KITTELSON & ASSOCIATES
851 SW 6th Avenue, Suite 600
Portland, OR 97204
P 503.228.5230

TECHNICAL MEMORANDUM

March 10, 2025 Project# 27852

To: Jamie Stasny, Regional Transportation and Land Use Policy Coordinator
Clackamas County
150 Beavercreek Road
Oregon City, OR 97045

From: Marc Butorac, PE, Darren Hippenstiel, PE, Caleb Cox, PE, Eza Gaigalas

CC: Ana Jovanovic, Jamey Dempster, and Maulsri Jha – Jacobs

RE: Sunrise Gateway Corridor – Cost Estimates

INTRODUCTION

Kittelson, with support from Jacobs, has prepared planning-level cost estimates for the Sunrise Gateway Corridor Refinement Plan alternative (Sunrise Parkway Concept – 162nd/172nd Couplet, October 2024 Roll map). This concept expands and refines the work that was completed in 2020. The estimates for Phase 2 (SE 122nd Avenue to SE 172nd Avenue) are divided into 4 stages to align with the stages identified in the refinement plan. The stages are as follows:

- Stage 1 – Construct local transportation network between 135th and 152nd, including OR212 realignment, 142nd overcrossings, and the 135th-152nd backage road.
- Stage 2 – Construct expanded signalized intersection at Rock Creek Junction (OR212/OR224) including widening the existing bridge on OR212 west of Rock Creek Junction.
- Stage 3 – Construct and develop two one-way streets between 162nd and 172nd that will be compatible with a future stage 4 expansion to a split-diamond interchange.
- Stage 4 – Construct the Sunrise Gateway between 122nd and 172nd including a diverging diamond interchange at 122nd, a split-diamond interchange at 162nd/172nd, and a pedestrian path and bridge over Sunrise at 135th.

The December 2024 Concept design is included in Appendix D and a conceptual staging plan is included in Appendix E.

PLANNING LEVEL COST ESTIMATES

The planning cost estimates include an itemized breakdown of major work items for the project, including earthwork, pavement structure, bridges, retaining walls, curb, sidewalk, signing, striping, street lighting, signals and other associated work. Groups of items (such as work zone traffic control, staging, and drainage) are presented as lump sum items, and the estimates are a percentage multiplier on the construction subtotal based on similar work from other recent projects.

The assumptions used in developing the cost estimates are as follows:

- All roadway construction areas were assumed to be full depth reconstruction with pavement sections varying based on the functional classification of the roadway.
- Private utilities in conflict with the project will relocate at their own cost.
- Public water and sanitary sewer improvements or relocations will not be included with this project.
- Retaining wall and bridge quantities are based on a preliminary grading analysis. These quantities are likely to change as the project considers impacts to individual taxlots more closely.
- Traffic control and staging costs are medium impact and assumed at 7% of constructed items, each.
- Contingency, inclusive of bid item contingency and construction contingency, is varied between 30% and 40% to present a high and low estimate range.

Table 1 below includes a summary of the planning level project costs in 2025 dollars. Detailed cost breakdowns are included in Appendices A, B, and C.

Table 1. Sunrise Gateway Corridor Project Cost Summary

	PROJECTS				
WORK TASK	**Stage 1**	**Stage 2**	**Stage 3**	**Stage 4**	**TASK SUBTOTALS**
Construction Costs	$ 66,458,000.00	$ 11,977,000.00	$ 54,958,000.00	$ 274,062,000.00	**$407,455,000**
Right-of-Way Costs	$ 34,411,000.00	$ 465,000.00	$ 38,023,000.00	$ 18,033,000.00	**$90,932,000**
Engineering Support	$ 13,922,000.00	$ 2,456,000.00	$ 13,655,000.00	$ 55,308,000.00	**$85,341,000**
Construction Management	$ 11,298,000.00	$ 2,037,000.00	$ 9,343,000.00	$ 46,591,000.00	**$69,269,000**
2025 Project Subtotals	**126,089,000**	**16,935,000**	**115,979,000**	**393,994,000**	
2025 TOTAL COMBINED CONSTRUCTION COST					**$652,997,000**
PRICE ESCALATION					
30% Construction and Bid Item Contingency	$ 37,830,000.00	$ 5,081,000.00	$ 34,794,000.00	$ 118,198,000.00	$ 195,903,000.00
2025 Project Subtotals	**163,919,000**	**22,016,000**	**150,773,000**	**512,192,000**	
2025 TOTAL ESTIMATED PROJECT COST (LOW)					**$848,900,000**
PRICE ESCALATION					
40% Construction and Bid Item Contingency	$ 50,440,000.00	$ 6,774,000.00	$ 46,392,000.00	$ 157,598,000.00	$ 261,204,000.00
2025 Project Subtotals	**176,529,000**	**23,709,000**	**162,371,000**	**551,592,000**	
2025 TOTAL ESTIMATED PROJECT COST (HIGH)					**$914,201,000**

APPENDICES

A. Combined Cost Estimate Summary
B. Detailed Cost Breakdowns
C. Bridge and Wall Cost Details
D. Sunrise Gateway Corridor Refinement Plan Alternative (Oct. 2024)
E. Sunrise Gateway Conceptual Staging Plan

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Appendix A- Combined Cost Estimate Summary

Sunrise Gateway Corridor

Cost Estimate Summary

Clackamas County

Engineer's Conceptual Estimate

Prepared By: Caleb Cox, PE, Eza Gaigalas, Sam Godon		*Date: 03/07/2025*			
Reviewed By: Darren Hippenstiel, PE					
	PROJECTS				
WORK TASK	**Stage 1**	**Stage 2**	**Stage 3**	**Stage 4**	**TASK SUBTOTALS**
Construction Costs	$ 66,458,000.00	$ 11,977,000.00	$ 54,958,000.00	$ 274,062,000.00	**$407,455,000**
Right-of-Way Costs	$ 34,411,000.00	$ 465,000.00	$ 38,023,000.00	$ 18,033,000.00	**$90,932,000**
Engineering Support	$ 13,922,000.00	$ 2,456,000.00	$ 13,655,000.00	$ 55,308,000.00	**$85,341,000**
Construction Management	$ 11,298,000.00	$ 2,037,000.00	$ 9,343,000.00	$ 46,591,000.00	**$69,269,000**
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2025 TOTAL ESTIMATED PROJECT COST (HIGH)					**$914,201,000**

