Project Estimate Report: Development Phase

for

Stark/Washington Couplet Enhanced Crossing Signal &

Illumination Improvements

June 2019

Requested by:	David Backes, Portland Bureau of Transportation (PBOT)
Prepared by:	Kaitlyn Dorr, David Evans and Associates, Inc. (DEA)

Location: SE Washington St at SE 100th Ave and SE 105th Ave SE Stark St from SE 100th Ave and SE 105th Ave

Description:

- 1. Construct pedestrian refuge islands at SE 100th Ave and SE 105th Ave on SE Washington St and SE Stark St between bike lane and travel lanes.
- 2. Rebuild curb ramps at SE 100th Ave and SE 105th Ave on SE Washington St and SE Stark St.
- 3. Construct enhanced pedestrian crossings at SE 100th Ave and SE 105th Ave on SE Washington St and SE Stark St.
- 4. Stripe pedestrian crossing locations and bike crossing locations at SE 100th Ave and SE 105th Ave on SE Washington St and SE Stark St.
- 5. Install Pedestrian Hybrid Beacons (PHB) with supplemental lighting and interconnect at SE 100th Ave and SE 105th Ave at SE Washington St and SE Stark St.

Current Cross-Section:

SE Washington St at SE 100th Ave – 48' wide pavement in 62' of ROW

SE Stark St at SE 100th Ave – 66' wide pavement in varying ROW width from 75' to 80'

Proposed Cross-Section:

SE Washington St from SE 96th Ave to SE 106th Ave – no change to current cross-section; assume corridor improvements outlined in "Stark/Washington Couplet Corridor Improvements" estimate report have been previously constructed. These improvements include, lane widths narrowing to 10' and one thru lane is dropped to accommodate 6' protected bike lane, designated on-street parking and designated right turn only lanes and bus only lanes.

SE Stark St from SE 96th Ave to SE 106th Ave – no change to current cross-section; assume corridor improvements outlined in "Stark/Washington Couplet Corridor Improvements" estimate report have been previously constructed. These improvements include, one thru lane dropped to accommodate 6' protected bike lane, designated turn lanes and designated on-street parking and bus only lanes.

Issues:

- *Water* None identified
- BES (storm, sanitary, water-quality facilities) Existing inlets are impacted by curb ramp replacement work and pedestrian refuge islands at the following locations along the corridor: SE Washington & SE 100th, SE Washington & SE 105th and SE Stark & SE 105th.
- Signals and Street Lighting None identified
- Environmental and Zoning None identified
- Contaminated Media None identified
- Right-of-Way Needs For approximately 320' along three parcels of SE Stark between SE 99th and SE 102nd the north 1-3' of sidewalk is on private property. Additional needs are required to install an enhanced pedestrian crossing at SE Stark & SE 100th. Temporary construction easements (TCE) are required at curb ramp replacements and driveways. Proposed curb and parking lot re-striping at SE Stark & SE 100th requires a TCE. See site map attachment for TCE locations.
- Railroads (BNSF; UPRR; PTTR) None identified
- Parks (landscaping and irrigation) None identified
- Other Jurisdictions (counties, schools, Port, ODOT, TriMet) None identified.

Cost Estimate:

• Enhanced Crossing Signal/Illumination Cost Estimate:

Total Construction	\$ 1,740,000
Project Management (5%)	\$ 76,000
Design Engineering (25%)	\$ 378,000
Construction Management (15%)	\$ 227,000
Right-of-Way (Cost + 30% Contingency)	\$ 339,000
Overhead (80.85%)	\$ 550,000
Total Project Contingency	\$ 1,262,000

Total Project Estimate: \$4,572,000

Estimating Assumptions:

- The "Enhanced Crossing Signal/Illumination Cost Estimate" includes the enhanced pedestrian crossing improvements, including signal/illumination costs, at SE Stark & SE 100th, SE Stark & SE 105th, SE Washington & SE 100th and SE Washington & SE 105th.
- Existing conditions are based on GIS and Google Street view. A site visit to observe existing conditions was completed on Tuesday, May 21st, 2019.
- PCDP Cost Estimate Template (Project >\$1M) is used for the "Enhanced Crossing Signal/Illumination Cost Estimate".

