SEATTLE, WA

COST PLAN March 6, 2023

Prepared By





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# Sound Transit

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March 6, 2023

### **Basis of Estimate**

### General

This Conceptual Study Estimate provides an opinion of probable construction costs for the Fare Gates Study - DRAFT for the Sound Transit, Seattle, WA.

The study consists of 4 sample Sound Transit Stations representing; underground - University Street Station, above/underground - University of Washington Station, arial - Northgate Station, and at grade - Othello Station.

And historical costs data from TransLink's fare gate installation

# Method

This document is based on the measurement and pricing of quantities wherever information is provided and/or a reasonable assumptions for other work not covered in the drawings or specifications, as stated within this

Unit rates have been obtained from historical records. The unit rates reflect current bid costs in the area.

All unit rates relevant to subcontractor work include the subcontractors overhead and profit unless otherwise stated. This overhead and profit covers each subcontractor's cost for labor burden, materials and equipment sales taxes, filed overhead, home office overhead and profit. Depending on the trade, these mark-ups can range from 15% to 20% of the raw cost for that particular item of work. The general contractor's overhead and profit is shown separately on the summary page.

# **Documentation**

This estimate has been prepared from the following documents and information:

- Review of as built drawings

# **Conversations With Subject Level Experts (SMEs)**

Fare Collection - Brittany Esdaile, Scott Corbridge and Yvette Lopez

Fire and Life Safety - Mark Murray and Nathan Casey

TransLink - Mark Langmead (TransLink) and Brittany Esdaile (Sound Transit)

Grounding - Kontien Chan

Structural - Edward Egan

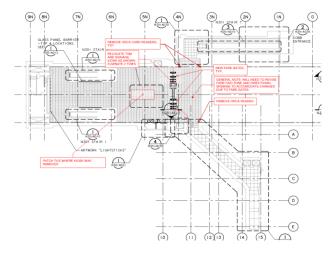
Facilities - David Patch

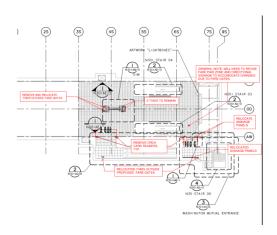
TransLink Cost Adjustment - Stephanie Ball

SCADA and Transit Systems- Louis DiFazio and Joe Linscheid

# **University Street Station**

Drawings provided by Jonathan Sirois







March 6, 2023

# **Basis of Estimate**

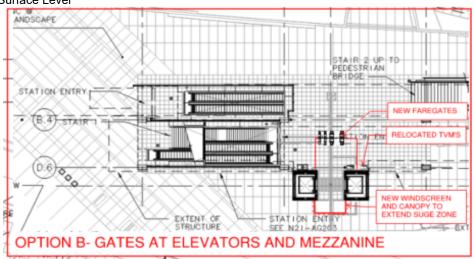
University Street Station - 2 fare gates at each station entrance at the mezzanine level

- Install dry pipe fire sprinkler to unsprinkled building (Fire water to station, valve room) ( Commenters Nathan Casey & Mark Murray)
- Install fare gates assuming access to nearest electrical room on mezzanine level
- Risks:
  - Mezzanine level electrical room does not have room for additional electrical connection and equipment
  - Electrical rooms at platform level will trigger overnight work with power downs
  - Location of fire water and availability, number of connection unknown. Assumed 2 in estimate
  - Location of valve room causing change in architecture and lost of real estate
  - Penetration for sprinkler may cause waterproofing concerns

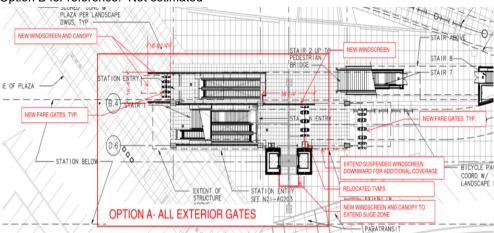
# **University of Washington Station**

Drawings provided by Jonathan Sirois Option B Estimated

# Surface Level



# Option B for reference. Not estimated

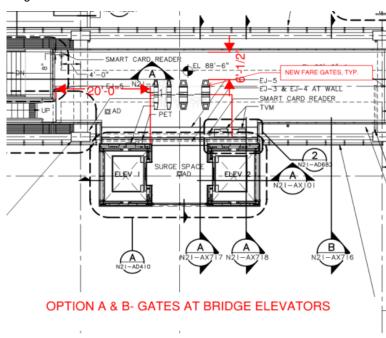




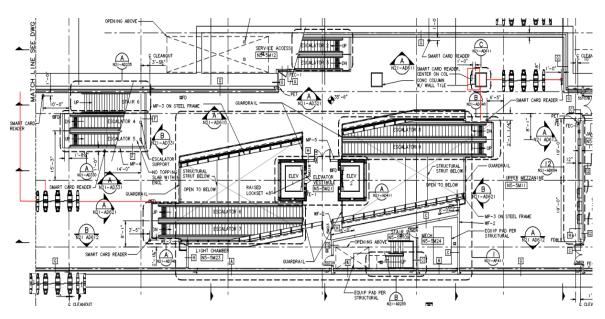
March 6, 2023

# **Basis of Estimate**

# Bridge level



# Mezzanine level



March 6, 2023

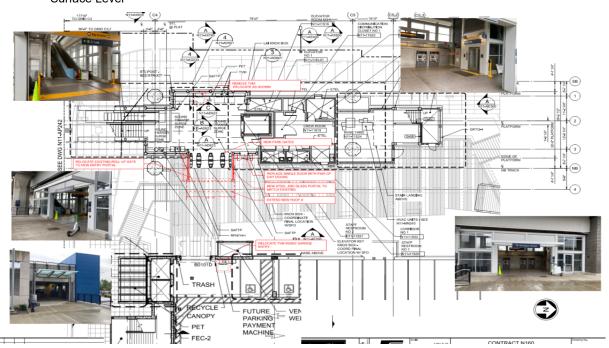
# **Basis of Estimate**

University of Washington Station - 3 fare gates each at bridge and surface level at each elevator access point 4 fare gates at each mezzanine level access point. 2 access points at mezzanine level

- New canopy and windscreen at surface level protecting elevator lobby
- Install fare gates, assume access to nearest existing conduit to electrical room.
- Risks:
  - -Electrical connection from surface and bridge level to electrical room maybe difficult. Possibly connection at mezzanine level.
  - -Bridge level connection will include possible penetration of precast bridge, expansion joint, ceiling finishes complications

