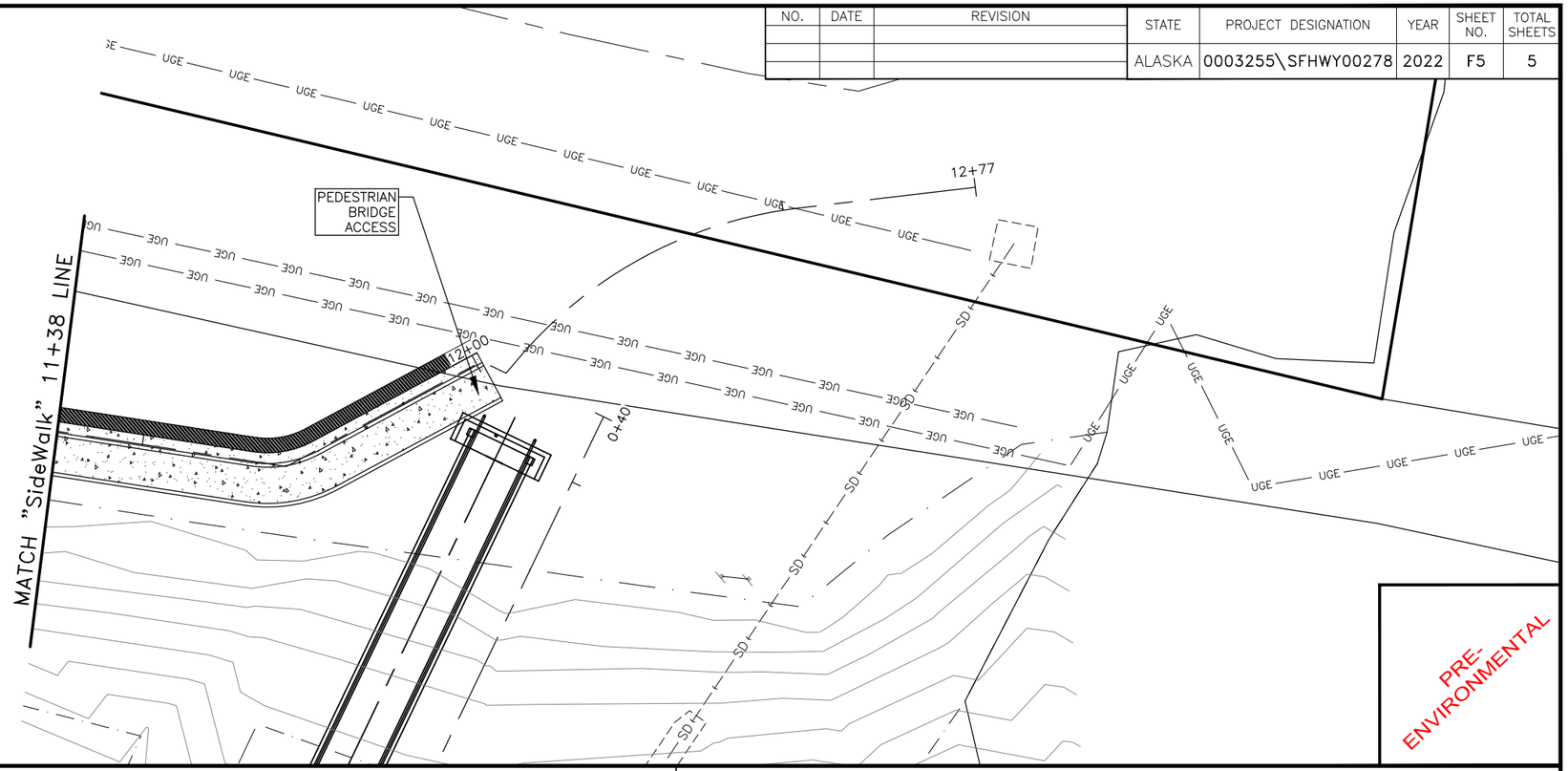
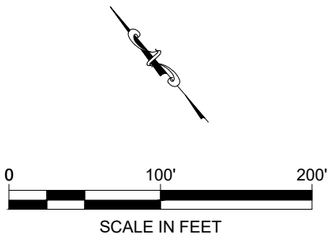
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0003255\SFHWY00278	2022	F5	5