- SE Stark St and SE Washington St are busy streets as defined by PBOT standard drawing P-506. Where concrete islands and curb ramps are to be installed, assumed a sawcut line 5' from face of curb to center of travel lane. An average lane width of 10' is assumed. Assumed full depth pavement removal from face of curb to sawcut line. The assumed pavement section to be replaced is 9" asphalt over 8" aggregate base as defined by PBOT standard drawing P-518. Where "floating" concrete islands are proposed, assumed 6" of concrete surfacing will be installed in the bike lane. Assumed the asphalt pavement section will be installed from the face of curb on the "floating" concrete island to the sawcut line.
- Existing inlets will be adjusted to match the required grade where there is proposed curb ramp and island work at the following locations: SE Washington & SE 100th, SE Washington & SE 105th and SE Stark & SE 105th (SE corner).
- Existing inlets will be removed and new inlets will be installed with new sedimentation/sump systems where curb ramp work impacts drainage facilities at SE Stark & SE 105th.
- 20' of 12" pipe will be installed with the installation of an inlet and sedimentation/sump system.
- The proposed improvements on SE 100th and SE 105th on SE Stark and SE Washington do not trigger BES stormwater treatment. Therefore, costs associated with stormwater treatment work are not included in this estimate report.
- Signal/illumination costs were provided by PBOT.
- Cost of "Pavement Legend, Type B-HS: Green Bicycle Lane Markings" is 10% more than unit price of "Pavement Legend, Type B" due to green color.
- "Temporary Work Zone Traffic Control, Complete" is to be estimated as a complete 10% lump sum percentage. The lump sum percentage assumes that temporary traffic control devices, flaggers and a Traffic Control Supervisor are included.
- Temporary construction easements (TCE) for curb ramps are 2' from the back of walk. The ratio of area taken by a TCE, compared to the entire area of a parcel, is compared to the property market value to estimate the cost of each TCE. Locations of TCEs are noted on attached strip map.
- ROW acquisition costs along SE Stark between SE 99th and SE 102nd for the 1-3' of sidewalk on private property are not included in this estimate report. It is assumed that the civil improvements for the proposed pedestrian crossing at SE Stark & SE 100th and future PBOT sidewalk maintenance purposes would require a dedication from the property owner. For the curb and striping work shown in the parking lot at 10015 SE Stark St, Portland, OR 97216, a TCE is assumed around a 2' offset from the work footprint.
- The east leg of the proposed pedestrian crossing at SE Stark & SE 100th closes one of the driveways providing access to the retail store at 10015 SE Stark St, Portland, OR 97216 (property ID R319508), owned by Hall Family LLC. The driveway closure needs to be further evaluated.
- The years of inflation for this project is 5 years.
- The estimate contingency is 5% on construction bid items and 20% for allowance of design refinement, which is based on total construction, project engineering & management and inflation contingencies.
- The level of confidence for this estimate is low.

Review & Approval:

	kim Roske	June 20, 2019
eby	Re	Date
·	Re Sten Torm Engineering Services Division Manager	June 20, 2019
	Re Engineering Services Division Manager	Date

Attachments:

- Signal/illumination modifications outline (provided by PBOT)
- Detailed estimate spreadsheet
- Site map

		Stark	tark (WB)						Washing	(ton (EB)	_			
	94th	96th						94th	96th					
	(SB I-205 off ramp)	(NB I-205 on ramp)	99th	100th 1	02nd 10	3rd 105tl	106th	(SB I-205 on ramp)	(NB I-205 off ramp)	99th	100th	02nd 10	3rd 105	th 106t
Install new PHB w/ Supplemental Lighting				×		×					×		×	

NOTE: Orange columns represent ODOT-owned signals

CITY OF PORTLAND, OREGON BUREAU OF TRANSPORTATION PRELIMINARY ENGINEER'S ESTIMATE FOR PROJECTS GREATER THAN \$1M Enhanced Crossing Signal/Illumination Estimate Date: June, 2019 By: David Evans and Associates, Inc.

PRELIMINARY ENGINEER'S ESTIMATE FOR AN ENHANCED PEDESTRIAN CROSSING AND ILLUMINATION SE STARK ST AT SE 100TH AVE AND SE 105TH AVE AND SE WASHINGTON ST AT SE 100TH AVE AND SE 105TH AVE VALUES IN BLUE ARE PERCENT OF CONTRACT.

BID ITEMS

NO.	ITEMS OF WORK AND MATERIALS	SPEC REFERENCE	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL AMOUNT
1	MOBILIZATION	0210	LS	1.00	\$ 125,911.71	\$ 125,911.71
2	TEMPORARY PROTECTION & DIRECTION OF TRAFFIC, COMPLETE	0225	LS	1.00	\$ 125,911.71	\$ 125,911.71
3	GENERAL EXCAVATION	0330	CUYD	618.00	\$ 50.00	\$ 30,900.00
4	12 INCH PIPE, PVC ASTM D3034 SDR35, BEDDING TYPE: D, COMPLETE	0445	FOOT	20.00	\$ 143.50	\$ 2,870.00
5	CONCRETE MANHOLES, SEDIMENTATION	0470	EACH	1.00	\$ 6,000.00	\$ 6,000.00
6	CONCRETE MANHOLES, SUMP	0470	EACH	1.00	\$ 15,600.00	\$ 15,600.00
7	CONCRETE INLETS, TYPE G-2	0470	EACH	1.00	\$ 2,366.00	\$ 2,366.00
8	ADJUSTING INLETS	0490	EACH	5.00	\$ 837.00	\$ 4,185.00
9	AGGREGATE BASE	0640	TON	590.00	\$ 36.90	\$ 21,771.00
10	LEVEL 3, 1/2 INCH DENSE, MWMAC MIXTURE	0744	TON	328.00	\$ 110.00	\$ 36,080.00
11	CONCRETE CURBS, STANDARD CURB	0759	FOOT	110.00	\$ 37.25	\$ 4,097.50
12	CONCRETE ISLANDS	0759	SQFT	5,030.00	\$ 25.95	\$ 130,528.50
13	MONOLITHIC CURB AND SIDEWALKS	0759	SQFT	5,530.00	\$ 19.75	\$ 109,217.50
14	6 INCH CONCRETE SURFACING	0759	SQFT	4,060.00	\$ 21.20	\$ 86,072.00
15	PAVEMENT LEGEND, TYPE B-HS: GREEN BICYCLE LANE MARKINGS	0867	SQFT	48.00	\$ 10.00	\$ 480.00
16	PAVEMENT BAR, TYPE B	0867	SQFT	1,017.00	\$ 8.80	\$ 8,949.60
17	INSTALL NEW PHB WITH SUPPLEMENTAL LIGHTING AND INTERCONNECT (PBOT PROVIDED COST)	N/A	LS	1.00	\$ 800,000.00	\$ 800,000.00
тоти	AL BID ITEMS					\$ 1,510,940.52