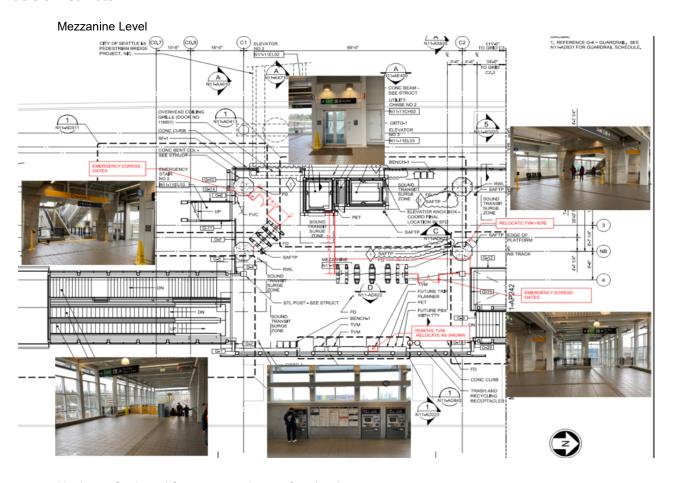
# **Northgate Station**

Drawings provided by Jonathan Sirois Surface Level



March 6, 2023

# **Basis of Estimate**



Northgate Station - 4 fare gates each at surface level

- 4 and 6 fare gates at each mezzanine level access point. 2 access points at mezzanine level
- New canopy and windscreen at surface level protecting fare gates
- Install fare gates, assume access to nearest existing conduit to electrical room.
- Risks:
  - -Electrical connection from surface and mezzanine level to electrical room may require removal and reinstall of ceiling.
  - -Northgate Station looks as if thick set of tile or topping slab was not used



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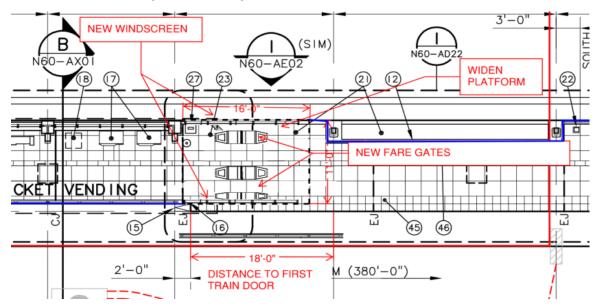
# **Basis of Estimate**

# Othello Station

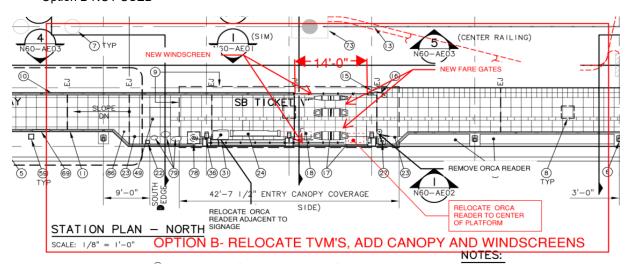
Drawings provided by Jonathan Sirois

Typical Fare Gate

\*Blue Line represents fence calculation added by Roy as per discussion with Jonathan Sirois Guardrail to fence replacement to help deter fare evasion



# Option B NOT USED





March 6, 2023

### **Basis of Estimate**

Othello Station - 2 fare gates at each station entrance

- Expansion of platform area into existing planter space
- Replace guardrail for grated fence
- New windscreen at fare gates
- Risks:
  - -Limited width of platform may not meet requirements for egress. Feasibility concerns
  - -Fencing and fare gates my cause walking on tracks to evade fare gates
  - -Fence and proximity to OCS lines causing electrification concerns and construction risk with grounding. Further studies may be warranted

Further studies may be warranted in fence and grounding, potential use of nonconductive fence not included in costs

- -Limited construction work space, and phased construction
- -Power down maybe required

# **Assumptions and Clarifications**

This estimate is based on the following assumptions and clarifications:

- The construction schedule is based on a 2027 start with total construction duration of 4 months per station.
- 2 Our cost estimate is based upon current price levels and have been escalated to the start of construction.
- 7 There will be small business set aside requirements.
- 8 The contractor will be required to pay prevailing wages.
- 9 The general contractor will have full access to the site during normal business hours with the addition of afterhours for disruptive work.
- Assume that the site will have been cleared of any obstructions during the enabling works prior to the construction works reflected in this estimate commence on site.
- 14 Allowances made for IT and AV cabling, data points and AV equipment, roughing in.
- 17 GC liability included Bonds and B&O
- The cost of removing ground obstructions and breaking out 'extra over' to standard excavation rates are assumed to be included within the construction contingency allowance.
- 19 Removal of excavations are priced within the rates, all material assumed to be inert.
- 20 Assume shallow foundations

# **Exclusions**

This Conceptual Study does not provide for the following:

- 1 Compression of schedule, premium or shift work, and restrictions on the contractor's working hours
- 2 Environmental impact mitigation
- 3 Land and easement acquisition
- 4 Statutory fees, duties or other municipal charges
- 5 Assessments, finance, legal and development charges (impact fees)
- 6 All enabling works are excluded.
- 7 Handling and removal of contaminated excavated materials.

# Allowance for the Design Allowance

An allowance or contingency of 30% for the undeveloped design details has been included in the summary of this estimate. This allowance is intended to cover the cost of such details and will be decreased as those details are incorporated in the body of the estimate

# **Allowance for Allocated Contingency**

An allowance or contingency of 15% for Construction Contingency has been included within the general contract.

# **Escalation Allowance**



March 6, 2023

### **Basis of Estimate**

All unit prices are priced to current day and we have included a CCI stipulated per year allowance to stated date per 2022 Fall Inflation Indices provided by Stephanie Ball.

# **Opinion of Probable Construction Cost**

Pricing reflects probable construction costs obtainable in the project locality on the date of this statement of probable costs. This estimate is an opinion of probable construction cost based on fair market value for the construction of this project. It is not a prediction of low bid. Pricing assumes competitive bidding for every portion of the construction work for all subcontractors and general contractors, with a minimum of 4 bidders for all items of subcontracted work and 4-5 general contractor bids. Experience indicates that a fewer number of bidders may result in higher bids, conversely an increased number of bidders may result in more competitive bids.

Since Sound Transit has no control over the cost of labor, material, equipment, or over the contractor's method of determining prices, or over the competitive bidding or market conditions at the time of bid, the statement of probable construction cost is based on industry practice, professional experience and qualifications, and represents Sound Transit's best judgment as professional construction consultant familiar with the construction industry. Sound Transit cannot and does not guarantee that the proposals, bids, or the construction cost will not vary from opinions of probable cost prepared by them. Sound Transit has prepared this opinion of probable construction cost in accordance with generally accepted cost estimating and practices and standards.

# **Contracting Method**

**Assumed Design Bid Build** 



**Conceptual Study** 

# Sound Transit Fare Gates Study - DRAFT March 6, 2023

OVERALL SUMMARY SAMPLE TEST STATIONS	<b>Gross Floor</b> Area	Unit Cost \$/SF	<b>Total</b> (\$x1,000)	
University Street Station	64,212 SF	249.39	16,014	
University of Washington Station	151,168 SF	120.18	18,167	
Northgate Station	126,378 SF	97.15	12,278	
Othello Station	12,410 SF	1,217.04	15,103	
Total			61,563	

TOTAL Project Coot	61.563
TOTAL Project Cost	01,503

# **Historic Cost Data Point**

TransLink 2010 Fare Gate Project 3,911

ST Central System Modifications GUESS

\$7M to \$15M

# **TOTAL PROJECT COST SUMMARY**

# **Owner's Reoccurring Costs**

On Call Staff

Fare Gate Maintenance

Other agency cost for fare system upgrades: Metro, Community Transit, Pierce County Transit, etc??