KITTELSON & ASSOCIATES

Appendix B - Detailed Cost Breakdowns

Sunrise Gateway Corridor

Stage 1 - 135th, 142nd, 152nd, Backage Road, OR 212/OR224

Clackamas County, OR

Engineer's Conceptual Estimate

Prepared By: Caleb Cox, PE, Eza Gaigalas, Sam Godon		*Date: 03/07/2025*		
Reviewed By: Darren Hippenstiel, PE				
	This Estimate has a Rating of:	**2B**	*(See rating scale guide below.)*	
ITEM	**UNIT**	**TOTAL QUANTITY**	**UNIT PRICE**	**TOTAL COST**
Mobilization	LS	ALL	$5,338,000.00	$5,338,000.00
Traffic Control	LS	ALL	$3,753,000.00	$3,753,000.00
Construction Staging	LS	ALL	$3,753,000.00	$3,753,000.00
Erosion Control	AC	23.9	$10,000.00	$239,000.00
Removal of Structures and Obstructions	LS	ALL	$1,525,000.00	$1,525,000.00
Clearing and Grubbing	LS	ALL	$1,017,000.00	$1,017,000.00
General Earthworks (Net Fill)	CY	157,000	$44.00	$6,908,000.00
Asphalt Section - Full Depth - Arterial	SF	509,696	$12.50	$6,371,195.63
Asphalt Section - Full Depth - Collector	SF	158,872	$10.70	$1,699,930.40
Subgrade Geotextile	SY	74,286	$1.50	$111,429.00
Concrete Curbs - Standard Curb & Gutter	LF	31,058	$70.30	$2,183,377.40
Raised Concrete Island	SF	4,746	$27.10	$128,616.60
Truck Apron (Concrete)	SF	4,072	$19.60	$79,811.20
Concrete Walks	SF	201,902	$14.10	$2,846,818.20
Detectable Warnings	EA	42	$500.00	$21,000.00
Extra for Pedestrian Ramps	EA	33	$1,500.00	$49,500.00
Retaining Walls, Wall No. 4	SF	3,010	$200.00	$602,000.00
Retaining Walls, Wall No. 5	SF	3,180	$200.00	$636,000.00
Retaining Walls, Wall No. 6	SF	10,820	$200.00	$2,164,000.00
Retaining Walls, Wall No. 7	SF	2,120	$200.00	$424,000.00
Retaining Walls, Wall No. 8	SF	6,090	$200.00	$1,218,000.00
Retaining Walls, Wall No. 11	SF	16,020	$200.00	$3,204,000.00
Bridge Structure No. 7 (142nd/Sunrise)	LS	ALL	$3,700,000.00	$3,700,000.00
Bridge Structure No. 8 (142nd/OR212)	LS	ALL	$2,400,000.00	$2,400,000.00
Guardrail System, Complete	LF	4,000	$80.00	$320,000.00
Storm Water Conveyance System, Complete	LS	ALL	$6,120,000.00	$6,120,000.00
Regional Water Quality and Hydromodification System, Complete	SF	95,700	$28.00	$2,679,600.00
Permanent Landscaping	SF	80,000	$4.20	$336,000.00
Pavement Markings, Complete	LS	ALL	$408,000.00	$408,000.00
Signage, Complete	LS	ALL	$816,000.00	$816,000.00
Illumination System, Complete	LS	ALL	$2,856,000.00	$2,856,000.00
Traffic Signal Modifications, Complete	LS	1	$350,000.00	$350,000.00
Traffic Signal System, Complete	EA	4	$550,000.00	$2,200,000.00
			TOTAL CONSTRUCTION COST	**$ 66,458,000**
RIGHT-OF-WAY COSTS				
Right-of-Way Acquisition; By Zone:				
--C2	SF	4,266	$45.00	$191,970.00
--FU10	SF	4,746	$20.00	$94,920.00
--IC	SF	1,675,798	$12.00	$20,109,576.00
--LI	SF	1,035,764	$12.00	$12,429,168.00
--MR1	SF	0	$30.00	$0.00
--R7	SF	0	$12.00	$0.00
--R8.5	SF	6,777	$12.00	$81,324.00
--R15	SF	357	$12.00	$4,284.00
--RC	SF	13,728	$18.00	$247,104.00

Sunrise Gateway Corridor

Stage 1 - 135th, 142nd, 152nd, Backage Road, OR 212/OR224

Clackamas County, OR

Engineer's Conceptual Estimate

Prepared By: Caleb Cox, PE, Eza Gaigalas, Sam Godon		*Date: 03/07/2025*		
Reviewed By: Darren Hippenstiel, PE				
	This Estimate has a Rating of:	**2B**	*(See rating scale guide below.)*	
ITEM	**UNIT**	**TOTAL QUANTITY**	**UNIT PRICE**	**TOTAL COST**
Permanent Easement; By Zone:				
--C2	SF	1,415	$22.50	$31,837.50
--FU10	SF	4,791	$10.00	$47,910.00
--IC	SF	0	$6.00	$0.00
--LI	SF	18,369	$6.00	$110,214.00
--MR1	SF	0	$15.00	$0.00
--R7	SF	0	$6.00	$0.00
--R8.5	SF	11,079	$6.00	$66,474.00
--R15	SF	7,280	$6.00	$43,680.00
--RC	SF	32,309	$9.00	$290,781.00
Temporary Easement; By Zone:				
--C2	SF	4,125	$11.25	$46,406.25
--FU10	SF	19,779	$5.00	$98,895.00
--LI	SF	3,855	$3.00	$11,565.00
--MR1	SF	42,374	$7.50	$317,805.00
--MURM1	SF	5,936	$7.50	$44,520.00
--R7	SF	8,284	$3.00	$24,852.00
--R8.5	SF	5,766	$3.00	$17,298.00
--R15	SF	4,313	$3.00	$12,939.00
--RC	SF	19,433	$4.50	$87,448.50
RIGHT-OF-WAY SUBTOTAL				**$ 34,411,000**
ENGINEERING SUPPORT				
Engineering	20.0%	ALL	$13,292,000.00	$13,292,000.00
Construction Management	17.0%	ALL	$11,298,000.00	$11,298,000.00
Right-of-Way Support	EA	42	$15,000.00	$630,000.00
ENGINEERING SUPPORT SUBTOTAL				**$ 25,220,000**
			TOTAL PROJECT SUBTOTAL	**$ 126,089,000**
			40% Construction and Bid Item Contingency	**$ 50,440,000**
			2025 TOTAL ESTIMATED PROJECT COST	**$ 176,529,000**

Unit Costs Note:

The associated product and material costs are based upon the most recent available cost data. Due to the current volatility of the construction market, we

Scope Accuracy:

Level 1: Project scope well understood and well defined.

Level 2: Project scope conceptual. Scope lacks detail due to potential permit requirements; Unknown project conditions; limited knowledge of external impacts.

Level 3: Project scope is a "vision" with limited detail.

Engineering Effort:

Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 60% based on risk.