ANTICIPATED ITEMS

NO. ITEMS OF WORK AND MATERIALS	SPEC REFERENCE	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL AMOUNT
1 BOLI FEE PAYMENT		LS	1.00	\$ 1,510.94	\$ 1,510.94
2 CONTRACT CONTINGENCY (REQUIREMENT TO ACCEPT BIDS UP TO 10% OVER ESTIMATE)		LS	1.00	\$ 151,094.05	\$ 151,094.05

TOTAL ANTICIPATED ITEMS

\$ 152,604.99

SCHEDULE SUMMARY

BID ITEMS		\$	1,510,941
CONSTRUCTION CONTINGENCY	5% of Bid Items*	\$	75,547
SUBTOTAL		\$	1,586,488
ANTICIPATED ITEMS		\$	152,605
TOTAL CONSTRUCTION		\$	1,739,093
PROJECT MANAGEMENT	5% of Bid Items	\$	75,547
DESIGN ENGINEERING	25% of Bid Items	\$	377,735
CONSTRUCTION MANAGEMENT	15% of Bid Items	\$	226,641
SUBTOTAL		\$	679,923
PROJECT ENGINEERING & MANAGEMENT OVERHEAD	80.85% of PM, Eng, and CM	\$	549,718
TOTAL PROJECT ENGINEERING & MANAGEMENT		\$	1,229,641
RIGHT-OF-WAY LAND, IMPROVEMENTS, AND DAMAGES		\$	260,400
RIGHT-OF-WAY APPRAISAL, TITLE INSURANCE, AND NEGOTIATION		\$	-
RIGHT-OF-WAY CONTINGENCY	30% of Land, Improve, and Damages	\$	78,120
TOTAL PROJECT RIGHT-OF-WAY		\$	338,520
Years	Inflation		
INFLATION RATE ON CONTRACT 5	4.5% of Construction	\$	428,133
INFLATION RATE ON PERSONNEL 5	2.0% of Eng & Mgmt	\$	127,982
ALLOWANCE FOR DESIGN REFINEMENT	20% of Const, Eng & Mgmt, an Inflation	nd \$	704,970
TOTAL PROJECT CONTINGENCY		\$	1,261,085

TOTAL PROJECT ESTIMATE

LS* Unit Price shown is: Pound, Each, or Foot Basis as applicable Remove * and change unit to 1 in the Bid Form \$ 4,568,338









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Certificate Of Completion		
Envelope Id: EADE12E3C4D843E598566278B4DE	3BE49	Status: Completed
Subject: Please DocuSign: RFFA Estimate Report	Enhanced Signal_Illumination.pdf	
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Document Pages: 10	Signatures: 2	Envelope Originator:
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eva.huntsinger@portlandoregon.gov	eog	Viewed: 6/20/2019 10:21:16 AM
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steve.townsen@portlandoregon.gov	Ster Torm	Viewed: 6/20/2019 10:57:14 AM
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City of Portland	Signature Adoption: Uploaded Signature Image	
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Electronic Record and Signature Disclosure: Not Offered via DocuSign		
In Person Signer Events	Signature	Timestamp
Editor Delivery Events	Status	Timestamp
Agent Delivery Events	Status	Timestamp
Intermediary Delivery Events	Status	Timestamp
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Timestamp

Certified Delivery Events

Status

	Exhibit C	
Carbon Copy Events	Status	Timestamp
Witness Events	Signature	Timestamp
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Notary Events	Signature	Timestamp
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Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	6/20/2019 10:21:34 AM
Certified Delivered	Security Checked	6/20/2019 10:57:15 AM
Signing Complete	Security Checked	6/20/2019 10:58:44 AM
Completed	Security Checked	6/20/2019 10:58:44 AM
Payment Events	Status	Timestamps
Electronic Record and Signature Discl	osure	

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Browsers:	Final release versions of Internet Explorer®		
	6.0 or above (Windows only); Mozilla Firefox		
	2.0 or above (Windows and Mac); Safariâ,,¢		
	3.0 or above (Mac only)		
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Screen Resolution:	800 x 600 minimum		
Enabled Security Settings:	Allow per session cookies		

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