OKANOGAN COUNTY COMMISSIONERS

RESOLUTION 119-2022

WHEREAS, pursuant to RCW 36.81.121, the Legislative Authority of each County, with the advice and assistance of the County Road Engineer, and pursuant to one or more public hearings thereon, shall prepare and adopt a comprehensive program including proposed road, bridge, path and trail construction projects, and any other specified capital outlays for the following six-year period, and;

WHEREAS, the current Priority Programming Array and Bridge Inspection Report have been provided along with the proposed Six-Year Transportation Improvement Program to aid in its evaluation, and;

WHEREAS, the proposed program is based on a realistic assessment of available funding for the program period, and;

WHEREAS, the proposed program is consistent with the goals and objectives of the Transportation Element of the Okanogan County Comprehensive Plan and the Transportation Element is hereby updated to reflect this current adopted Six Year Transportation Improvement Program, and;

WHEREAS, a public hearing was held on August 30, 2022 at 11:00 a.m. for the purpose of gathering public input on the proposed program;

NOW, THEREFORE BE IT RESOLVED, that the attached Six-Year Transportation Improvement Program for the years 2023 to 2028 is hereby adopted by Okanogan County as required by R.C.W. 36.81.121.

DATED at Okanogan, Washington this 30th day of August, 2022.

COUNTY COMMISSIONERS SEAL OKANOGAN CO., WASHINGTON

BOARD OF COUNTY COMMISSIONERS
OKANOGAN, WASHINGTON

Andy Hover, Chairman

ATTEST:

Lalena Johns, Clerk of the Board

Chris Branch, Vice Chairman

Jim DeTro, Member

Washington State Department of Transportation

Six Year Transportation Improvement Program
From 2023 to 2028

Agency: Okanogan Co.

County: Okanogan

MPO/RTPO: OCOG RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
07	1	2023 Countywide Guardrail Safety Project various various to Various Existing guardrail requires upgrades and selected locations require new installation of guardrail.	WA-14184					21	P T W		CE	No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
S	CN	2023	HSIP	516,000		0	0	516,000
			Totals	**516,000**		**0**	**0**	**516,000**

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
CN	516,000	0	0	0	0
Totals	**516,000**	**0**	**0**	**0**	**0**

Washington State Department of Transportation

Six Year Transportation Improvement Program
From 2023 to 2028

Agency: Okanogan Co.

County: Okanogan

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Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
07	2	2023 Okanogan County Wide Pavement Preservation varies to varies Crack Seal as needed, Pre-Level as needed, Chip Seal.	STP - P2					05			CE	No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	CN	2023	STP(R)	500,000		0	78,035	578,035
			Totals	500,000		0	78,035	578,035

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
CN	0	578,035	0	0	0
Totals	0	578,035	0	0	0

Washington State Department of Transportation

Six Year Transportation Improvement Program
From 2023 to 2028

Agency: Okanogan Co.

County: Okanogan

MPO/RTPO: OCOG RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
05	3	Old 97 (Verestar to Plata Road) 9155 4.15 to 5.35 Minor Alignment Changes, rebuild, resurface to all weather road and install guardrail.	9155-20					04	P T W	1.200	CE	No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
S	CN	2024		0	CRAB	1,674,000	186,000	1,860,000
			Totals	0		1,674,000	186,000	1,860,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
CN	0	1,860,000	0	0	0
Totals	0	1,860,000	0	0	0

Washington State Department of Transportation

Six Year Transportation Improvement Program
From 2023 to 2028

Agency: Okanogan Co.

County: Okanogan

MPO/RTPO: OCOG RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
07	4	Cameron Lake Road 3R 9309 3.30 to 4.50 Realigned and widen road with HMA or BST, drainage and safety improvements.	9309-13					04	P T	1.200	EA	Yes

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
S	RW	2023	STP(R)	6,200	CRAB	55,800	0	62,000
S	CN	2023	STP(R)	190,600	CRAB	1,269,200	0	1,459,800
			Totals	**196,800**		**1,325,000**	**0**	**1,521,800**

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
CN	1,459,800	0	0	0	0
Totals	**1,459,800**	**0**	**0**	**0**	**0**

Washington State Department of Transportation

Six Year Transportation Improvement Program
From 2023 to 2028

Agency: Okanogan Co.

County: Okanogan

MPO/RTPO: OCOG RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
00	5	Bridge Rail Retrofit Varies Varies to Varies Retrofit Bridge Rail	BGRAIL FIT Varies					21	P T		CE	No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2025	HSIP	51,900		0	8,100	60,000
P	CN	2026	HSIP	651,146		0	0	651,146
			Totals	703,046		0	8,100	711,146

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	60,000	0	60,000	0	0
CN	0	0	0	651,146	0
Totals	60,000	0	60,000	651,146	0

Washington State Department of Transportation

Six Year Transportation Improvement Program
From 2023 to 2028

Agency: Okanogan Co.

County: Okanogan

MPO/RTPO: OCOG RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
08	6	Rodeo Trail (Fairgrounds Section) 3175 0.960 to 2.30 Reconstruct surface lanes and shoulder widths to limit seasonal weight restrictions.	WA-11443					04	O P T	1.340	CE	Yes

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2024	STP(R)	142,725		0	22,275	165,000
P	RW	2025	STP(R)	86,500		0	13,500	100,000
P	CN	2026	STP(R)	1,427,250		0	222,750	1,650,000
			Totals	1,656,475		0	258,525	1,915,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	0	165,000	0	0	0
RW	0	0	100,000	0	0
CN	0	0	0	1,650,000	0
Totals	0	165,000	100,000	1,650,000	0

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Six Year Transportation Improvement Program
From 2023 to 2028

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Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
08	7	Mazama Intersection Lost River Rd 0.35 to 0.50 Alignment, Base Course, Top Course, HMA or BST Asphalt, Stripe and Sign.	9140-07					03	P T	0.150	CE	Yes

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2023	STP(R)	47,575		0	7,425	55,000
P	RW	2024	STP(R)	12,975		0	2,025	15,000
P	CN	2025	STP(R)	173,000		0	27,000	200,000
			Totals	**233,550**		**0**	**36,450**	**270,000**

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	55,000	0	0	0	0
RW	0	15,000	0	0	0
CN	0	0	200,000	0	0
Totals	**55,000**	**15,000**	**200,000**	**0**	**0**

Washington State Department of Transportation

Six Year Transportation Improvement Program
From 2023 to 2028

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Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
07	8	Loomis Oroville Road 9425 6.00 to 7.25 Minor realignment, widening, grading, ballast, top course, and HMA or BST.	9425-26					04	P T W	1.250	CE	Yes

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2024		0	CRAB	126,000	14,000	140,000
P	RW	2025		0	CRAB	22,500	2,500	25,000
P	CN	2026		0	CRAB	1,651,500	183,500	1,835,000
			Totals	0		1,800,000	200,000	2,000,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	0	140,000	0	0	0
RW	0	0	25,000	0	0
CN	0	0	0	1,835,000	0
Totals	0	140,000	25,000	1,835,000	0

Washington State Department of Transportation

Six Year Transportation Improvement Program
From 2023 to 2028

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Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
05	9	Loomis Oroville Road Drainage 94250 0.280 to 0.660 Replace 3 Old deteriorated culverts with approximate 10' span culverts. Guardrail modifications maybe required to accommodate the culverts.	WA-12937					04	P T W	0.380	CE	No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
S	PE	2023		0	CRAB	45,000	5,000	50,000
S	CN	2024		0	CRAB	315,000	35,000	350,000
			Totals	0		360,000	40,000	400,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	50,000	0	0	0	0
CN	0	350,000	0	0	0
Totals	50,000	350,000	0	0	0

Washington State Department of Transportation

Six Year Transportation Improvement Program
From 2023 to 2028

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Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
05	10	Old 97 Plata to Ophir 3R 9155 5.35 to 6.85 Widening, grading, drainage, full depth reclamation or ballast and top course and HMA. Guardrail installed where warranted.	WA-14843					03	P S W	1.500	CE	No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2023		0	CRAB	143,100	15,900	159,000
P	CN	2028		0	CRAB	1,909,800	212,200	2,122,000
			Totals	0		2,052,900	228,100	2,281,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	159,000	0	0	0	0
CN	0	0	0	0	2,122,000
Totals	159,000	0	0	0	2,122,000

Washington State Department of Transportation

Six Year Transportation Improvement Program
From 2023 to 2028

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Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
07	11	Old 97 3R 6.85 - 8.27 9155 6.85 to 8.27 Minor realignment within existing right of way, widening, grading, drainage, ballast, top course and HMA or BST. Guardrail may be necessary on short grade section.	WA-12940					04	P T W	1.420	CE	No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2024		0	CRAB	168,300	18,700	187,000
P	CN	2026		0	CRAB	2,345,400	261,000	2,606,400
			Totals	0		2,513,700	279,700	2,793,400

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	0	187,000	0	0	0
CN	0	0	0	2,606,400	0
Totals	0	187,000	0	2,606,400	0

Washington State Department of Transportation

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From 2023 to 2028

Agency: Okanogan Co.