Sunrise Gateway Corridor

Stage 2 - Rock Creek Junction

Clackamas County, OR

KITTELSON & ASSOCIATES

Engineer's Conceptual Estimate

Prepared By: Caleb Cox, PE, Eza Gaigalas, Sam Godon	*Date: 03/07/2025*
Reviewed By: Darren Hippenstiel, PE	
This Estimate has a Rating of:	**2B** *(See rating scale guide below.)*

ITEM	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
Mobilization	LS	ALL	$964,000.00	$964,000.00
Traffic Control	LS	ALL	$677,000.00	$677,000.00
Construction Staging	LS	ALL	$677,000.00	$677,000.00
Erosion Control	AC	2.2	$10,000.00	$22,000.00
Removal of Structures and Obstructions	LS	ALL	$276,000.00	$276,000.00
Clearing and Grubbing	LS	ALL	$184,000.00	$184,000.00
General Earthworks (Net Cut)	CY	5,894	$44.00	$259,352.84
Asphalt Section - Full Depth - Arterial	SF	62,330	$12.50	$779,125.00
Subgrade Geotextile	SY	6,926	$1.50	$10,389.00
Concrete Curbs - Standard Curb & Gutter	LF	1,560	$70.30	$109,668.00
Raised Concrete Island	SF	1,900	$27.10	$51,490.00
Concrete Walks	SF	15,625	$14.10	$220,312.50
Detectable Warnings	EA	6	$500.00	$3,000.00
Extra for Pedestrian Ramps	EA	6	$1,500.00	$9,000.00
Commercial Driveway Reconstruction	EA	3	$5,000.00	$15,000.00
Bridge Structure No. 3 (OR212/Rock Creek Junction)	LS	ALL	$6,460,000.00	$6,460,000.00
Storm Water Conveyance System, Complete	LS	ALL	$433,000.00	$433,000.00
Regional Water Quality and Hydromodification System, Complete	SF	8,400	$28.00	$235,200.00
Permanent Landscaping	SF	9,200	$4.20	$38,640.00
Pavement Markings, Complete	LS	ALL	$29,000.00	$29,000.00
Signage, Complete	LS	ALL	$22,000.00	$22,000.00
Illumination System, Complete	LS	ALL	$202,000.00	$202,000.00
Traffic Signal Modifications, Complete	LS	1	$300,000.00	$300,000.00
TOTAL CONSTRUCTION COST				**$ 11,977,000**
RIGHT-OF-WAY COSTS				
Right-of-Way Acquisition; By Zone:				
--C2	SF	3,022	$45.00	$135,990.00
--FU10	SF	2,613	$20.00	$52,260.00
--R7	SF	2,626	$12.00	$31,512.00
Temporary Easement; By Zone:				
--C2	SF	14,997	$11.25	$168,716.25
--FU10	SF	9,121	$5.00	$45,605.00
--R7	SF	10,189	$3.00	$30,567.00
RIGHT-OF-WAY SUBTOTAL				**$ 465,000**
ENGINEERING SUPPORT				
Engineering	20.0%	ALL	$2,396,000.00	$2,396,000.00
Construction Management	17.0%	ALL	$2,037,000.00	$2,037,000.00
Right-of-Way Support	EA	4	$15,000.00	$60,000.00
ENGINEERING SUPPORT SUBTOTAL				**$ 4,493,000**
TOTAL PROJECT SUBTOTAL				**$ 16,935,000**
40% Construction and Bid Item Contingency				**$ 6,774,000**
2025 TOTAL ESTIMATED PROJECT COST				**$ 23,709,000**

Sunrise Gateway Corridor
Stage 2 - Rock Creek Junction
Clackamas County, OR

Engineer's Conceptual Estimate

Prepared By: Caleb Cox, PE, Eza Gaigalas, Sam Godon		*Date: 03/07/2025*		
Reviewed By: Darren Hippenstiel, PE				
This Estimate has a Rating of:		**2B**	*(See rating scale guide below.)*	
ITEM	**UNIT**	**TOTAL QUANTITY**	**UNIT PRICE**	**TOTAL COST**

Unit Costs Note:
The associated product and material costs are based upon the most recent available cost data. Due to the current volatility of the construction market, we

Scope Accuracy:
Level 1: Project scope well understood and well defined.

Level 2: Project scope conceptual. Scope lacks detail due to potential permit requirements; Unknown project conditions; limited knowledge of external impacts.

Level 3: Project scope is a "vision" with limited detail.

Engineering Effort:
Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 60% based on risk.

Sunrise Gateway Corridor

Stage 3 - 162nd - 172nd Interim Couplet

Clackamas County, OR

Engineer's Conceptual Estimate

Prepared By: Caleb Cox, PE, Eza Gaigalas, Sam Godon		*Date: 03/07/2025*		
Reviewed By: Darren Hippenstiel, PE				
This Estimate has a Rating of:		**2B**	*(See rating scale guide below.)*	
ITEM	**UNIT**	**TOTAL QUANTITY**	**UNIT PRICE**	**TOTAL COST**
Mobilization	LS	ALL	$4,414,000.00	$4,414,000.00
Traffic Control	LS	ALL	$3,104,000.00	$3,104,000.00
Construction Staging	LS	ALL	$3,104,000.00	$3,104,000.00
Erosion Control	AC	19.7	$10,000.00	$197,000.00
Removal of Structures and Obstructions	LS	ALL	$1,238,000.00	$1,238,000.00
Clearing and Grubbing	LS	ALL	$1,651,000.00	$1,651,000.00
General Earthworks (Net Cut)	CY	346,000	$44.00	$15,224,000.00
Asphalt Section - Full Depth - Arterial	SF	334,500	$12.50	$4,181,250.00
Asphalt Section - Full Depth - Collector	SF	206,000	$10.70	$2,204,200.00
Subgrade Geotextile	SY	60,056	$1.50	$90,084.00
Concrete Curbs - Standard Curb & Gutter	LF	6,070	$70.30	$426,721.00
Raised Concrete Island	SF	14,738	$27.10	$399,399.80
Concrete Walks	SF	132,100	$14.10	$1,862,610.00
Detectable Warnings	EA	32	$500.00	$16,000.00
Extra for Pedestrian Ramps	EA	32	$1,500.00	$48,000.00
Commercial Driveway Reconstruction	EA	2	$3,000.00	$6,000.00
Retaining Walls, Wall No. 3	SF	4,140	$200.00	$828,000.00
Retaining Walls, Wall No. 9	SF	3,920	$200.00	$784,000.00
Guardrail System, Complete	LF	11,000	$80.00	$880,000.00
Storm Water Conveyance System, Complete	LS	ALL	$7,336,000.00	$7,336,000.00
Regional Water Quality and Hydromodification System, Complete	SF	70,300	$28.00	$1,968,400.00
Permanent Landscaping	SF	155,500	$4.20	$653,100.00
Pavement Markings, Complete	LS	ALL	$490,000.00	$490,000.00
Signage, Complete	LS	ALL	$367,000.00	$367,000.00
Illumination System, Complete	LS	ALL	$3,423,400.00	$3,423,400.00
Traffic Signal System, Complete	EA	4	$550.00	$2,200.00
Fiber Optic Interconnect System Complete	LS	ALL	$60,000.00	$60,000.00
			TOTAL CONSTRUCTION COST	**$ 54,958,000**
RIGHT-OF-WAY COSTS				
Right-of-Way Acquisition; By Zone:				
--C2	SF	7,312	$45.00	$329,040.00
--IC	SF	614,511	$12.00	$7,374,132.00
--IPU	SF	50,374	$10.00	$503,740.00
--R10	SF	0	$12.00	$0.00
--RA2	SF	0	$8.00	$0.00
--RC	SF	1,361,919	$18.00	$24,514,542.00
--RRFF5	SF	434,745	$8.00	$3,477,960.00
Permanent Easement; By Zone:				
--C2	SF	1,980	$22.50	$44,550.00
--IC	SF	15,105	$6.00	$90,630.00
--IPU	SF	0	$5.00	$0.00
--R10	SF	0	$6.00	$0.00
--RA2	SF	0	$4.00	$0.00
--RC	SF	0	$9.00	$0.00
--RRFF5	SF	1,980	$4.00	$7,920.00