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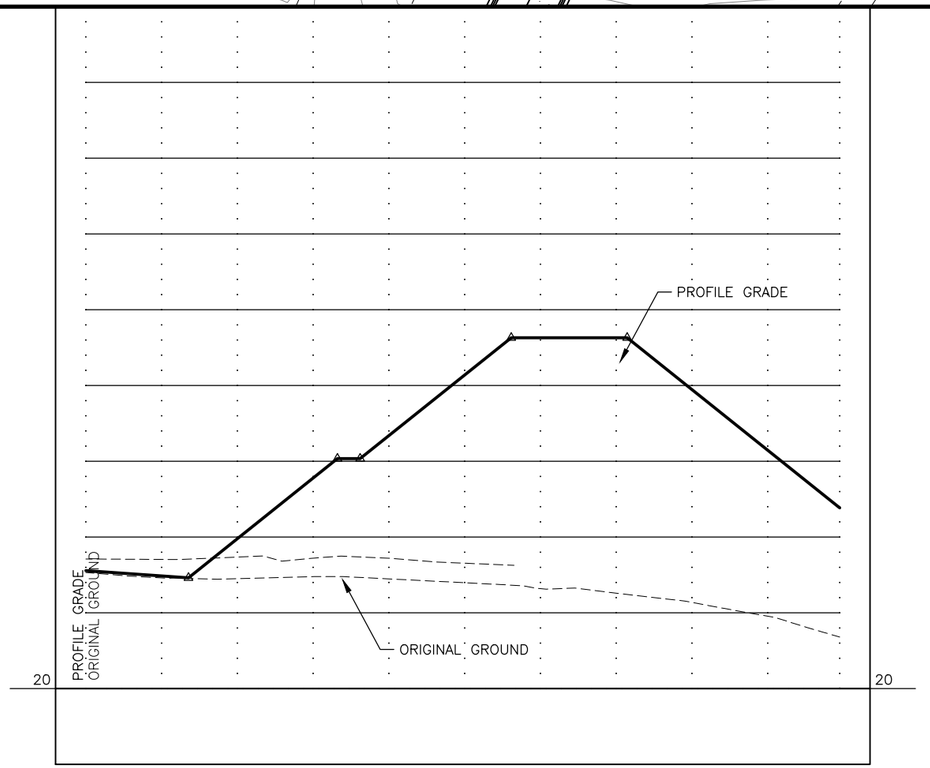

FIRM	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
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ADDRESS	6860 GLACIER HWY, JUNEAU, AK 99811	PHONE	(907) 465-1763	CERTIFICATE OF AUTH #:			
DATE	6/17/2022 10:42	LAYOUT	F5	DESIGNED	DD, CI	CHECKED	BP	DRAFTED	MS

User:	Steven Thater
Analysis Type:	Overlapping Bucket Analysis
Data Source:	Alaska eCrash V3
Start Date:	1/1/2015
End Date:	12/31/2019
Region	Southcoast Region
Return Top:	100.00%
Bucket Size:	2.00
Bucket Size:	2.00
Step Size:	1.00
Fatal Weight:	2645
Serious Injury Weight:	1322
Minor Injury Weight:	502
Possible Injury Weight:	158.7
No Injury Weight:	26.4
Percent To Return:	100.00%
Minimum Crashes In Each Spot:	1
Minimum Fatal Crashes In Each Spot:	1
Minimum Serious Injury Crashes In Each Spot:	2
Minimum Minor Injury Crashes In Each Spot:	0
Minimum Possible Injury Crashes In Each Spot	0
Use Crash Counts/Rates:	Counts

Alaska DOT&PF
Highway Safety Improvement Program

High Crash Location Screening Process

Screening Date
5/2/2022

NOTES:
1. Explanations are required in the "Comments" column for all segments including at least one fatal crash or two major injury crashes occurred, where improvements are not recommended.
2. The location screening process flags locations with one or more fatals and/or two or more serious injury crashes for further study.
3. Only locations meeting criteria are shown on this template.
4. The Crash Costs per Mile column is used to sort locations in descending order.