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Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
05	12	/ A240(001) Twisp River Road Reconstruction 9114 2.82 to 3.65 Minor realignment, widening, grading, drainage, base improvement and HMA or BST.	WA-12942					04	P T W	0.830	CE	No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
S	CN	2024	STP(R)	1,157,000		0	180,572	1,337,572
			Totals	**1,157,000**		**0**	**180,572**	**1,337,572**

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
CN	0	1,337,572	0	0	0
Totals	**0**	**1,337,572**	**0**	**0**	**0**

Washington State Department of Transportation

Six Year Transportation Improvement Program
From 2023 to 2028

Agency: Okanogan Co.

County: Okanogan

MPO/RTPO: OCOG RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
07	13	Toroda Creek 0.00 - 1.500 RC 9495 0.00 to 1.50 Minor realignment, widening, grading, drainage, base improvements and HMA or BST.	WA-14570					04	P T W	1.500	CE	No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2024	STBG	100,000		0	13,500	113,500
P	CN	2027	STBG	1,400,000		0	18,900	1,418,900
			Totals	1,500,000		0	32,400	1,532,400

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	0	113,500	0	0	0
CN	0	0	0	0	1,418,900
Totals	0	113,500	0	0	1,418,900

Washington State Department of Transportation

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Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
05	14	/ A240(003) Twisp River Road - Spokane Grade Overlay 9129 1.47 to 2.25 HMA overlay and pavement repair as needed will restore surface to satisfactory condition. Guardrail may need to be reset to proper height after HMA overlay is placed.	WA-13963					05	C P T	0.780		No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
S	CN	2023	STP(R)	550,000		0	85,838	635,838
			Totals	550,000		0	85,838	635,838

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
CN	635,838	0	0	0	0
Totals	635,838	0	0	0	0

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Six Year Transportation Improvement Program
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Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
05	15	/ A240(002) Twisp River Bridge Deck Repair 91140 1.287 to 1.307 Repair the deck, and replace the failed paint system on the steel girder elements to extend the life of the structure.	WA-13874 C-8					47	P T	0.020	CE	No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
S	CN	2023	STP(BR)	882,400		0	0	882,400
			Totals	882,400		0	0	882,400

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
CN	0	882,400	0	0	0
Totals	0	882,400	0	0	0

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Six Year Transportation Improvement Program
From 2023 to 2028

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Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
05	16	Eastside Chewuch Road (MP 0.702 - 1.632 Shoulder Widening) 9137 0.702 to 1.632 Reconstruct or repave roadway and widen shoulders	WA-14749					21	P T	0.930	CE	Yes

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2025	STP	121,100		0	18,900	140,000
P	RW	2026	STP	86,500		0	13,500	100,000
P	CN	2028	STP	1,730,000		0	270,000	2,000,000
			Totals	**1,937,600**		**0**	**302,400**	**2,240,000**

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	0	0	80,000	0	0
RW	0	0	0	50,000	0
CN	0	0	0	0	2,070,000
Totals	**0**	**0**	**80,000**	**50,000**	**2,070,000**

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Six Year Transportation Improvement Program
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Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
05	17	Chesaw Road DR (MP 3.90 - 4.05) 9480 3.90 to 4.05 Replace old deteriorated culvert with a 20'-28' span structure and add guardrail as needed.	WA-14841					04	P T	0.150	CE	Yes

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2023		0	CRAB	76,500	8,500	85,000
P	RW	2024		0	CRAB	18,000	2,000	20,000
P	CN	2028		0	CRAB	765,000	85,000	850,000
			Totals	0		859,500	95,500	955,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	85,000	0	0	0	0
RW	0	20,000	0	0	0
CN	0	0	0	0	850,000
Totals	85,000	20,000	0	0	850,000

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05	18	Old 97 2R (MP 18.82 - 20.120 9155 18.82 to 20.12 HMA overlay, resetting guardrail as necessary.	WA-14842					03	P S W	1.300	CE	No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2023		0	CRAB	91,800	10,200	102,000
P	CN	2027		0	CRAB	860,400	95,600	956,000
			Totals	0		952,200	105,800	1,058,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	102,000	0	0	0	0
CN	0	0	0	0	956,000
Totals	102,000	0	0	0	956,000

	Federal Funds		State Funds	Local Funds	Total Funds
Grand Totals for Okanogan Co.	9,832,871		11,537,300	2,117,420	23,487,591

MEMORANDUM

Date: August 25, 2022

To: Board of Okanogan County Commissioners

From: Josh Thomson P.E., Director/County Engineer

Subject: 2023-2028 Revenue and Expenditure Analysis

The attached Revenue and Expenditure Analysis is a required component of the 6-year Transportation Improvement Program, and is a good tool to assess trends and options for capital expenditures.

Revenues assume no levy shift and a 1.5% road levy increase per year. Motor Vehicle Fuel Tax and County Arterial Preservation Program funds (derived from MVFT) are based on the latest forecasts from CRAB and WSDOT. Future years are projected at a 2% annual increase. Federal Forest Yield is projected to remain constant.

Revenues and expenditures for large construction projects include all of the funded projects in the TIP. This leaves both the revenues and expenditures for engineering at zero in 2024-2028, but I anticipate more projects will be funded later this year to bring them more in line with the 2023 figures. Project engineering revenues are typically 88% of the expenditures, so this will have little impact on the projected fund balance. One or two RAP-funded projects are likely to be awarded in this fall, and will be added to the 6-year plan at that point. There will also likely be a STP call for projects this year, adding a project or two for the County. These are not included in the revenue and expenditure analysis at this point, but will have some impact on the bottom line in the amount of the local match.

Expenditures for normal maintenance and administration activities assume a 3% annual escalation to account for labor and benefit increases, construction materials and equipment inflation, and fuel price increases. 3% may be a bit low to account for all of these factors. Chip seal costs are assumed to increase 7% per year because they are more heavily influenced by construction cost inflation, which outpaces the CPI-based inflation rate. Chip seal is estimate at 65 miles per year, which yields a 10-year average rotation on our paved roads.

Construction of new shops at Winthrop and Tonasket planned in 2022 assumes the investment comes from the capital improvement fund. The proposed pit purchase in 2024 is predicated on the Methow property selling first.