# **Potential Additional Owner's Costs To Discuss**

Station Agents?

Rest Rooms?

Link shuttle bus if needed during shut down

Loss of fare revenue during construction

Single tracking

Public Outreach

Ambassadors - At the stations to make passengers aware of the upcoming changes and to re-direct passengers to other modes of transportation during station closures and/or single tracking. We typically have ST Ambassadors, but also contract outside vendors for non-system expansion work that interrupts the commute of passengers



Sound Transit Seattle, WA TransLink Cost Data March 6, 2023

Iten Description	Quantity	Unit	Rate	Totals
TransLink 2010 Fare Gate Project				
- 2010 ~\$100M Retrofit of ~40 Stations - \$100M / 40 Station (Mark Langmead TransLink) - Location factor - not included	1	ST	2,500,000.00	2,500,000
<ul> <li>Currency factor - roughly 1 to 1 at 2010</li> <li>Escalation, using ST CCI calculator (Stephanie Ball) 2010</li> <li>2023</li> <li>Design Build Maintain Contract</li> </ul>	0.5644	%	2,500,000.00	1,410,898
Markups		%		
Subtotal				3,910,898
TransLink 2010 Fare System Upgrade				
<ul> <li>- 2010 ~\$150M</li> <li>Central system, TVM, Card readers for buses, misc.</li> <li>(Brittany Esdaile)</li> <li>- Location factor - not included</li> <li>- Currency factor - roughly 1 to 1 at 2010</li> </ul>	1	LS	150,000,000.00	150,000,000
<ul> <li>Escalation, using ST CCl calculator (Stephanie Ball) 2010</li> <li>2023</li> <li>*These numbers may not be comparable to ST due to existing OCRA system being in place</li> </ul>	0.5644	%	150,000,000.00	84,653,893
Markups		%		
Subtotal				234,653,893



Sound Transit Fare Gates Study - DRAFT Seattle, WA

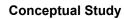
**OVERALL SUMMARY - ELEMENTAL** 

OVER	RALL SUMMARY - ELEMENTAL		University	University of	Northaata	Othello
				University of	Northgate	
Item	Description			Washington	Station	Station
			Station	Station		
		'	(\$x1,000)	(\$x1,000)	(\$x1,000)	(\$x1,000)
		Gross Floor Area	64,212 SF	151,168 SF	126,378 SF	12,410 SF
Α	SUBSTRUCTURE					
	Foundations		0	0	0	0
	Subgrade Enclosures		0	0	0	0
	Slabs-On-Grade		0	0	0	0
	Water and Gas Mitigation		0	0	0	0
A90	Substructure Related Activities		0	0	0	0
		Subtotal	0	0	0	0
В	SHELL					
	Superstructure		0	0	0	0
	Exterior Vertical Enclosure		0	531	247	0
B30	Exterior Horizontal Enclosure		0	0	0	0
		Subtotal	0	531	247	0
С	INTERIORS					
	Interior Construction		1,445	1,807	1,262	924
C20	Interior Finishes	0.14.4.1	846	911	452	584
	05074050	Subtotal	2,291	2,718	1,714	1,508
D	SERVICES			0	0	
	Conveying		0	0	0	0
	Plumbing		0	0	0	0
	Heating, Ventilation & Air Conditioning		0	0	0	0
	Fire Protection		868	0	0	0
	Electrical Communications		350 585	450 725	356 641	120 316
			220	440	330	112
	Electronic Safety & Security		0	0	0	
D80	Integrated Automation	Subtotal	2,023	1,615	1,327	548
ΙE	EOLIIDMENT & ELIDNISHINGS	Subiolai	2,023	1,615	1,321	540
	EQUIPMENT & FURNISHINGS Equipment		0	0	0	0
	Furnishings		0	0	0	60
<u> </u>	Fulfilstilligs	Subtotal	0	0	0	60
F	SPECIAL CONSTRUCTION	Subiolai	U	U	0	00
	Special Construction		0	0	0	0
	Facility Remediation		0	0	0	0
F30	Demolition		0	0	0	0
1 30	Demonitori	Subtotal	0	0	0	0
G	SITEWORK	Gubiolai	0	3	3	3
	Site Preparation		0	0	0	0
	Site Improvements		0	0	0	1,953
	Liquid & Gas Site Utilities		0	0	0	0
	Electrical Site Improvements		0	0	0	0
	Site Communications		0	0	0	0
	Miscellaneous Site Construction		0	0	0	0
100		Subtotal	0	0	0	1,953
		Castotal				.,530
Tot	al Direct Costs (Building & Site)		4,313	4,864	3,288	4,069
			.,0.0	.,	0,200	.,

# **SOUNDTRANSIT**

Sound Transit Fare Gates Study - DRAFT Seattle, WA

OVERALL SUMMARY - ELEMENTAL				
Z GENERAL REQUIREMENTS				
Pre Construction Fees				
General Conditions	259	292	197	244
General Requirements	518	619	418	488
Contractor's Fee including Bonds, Insurance, B&O	356	404	273	336
Total Construction Costs (incl. General Requirements)	5,447	6,179	4,176	5,137
Design Allowance (30%)	1,634	1,854	1,253	1,541
Allocated Contingency (8-15%)	1,062	1,205	814	1,002
Total Construction Costs (incl. Contingencies)	8,143	9,238	6,243	7,680
ESTIMATED CONSTRUCTION COST	8,143	9,238	6,243	7,680
Softcosts		I		
Design Costs	2,036	2,309	1,561	1,920
Construction Management	1,140	1,293	874	1,075
Project Administration	651	739	499	614
Permitting	20	23	16	19
3rd Party	163	185	125	154
Traffic Control	0	0	0	0
Safety and Security Certification	81	92	62	77
Unallocated Contingency	1,629	1,848	1,249	1,536
ESTIMATED PROJECT COST	13,863	15,727	10,629	13,075
Escalation				
2024	339	385	260	320
2025	564	639	432	532
2026	603	684	462	568
2027	645	732	495	609
ESTIMATED PROJECT COST	16,014	18,167	12,278	15,103





Sound Transit
Fare Gates Study - DRAFT, Seattle, WA
University Street Station

March 6, 2023

Schedule of Areas	SF	SF
Enclosed Areas "University Street Station"		
Platform Level - Estimate	36,366	
Mezzanine Level	27,846	
Subtotal, Enclosed Area		64,212
Covered Area Building overhang		
Subtotal, Covered Area		
Covered Area @ 50%		
TOTAL GROSS FLOOR AREA		64,212