Sunrise Gateway Corridor
Stage 3 - 162nd - 172nd Interim Couplet
Clackamas County, OR

KITTELSON & ASSOCIATES

Engineer's Conceptual Estimate

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This Estimate has a Rating of:		**2B**	*(See rating scale guide below.)*	
ITEM	**UNIT**	**TOTAL QUANTITY**	**UNIT PRICE**	**TOTAL COST**
Temporary Easement; By Zone:				
--C2	SF	12,885	$11.25	$144,956.25
--IC	SF	124,436	$3.00	$373,308.00
--IPU	SF	35,106	$2.50	$87,765.00
--R10	SF	41,577	$3.00	$124,731.00
--RA2	SF	7,992	$2.00	$15,984.00
--RC	SF	182,378	$4.50	$820,701.00
--RRFF5	SF	56,478	$2.00	$112,956.00
RIGHT-OF-WAY SUBTOTAL				**$ 38,023,000**
ENGINEERING SUPPORT				
Engineering	24.0%	ALL	$13,190,000.00	$13,190,000.00
Construction Management	17.0%	ALL	$9,343,000.00	$9,343,000.00
Right-of-Way Support	EA	31	$15,000.00	$465,000.00
ENGINEERING SUPPORT SUBTOTAL				**$ 22,998,000**
TOTAL PROJECT SUBTOTAL				**$ 115,979,000**
40% Construction and Bid Item Contingency				**$ 46,392,000**
2025 TOTAL ESTIMATED PROJECT COST				**$ 162,371,000**

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Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 60% based on risk.

Sunrise Gateway Corridor

Stage 4 - Sunrise 122nd-172nd, 135th Ped Bridge

Clackamas County, OR

Engineer's Conceptual Estimate

Prepared By: Caleb Cox, PE, Eza Gaigalas, Sam Godon		*Date: 03/07/2025*		
Reviewed By: Darren Hippenstiel, PE				
This Estimate has a Rating of:		**2B**	*(See rating scale guide below.)*	
ITEM	**UNIT**	**TOTAL QUANTITY**	**UNIT PRICE**	**TOTAL COST**
Mobilization	LS	ALL	$22,053,000.00	$22,053,000.00
Traffic Control	LS	ALL	$15,475,000.00	$15,475,000.00
Construction Staging	LS	ALL	$15,475,000.00	$15,475,000.00
Erosion Control	AC	53.7	$10,000.00	$537,000.00
Removal of Structures and Obstructions	LS	ALL	$6,301,000.00	$6,301,000.00
Clearing and Grubbing	LS	ALL	$4,201,000.00	$4,201,000.00
General Earthworks (Net Fill)	CY	559,000	$44.00	$24,596,000.00
Asphalt Section - Full Depth - Highway	SF	1,364,000	$15.90	$21,687,600.00
Asphalt Section - Full Depth - Arterial	SF	235,000	$12.50	$2,937,500.00
Subgrade Geotextile	SY	177,667	$1.50	$266,500.50
Concrete Curbs - Standard Curb & Gutter	LF	32,730	$70.30	$2,300,919.00
Raised Concrete Island	SF	19,430	$27.10	$526,553.00
Concrete Walks	SF	202,246	$14.10	$2,851,668.60
Detectable Warnings	EA	20	$500.00	$10,000.00
Extra for Pedestrian Ramps	EA	20	$1,500.00	$30,000.00
Concrete Barrier	LF	17,149	$115.00	$1,972,135.00
Retaining Walls, Wall No. 1	SF	4,620	$200.00	$924,000.00
Retaining Walls, Wall No. 2	SF	41,310	$200.00	$8,262,000.00
Retaining Walls, Wall No. 10	SF	12,710	$200.00	$2,542,000.00
Retaining Walls, Wall No. 12	SF	4,560	$200.00	$912,000.00
Sound Walls	SF	55,200	$45.00	$2,484,000.00
Bridge Structure No. 1 (122nd)	LS	ALL	$5,800,000.00	$5,800,000.00
Bridge Structure No. 2 (152nd)	LS	ALL	$50,700,000.00	$50,700,000.00
Bridge Structure No. 4 (162nd)	LS	ALL	$3,400,000.00	$3,400,000.00
Bridge Structure No. 5 (172nd)	LS	ALL	$38,900,000.00	$38,900,000.00
Bridge Structure No. 6 (135th Ped Bridge)	LS	ALL	$1,258,000.00	$1,258,000.00
Guardrail System, Complete	LF	17,149	$80.00	$1,371,920.00
Storm Water Conveyance System, Complete	LS	ALL	$16,563,000.00	$16,563,000.00
Regional Water Quality and Hydromodification System, Complete	SF	190,300	$28.00	$5,328,400.00
Permanent Landscaping	SF	434,000	$4.20	$1,822,800.00
Pavement Markings, Complete	LS	ALL	$1,105,000.00	$1,105,000.00
Signage, Complete	LS	ALL	$2,209,000.00	$2,209,000.00
Illumination System, Complete	LS	ALL	$7,729,000.00	$7,729,000.00
Traffic Signal Modifications, Complete	EA	3	$300,000.00	$900,000.00
Traffic Signal System, Complete	EA	1	$550,000.00	$550,000.00
Fiber Optic Interconnect System Complete	LS	ALL	$80,000.00	$80,000.00
TOTAL CONSTRUCTION COST			**$**	**274,062,000**