Revenue and Expenditure Analysis

OKANOGAN County

SIX-YEAR TRANSPORTATION IMPROVEMENT PROGRAM
REVENUE AND EXPENDITURE ANALYSIS

Co Rd/Co Rd Construction:	2023	2024	2025	2026 - 2028
REVENUES:				
BEGINNING FUND BALANCE	4,700,000	4,270,293	2,234,624	929,395
REAL & PERSONAL PROPERTY TAX LESS CO ROAD DIVERSION	5,278,673	5,357,853	5,438,221	16,804,103
LEVY SHIFT (enter as negative)				
MOTOR VEHICLE FUEL TAX	3,738,951	3,813,700	3,890,000	12,136,800
CO ARTERIAL PRES PROGRAM	646,085	659,000	672,200	2,097,300
RURAL ARTERIAL PROGRAM	1,415,000	1,989,000	0	0
UATA				
IAC-SALMON RECOVERY FUND				
FEDERAL - HSIP	516,000	0	0	0
FEDERAL - BRIDGE REPLACEMENT	882,400	0		
FEDERAL - STP REGIONAL	606,875	1,157,000	0	0
FEDERAL - FOREST YIELD	750,000	750,000	750,000	2,250,000
FEDERAL - OTHER				
WSDOT PARTICIPATION				
BRIDGE REPLACEMENT PROGRAM				
HAZARD ELIMINATION PROGRAM				
OTHER INTERGOVERNMENT & STATE SHARED	36,000	36,000	36,000	108,000
CHARGES FOR SERVICES	22,000	24,000	25,000	75,000
LICENSES & PERMITS	18,000	18,000	18,000	54,000
OTHER MISCELLANEOUS REVENUES	34,000	34,000	34,000	102,000
GENERAL OBLIGATION BOND PROCEEDS				
PROCEEDS FROM SALE OF FIXED ASSETS	**650,000**			
SPECIAL PURPOSE PATH				
PUBLIC WORKS TRUST FUND				
CRIDS				
SEPA				
OPERATING TRANSFER	25,000	20,000	17,000	51,000
IMPACT FEES				
TOTAL REVENUES & FUND BALANCES:	**$19,318,984**	**$18,128,846**	**$13,115,045**	**$34,607,598**

Revenue and Expenditure Analysis

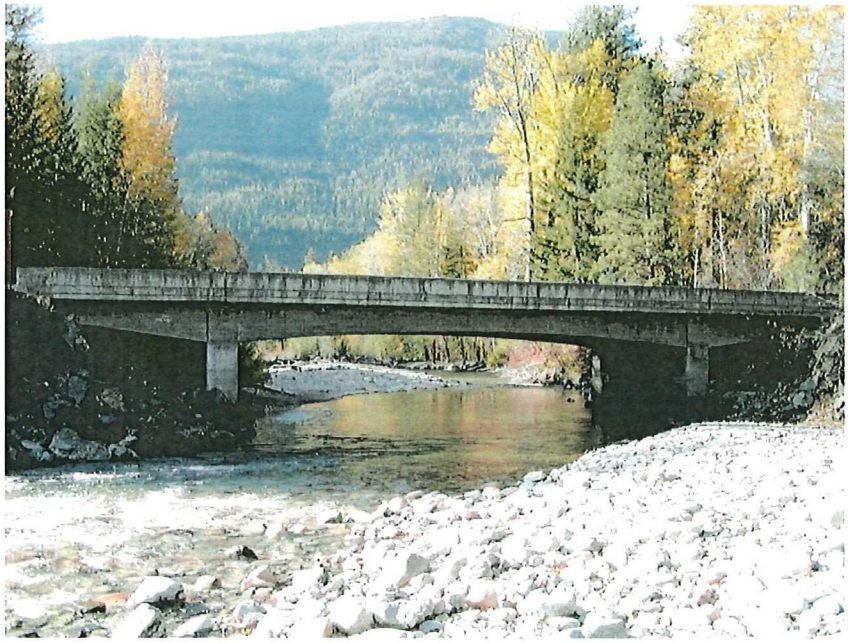
OKANOGAN County

SIX-YEAR TRANSPORTATION IMPROVEMENT PROGRAM
REVENUE AND EXPENDITURE ANALYSIS

Co Rd/Co Rd Construction:	2023	2024	2025	2026 - 2028
EXPENDITURES:				
CONSTRUCTION PROJECT ENGINEERING	227,000	0	0	0
ROAD SURFACES MAINTENANCE	2,550,000	2,627,000	2,706,000	8,605,000
ROAD PREVENTATIVE MAINTENANCE (CHIP SEAL)	2,000,000	2,140,000	2,290,000	7,832,000
STORM DAMAGE	175,000	180,000	185,000	588,000
STRUCTURES	67,000	69,000	71,000	226,000
TRAFFIC SAFETY DEVICES	610,000	628,000	647,000	2,057,000
STREET CLEANING	150,000	155,000	160,000	509,000
SNOW & ICE CONTROL	2,003,000	2,063,000	2,125,000	6,758,000
ROADSIDE	440,000	453,000	467,000	1,485,000
PITS & QUARRIES	205,000	211,000	217,000	690,000
PIT PURCHASES		**600,000**		
MAINTENANCE ADMINISTRATION	974,000	1,003,000	1,033,000	3,285,000
FACILITIES	3	0	0	0
FACILITIES CONSTRUCTION				
SUPPORT SERVICES	900,000	927,000	955,000	3,037,000
GENERAL SERVICES (331)	1,249,000	1,286,000	1,325,000	4,214,000
LONG TERM DEBT	4,650	4,650	4,650	13,950
SUBTOTAL OPERATIONS:	**$11,554,653**	**$12,346,650**	**$12,185,650**	**$39,299,950**
CONSTRUCTION:				
ROADWAY SAFETY	635,838	0	0	0
ROADWAY IMPROVEMENT (CONSTRUCTION)	2,858,200	3,547,572	0	0
SUBTOTAL CONSTRUCTION:	**$3,494,038**	**$3,547,572**	**$0**	**$0**
TOTAL EXPENDITURES	**$15,048,691**	**$15,894,222**	**$12,185,650**	**$39,299,950**
ENDING FUND BALANCE:	**$4,270,293**	**$2,234,624**	**$929,395**	**-$4,692,352**
NET FOR YEAR	**($429,707)**	**($2,035,669)**	**($1,305,229)**	**($5,621,747)**

OKANOGAN COUNTY
DEPARTMENT OF PUBLIC WORKS

2021 BRIDGE CONDITION INSPECTION REPORT



Josh Thomson, P.E.
County Engineer
Bridge Inspection Team Leader, G1614

Auguast 25, 2022
Date

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Appendix A - Okanogan County NBIS Bridge Listing

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I. INTRODUCTION

The 2021 Bridge Condition Inspection Report summarizes the status of bridges owned, operated and maintained by Okanogan County, and is prepared under the direction of the County Engineer in accordance with WAC 136-20-060. This Report is for your use during preparation of the Six Year Transportation Improvement Program. This report is based upon the most current data available in our bridge files.

Contained within this report are descriptions of the ongoing bridge inspection efforts and current findings, bridge load restrictions and emergency repairs undertaken through December 31, 2021. Maintenance accomplished and recommended replacement or rehabilitation projects will be described within.

II. BRIDGE INSPECTIONS

Federal Highway Administration (FHWA) requirements mandate that public agencies inspect and report on all bridges (vehicle carrying structures with a span length of greater than twenty feet) at least once every twenty-four months. The purpose of routine inspections is to evaluate and record the current condition of the bridge, determine the degree of wear and deterioration, and recommend repairs or needed services. The inspections are also to ensure and maintain public safety and confidence and to protect the traveling public's investments.

The County Engineer, Josh Thomson, is a licensed Civil Professional Engineer and became certified as a bridge inspector/team leader in 2016.

1. Routine Bridge Inspections

Okanogan County has a total of 50 bridges subject to the National Bridge Inspection Standards (NBIS). Okanogan County also performs NBIS inspections on seven small structure with spans less than 20 feet, and the Similkameen Trail bridge, which is not subject to NBIS inspection standards because it is a non-highway structure. Of those 60 county-owned bridges, inspections were performed on 26 bridges including one small structures during the 2021 inspection season. Inspections are also performed on nine city bridges for the cities of Okanogan, Tonasket and Conconully when scheduled; four were inspected for Okanogan in 2021. Riverside's two bridges are inspected by WSDOT. Federal regulations require that NBIS bridges receive a routine safety inspection once every 24 months. Certain conditions in the NBIS standards allow less frequent inspection, but Okanogan County has elected to not exceed 24 months. Some of Okanogan County's bridges are inspected every 12 months due to deficiencies or damage that justify more frequent inspection.

2. Special Inspections

Special inspections are usually performed by WSDOT personnel under a reimbursable agreement with the WSDOT Bridge Preservation Office.