Route Name	Route	FromMp	ToMp	Crash Costs (1000s)	Crash Costs / Mile (1000s)	Crashes / Mile	PDO Crash Count	Minor Injury Crash Count	Possible Injury Crash Count	Serious Injury Crash Count	Fatal Crash Count	Comments
Mendenhall Loop Road (Juneau)	4441055X000	0.00	2.19	17735	8098	28	37	14	3	7	0	Recent construction along this segment should mitigate some of these crashes. None of the serious injury crashes are connected and have no engineering solutions.
South Tongass (Ketchikan)	4041061X000	0.00	4.00	27199	6800	26	59	20	15	8	1	There are several design projects already in progress along this corridor which should also improve safety elements. HSIP project is almost in construction to correct issues with the Stedman/Deermont intersection.
Egan Drive/Glacier Highway (Juneau)	4441121I000	7.00	11.00	17444	4361	19	40	18	13	2	1	There is a HSIP project in design to reduce high crash location between Egan and Loop and Sunny Point interchange.
North Tongass (Ketchikan)	4041071X000	0.00	2.00	8536	4268	13	9	10	4	2	0	There is no crash pattern along this corridor. Most crashes involve alcohol but none have a clear engineering solution.
Egan Drive/Glacier Highway (Juneau)	4441121I000	0.00	3.00	11313	3771	10	14	8	2	5	0	There is no crash pattern along this segment. Most crashes involve alcohol or drugs and have no engineering solution.
Schoenbar Road (Ketchikan)	4041038X000	0.00	1.14	4203	3687	6	2	3	0	2	0	There is no crash pattern along this corridor. One of the crashes involved a medical seizure and there are no engineering solutions.
Halibut Point Road (Sitka)	4321038X000	0.00	2.00	6951	3476	27	39	4	8	2	0	Current HSIP project is still in design to improve the intersection of HPR & Peterson
Egan Drive/Glacier Highway SB (Juneau)	4441121D000	0.00	3.00	8617	2872	12	20	6	7	3	0	There is a HSIP project in design to reduce high crash location between Egan and Loop and Sunny Point interchange. This segment corresponds to Egan Dr NB MP 7.0-10.0
Glacier Highway/Lemon Road (Juneau)	4441045X000	2.00	3.49	4150	2785	9	7	2	2	2	0	There is an active construction project along this segment that should mitigate some of these crashes.
North Tongass (Ketchikan)	4041071X000	8.00	11.00	8221	2740	7	10	7	3	1	1	There is no crash pattern along this corridor. Most crashes involve alcohol but none have a clear engineering solution.
Egan Drive/Glacier Highway SB (Juneau)	4441121D000	7.00	9.08	4416	2123	8	11	2	3	0	1	There is no crash pattern along this segment. Most crashes involve alcohol or drugs and have no engineering solution. *Corresponds with Egan Dr NB MP 0.0-3.0
Kootznahoo Road (Angoon)	4341001X000	0.00	2.77	5845	2110	2	2	1	0	0	2	There are no solutions to the fatal crashes, one was caused by a driver leaving the road in snowy conditions, and the other by a drunk driver leaving the road.