Sunrise Gateway Corridor

Stage 4 - Sunrise 122nd-172nd, 135th Ped Bridge

Clackamas County, OR

Engineer's Conceptual Estimate

Prepared By: Caleb Cox, PE, Eza Gaigalas, Sam Godon		*Date: 03/07/2025*		
Reviewed By: Darren Hippenstiel, PE				
This Estimate has a Rating of:		**2B**	*(See rating scale guide below.)*	
ITEM	**UNIT**	**TOTAL QUANTITY**	**UNIT PRICE**	**TOTAL COST**
RIGHT-OF-WAY COSTS				
Right-of-Way Acquisition; By Zone:				
--IC	SF	283,603	$12.00	$3,403,236.00
--LI	SF	791,508	$12.00	$9,498,096.00
--MR1	SF	9,631	$30.00	$288,930.00
--R8.5	SF	102,375	$12.00	$1,228,500.00
--RC	SF	127,007	$18.00	$2,286,126.00
Permanent Easement; By Zone:				
--IC	SF	0	$6.00	$0.00
--LI	SF	994	$6.00	$5,964.00
--MR1	SF	1,315	$15.00	$19,725.00
--R8.5	SF	2,106	$6.00	$12,636.00
--RC	SF	65,679	$9.00	$591,111.00
Temporary Easement; By Zone:				
--IC	SF	1,332	$3.00	$3,996.00
--LI	SF	76,335	$3.00	$229,005.00
--MR1	SF	30,674	$7.50	$230,055.00
--R8.5	SF	14,649	$3.00	$43,947.00
--RC	SF	42,594	$4.50	$191,673.00
RIGHT-OF-WAY SUBTOTAL				**$ 18,033,000**
ENGINEERING SUPPORT				
Engineering	20.0%	ALL	$54,813,000.00	$54,813,000.00
Construction Management	17.0%	ALL	$46,591,000.00	$46,591,000.00
Right-of-Way Support	EA	33	$15,000.00	$495,000.00
ENGINEERING SUPPORT SUBTOTAL				**$ 101,899,000**
TOTAL PROJECT SUBTOTAL				**$ 393,994,000**
40% Construction and Bid Item Contingency				**$ 157,598,000**
2025 TOTAL ESTIMATED PROJECT COST				**$ 551,592,000**

Unit Costs Note:

The associated product and material costs are based upon the most recent available cost data. Due to the current volatility of the construction market, we cannot guarantee these costs for any duration of time.

Scope Accuracy:

Level 1: Project scope well understood and well defined.

Level 2: Project scope conceptual. Scope lacks detail due to potential permit requirements; Unknown project conditions; limited knowledge of external impacts.

Level 3: Project scope is a "vision" with limited detail.

Engineering Effort:

Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 60% based on risk.

KITTELSON & ASSOCIATES

Appendix C - Bridge and Wall Cost Details

NOTE: The bridge lengths assumed in this 10/21/2024 bridge cost summary do not match all of the bridge lengths assumed for the revised sunrise gateway concept included in Appendix D. While the total cost has changed, the unit cost assumptions remain the same and the estimates in the "Sunrise Gateway Corridor - Cost Estimates" memo dated January 21, 2025 were updated accordingly.

Sunrise Parkway Concept

M. Moncada

10/21/2024

Rev. 11/7/2024

Summary of Bridge Costs - Using shorter bridge lengths (all except Bridges 4, 6 & 7)

Bridge	Bridge Length (FT)	Superstructure Depth (FT)	Bridge Cost (M$)	Wall/Fill Costs (M$) for comparison - see notes	Approx. Cost (M$)
1	100	4.5	3.6	1.0	4.6
2	880	11.1	50.7	1.9	52.6
3	200	9	6.5	0.6	7.1
4	115	4.5	3.4	0.8	4.2
5	800	11.4	38.9		38.9
6	125	7	0.9	1.8	2.7
7	159	7.9	3.7		3.7
8	136	6.9	2.4		2.4
Total					**116.2**

Summary of Bridge Costs - Using original bridge lengths and comparison

Bridge	Bridge Length (FT)	Superstructure Depth (FT)	Bridge Cost (M$)	Difference in Cost from shorter bridges, more fill/walls (M$)	Difference in Cost from shorter bridges, more fill/walls (%)
1	200	8	10.8	6.2	57%
2	1100	11.1	63.4	10.8	17%
3	287	12.6	12.4	5.3	43%
4	201	9	8.9	4.7	53%
5	800	11.4	38.9	0	0%
6	767	8	5.2	2.5	48%
7	159	7.9	3.7	0	0%
8	136	6.9	2.4	0	0%
Total			**145.7**	**29.5**	**20%**

Notes and assumptions:

- These costs do not include contingencies, mobilization, utilities, inflation to any year beyond 2024.
- Costs do not include temporary works bridges or structures.
- Wall and fill costs have not been added beyond the limits of the original structure length in Kittelson's concepts in the 2024-10-15_Sunrise Bridge Profiles.pdf. Wall and fill costs are included within those original bridge lengths as a comparison against the original structure length
- Typical assumptions were for spans less than 160' to be prestressed beam bridges and greater than this to be steel girder bridges.
- Assumed MSE walls for all walls
- Costs are approximated using 2023 and 2024 ODOT bid prices, as well as inflating 2019 cases 11% year on year (reference: National Highway Construction Cost Index Narrative Article 2024 Quarter 1). Construction costs are highly variable and these costs are just for high-level early planning purposes. Used the following unit costs:
  - $340/SF of bridge deck area for prestressed beam bridges
  - $510/SF of bridge deck area for steel girder bridges
  - $170/SF of wall area for MSE walls
  - $120/CUYD for fill costs