UBIT Inspection: An Under Bridge Inspection Truck (UBIT) is needed to perform inspections if the underside of the bridge is inaccessible. The UBIT inspection is required every 72 months or sooner if conditions dictate more frequent scheduling. Okanogan County has 2 bridges that have utilized UBIT inspections in the past, but currently are visually inspected without the specialized equipment.

Underwater Inspection: Inspection of the underwater elements of a bridge is required by the NBIS at least once every 60 months or sooner if conditions dictate. WSDOT personnel will be scheduled to perform underwear inspections on three Okanogan County structures in 2025.

Fracture Critical Inspections: Okanogan County does not have any fracture critical bridges.

III. INSPECTION FINDINGS

When new damage or conditions are found during inspections that warrant repairs, maintenance is scheduled to be performed by county personnel or specialty contractors.

The Sufficiency Rating (SR) of each bridge is an indication of the overall health of the structure. The SR is a score calculated for each bridge based on the condition of the various elements of each bridge. It is a numeric value that ranges from 0 to 100 and is generated in the bridge management software. The value is a summation of four calculated values: Structural Adequacy and Safety, Serviceability and Functional Obsolescence, Essentiality for Public Use, and Special Reductions. The lower the SR is, the higher the priority for rehabilitation or replacement. To qualify for replacement funding, a bridge must have a sufficiency rating of less than 50. The SR for each bridge is included in Appendix A.

IV. SCOUR EVALUATIONS

A scour evaluation is required for all bridges over water. The purpose of a scour evaluation is to determine susceptibility of the bridge's foundation to the erosive actions of flowing water removing material from the bridge's foundation. A bridge is considered scour critical if its foundation is determined to be unstable for observed or calculated scour conditions.

When a bridge inspector identifies an actual or potential problem, the bridge must be further evaluated to determine whether or not it should be considered scour critical.

All of Okanogan County's bridges have been evaluated and only bridge, C-5, West Fork Buttermilk Creek Road over Twisp River, is determined to be scour critical at this time. This bridge appears to be stable, but was constructed on a footing from a previous bridge. The depth of the footing is unknown, hence the designation. This bridge is inspected every 12 months, and is monitored after high water to identify any issues.

V. BRIDGE RESTRICTIONS

A load rating is performed for each bridge in the NBIS inventory by a professional structural engineer in accordance with federal and state regulations. A bridge load rating is the measure of the bridge's load carrying capacity. There are two capacity levels that bracket this ability, the Inventory Rating and the Operating Rating. The Inventory Rating is the load that a bridge can carry for an indefinite number of load cycles without detriment to the bridge. The Operating Rating is the maximum load that can be carried on an infrequent basis without detriment to the bridge.

The NBIS requires the posting of load limits or restrictions on a bridge when the load rating factor for the legal load is less than 1. Load ratings have historically been calculated using six standard truck configurations to check the capacity levels. Three of the truck configurations represent common legal loads, the forth is a national standard truck and the fifth and sixth represent overload vehicles.

Recently the Federal Highway Administration has added truck configurations that must be calculated for bridge load ratings. "Group 1" bridges were required to be load rated for Special Hauling Vehicles (SHVs) by the end of 2017, and "Group 2" bridges must be load rated by the end of 2022. Okanogan County has 14 group 1 bridges that were load rated in 2017, Okanogan has 3, and Tonasket has one. Conconully has three group 1 bridges that were load rated in 2019. SHVs are closely spaced multi-axle single unit trucks introduced by the trucking industry in the last decade, and are designated as SU4, SU5, SU6, and SU7 corresponding to the number of axles on the truck. Examples include dump trucks, construction vehicles, solid waste trucks and other hauling trucks with more than two drive axles and/or multiple drop axles not represented in the original six configurations.

Six bridges in Okanogan County and two in the City of Okanogan were posted with load restrictions in 2017 due to the load ratings required by FHWA. You will note in Appendix A that the Keystone bridge has a sufficiency rating of 58.84, Gate Creek is at 65.68 and the rest are 70 or higher. The reduced load ratings are not necessarily an indication of poor condition, but of loads imposed that the structures were not designed for. Significant deterioration was found in B-4 in 2020, and it was posted with a 4-ton weight limit. Further deterioration forced closure of B-4 on August 27, 2021, and it was removed in October 2021 as part of the replacement project. The load rating cover sheets for bridges requiring load restrictions are included as Appendix B for reference.

Bridge No.	Bridge Name	Status	Legal Load Restricted for:
B-4	N. Star Park City Upper	Closed	Closed August '21, Removed Oct '21
B-14	Keystone	Posted	Type 3, 3-S2, SU4-SU7
C-6	Gold Creek Lower	Posted	SU4-SU7
C-11	Balky Hill	Posted	SU5-SU7, Removed Oct '21
C-18	Gate Creek	Posted	SU5-SU7
E-5	Sinlahekin Cr	Posted	SU4-SU7
F-8	Nine Mile Cr	Posted	SU5-SU7
Okanogan2	Salmon Cr – 1st Ave	Posted	SU4-SU7
Okanogan3	Salmon Cr – 5th Ave	Posted	SU4-SU7

The ASSHTO Type 3 truck is a standard 3-axle single unit truck, a type 3-S2 is a standard 3-axle tractor with a 2-axle semi-trailer, and a type 3-3 is a 3-axle truck with a 3-axle trailer.

Legal loads are as follows:

Configuration	Tonnage
AASHTO Type 3	25 Tons
AASHTO Type 3-S2	36 Tons
AASHTO Type 3-3	40 Tons
SU4	27 Tons
SU5	31 Tons
SU6	34.7 Tons
SU7	38.7 Tons

VI. EMERGENCY REPAIRS

No emergency repairs beyond ordinary maintenance were required on NBIS reportable structures in 2021.

VII. MAINTENANCE ACTIVITIES

Proper maintenance and repairs are necessary to prevent further deterioration of structures, to extend their useful life, and to prevent or reduce major repair costs in the future. During inspections, maintenance needs are documented. Repairs are scheduled for completion by county crews or contract. Typical annual maintenance includes guardrail repairs, deck and drain cleaning, signing and brush cutting.

We started a deck sealing program in 2020 to extend the life of our structures. A Methacrylate polymer product was selected based on research and observation of the Grant County program. Eight structures (D-3, E-5, E-7, E-8, F-3, F-7, F-8 and F-9) and one short span structure on Eastside Oroville Rd were sealed by county forces in 2021, covering almost 35,000 square feet of concrete deck at a cost of just under $60,000. This program is quite successful, and will be continued annually as budget allows.

VIII. COMPLETED PROJECTS

County forced removed C-11, an irrigation crossing structure on Balky Hill Rd near the intersection with Twisp-Winthrop Eastside Rd in October 2021. The irrigation ditch was converted to a closed pipe, making the structure no longer necessary.

IX. CURRENT PROJECTS

RAP funding was secured in 2019 to replace an undersized box culvert on Salmon Creek Rd at milepost 3.05. Design work began in late 2019, and construction will ideally occur in 2022, but might be delayed by the funding agency. The current structure is a concrete box culvert with approximate 11' span and 6' height. The planned structure will span 30' and will reduce the occurrence of roadway flooding.

B-4 on Park City Loop Rd was determined to be severely compromised and was posted with a 4-ton weight limit in May 2020 and closed to traffic on August 27, 2021. Funding from the federal bridge replacement program was secured through WSDOT Local Programs, and construction of a new structure began in October 2021.

Federal bridge funds were secured in 2021 to rehabilitate the deteriorating concrete deck and repaint the steel girders on C-8, the Twisp River bridge on Twisp River Rd. Construction is scheduled in 2023.

X. RECOMMENDED PROJECTS

Three temporary culverts were placed under Hosheit Rd in 2017 to reopen the road after Tunk Creek washed out the previous culvert. This temporary situation needs to be remedied with a larger structure which will likely exceed 20' span. This project is likely to cost $600,000 to $800,000 based on current WDFW requirements, though there is a possibility a structure costing half that could be permitted.