# SoundTransit

**Sound Transit** March 6, 2023 Fare Gates Study - DRAFT, Seattle, WA 64,212 SF **University Street Station Gross Floor Area UNIVERSITY STREET STATION SUMMARY** Cost Total Item **Description** \$/SF (\$x1,000) Α **SUBSTRUCTURE** 0.00 0 A10 Foundations Subgrade Enclosures 0.00 0 A20 Slabs-On-Grade 0 A40 0.00 Water and Gas Mitigation 0.00 0 A60 Substructure Related Activities A90 0.00 0 Subtotal 0.00 0 В SHELL 0 B10 Superstructure 0.00 B20 **Exterior Vertical Enclosure** 0 0.00 B30 **Exterior Horizontal Enclosure** 0.00 0 Subtotal 0.00 0 С **INTERIORS** C10 Interior Construction 22.50 1,445 C20 Interior Finishes 13.18 846 Subtotal 35.67 2,291 D **SERVICES** D10 Conveying 0.00 0 D20 Plumbing 0.00 0 D30 Heating, Ventilation & Air Conditioning 0.00 0 D40 Fire Protection 13.52 868 D50 Flectrical 5.45 350 D60 Communications 9.11 585 D70 Electronic Safety & Security 3.43 220 D80 Integrated Automation 0.00 0 Subtotal 31.50 2,023 Ε **EQUIPMENT & FURNISHINGS** E10 Equipment 0.00 0 E20 Furnishings 0.00 0 Subtotal 0 0.00 F **SPECIAL CONSTRUCTION** F10 **Special Construction** 0.00 0 F20 **Facility Remediation** 0 0.00 F30 Demolition 0.00 0 0 Subtotal 0.00 G **SITEWORK** G10 Site Preparation 0.00 0 G20 Site Improvements 0.00 0 G30 Liquid & Gas Site Utilities 0 0.00 G40 **Electrical Site Improvements** 0.00 0 G50 Site Communications 0.00 0 Subtotal 0.00 0 Total Direct Costs (Building & Site) 67.18 4,313 **GENERAL REQUIREMENTS** Pre Construction Fees 0.00% 0.00 0 **General Conditions** 6.00% 259 4.03 General Requirements 12.00% 8.07 518 Contractor's Fee including Bonds, Insurance, B&O 7.00% 5.55 356

Total Construction Costs (incl. General Requirements and Fees)

5,447

84.83

# **SOUNDTRANSIT**

Sound Transit		N	larch 6, 2023	
Fare Gates Study - DRAFT, Seattle, WA				
University Street Station	Gross	Floor Area	64,212 SF	
UNIVERSITY STREET STATION SUMMARY				
Design Allowance (30%)	30.00%	25.45	1,634	
Allocated Contingency (8-15%)	15.00%	16.54	1,062	
Total Construction Costs (incl. Contingencies)		126.81	8,143	
ESTIMATED CONSTRUCTION COST	Mar-2023	126.81	8,143	
Owner's Costs				
Design Costs	25.00%		2,036	
Construction Management	14.00%		1,140	
Project Administration	8.00%		651	
Permitting	0.25%		20	
3rd Party	2.00%		163	
Traffic Control	0.00%		0	
Safety and Security Certification	1.00%		81	
Unallocated Contingency	20.00%		1,629	
ESTIMATED PROJECT COST	Mar-2023	215.90	13,863	
Escalation				
2024	2.45%		339	
2025	3.97%		564	
2026	4.08%		603	
2027	4.20%		645	
2021	4.20%		045	
ESTIMATED PROJECT COST	2027	249.39	16,014	



Sound Transit Fare Gates Study - DRAFT, Seattle, WA University Street Station March 6, 2023

**Gross Floor Area** 

64,212 SF

DETAILED ESTIMATE  Item Description	Quantity Unit	Rate	Totals
A10 FOUNDATIONS			
Subtotal - Foundations			
A20 SUBGRADE ENCLOSURES			
Total - Subgrade Enclosures			
A40 SLABS-ON GRADE			
Subtotal - Slabs-On-Grade			
A60 WATER & GAS MITIGATION			
Subtotal - Water & Gas Mitigation			
A90 SUBSTRUCTURE RELATED ACTIVITIES			
Subtotal - Substructure and Related Activities			
B10 SUPERSTRUCTURE			
Subtotal - Superstructure			
B20 EXTERIOR VERTICAL ENCLOSURE			
Subtotal - Exterior Vertical Enclosure			
B30 EXTERIOR HORIZONTAL ENCLOSURE			
Subtotal - Exterior Horizontal Enclosure			



Sound Transit

Fare Gates Study - DRAFT, Seattle, WA

University Street Station Gross Floor Area

30,000

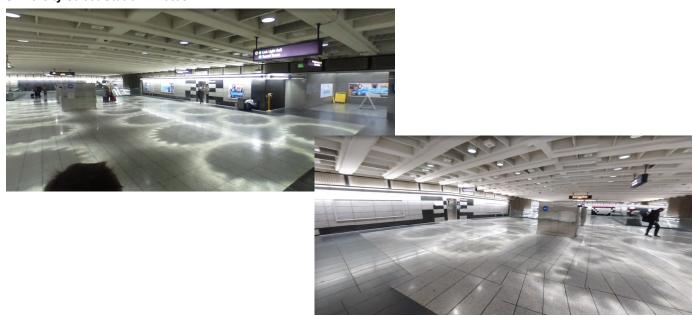
64,212 SF

March 6, 2023

# DETAILED ESTIMATE

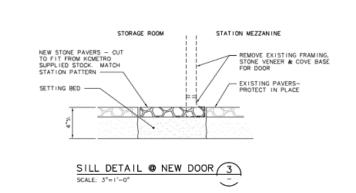
Item Description	Quantity	Unit	Rate	Totals
C10 INTERIOR CONSTRUCTION				
C1090 Interior Specialties				
Remove existing TVM	8	EA	5,000.00	40,000
•				
Remove existing OCRA card readers and patch	6	EA	3,500.00	21,000
Fare gate prep				
Allow for connection to existing structure	12 12	EA EA	2,000.00 2,000.00	24,000 24,000
Repair finish to surrounding	12	LA	2,000.00	24,000
Fare gates				
Standard ADA	8	EA EA	65,000.00 70,000.00	520,000 280,000
Fare gate side walls				
Allow for connection to existing structure	84	LF	150.00	12,600
Reinforced concrete curb	84	LF	140.00	11,760
Repair finish to surrounding	168	LF	100.00	16,800
Wall system allowance, allow 8ft tall	84	LF	1,600.00	134,400
Allow for emergency egress gates, including supports, including electrical connection?? Or push bar??	4	EA	30,000.00	120,000
TVM relocation				
Demo at new TVM location	4	EΑ	2,000.00	8,000
Allow for wall structure to support TVM Architectural detailing at new TVM location	4 4	EA EA	3,000.00 20,000.00	12,000 80,000
TVM relocation, allowance	4	EA	10,000.00	40,000
Rework existing TVM kiosk	4	EA	25,000.00	100,000
	-			1,444,560
Subtotal - Interior Construction				1,444,560
C20 INTERIOR FINISHES				
C2010 Wall Finishes				
Patch and repair wall	1	LS	30,000.00	30,000
	=			