Bridge #1	Sunrise over SE 122nd			
	Road width below		84	FT
Rev. 11/7/2024	Set back to abutment 1		5	FT
	Set back to abutment 2		5	FT
	Abutment width 1		4	FT
	Abutment width 2		4	FT
	Ctr to Ctr span (MIN)		98	FT
	Use Span (Round up nearest 5' mark)		100	FT
	Bridge Width		106	FT
	Bridge Deck Area		10,600	SF
	Superstructure Type	48" Precast Concrete Box Beams		
	Deck area unit cost (2024)	$	340.00	
	Cost	$	3,604,000	
	Costs of Fill & Walls where previously assumed structure:			
	Previous Bridge length		200	FT
	Balance of length to be fill & walls each end of bridge		50	FT
	Assumed wall height (average)		15	FT
	Wall area		750	SF
	# of walls		4	
	MSE Wall Area cost		170	$/SF
	Wall cost	$	510,000	
	Fill cost between walls:			
	Assumed width of each wall		15	FT
	Fill width between walls		76	FT
	Fill depth between walls		15	FT
	Fill volume between walls (includes both ends of the bridge)		4222	CY
	Fill unit cost	$	120.00	$/CY
	Fill cost	$	506,667	
	Total Cost within the 200' length	**$**	**4,620,667**	**<---go with this**
	VS			
	Total Length		200	FT
	Superstructure Type	Steel plate girders composite with deck		
	Girder Depth		8	FT
	Deck slab depth + 3" variation		1.00	FT
	Superstructure Depth		9.00	FT
	Bridge Width		106	FT
	Bridge Deck Area		21,200	SF
	Deck area unit cost	$	510.00	
	Cost	$	10,812,000.00	

Bridge #2	152nd (over Creek)			
	Middle spans (2)		250	FT
	End spans (2)		190	FT
	Total Length		880	FT
	Span/Depth Ratio		25	AASHTO 2.5.2.6.3
	Superstructure Type	Curved steel plate girders composite with deck		
	Girder Depth		10	FT
	Deck slab depth + 3" variation		1.08	FT
	Superstructure Depth		11.08	FT
	Bridge Width		113	FT
	Bridge Deck Area		99,440	SF
	Deck area unit cost	$	510.00	
	Cost	$	50,714,400.00	
	Costs of Fill & Walls where previously assumed structure:			
	Previous Bridge length		1100	FT
	MSE Walls	Area		
	1S		560	SF
	1N		560	SF
	2S		1,600	SF
	2N		1,600	SF
	Total Area		4,320	SF
	Wall area unit cost	$	170.00	
	Wall cost	$	734,400.00	
	Fill cost between walls:			
	Assumed width of each wall (average)		15	FT
	Fill width between walls		83	FT
	Fill depth between walls		15	FT
	Fill volume between walls (includes both ends of the bridge)		10,144	CY
	Fill unit cost	$	120.00	$/CY
	Fill cost	$	1,217,333	
	Total Cost within the 1,100' length	**$**	**52,666,133**	**<---go with this**
	VS			
	Total Length		1100	FT
	Superstructure Type	Curved steel plate girders composite with deck		
	Girder Depth		10	FT
	Deck slab depth + 3" variation		1.08	FT
	Superstructure Depth		11.08	FT
	Bridge Width		113	FT
	Bridge Deck Area		124,300	SF
	Deck area unit cost	$	510.00	
	Cost	$	63,393,000.00	

Bridge #3	OR 212 Rock Creek Junction			
	New bridge to match existing bridge			
	length (ctr-ctr abutment)		200	
	Bridge Width		95	FT
	Span/Depth Ratio		25	AASHTO 2.5.2.6.3
	Superstructure Type	Steel plate girders composite with deck		
	Girder Depth		8	FT
	Deck slab depth + 3" variation		1.08	FT
	Superstructure Depth		9.08	FT
	Bridge Deck Area		19,000	SF
	Deck area unit cost	$	340.00	
	Cost	$	6,460,000.00	
	Costs of Fill & Walls where previously assumed structure:			
	Previous Bridge length		287	FT
	Balance of length to be fill & walls each end of bridge		43.5	FT
	Assumed wall height (average)		10	FT
	Wall area		435	SF
	# of walls		4	
	MSE Wall Area cost		170	$/SF
	Wall cost	$	295,800	
	Fill cost between walls:			
	Assumed width of each wall		10	FT
	Fill width between walls		75	FT
	Fill depth between walls		10	FT
	Fill volume between walls (includes both ends of the bridge)		2417	CY
	Fill unit cost	$	120.00	$/CY
	Fill cost	$	290,000	
	Total Cost within the 287' length	**$**	**7,045,800**	**<---go with this**
	VS			
	Total Length		287	FT (scaled)
	Superstructure Type	Steel plate girders composite with deck		
	Girder Depth		11.41666667	FT
	Deck slab depth + 3" variation		1.17	FT
	Superstructure Depth		12.58	FT
	Bridge Width		95	FT
	Bridge Deck Area		27,265	SF
	Deck area unit cost	$	510.00	
	Cost	$	13,905,150.00	

Bridge #4 Sunrise over SE 162nd

Road width below		98	FT
Set back to abutment 1		5	FT
Set back to abutment 2		5	FT
Abutment width 1		4	FT
Abutment width 2		4	FT
Ctr to Ctr span (MIN)		112	FT
Use Span (Round up nearest 5' mark)		115	FT
Bridge Width		87	FT
Bridge Deck Area		10,005	SF
Superstructure Type	48" Precast Concrete Box Beams		
Deck area unit cost	$	340.00	
Cost	$	3,401,700.00	
Costs of Fill & Walls where previously assumed structure:			
Previous Bridge length		200.85	FT
Balance of length to be fill & walls each end of bridge		44.425	FT
Assumed wall height (average)		15	FT
Wall area		666.375	SF
# of walls		4	
MSE Wall Area cost		170	$/SF
Wall cost	$	453,135	
Fill cost between walls:			
Assumed width of each wall		15	FT
Fill width between walls		57	FT
Fill depth between walls		15	FT
Fill volume between walls (includes both ends of the bridge)		2814	CY
Fill unit cost	$	120.00	$/CY
Fill cost	$	337,630	
Total Cost within the 200.85' length	**$**	**4,192,465**	**<---go with this**
VS			
Total Length		200.85	FT
Superstructure Type	Steel plate girders composite with deck		
Girder Depth		8	FT
Deck slab depth + 3" variation		1.00	FT
Superstructure Depth		9.00	FT
Bridge Width		87	FT
Bridge Deck Area		17,474	SF
Deck area unit cost	$	510.00	
Cost	$	8,911,714.50	

Bridge #5 Sunrise over SE 172nd and Ravine

Span 1		100	FT
Span 2		300	FT
Span 3		300	FT
Span 4		100	FT
Total length		800	FT
Max Girder Depth (300' span)		11.41666667	FT
Deck slab depth + 3" variation		1.17	FT
Max. Superstructure Depth		12.58	FT
Bridge Width - segment 1		87	FT
Bridge Length - segment 1		460	FT
Bridge Width - segment 2		106.5	FT
Bridge Length - segment 2		340	FT
Bridge Deck Area		76,230	SF
Superstructure Type	Steel plate girders composite w/ deck		
Deck area unit cost	$	510.00	
Cost	**$**	**38,877,300.00**	**<---go with this**

Note: The location that this bridge has been placed, through deepest part of ravine, requires the long structure. Suggest exploring alternate alignments to reduce the structure need.