Appendix A

Okanogan County NBIS Bridge Listing

Appendix A
2021 Bridge Condition Report

Bridge Number	Bridge Name	Status	NBI Reportable	Sufficiency Rating	Deficiency Status	Year Built	Year Rebuilt	Structure Length	Traffic ADT	Last Inspection Date	Inspection Freq. (Mo)	Notes
A-2	SALMON CR. STATLER BRIDGE	open	yes	99.96		2020		68	292	07-Oct-20	24	
A-3	SALMON CR. RANDO MANOR	open	yes	69.05		1949	1976	23	497	28-Oct-21	12	
A-4	SALMON CREEK HAPPY HILL	open	yes	90.89		1969		22	61	07-Oct-20	24	
A-5	SALMON CREEK RUBY-LOWER	open	yes	91.07		1969		26	20	07-Oct-20	24	
A-6	SALMON CREEK RUBY-UPPER	open	yes	92.34		1969		24	20	08-Oct-20	24	
A-7	CONCONULLY SOUTHEND	open	yes	76.66		1949		60	983	29-Oct-20	24	
A-8	SALMON CREEK WEST FORK	open	yes	85.22		1949	1979	70	72	07-Oct-20	24	
A-9	MAIN ST CONCONULLY	open	yes	66.00		1976		38	235	12-Oct-20	24	Conconully
A-10	LAKE ST CONCONULLY	open	yes	68.78		1973		24	260	16-Oct-20	24	Conconully
A-11	BROADWAY ST CONCONULLY	open	yes	87.92		1982		26	50	16-Oct-20	24	Conconully
A-12	SILVER ST CONCONULLY	open	yes	91.77		1997		28	50	16-Oct-20	24	Conconully
B-1	LITTLE NESPELEM RIVER	open	yes	94.18		2014		63	244	06-Oct-21	24	
B-3	NO.STAR PARK CITY LOWER	open	yes	99.95		2017		70	51	05-Oct-20	24	
B-4	NO.STAR PARK CITY UPPER	CLOSED	yes		SD	1958		51	51	05-Oct-20	24	Removed Oct 2021
B-5	PARK CITY MILL CREEK	open	yes	80.66		1958		26	92	06-Oct-21	24	
B-6	PARK CITY SMITH CREEK	open	yes	71.04		1958		26	92	06-Oct-21	12	
B-10	OMAK-RIVERSIDE EAST SIDE	open	yes	84.10		1968		50	1339	06-Oct-21	24	
B-11	BROOKS TRACT	open	yes	84.45		1973		50	463	06-Oct-21	24	
B-12	OMAK CREEK	open	yes	99.53		2006		31	553	06-Oct-21	24	
B-13	RIVERSIDE	open	yes	79.32		1969		330	650	05-Oct-21	24	Riverside - WSDOT inpsects
B-14	KEYSTONE	POSTED	yes	58.84	FO	1973		32	76	04-Oct-21	24	
B-15	MOSES ROAD	open	yes	99.93		2017		68	42	05-Oct-20	24	
B-17	FIGLENSKI	open	yes	99.00		1976		25	5	04-Oct-21	24	
B-18	MORGAN	open	yes	89.36		1976		30	22	04-Oct-21	24	
B-20	JOHNSON CREEK RIVERSIDE	open	yes	72.63		1976		26	521	04-Oct-21	24	Riverside - WSDOT inpsects
C-2	LITTLE BRIDGE CREEK	open	yes	99.46		2008		41	321	11-Oct-21	24	
C-4	BUTTERMILK CREEK	open	yes	84.90		1960	2007	66	74	21-Oct-20	24	
C-5	TWISP RIVER AT BUTTERMILK CR RD	open	yes	70.92		1959		102	53	11-Oct-21	12	
C-6	GOLD CREEK-LOWER	POSTED	yes	87.76		1972		30	90	22-Oct-21	24	
C-8	TWISP RIVER WEST	open	yes	69.45	SD	1949		108	585	11-Oct-21	24	
C-9	POORMAN CREEK	open	yes	80.01		1974		78	31	11-Oct-21	24	
C-10	COAL BANKS-TWISP RIVER	open	yes	76.09		1960		120	80	11-Oct-21	24	

Appendix A
2021 Bridge Condition Report

Bridge Number	Bridge Name	Status	NBI Reportable	Sufficiency Rating	Deficiency Status	Year Built	Year Rebuilt	Structure Length	Traffic ADT	Last Inspection Date	Inspection Freq. (Mo)	Notes
C-11	BALKY HILL	POSTED	yes	88.20		1972		30	122	23-Oct-19	24	Removed Oct 2021
C-12	BEAVER CREEK-SOUTH	open	yes	70.92		1957		24	50	11-Oct-21	12	
C-13	BEAVER CREEK-MIDDLE	open	yes	81.93		1962		72	35	11-Oct-21	24	
C-14	WOLF CREEK	open	yes	71.37	FO	1963		30	476	21-Oct-20	24	
C-15	CHEWUCH	open	yes	94.81		1953		120	173	21-Oct-20	24	
C-16	GOAT CREEK	open	yes	82.37		1971		30	195	21-Oct-20	24	
C-18	GATE CREEK	POSTED	yes	65.68		1971		32	488	14-Oct-21	12	
C-19	LOST RIVER U.S.F.S.	open	yes	90.10		1950		93	95	21-Oct-20	24	
C-20	MAZAMA	open	yes	84.24		1972		214	1057	21-Oct-20	24	
D-2	EFFIE BR.	open	yes	99.98		1990		212	27	21-Oct-20	24	
D-3	MONSE	open	yes	91.19		1967		560	479	22-Oct-20	24	
D-4	LOUP LOUP CREEK	open	yes	99.65		2014		52	20	22-Oct-20	24	
D-5	CHILIWIST CREEK	open	yes	97.51		1944		22	1352	22-Oct-20	24	
D-6	MALOTT OLD 97	open	no	93.86		2011		22	1352	22-Oct-20	24	Small structure (under 20')
D-7	BURDETT STREET	open	no	99.00		2012		22	20	22-Oct-20	24	Small structure (under 20')
E-1	TONASKET	open	yes	97.62		1999		316	2816	15-Oct-20	24	
E-2	BONAPARTE CREEK-TONASKET	open	yes	82.06		1972		24	100	15-Oct-20	24	Tonasket
E-4	BLUE LAKE CULVERT	open	yes	99.46		2018		21	36	28-Oct-20	24	
E-5	SINLAHEKIN CREEK	POSTED	yes	88.03		1973		30	56	28-Oct-20	24	
E-6	CECIL CREEK RD	open	yes	82.86		1975		35	20	28-Oct-20	24	
E-7	TOATS COULEE BERNARD	open	yes	79.77	FO	1966		62	114	28-Oct-20	24	
E-8	CHOPAKA	open	yes	91.59		1980		79	33	28-Oct-20	24	
E-11	ELLISFORDE	open	yes	84.68		1961		339	848	28-Oct-20	24	
E-14	LOST CREEK	open	yes	80.79		1958		42	52	15-Oct-20	24	
F-2	SIMILKAMEEN AT OROVILLE	open	yes	76.83		1950		366	985	08-Oct-21	24	
F-3	OROVILLE,EASTSIDE	open	yes	94.11		1971		180	1527	08-Oct-21	24	
F-4	SIMILKAMEEN TRAIL	open	no			1952	2009	366	2			Non-Highway Structure
F-7	NIGHTHAWK	open	yes	96.24		1973		306	122	08-Oct-21	24	
F-8	NINE MILE CREEK	POSTED	yes	85.05		1980		28	352	08-Oct-21	24	
F-9	THORNDIKE LOOP	open	yes	96.00		1980		24	34	08-Oct-21	24	
OKANOGAN1	OKANOGAN RIVER-OAK ST	open	yes	98.42		2003		340	4100	28-Oct-21	24	City of Okanogan
OKANOGAN2	SALMON CR-FIRST AVE	POSTED	yes	72.77		1970		38	260	28-Oct-21	24	City of Okanogan