# **University Street Station Photos**



SCA

# Thick set tile provide 4" from structure to finished floor



# **Potential Curb Wall Detail**





**Sound Transit** 

Fare Gates Study - DRAFT, Seattle, WA

University Street Station Gross Floor Area

64,212 SF

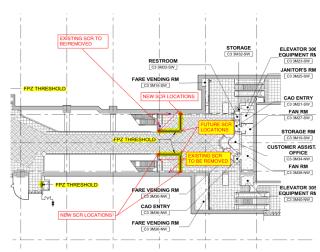
March 6, 2023

# **DETAILED ESTIMATE** Totals **Item Description** Quantity Unit Rate **C2020 Interior Fabrications** 2 LS 40,000 New and modify existing signage and wayfinding 20,000.00 40,000 C2030 Flooring Patch and repair ceiling at conduit run 1 LS 5,000.00 5,000 Pavement detection, allow 600 LF 130.00 78,000 Undo "Fare Paid" Zone work 275,000.00 275,000 LS 1 SF 38,000 Remove tile 1,900 20.00 Replace tile (thick set) 1,900 SF 200.00 380,000 776,000 846,000 **Subtotal - Interior Finishes D10 CONVEYING Subtotal - Conveying D20 PLUMBING** Subtotal - Plumbing D30 HEATING, VENTILATION & AIR CONDITIONING Subtotal - Heating, Ventilation & Air Conditioning **D40 FIRE PROTECTION D4010 Fire Suppression** Fire alarm, interface, keep existing devices 1 LS 25,000.00 25,000 New water connection and into station. Elevation unknown, includes cost for waterproofing 1 LS 200,000.00 200,000 1 LS Valve room, heated, location TBD, allowance 100,000.00 100,000

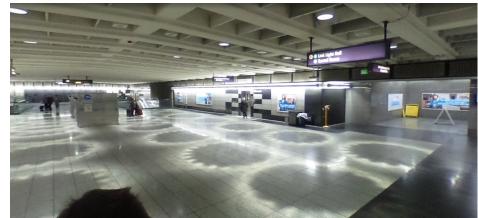
# TransLink Slab In Tile Detail



**Current Fare Paid Zone Work At Westlake Station** 



Notice no fire sprinklers are present





Sound Transit Fare Gates Study - DRAFT, Seattle, WA University Street Station

**Gross Floor Area** 

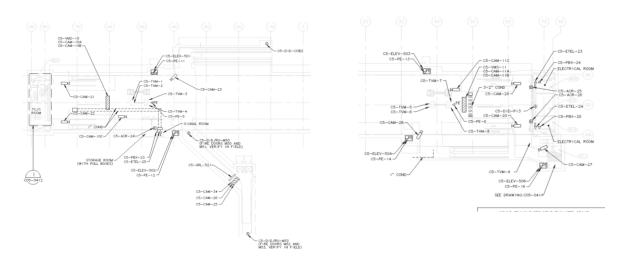
64	,21	2	SF
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March 6, 2023

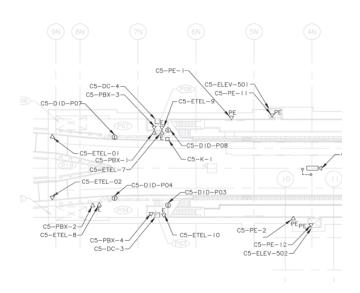
# DETAILED ESTIMATE

DETAILED ESTIMATE				
Item Description	Quantity	Unit	Rate	Totals
Dry nine eyetem, decen't not include interetitiel angee, no are				
Dry pipe system, doesn't not include interstitial space, no pre- action, no clean agent	64,212	SF	8.00	513,696
Premium for double height space	14,620	SF	2.00	29,240
Premium for double neight space	14,020	Oi	2.00	29,240
	-			867,936
Subtotal - Fire Protection				867,936
D50 ELECTRICAL				
D5000 Electrical				
TVAN				
TVM  Powerk power at existing TVM location	4	EA	5,000.00	20,000
Rework power at existing TVM location  New TVM location	4	EA	15,000.00	60,000
New I vivi location	7	L/\	10,000.00	00,000
Fare gates				
Fare gates	12	EA	20,000.00	240,000
Many Balakka at all annon an	0	1.00	45 000 00	20.000
New lighting allowance	2	LOC	15,000.00	30,000
Need to be connected to back up power				
	-			350,000
Subtotal - Electrical				350,000
D60 COMMUNICATIONS				
D6010 Data Communications				
Data connection				
Rework power at existing TVM location	4	EA	5,000.00	20,000
New TVM location	4	EA	15,000.00	60,000
Fare gates	12	EA	15,000.00	180,000
Fare gates with fire alarm connection	12	EA	15,000.00	180,000
Reprogram fire alarm	1	LS	15,000.00	15,000
Fare gates with BMS connection	1	LS	15,000.00	15,000
Reprogram BMS	1	LS	15,000.00	15,000
Call box	4	EA	25,000.00	100,000
	<del>-</del>			585,000

# **Electrical Room Locations**



Electrical room at platform level provides additional electrical rooms. However, with difficulty of access





**Sound Transit** 

Fare Gates Study - DRAFT, Seattle, WA

Subtotal - Special Construction

University Street Station Gross Floor Area

March 6, 2023

64,212 SF

DETAILED ESTIMATE  Item Description	Quantity	Unit	Rate	Totals
Subtotal - Communications	,			585,000
D70 ELECTRONIC SAFETY & SECURITY				
D7010 Access Control and Intrusion Detection				
CCTV - allowance - assume 6 cameras per location	2	LOC	50,000.00	100,000
Audio prompt system	2	LOC	30,000.00	60,000
Fire alarm, allowance devices etc.	2	LOC	30,000.00	60,000
				220,000
Subtotal - Electronic Safety & Security				220,000
D80 INTEGRATED AUTOMATION				
Subtotal - Integrated Automation				
E10 EQUIPMENT				
Subtotal - Equipment				
E20 FURNISHINGS				
Subtotal - Furnishings				
F10 SPECIAL CONSTRUCTION				

# Notice the CCTV Cameras used for monitoring and trouble shooting





Sound Transit Fare Gates Study - DRAFT, Seattle, WA University Street Station

Subtotal - Site Improvement

Gross Floor Area 64,212 SF

DETAILED ESTIMATE				
Item Description	Quantity	Unit	Rate	Totals
F20 FACILITY REMEDIATION				
F20 <mark>10 Hazardous Materials Remediation</mark>				
				0
				U
Subtotal - Facility Remediation				
F30 DEMOLITION				
Subtotal - Demolition				
G10 SITE PREPARATION				
Subtotal - Site Preparation				
C20 SITE IMPROVEMENT				
G20 SITE IMPROVEMENT				

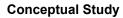




Sound Transit
Fare Gates Study - DRAFT Seattle, WA
University of Washington Station

March 6, 2023

Schedule of Areas	SF	SF
Enclosed Areas "University of Washington Station" Station	151,168	
Subtotal, Enclosed Area		151,168
TOTAL GROSS FLOOR AREA		151.168