Route Name	Route	FromMp	ToMp	Crash Costs (1000s)	Crash Costs / Mile (1000s)	Crashes / Mile	PDO Crash Count	Minor Injury Crash Count	Possible Injury Crash Count	Serious Injury Crash Count	Fatal Crash Count	Comments
Rezanof Drive (Kodiak)	5081007X000	1.00	9.00	15911	1989	10	57	11	6	6	0	There is no crash pattern here and there are no engineering solutions to any of the crashes. This corridor underwent recent reconstruction which may mitigate some crashes.
Nordic Drive (Petersburg)	4281000X000	0.00	1.96	3834	1956	5	7	2	0	0	1	Driver suffered seizure and lost control of their car. This corridor is slate for reconstruction as part of a future STIP project.
South Tongass (Ketchikan)	4041061X000	6.00	9.00	5657	1886	5	7	5	2	0	1	There are two design projects already in progress along this corridor which should also improve safety elements.
Egan Drive/Glacier Highway (Juneau)	4441121I000	20.00	23.00	5342	1781	2	2	0	0	2	1	There is no crash pattern along this corridor. Most crashes involve alcohol but none have a clear engineering solution.
Axtax Road (Atka)	6021000X000	0.00	1.71	2645	1547	1	0	0	0	0	1	During a storm, drunk and on drugs, driver lost control of their vehicle and rolled it on a relatively straight section of road.
Glacier Highway/Willoughby Avenue (Juneau)	4441043X000	0.00	2.31	3543	1534	5	9	1	1	0	1	This corridor has been reconstructed in 2019 changing traffic patterns.
Mitkof Highway (Petersburg)	4281008X000	0.00	2.00	2935	1467	4	5	0	1	2	0	Drugs and alcohol were listed as contributing circumstances in both injury crashes. There are no engineering solutions.
Hydaburg Highway (Prince of Wales Island)	4161006X000	17.00	20.00	4020	1340	1	2	0	0	1	1	Drugs, alcohol, and mechanical issues were contributing factor for all crashes. There were no engineering solutions to any of the crashes.
Zimovia Highway (Wrangell)	4261016X000	0.00	3.00	3967	1322	1	0	0	0	1	1	Fatality was caused by a drunk and drugged driver and no seatbelts were worn. Not correctable through engineering countermeasures.
Alaska Peninsula Highway (King Salmon)	6341007X000	0.00	3.00	3967	1322	1	0	0	0	1	1	Fatal happened at night when people were playing on the edge of the traveled way in dark clothes at night, driver didn't see them.
Rezanof Drive (Kodiak)	5081007X000	11.00	14.00	3938	1313	5	11	2	0	2	0	There is no crash pattern here and there are no engineering solutions to any of the crashes. This corridor underwent recent reconstruction which may mitigate some crashes.
Craig/Klawock/Hollis Highway (Prince of Wales Isla	4161009X000	8.00	11.00	3411	1137	2	4	1	1	0	1	HSIP project is in design to upgrade guardrail along this corridor. The fatal injury was caused when a driver on drugs and alcohol ran off the road and into a tree.
Old Haines Highway/Beach Road (Haines)	2021030X000	0.00	2.70	2645	980	0	0	0	0	0	1	Along a straight away the trailer being hauled by a truck off tracked and hit a culvert causing a crash and driver wasn't wearing a seatbelt.
Zimovia Highway (Wrangell)	4261016X000	4.00	7.00	2883	961	2	3	0	1	0	1	Fatality was caused by a drunk driver who left the road on a straight away section. This crash is not correctable through engineering countermeasures.
Salmon River Road (Hyder)	2001001X000	1.00	4.00	2645	882	0	0	0	0	0	1	There is a HSIP project in design to install guardrail on the curve where this crash occurred.
Big Salt Lake Road (Prince of Wales Island)	4161000X000	8.00	11.00	2645	882	0	0	0	0	0	1	Driver crossed centerline and crashed head on into a semi-truck and was ejected from the vehicle.
North Prince of Wales Road (Prince of Wales Island	4161008X000	20.00	23.00	2645	882	0	0	0	0	0	1	This fatality is the result of a passenger jumping out of a fast moving vehicle. This event does not have an engineering solution.
North Prince of Wales Road (Prince of Wales Island	4161008X000	14.00	17.00	2644	881	1	0	0	0	2	0	There is no crash pattern here and no engineering solutions. Both crashes appear to be caused by medical and/or drunk driving issues.