Appendix A
2021 Bridge Condition Report

Bridge Number	Bridge Name	Status	NBI Reportable	Sufficiency Rating	Deficiency Status	Year Built	Year Rebuilt	Structure Length	Traffic ADT	Last Inspection Date	Inspection Freq. (Mo)	Notes
OKANOGAN3	SALMON CR-FIFTH AVE.	POSTED	yes	75.44		1970		38	260	28-Oct-21	24	City of Okanogan
OKANOGAN4	SALMON CR-MILL STREET	open	yes	89.45		2006		50	450	28-Oct-21	24	City of Okanogan

Appendix B

Load Rating Summary Sheets

BRIDGE RATING SUMMARY

BRIDGE NUMBER: B-4, OKANOGAN COUNTY
BRIDGE NAME: NO. STAR PARK CITY UPPER
STRUCTURE ID: 08341000
TYPE: CONCRETE GIRDERS ON TIMBER SUBSTRUCTURE
LENGTH: 51'-0" LONG BRIDGE, 0° SKEW
SPANS: (2) 24'-4" SPANS
DESIGNED BY: BUREAU OF INDIAN AFFAIRS, 1956
DESIGN LOAD: H15-S12

RATING BY: NICHOLLS KOVICH ENGINEERING, PLLC
SUSAN M. KOVICH
WASHINGTON LICENSE 39869
DATE: MAY 2020

SUSAN M KOVICH STATE OF WASHINGTON 39869 REGISTERED PROFESSIONAL ENGINEER
5/11/2020

RESULTS OF RATING

Truck Configuration	Rating Factor	γL	Allowable Load	Controlling Point
HS-20 Inventory	0.05	1.00	2 Tons	Horizontal Shear
HS-20 Operating	0.19	1.00	7 Tons	Horizontal Shear

REMARKS:
BRIDGE SHOULD BE POSTED.
RECOMMEND A 4 TON WEIGHT LIMIT SIGN.

RATING METHOD:
Working (or Allowable Stress) Method

BRIDGE INFO:
Rating based on serious deterioration of timber cap at intermediate pier – assumed 60% section loss.

WSBIS CODING

WB75-50	Design Load	3
WB75-51	Opr. Method	W
WB75-52	Opr. Tons	7
WB75-54	Inv. Method	W
WB75-55	Inv. Tons	2
WB76-60	Safe Load	0

BRIDGE RATING SUMMARY

Bridge Name: Keystone
Bridge Number: B-14
Agency: Okanogan County
Structure ID: 08018700
Bridge Type: Prestressed Concrete Rib Deck Girders
Length: 32'-0" Long Bridge
Skew: 0 Degree Skew
No. Spans: (1) 31'-6"
Designed By: Central Pre-Mix Prestress Co., 1973
Design Load: HS-20-44



8/29/2017

Ref. Inspection: 10/05/2015
Rating Date: 08/29/2017
Rating Method: LRFR
Rated By: Susan M. Kovich, WA License 39869
NICHOLLS KOVICH ENGINEERING, PLLC

RESULTS OF RATING

NBI RATING	Rating Factor	γL	Controlling Point
HL-93 Inventory	0.50	0.80	Service III –Moment
HL-93 Operating	1.09	1.35	Strength I –Moment

LEGAL LOADS	Rating Factor	γL	Allowable Load	Controlling Point
TYPE 3	0.80	1.00	20 Tons	Service III –Moment
TYPE 3-S2	0.83	1.00	30 Tons	Service III –Moment
TYPE 3-3	1.00	1.00	40 Tons	Service III –Moment
Notional Rating Load (NRL)	0.53	1.00	21 Tons	Service III –Moment
Single Unit SHV (SU4)	0.67	1.00	18 Tons	Service III –Moment
Single Unit SHV (SU5)	0.63	1.00	20 Tons	Service III –Moment
Single Unit SHV (SU6)	0.57	1.00	20 Tons	Service III –Moment
Single Unit SHV (SU7)	0.55	1.00	21 Tons	Service III –Moment

PERMIT LOADS				
WSDOT Overload 1	0.55	1.00	26 Tons	Service III –Moment
WSDOT Overload 2	0.47	1.00	49 Tons	Service III –Moment

REMARKS: **BRIDGE SHOULD BE POSTED FOR TYPE 3, 3-S2, SU4, SU5, SU6 & SU7**
RESTRICT BRIDGE FOR OL1 & OL2 DUE TO POSTING
Rating based on 10% impact and 0.6" of BST overlay.

NBI CODING				CURRENT REFERENCE			
[70]	Operating Level	(1660)	0	[29]	Avg. Daily Traffic	(1445)	82
[63]	Oper. Rating Method	(1551)	8	[109]	Truck Percent	(1451)	13
[64]	Oper. Rating Tons	(1552)		[58]	Deck Overall	(1663)	7
[64]	Oper. Rating Factor	(1553)	1.09	[59]	Superstructure	(1671)	8
[65]	Inv. Rating Method	(1554)	8	[60]	Substructure	(1676)	7
[66]	Inv. Rating Tons	(1555)			Approach Roadway	(7681)	8
[66]	Inv. Rating Factor	(1556)	0.50				

BRIDGE RATING SUMMARY

Bridge Name: Gold Creek-Lower
Bridge Number: C-6
Agency: Okanogan County
Structure ID: 08201800
Bridge Type: Prestressed Concrete Rib Deck Girders
Length: 30'-0" Long Bridge
Skew: 0° Skew
No. Spans: (1) 29-5" Span
Designed By: Central Pre-Mix Prestress Co., 1972
Design Load: HS-20-44

Ref. Inspection: 10/07/2015
Rating Date: 10/30/2017
Rating Method: LRFR
Rated By: Susan M. Kovich, WA License 39869
NICHOLLS KOVICH ENGINEERING, PLLC



10/30/2017

RESULTS OF RATING

NBI RATING	Rating Factor	γL	Controlling Point
HL-93 Inventory	0.73	0.80	Service III - Moment
HL-93 Operating	0.97	1.35	Strength I – Moment

LEGAL LOADS	Rating Factor	γL	Allowable Load	Controlling Point
TYPE 3	1.20	1.00	30 Tons	Service III - Moment
TYPE 3-S2	1.21	1.00	44 Tons	Service III - Moment
TYPE 3-3	1.46	1.00	59 Tons	Service III - Moment
Notional Rating Load (NRL)	0.78	1.00	31 Tons	Service III - Moment
Single Unit SHV (SU4)	0.99	1.00	27 Tons	Service III - Moment
Single Unit SHV (SU5)	0.92	1.00	28 Tons	Service III - Moment
Single Unit SHV (SU6)	0.84	1.00	29 Tons	Service III - Moment
Single Unit SHV (SU7)	0.80	1.00	31 Tons	Service III - Moment

PERMIT LOADS				
WSDOT Overload 1	0.83	1.00	40 Tons	Service I – Moment
WSDOT Overload 2	0.70	1.00	72 Tons	Service I – Moment

REMARKS: **BRIDGE SHOULD BE POSTED FOR SU4, SU5, SU6 & SU7**
RESTRICT BRIDGE FOR OVERLOAD 1 & OVERLOAD 2
Rating based on 10% impact and ½" asphalt overlay.