Sound Transit March 6, 2023

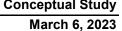
Fare Gates Study - DRAFT Seattle, WA

University of Washington Station Gross Floor Area 151,168 SF

A   SUBSTRUCTURE	UNIVI	ERSITY OF WASHINGTON STATION SUMMARY			
A SUBSTRUCTURE         0.00         0           A10 Foundations         0.00         0           A20 Subgrade Enclosures         0.00         0           A40 Slabs-On-Grade         0.00         0           A60 Water and Gas Miligation         0.00         0           A60 Substructure Related Activities         Subtotal         0.00         0           B SHELL         Superstructure         0.00         0         0           B20 Exterior Vertical Enclosure         3.51         531         531         531           B20 Exterior Vertical Enclosure         3.51         531 <th>Item</th> <th>Description</th> <th></th> <th>Cost</th> <th>Total</th>	Item	Description		Cost	Total
A10				\$/SF	(\$x1,000)
A10					
Auto   Subgrade Enclosures   0.00					
A40         Slabs-On-Grade         0.00         0           A60         Water and Gas Mitigation         0.00         0           A80         Substructure Related Activities         Subtotal         0.00         0           B         SHELL         Superstructure         0.00         0           Exterior Vertical Enclosure         3.51         531           B         Exterior Horizontal Enclosure         3.00         0           C         Interior Construction         11.95         1.807           C10         Interior Construction         11.95         1.807           C20         Interior Finishes         6.03         911           D         SERVICES         Subtotal         17.98         2,718           D10         Conveying         0.00         0         0           D2         Pitting         0.00         0         0           D30         Heating, Ventilation & Air Conditioning         0.00         0         0           D40         Fire Protection         0.00         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	A10				0
A60         Water and Gas Miligation         0.00         0           A90         Substructure Related Activities         Subtotal         0.00         0           B         SHELL         Subtotal         0.00         0           B0         SUBJUSTRUCTURE         0.00         0           B20         Exterior Vertical Enclosure         3.51         531           B30         Exterior Horizontal Enclosure         Subtotal         3.51         531           B30         Exterior Horizontal Enclosure         Subtotal         3.51         531           C1         IntERIORS         Subtotal         11.95         1,807           C20         Interior Construction         11.95         1,807           C20         Interior Finishes         Subtotal         17.98         2,718           D5         SERVICES         Subtotal         17.98         2,718           D6         Conveying         0.00         0         0           D7         EVENCES         0.00         0         0           D8         Jeasting, Ventilation & Air Conditioning         0.00         0           D6         Communications         0.00         0         0 <t< td=""><td>A20</td><td>Subgrade Enclosures</td><td></td><td>0.00</td><td>0</td></t<>	A20	Subgrade Enclosures		0.00	0
A90         Substructure Related Activities         0.00         0           B         SHELL         0.00         0           B10         Superstructure         0.00         0           Exterior Vertical Enclosure         3.51         531           B20         Exterior Horizontal Enclosure         Subtotal         3.51         531           C1         Interior Construction         11.95         1,807           C10         Interior Construction         6.03         911           C2         Interior Construction         6.03         911           D         SERVICES         Subtotal         17.98         2,718           D10         Conveying         0.00         0         0           D2         Plumbing         0.00         0         0           D3         Heating, Vertilation & Air Conditioning         0.00         0         0           D4         Fire Protection         0.00         0         0           D5         Electrical         2.98         4.50         0         0           D60         Electrical         2.91         4.40         0         0         0         0         0         0         0	A40	Slabs-On-Grade		0.00	0
B         SHELL         Subtotal         0.00         0           B10         Superstructure         0.00         0           B20         Exterior Vertical Enclosure         3.51         531           B30         Exterior Horizontal Enclosure         Subtotal         3.51         531           C         INTERIORS         Subtotal         3.51         531           C10         Interior Construction         11.95         1,807           C20         Interior Finishes         8.00         911           D         SERVICES         Subtotal         17.98         2,718           D10         Conveying         0.00         0         0           D2         Plumbing         0.00         0         0           D3         Heating, Ventilation & Air Conditioning         0.00         0         0           D4         Fire Protection         0.00         0         0         0         0           D5         Electrical         2.98         450         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	A60	Water and Gas Mitigation		0.00	0
B1         SHELL         Quperstructure         0.00         0           B10         Superstructure         3.51         531           B20         Exterior Vertical Enclosure         3.51         531           B30         Exterior Horizontal Enclosure         3.51         531           C         Interior Construction         11.95         1,807           C10         Interior Construction         11.95         1,807           C20         Interior Construction         6.03         911           C20         Interior Construction         900         91           C20         Interior Construction         900         91           C20         Interior Finishes         900         90           D40         Furnishing         0.00         0           D40         Plumbing         0.00         0           D40         Pire Protection         0.00         0           D50         Electroical         2.98         450           D60         Communications         4.80         725           D70         Electroic Safety & Security         2.91         440           D60         Cientrical         0.00         0	A90	Substructure Related Activities		0.00	0
B10         Superstructure         0.00         0           B20         Exterior Vertical Enclosure         3.51         531           B20         Exterior Vertical Enclosure         Subtotal         3.51         531           C         INTERIORS         I1.95         1,807           C10         Interior Construction         11.95         1,807           C20         Interior Finishes         6.03         911           D         SERVICES         11.95         2,718           D         SERVICES         0.00         0           D10         Conveying         0.00         0           D         SERVICES         0.00         0           D10         Conveying         0.00         0           D00         Plumbing         0.00         0           D10         Conveying         0.00         0           D10         Crowering         0.00         0           D10         Criterial         2.93         4.00           D10         Criterial         2.93         4.50           D10         Ere trioric Safety & Security         2.91         4.00           D10         Electrical Safety & Security			Subtotal	0.00	0
Exterior Vertical Enclosure   Steff   Steff	В	SHELL			
Exterior Vertical Enclosure   Steff   Steff	B10	Superstructure		0.00	0
Name				3.51	531
C1 Interior Cnstruction         11.95         1,807           C2 Interior Finishes         6.03         911           C2 Interior Finishes         6.03         911           C2 Interior Finishes         Subtotal         17.98         2,718           D Subtotal         17.98         2,718           D1 Conveying         0.00         0           D2 Plumbing         0.00         0           D4 Fire Protection         0.00         0           D5 Electrical         2.98         450           D6 Communications         2.98         450           D6 Communications         2.91         440           D6 Integrated Automation         2.91         440           D8 Integrated Automation         8ubtotal         10.68         1,615           E EQUIPMENT & FURNISHINGS         2.91         440           E10 Equipment         0.00         0           E20 Furnishings         0.00         0           E10 Equipment         0.00         0           E20 Furnishings         0.00         0           F2 SPECIAL CONSTRUCTION         0         0           F2 Special Construction         0.00         0           F2 Special Construction	B30	Exterior Horizontal Enclosure		0.00	0