Bridge #6 135th Pedestrian Bridge

Road width below		111	FT
Set back to abutment 1		5	FT
Set back to abutment 2		5	FT
Abutment width 1		4	FT
Abutment width 2		4	FT
Ctr to Ctr span (MIN)		125	FT
Use Span (Round up nearest 5' mark)		130	FT
Bridge Width		20	FT
Bridge Deck Area		2,600	SF
Superstructure Type	Precast Concrete Girder, BT72		
Deck area unit cost	$	340.00	
Cost	$	884,000.00	

Costs of Fill & Walls where previously assumed structure:

Walls at north side of bridge		200	FT
Assumed wall height (average)		10	FT
Wall area		2000	SF
# of walls		2	
MSE Wall Area cost		170	$/SF
Wall cost	$	680,000	

No fill needed between walls at north side

Walls at south side of bridge		200	FT
Assumed wall height (average)		10	FT
Wall area		2000	SF
# of walls		2	
MSE Wall Area cost		170	$/SF
Wall cost	$	680,000	

Fill cost between walls at south side:			
Assumed width of each wall		10	FT
Fill width between walls		20	FT
Fill depth between walls		10	FT
Fill volume between walls (includes both ends of the bridge)		2963	CY
Fill unit cost	$	120.00	$/CY
Fill cost	$	355,556	
Total Cost within the 767' length	**$**	**2,599,556**	**<---go with this**

VS

Total Length		767	FT
Superstructure Type	Prestressed girders - max span across the highway using BT72s		
Bridge Width		20	FT
Bridge Deck Area		15,340	SF
Deck area unit cost	$	340.00	
Cost	$	5,215,600.00	

Bridge #7 SE 142nd over Sunrise

Road width below		110	FT
Set back to abutment 1		5	FT
Set back to abutment 2		5	FT
Abutment width 1		4	FT
Abutment width 2		4	FT
Ctr to Ctr span (MIN)		124	FT
Use Span (Round up nearest 5' mark)		130	FT
Bridge Width		69	FT
Bridge Deck Area		8,970	SF
Superstructure Type	Precast Concrete Girder, BT72		
Deck area unit cost	$	340.00	
Cost	$	3,049,800.00	

Costs of Fill & Walls where previously assumed structure:

Previous Bridge length		158.8	FT
Balance of length to be fill & walls each end of bridge		14.4	FT
Assumed wall height (average)		22	FT
Wall area		316.8	SF
# of walls		4	
MSE Wall Area cost		170	$/SF
Wall cost	$	215,424	
Fill cost between walls:			
Assumed width of each wall		22	FT
Fill width between walls		25	FT
Fill depth between walls		22	FT
Fill volume between walls (includes both ends of the bridge)		587	CY
Fill unit cost	$	120.00	$/CY
Fill cost	$	70,400	
Total Cost within the 158.8' length	$	3,335,624	

VS

Total Length		158.8	FT
Superstructure Type	Prestressed girders (BT84) or steel girders		
Girder Depth		7	FT
Deck slab depth + 3" variation		0.92	FT
Superstructure Depth		7.92	FT
Bridge Width		69	FT
Bridge Deck Area		10,957	SF
Deck area unit cost	$	340.00	
Cost	**$**	**3,725,448.00**	**<---go with this**

Bridge #8 SE 142nd over OR212

Road width below		96	FT
Set back to abutment 1		5	FT
Set back to abutment 2		5	FT
Abutment width 1		4	FT
Abutment width 2		4	FT
Ctr to Ctr span (MIN)		110	FT
Use Span (Round up nearest 5' mark)		115	FT
Bridge Width		52	FT
Bridge Deck Area		5,980	SF
Superstructure Type	48" Precast Concrete Box Beams		
Deck area unit cost	$	340.00	
Cost	$	2,033,200.00	

Costs of Fill & Walls where previously assumed structure:

Previous Bridge length		136.14	FT
Balance of length to be fill & walls each end of bridge		10.57	FT
Assumed wall height (average)		25	FT
Wall area		264.25	SF
# of walls		4	
MSE Wall Area cost		170	$/SF
Wall cost	$	179,690	
Fill cost between walls:			
Assumed width of each wall		25	FT
Fill width between walls		2	FT
Fill depth between walls		25	FT
Fill volume between walls (includes both ends of the bridge)		39	CY
Fill unit cost	$	120.00	$/CY
Fill cost	$	4,698	
Total Cost within the 158.8' length	$	2,217,588	

VS

Total Length		136.14	FT
Superstructure Type	Prestressed girders (BT72)		
Girder Depth		6	FT
Deck slab depth + 3" variation		0.92	FT
Superstructure Depth		6.92	FT
Bridge Width		52	FT
Bridge Deck Area		7,079	SF
Deck area unit cost	$	340.00	
Cost	**$**	**2,406,955.20**	**<---go with this**

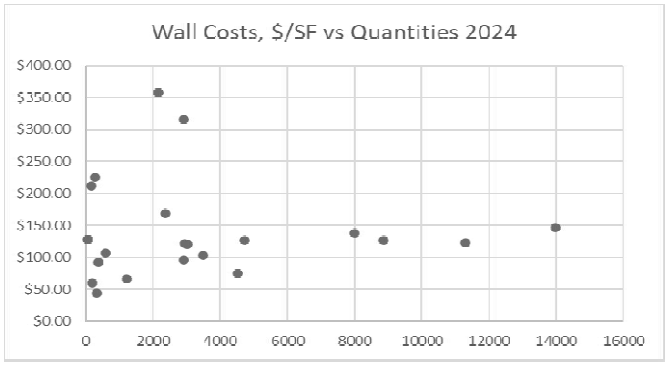
NOTE: The wall quantities assumed in this 10/21/2024 wall cost summary do not match all of the wall quantities assumed for the revised sunrise gateway concept included in Appendix D. While the total cost has changed, the unit cost assumptions remain the same and the estimates in the "Sunrise Gateway Corridor - Cost Estimates" memo dated January 21, 2025 were updated accordingly.

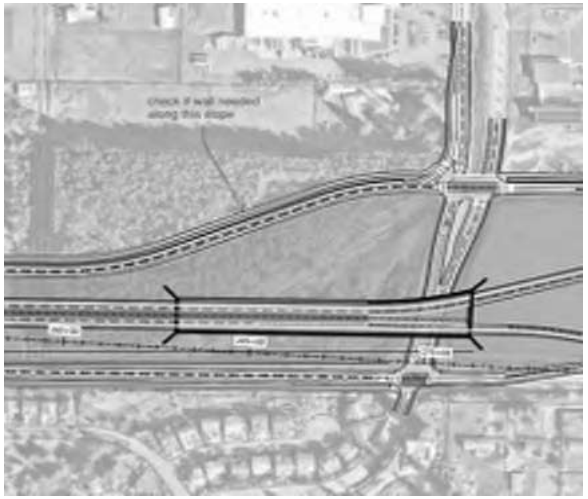
Sunrise Parkway Concept - Walls Review
M. Moncada
10/21/2024

Approximate wall areas and costs as graphed. Does not include missing sections. See notes.