NBI CODING				CURRENT REFERENCE			
[70]	Operating Level	(1660)	3	[29]	Avg. Daily Traffic	(1445)	111
[63]	Oper. Rating Method	(1551)	8	[109]	Truck Percent	(1451)	14
[64]	Oper. Rating Tons	(1552)		[58]	Deck Overall	(1663)	8
[64]	Oper. Rating Factor	(1553)	0.97	[59]	Superstructure	(1671)	8
[65]	Inv. Rating Method	(1554)	8	[60]	Substructure	(1676)	8
[66]	Inv. Rating Tons	(1555)			Approach Roadway	(7681)	8
[66]	Inv. Rating Factor	(1556)	0.73				

BRIDGE RATING SUMMARY

Bridge Name: Balky Hill
Bridge Number: C-11
Agency: Okanogan County
Structure ID: 08023500
Bridge Type: Prestressed Concrete Rib Deck Girders
Length: 30'-0" Long Bridge
Skew: 0° Skew
No. Spans: (1) 29'-5" Span
Designed By: Central Pre-Mix Prestress Co., 1972
Design Load: HS-20-44

Ref. Inspection: 10/26/2015
Rating Date: 10/30/2017
Rating Method: LRFR
Rated By: Susan M. Kovich, WA License 39869
NICHOLLS KOVICH ENGINEERING, PLLC



10/30/2017

RESULTS OF RATING

NBI RATING	Rating Factor	γL	Controlling Point
HL-93 Inventory	0.74	0.80	Service III - Moment
HL-93 Operating	0.97	1.35	Strength I – Moment

LEGAL LOADS	Rating Factor	γL	Allowable Load	Controlling Point
TYPE 3	1.21	1.00	30 Tons	Service III - Moment
TYPE 3-S2	1.23	1.00	44 Tons	Service III - Moment
TYPE 3-3	1.48	1.00	59 Tons	Service III - Moment
Notional Rating Load (NRL)	0.79	1.00	32 Tons	Service III - Moment
Single Unit SHV (SU4)	1.00	1.00	27 Tons	Service III - Moment
Single Unit SHV (SU5)	0.93	1.00	29 Tons	Service III - Moment
Single Unit SHV (SU6)	0.85	1.00	29 Tons	Service III - Moment
Single Unit SHV (SU7)	0.81	1.00	32 Tons	Service III - Moment

PERMIT LOADS				
WSDOT Overload 1	0.84	1.00	40 Tons	Service I – Moment
WSDOT Overload 2	0.71	1.00	73 Tons	Service I – Moment

REMARKS: **BRIDGE SHOULD BE POSTED FOR SU5, SU6 & SU7**
RESTRICT BRIDGE FOR OVERLOAD 1 & OVERLOAD 2
Rating based on 10% impact and no asphalt overlay.

NBI CODING				CURRENT REFERENCE			
[70]	Operating Level	(1660)	3	[29]	Avg. Daily Traffic	(1445)	115
[63]	Oper. Rating Method	(1551)	8	[109]	Truck Percent	(1451)	5
[64]	Oper. Rating Tons	(1552)		[58]	Deck Overall	(1663)	8
[64]	Oper. Rating Factor	(1553)	0.97	[59]	Superstructure	(1671)	8
[65]	Inv. Rating Method	(1554)	8	[60]	Substructure	(1676)	8
[66]	Inv. Rating Tons	(1555)			Approach Roadway	(7681)	8
[66]	Inv. Rating Factor	(1556)	0.74				

BRIDGE RATING SUMMARY

Bridge Name: Gate Creek
Bridge Number: C-18
Agency: Okanogan County
Structure ID: 08115000
Bridge Type: Prestressed Concrete Rib Deck Girders
Length: 32'-0" Long Bridge
Skew: 0 Degree Skew
No. Spans: (1) 31'-2"
Designed By: Central Pre-Mix Concrete Co. Prestress Div., 1971
Design Load: HS-20

Ref. Inspection: 10/05/2016
Rating Date: 08/29/2017
Rating Method: LRFR
Rated By: Susan M. Kovich, WA License 39869
NICHOLLS KOVICH ENGINEERING, PLLC



RESULTS OF RATING

NBI RATING	Rating Factor	γL	Controlling Point
HL-93 Inventory	0.76	0.80	Service III –Moment
HL-93 Operating	1.32	1.35	Strength I –Moment

LEGAL LOADS	Rating Factor	γL	Allowable Load	Controlling Point
TYPE 3	1.22	1.00	31 Tons	Service III –Moment
TYPE 3-S2	1.26	1.00	45 Tons	Service III –Moment
TYPE 3-3	1.52	1.00	61 Tons	Service III –Moment
Notional Rating Load (NRL)	0.80	1.00	32 Tons	Service III –Moment
Single Unit SHV (SU4)	1.02	1.00	27 Tons	Service III –Moment
Single Unit SHV (SU5)	0.96	1.00	30 Tons	Service III –Moment
Single Unit SHV (SU6)	0.87	1.00	30 Tons	Service III –Moment
Single Unit SHV (SU7)	0.83	1.00	32 Tons	Service III –Moment

PERMIT LOADS				
WSDOT Overload 1	0.84	1.00	40 Tons	Service III –Moment
WSDOT Overload 2	0.72	1.00	75 Tons	Service III –Moment

REMARKS: **BRIDGE SHOULD BE POSTED FOR SU5, SU6 & SU7**
RESTRICT OL1 & OL2 DUE TO POSTING
Rating based on 10% impact and 0.60" BST overlay.

NBI CODING				CURRENT REFERENCE			
[70]	Operating Level	(1660)	3	[29]	Avg. Daily Traffic	(1445)	200
[63]	Oper. Rating Method	(1551)	8	[109]	Truck Percent	(1451)	3
[64]	Oper. Rating Tons	(1552)		[58]	Deck Overall	(1663)	8
[64]	Oper. Rating Factor	(1553)	1.32	[59]	Superstructure	(1671)	6
[65]	Inv. Rating Method	(1554)	8	[60]	Substructure	(1676)	8
[66]	Inv. Rating Tons	(1555)			Approach Roadway	(7681)	8
[66]	Inv. Rating Factor	(1556)	0.76				

BRIDGE RATING SUMMARY

Bridge Name: Sinlahekin Creek
Bridge Number: E-5
Agency: Okanogan County
Structure ID: 08180900
Bridge Type: Prestressed Concrete Rib Deck Girders
Length: 30'-0" Long Bridge
Skew: 0° Skew
No. Spans: (1) 29-5" Span
Designed By: Central Pre-Mix Prestress Co., 1972
Design Load: HS-20-44

Ref. Inspection: 10/25/2016
Rating Date: 10/30/2017
Rating Method: LRFR
Rated By: Susan M. Kovich, WA License 39869
NICHOLLS KOVICH ENGINEERING, PLLC



10/30/2017

RESULTS OF RATING

NBI RATING	Rating Factor	γL	Controlling Point
HL-93 Inventory	0.74	0.80	Service III - Moment
HL-93 Operating	0.97	1.35	Strength I – Moment

LEGAL LOADS	Rating Factor	γL	Allowable Load	Controlling Point
TYPE 3	1.21	1.00	30 Tons	Service III - Moment
TYPE 3-S2	1.22	1.00	44 Tons	Service III - Moment
TYPE 3-3	1.48	1.00	59 Tons	Service III - Moment
Notional Rating Load (NRL)	0.79	1.00	32 Tons	Service III - Moment
Single Unit SHV (SU4)	0.99	1.00	27 Tons	Service III - Moment
Single Unit SHV (SU5)	0.93	1.00	29 Tons	Service III - Moment
Single Unit SHV (SU6)	0.85	1.00	29 Tons	Service III - Moment
Single Unit SHV (SU7)	0.81	1.00	31 Tons	Service III - Moment

PERMIT LOADS				
WSDOT Overload 1	0.84	1.00	40 Tons	Service I – Moment
WSDOT Overload 2	0.71	1.00	73 Tons	Service I – Moment

REMARKS: **BRIDGE SHOULD BE POSTED FOR SU4, SU5, SU6 & SU7**
RESTRICT BRIDGE FOR OVERLOAD 1 & OVERLOAD 2
Rating based on 10% impact and no asphalt overlay.