C1 Interior Cnstruction         11.95         1,807           C2 Interior Finishes         6.03         911           C2 Interior Finishes         6.03         911           C2 Interior Finishes         Subtotal         17.98         2,718           D Subtotal         17.98         2,718           D1 Conveying         0.00         0           D2 Plumbing         0.00         0           D4 Fire Protection         0.00         0           D5 Electrical         2.98         450           D6 Communications         2.98         450           D6 Communications         2.91         440           D6 Integrated Automation         2.91         440           D8 Integrated Automation         8ubtotal         10.68         1,615           E EQUIPMENT & FURNISHINGS         2.91         440           E10 Equipment         0.00         0           E20 Furnishings         0.00         0           E10 Equipment         0.00         0           E20 Furnishings         0.00         0           F2 SPECIAL CONSTRUCTION         0         0           F2 Special Construction         0.00         0           F2 Special Construction			Subtotal		531
C10 Interior Construction         11.95 (a.03)         1,807 (a.03)         1,807 (a.03)         911           C20 Interior Finishes         3ubtotal         17.98         2,718           D SERVICES         3ubtotal         0.00         0           D10 Conveying         0.00         0           D Plumbing         0.00         0           D Plumbing         0.00         0           D Fire Protection         0.00         0           D Fire Protection         0.00         0           D Electrical         2.98         450           D60 Communications         2.98         450           D60 Electrical         4.80         725           D60 Electrical Stept & Security         2.91         440           D80 Integrated Automation         0.00         0           D Equipment         2.00         0           E10 Equipment         0.00         0           E20 Furnishings         0.00         0           E20 Furnishings         0.00         0           F SPECIAL CONSTRUCTION         0         0           F10 Facility Remediation         0.00         0           F20 Facility Remediation         0.00         0	С	INTERIORS			
CCU         Interior Finishes         6.03         911           B         SERVICES         17.98         2,718           D1         Conveying         0.00         0           D2         Plumbing         0.00         0           30         Heating, Ventilation & Air Conditioning         0.00         0           D40         Fire Protection         0.00         0           D50         Electrical         2.98         450           D60         Communications         4.80         725           D70         Electronic Safety & Security         2.91         440           D80         Integrated Automation         0.00         0           B0         Integrated Automation         0.00         0           E         EQUIPMENT & FURNISHINGS         2.91         440           E1         Equipment         0.00         0           E0         Furnishings         0.00         0           F         SPECIAL CONSTRUCTION         0         0           F2         Facility Remediation         0.00         0           F3         Demolition         0.00         0           G         SITEWORK         0.00				11.95	1.807
D   SERVICES   SUBSTITUTION   SUBS					
D1         SERVICES           D10         Conveying         0.00         0           D2         Plumbing         0.00         0           D3         Heating, Ventilation & Air Conditioning         0.00         0           D40         Fire Protection         0.00         0           D50         Electrical         2.98         450           D60         Communications         4.80         725           D70         Electronic Safety & Security         2.91         440           D80         Integrated Automation         8ubtotal         10.68         1,615           E         EQUIPMENT & FURNISHINGS         10.00         0           E10         Funishings         0.00         0           E20         Furnishings         0.00         0           F20         Furnishings         0.00         0           F20         Furnishings         0.00         0 <tr< td=""><td>020</td><td>monor i monoc</td><td>Subtotal</td><td></td><td></td></tr<>	020	monor i monoc	Subtotal		
D10         Conveying         0.00         0           D20         Plumbing         0.00         0           D30         Heating, Ventilation & Air Conditioning         0.00         0           D40         Fire Protection         0.00         0           D50         Electrical         2.98         450           D60         Communications         4.80         725           D70         Electronic Safety & Security         2.91         440           D80         Integrated Automation         0.00         0           E         EQUIPMENT & FURNISHINGS         10.68         1,615           E10         Equipment         0.00         0           E20         Furnishings         0.00         0           E20         Furnishings         0.00         0           F         SPECIAL CONSTRUCTION         0         0           F10         Special Construction         0.00         0           F30         Demolition         0.00         0           F30         Demolition         0.00         0           G30         Site Preparation         0.00         0           G20         Site Preparation         0.00 <td>D</td> <td>SERVICES</td> <td>Castotal</td> <td>17.00</td> <td>2,7 10</td>	D	SERVICES	Castotal	17.00	2,7 10
D20 Plumbing         0.00         0           D30 Heating, Ventilation & Air Conditioning         0.00         0           D40 Fire Protection         0.00         0           D50 Electrical         2.98         450           D60 Communications         4.80         725           D70 Electronic Safety & Security         2.91         440           D80 Integrated Automation         0.00         0           E EQUIPMENT & FURNISHINGS         0.00         0           E10 Equipment         0.00         0           E20 Furnishings         0.00         0           E7 SPECIAL CONSTRUCTION         Subtotal         0.00         0           F10 Special Construction         0.00         0         0           F20 Facility Remediation         0.00         0         0           F30 Demolition         Subtotal         0.00         0           F30 Demolition         Subtotal         0.00         0           G30 Eliquid & Gas Site Utilities         0.00         0           G10 Site Preparation         0.00         0           G20 Site Improvements         0.00         0           G30 Liquid & Gas Site Utilities         0.00         0				0.00	0
D30 Heating, Ventilation & Air Conditioning         0.00         0           D40 Fire Protection         0.00         0           D50 Electrical         2.98         450           D60 Communications         4.80         725           D70 Electronic Safety & Security         2.91         440           D80 Integrated Automation         0.00         0           E EQUIPMENT & FURNISHINGS         0.00         0           E10 Equipment         0.00         0           E20 Furnishings         0.00         0           F SPECIAL CONSTRUCTION         0         0           F10 Special Construction         0.00         0           F20 Facility Remediation         0.00         0           F30 Demolition         0.00         0           F30 Demolition         0.00         0           G0 SiTEWORK         0.00         0           G10 Site Preparation         0.00         0           G20 Site Improvements         0.00         0           G30 Liquid & Gas Site Utilities         0.00         0           G40 Electrical Site Improvements         0.00         0           G50 Site Communications         0.00         0           G90 Miscellaneous Si					
D40 Fire Protection         0.00         0           D50 Electrical         2.98         450           D60 Communications         4.80         725           D70 Electronic Safety & Security         2.91         440           D80 Integrated Automation         0.00         0           E EQUIPMENT & FURNISHINGS         3.00         0           E10 Equipment         0.00         0           E20 Furnishings         0.00         0           F SPECIAL CONSTRUCTION         3.00         0           F10 Special Construction         0.00         0           F20 Facility Remediation         0.00         0           F30 Demolition         3.00         0           G SITEWORK         0.00         0           G10 Site Preparation         0.00         0           G20 Site Improvements         0.00         0           G30 Liquid & Gas Site Utilities         0.00         0           G40 Electrical Site Improvements         0.00         0           G50 Site Communications         0.00         0           G90 Miscellaneous Site Construction         3.00         0           G90 Miscellaneous Site Construction         3.00         0           Tota		•			
D50 below by D60 communications         2.98 below by D60 communications         4.80 below by D60 communications         725 below b		<u> </u>			
D60 December 10 Dec					
D70         Electronic Safety & Security D80         2.91         440           D80         Integrated Automation         0.00         0           E         EQUIPMENT & FURNISHINGS         Subtotal         10.68         1,615           E10         Equipment         0.00         0           E20         Furnishings         0.00         0           F subtotal         0.00         0           F10         Special Construction         0.00         0           F20         Facility Remediation         0.00         0           F30         Demolition         0.00         0           F30         Demolition         Subtotal         0.00         0           F30         Demolition         0.00         0         0           G20         Site Preparation         0.00         0         0           G30         Liquid & Gas Site Utilities         0.00         0         0           G40         Electrical Site Imp					