Wall #	Area (SF)		Cost	Notes
1	4,600.00	$	920,000.00	More wall needed beyond end of wall 1
2	40,200.00	$	8,040,000.00	More wall needed before beginning and after the end of wall 2. After end of wall 2, would become a minor wall (<4') quickly
3	4,400.00	$	880,000.00	Wall needs to start earlier. As shown, it is 15' tall to start...
4	3,570.00	$	714,000.00	Minor wall will be needed before start of this wall
5	3,400.00	$	680,000.00	
6	7,520.00	$	1,504,000.00	
7	?			The wall extents shown don't seem to be where the wall is needed. Wall appears to be needed starting around 2+50
8	6,800.00	$	1,360,000.00	
9	4,050.00	$	810,000.00	Minor wall will be needed after end of this wall
10		$	-	Verify a wall isn't needed at the forested area slope near SE 172nd (see graphic below)
Total	**74,540.00**	**$**	**15,000,000.00**	

Approx. Wall Unit Cost	200.00	$/SF





Notes and assumptions:
- These costs do not include contingencies, mobilization, utilities, inflation to any year beyond 2024.
- Other walls in bridge zones not included.
- Costs are approximated using 2023 and 2024 ODOT bid prices. Construction costs are highly variable and these costs are just for high-level early planning purposes. Used the following unit costs:

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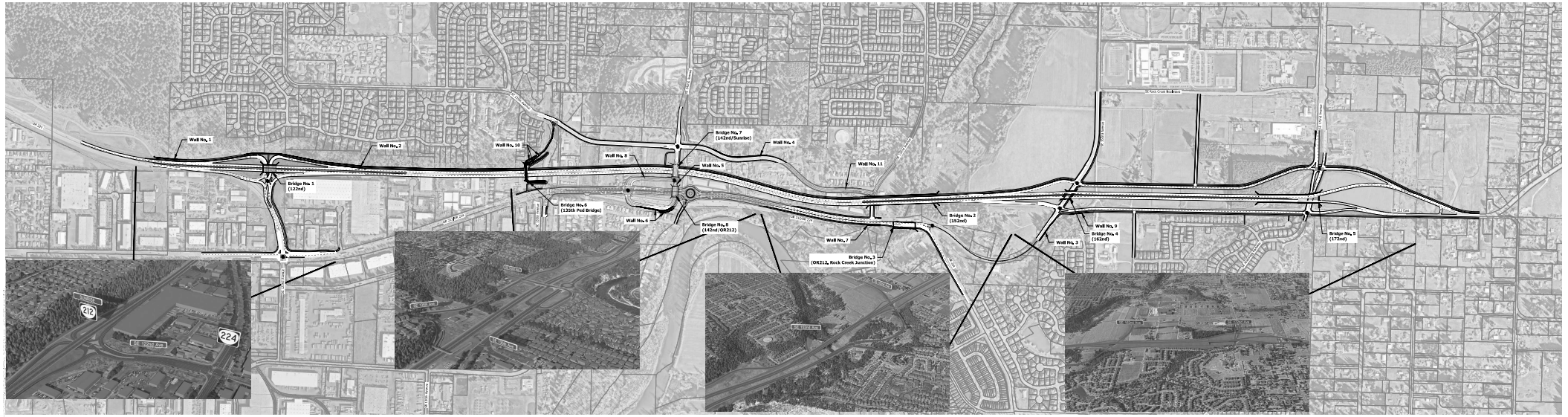
Appendix D - Sunrise Gateway Corridor Refinement Plan Alternative (Oct. 2024)



The Sunrise Gateway Concept is an ODOT project that is being developed in partnership with Metro, Clackamas County and the City of Happy Valley. Clackamas County is leading public engagement on the broader vision, known as the Sunrise Visioning Project, to ensure it meets the needs of those who live, work, recreate, and travel through the Sunrise Corridor.

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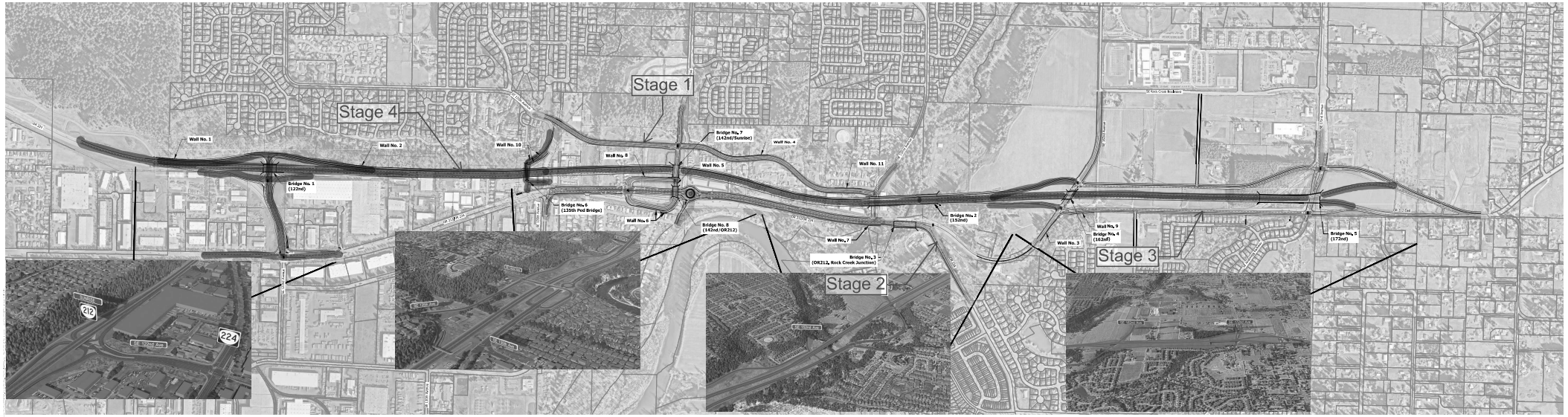
Appendix E Sunrise Gateway Conceptual Staging Plan

Sunrise Parkway Concept - 162nd/172nd Couplet

Preliminary Design Subject to Change
Date: October 2018



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Sunrise Parkway
Clackamas County, OR