NBI CODING				CURRENT REFERENCE			
[70]	Operating Level	(1660)	3	[29]	Avg. Daily Traffic	(1445)	36
[63]	Oper. Rating Method	(1551)	8	[109]	Truck Percent	(1451)	8
[64]	Oper. Rating Tons	(1552)		[58]	Deck Overall	(1663)	7
[64]	Oper. Rating Factor	(1553)	0.97	[59]	Superstructure	(1671)	8
[65]	Inv. Rating Method	(1554)	8	[60]	Substructure	(1676)	8
[66]	Inv. Rating Tons	(1555)			Approach Roadway	(7681)	8
[66]	Inv. Rating Factor	(1556)	0.74				

BRIDGE RATING SUMMARY

Bridge Name: Nine Mile Creek
Bridge Number: F-8
Agency: Okanogan County
Structure ID: 08188400
Bridge Type: Reinforced Concrete Rib Deck Girders
Length: 28'-0" Long Bridge
Skew: 0 Degree Skew
No. Spans: (1) 27'-4"
Designed By: Central Pre-Mix Prestress Co., 1979
Design Load: HS20-44 + 25 psf Future Asphalt



Ref. Inspection: 10/06/2015
Rating Date: 10/30/2017
Rating Method: LRFR
Rated By: Susan M. Kovich, WA License 39869
NICHOLLS KOVICH ENGINEERING, PLLC

RESULTS OF RATING

NBI RATING	Rating Factor	γL	Controlling Point
HL-93 Inventory	0.77	0.80	Service III Moment
HL-93 Operating	1.44	1.35	Strength I Shear

LEGAL LOADS	Rating Factor	γL	Allowable Load	Controlling Point
TYPE 3	1.26	1.00	32 Tons	Service III Moment
TYPE 3-S2	1.30	1.00	47 Tons	Service III Moment
TYPE 3-3	1.54	1.00	61 Tons	Service III Moment
Notional Rating Load (NRL)	0.85	1.00	34 Tons	Service III Moment
Single Unit SHV (SU4)	1.06	1.00	29 Tons	Service III Moment
Single Unit SHV (SU5)	0.97	1.00	30 Tons	Service III Moment
Single Unit SHV (SU6)	0.89	1.00	31 Tons	Service III Moment
Single Unit SHV (SU7)	0.87	1.00	34 Tons	Service III Moment

PERMIT LOADS				
WSDOT Overload 1	0.92	1.00	44 Tons	Service III Moment
WSDOT Overload 2	0.75	1.00	78 Tons	Service III Moment

REMARKS: **BRIDGE SHOULD BE POSTED FOR SU5, SU6 & SU7**
RESTRICT BRIDGE FOR OVERLOAD 1 & OVERLOAD 2
Rating based on 10% impact and no asphalt overlay.

NBI CODING				CURRENT REFERENCE			
[70]	Operating Level	(1660)	3	[29]	Avg. Daily Traffic	(1445)	504
[63]	Oper. Rating Method	(1551)	8	[109]	Truck Percent	(1451)	2
[64]	Oper. Rating Tons	(1552)		[58]	Deck Overall	(1663)	8
[64]	Oper. Rating Factor	(1553)	1.44	[59]	Superstructure	(1671)	8
[65]	Inv. Rating Method	(1554)	8	[60]	Substructure	(1676)	8
[66]	Inv. Rating Tons	(1555)			Approach Roadway	(7681)	8
[66]	Inv. Rating Factor	(1556)	0.77				

BRIDGE RATING SUMMARY

Bridge Name: Salmon Cr-First Ave
Bridge Number: Okanogan2
Agency: City of Okanogan
Structure ID: 08526000
Bridge Type: Prestressed Concrete Rib Deck Girders
Length: 38'-0" Long Bridge
Skew: 0° Skew
No. Spans: (1) 37'-4" Span
Designed By: Central Pre-Mix Prestress Co., 1973
Design Load: HS-20-44

Ref. Inspection: 10/15/2015
Rating Date: 10/30/2017
Rating Method: LRFR
Rated By: Susan M. Kovich, WA License 39869
NICHOLLS KOVICH ENGINEERING, PLLC



10/30/2017

RESULTS OF RATING

NBI RATING	Rating Factor	γL	Controlling Point
HL-93 Inventory	0.73	0.80	Service III – Moment
HL-93 Operating	1.23	1.35	Strength I – Moment

LEGAL LOADS	Rating Factor	γL	Allowable Load	Controlling Point
TYPE 3	1.02	1.00	26 Tons	Service III – Moment
TYPE 3-S2	1.09	1.00	39 Tons	Service III – Moment
TYPE 3-3	1.24	1.00	50 Tons	Service III – Moment
Notional Rating Load (NRL)	0.67	1.00	27 Tons	Service III – Moment
Single Unit SHV (SU4)	0.87	1.00	23 Tons	Service III – Moment
Single Unit SHV (SU5)	0.82	1.00	25 Tons	Service III – Moment
Single Unit SHV (SU6)	0.75	1.00	26 Tons	Service III – Moment
Single Unit SHV (SU7)	0.71	1.00	27 Tons	Service III – Moment

PERMIT LOADS				
WSDOT Overload 1	0.66	1.00	32 Tons	Service I – Moment
WSDOT Overload 2	0.61	1.00	64 Tons	Service I – Moment

REMARKS: **BRIDGE SHOULD BE POSTED FOR SU4, SU5, SU6 & SU7**
RESTRICT BRIDGE FOR OVERLOAD 1 & OVERLOAD 2
Rating based on 20% impact and 2" asphalt overlay.

NBI CODING				CURRENT REFERENCE			
[70]	Operating Level	(1660)	2	[29]	Avg. Daily Traffic	(1445)	260
[63]	Oper. Rating Method	(1551)	8	[109]	Truck Percent	(1451)	5
[64]	Oper. Rating Tons	(1552)		[58]	Deck Overall	(1663)	7
[64]	Oper. Rating Factor	(1553)	1.23	[59]	Superstructure	(1671)	7
[65]	Inv. Rating Method	(1554)	8	[60]	Substructure	(1676)	7
[66]	Inv. Rating Tons	(1555)			Approach Roadway	(7681)	6
[66]	Inv. Rating Factor	(1556)	0.73				

BRIDGE RATING SUMMARY

Bridge Name: Salmon Cr-Fifth Ave
Bridge Number: Okanogan3
Agency: City of Okanogan
Structure ID: 08526500
Bridge Type: Prestressed Concrete Rib Deck Girders
Length: 38'-0" Long Bridge
Skew: 0° Skew
No. Spans: (1) 37'-0" Span
Designed By: Unknown, 1971
Design Load: HS-20

Ref. Inspection: 10/15/2015
Rating Date: 10/30/2017
Rating Method: LRFR
Rated By: Susan M. Kovich, WA License 39869
NICHOLLS KOVICH ENGINEERING, PLLC



10/30/2017

RESULTS OF RATING

NBI RATING	Rating Factor	γL	Controlling Point
HL-93 Inventory	0.79	0.80	Service III – Moment
HL-93 Operating	1.30	1.35	Strength I – Moment

LEGAL LOADS	Rating Factor	γL	Allowable Load	Controlling Point
TYPE 3	1.11	1.00	28 Tons	Service III – Moment
TYPE 3-S2	1.18	1.00	42 Tons	Service III – Moment
TYPE 3-3	1.35	1.00	54 Tons	Service III – Moment
Notional Rating Load (NRL)	0.72	1.00	29 Tons	Service III – Moment
Single Unit SHV (SU4)	0.94	1.00	25 Tons	Service III – Moment
Single Unit SHV (SU5)	0.89	1.00	28 Tons	Service III – Moment
Single Unit SHV (SU6)	0.81	1.00	28 Tons	Service III – Moment
Single Unit SHV (SU7)	0.77	1.00	30 Tons	Service III – Moment

PERMIT LOADS				
WSDOT Overload 1	0.71	1.00	34 Tons	Service I – Moment
WSDOT Overload 2	0.66	1.00	69 Tons	Service I – Moment

REMARKS: **BRIDGE SHOULD BE POSTED FOR SU4, SU5, SU6 & SU7**
RESTRICT BRIDGE FOR OVERLOAD 1 & OVERLOAD 2
Rating based on 20% impact and no asphalt overlay.

NBI CODING			
[70]	Operating Level	(1660)	2
[63]	Oper. Rating Method	(1551)	8
[64]	Oper. Rating Tons	(1552)	
[64]	Oper. Rating Factor	(1553)	1.30
[65]	Inv. Rating Method	(1554)	8
[66]	Inv. Rating Tons	(1555)	
[66]	Inv. Rating Factor	(1556)	0.79

CURRENT REFERENCE			
[29]	Avg. Daily Traffic	(1445)	260
[109]	Truck Percent	(1451)	5
[58]	Deck Overall	(1663)	7
[59]	Superstructure	(1671)	7
[60]	Substructure	(1676)	5
	Approach Roadway	(7681)	6