B80         Integrated Automation         0.00         0           E         EQUIPMENT & FURNISHINGS         Subtotal         10.68         1,615           E10         Equipment         0.00         0           E20         Furnishings         0.00         0           F         SPECIAL CONSTRUCTION         Subtotal         0.00         0           F10         Special Construction         0.00         0           F20         Facility Remediation         0.00         0           F30         Demolition         Subtotal         0.00         0           F30         Demolition         Subtotal         0.00         0           F30         Demolition         Subtotal         0.00         0           F30         Demolition         0.00         0         0           F30         Demolition         0.00         0         0           G10         Site Preparation         0.00         0         0         0           G20         Site Improvements         0.00         0         0         0         0         0         0         0         0         0         0         0         0         0         0					
Subtotal   10.68   1,615     E					
EQUIPMENT & FURNISHINGS           E10         Equipment         0.00         0           E20         Furnishings         0.00         0           F         SPECIAL CONSTRUCTION         Subtotal         0.00         0           F10         Special Construction         0.00         0           F20         Facility Remediation         0.00         0           F30         Demolition         Subtotal         0.00         0           G         SITEWORK         0.00         0           G10         Site Preparation         0.00         0           G20         Site Improvements         0.00         0           G30         Liquid & Gas Site Utilities         0.00         0           G40         Electrical Site Improvements         0.00         0           G50         Site Communications         0.00         0           G90         Miscellaneous Site Construction         Subtotal         0.00         0           Total Direct Costs (Building & Site)         32.17         4,864           Pre Construction Fees         0.00%         0.00         0           General Conditions         6.00%         1.93         292	D80	Integrated Automation			
Equipment   0.00   0   0   0   0   0   0   0   0	_		Subtotal	10.68	1,615
Purnishings   0.00					
Subtotal   0.00   0   0   0   0   0   0   0   0					0
F SPECIAL CONSTRUCTION           F10 Special Construction         0.00         0           F20 Facility Remediation         0.00         0           F30 Demolition         0.00         0           G SITEWORK         Subtotal         0.00         0           G10 Site Preparation         0.00         0         0           G20 Site Improvements         0.00         0         0           G30 Liquid & Gas Site Utilities         0.00         0         0           G40 Electrical Site Improvements         0.00         0         0           G50 Site Communications         0.00         0         0           G90 Miscellaneous Site Construction         0.00         0         0           Total Direct Costs (Building & Site)         32.17         4,864         4,864           Pre Construction Fees         0.00%         0.00         0           General Conditions         6.00%         1.93         292           General Requirements         12.00%         4.09         619           Contractor's Fee including Bonds, Insurance, B&O         7.00%         2.67         404	E20	Furnishings			
F10         Special Construction         0.00         0           F20         Facility Remediation         0.00         0           F30         Demolition         0.00         0           G         SITEWORK         Subtotal         0.00         0           G10         Site Preparation         0.00         0         0           G20         Site Improvements         0.00         0         0           G30         Liquid & Gas Site Utilities         0.00         0         0           G40         Electrical Site Improvements         0.00         0         0           G50         Site Communications         0.00         0         0           G90         Miscellaneous Site Construction         0.00         0         0           G90         Miscellaneous Site Construction         0.00         0         0         0           Total Direct Costs (Building & Site)         32.17         4,864         4,864         4			Subtotal	0.00	0
F20 Facility Remediation         0.00         0           F30 Demolition         0.00         0           Subtotal         0.00         0           G SITEWORK         Site Preparation         0.00         0           G20 Site Improvements         0.00         0           G30 Liquid & Gas Site Utilities         0.00         0           G40 Electrical Site Improvements         0.00         0           G50 Site Communications         0.00         0           G90 Miscellaneous Site Construction         0.00         0           G90 Miscellaneous Site Construction         Subtotal         0.00         0           Total Direct Costs (Building & Site)         32.17         4,864           Pre Construction Fees         0.00%         0.00         0           General Conditions         6.00%         1.93         292           General Requirements         12.00%         4.09         619           Contractor's Fee including Bonds, Insurance, B&O         7.00%         2.67         404					
F30         Demolition         Subtotal         0.00         0           G         SITEWORK         Contractor's Fee including 8 Site)         0.00         0           G10         Site Preparation         0.00         0           G20         Site Improvements         0.00         0           G30         Liquid & Gas Site Utilities         0.00         0           G40         Electrical Site Improvements         0.00         0           G50         Site Communications         0.00         0           G90         Miscellaneous Site Construction         0.00         0           G90         Miscellaneous Site Construction         0.00         0           Subtotal         0.00         0           O         0         0           Subtotal         0.00         0           O         0         0           Subtotal         0.00         0           O         0         0           O         0.00         0           Subtotal         0.00         0           O         0         0           O         0         0           O         0         0	F10	Special Construction		0.00	0
Subtotal   0.00   0   0   0   0   0   0   0   0	F20	Facility Remediation		0.00	0
G         SITEWORK           G10         Site Preparation         0.00         0           G20         Site Improvements         0.00         0           G30         Liquid & Gas Site Utilities         0.00         0           G40         Electrical Site Improvements         0.00         0           G50         Site Communications         0.00         0           G90         Miscellaneous Site Construction         0.00         0           Subtotal         0.00         0           Total Direct Costs (Building & Site)         32.17         4,864           Pre Construction Fees         0.00%         0.00         0           General Conditions         6.00%         1.93         292           General Requirements         12.00%         4.09         619           Contractor's Fee including Bonds, Insurance, B&O         7.00%         2.67         404	F30	Demolition		0.00	0
G10         Site Preparation         0.00         0           G20         Site Improvements         0.00         0           G30         Liquid & Gas Site Utilities         0.00         0           G40         Electrical Site Improvements         0.00         0           G50         Site Communications         0.00         0           G90         Miscellaneous Site Construction         0.00         0           Subtotal         0.00         0           Total Direct Costs (Building & Site)         32.17         4,864           Pre Construction Fees         0.00%         0.00         0           General Conditions         6.00%         1.93         292           General Requirements         12.00%         4.09         619           Contractor's Fee including Bonds, Insurance, B&O         7.00%         2.67         404			Subtotal	0.00	0
G20 Site Improvements         0.00         0           G30 Liquid & Gas Site Utilities         0.00         0           G40 Electrical Site Improvements         0.00         0           G50 Site Communications         0.00         0           G90 Miscellaneous Site Construction         0.00         0           Subtotal         0.00         0           Total Direct Costs (Building & Site)         32.17         4,864           Pre Construction Fees         0.00%         0.00         0           General Conditions         6.00%         1.93         292           General Requirements         12.00%         4.09         619           Contractor's Fee including Bonds, Insurance, B&O         7.00%         2.67         404	G	SITEWORK			
G20 Site Improvements         0.00         0           G30 Liquid & Gas Site Utilities         0.00         0           G40 Electrical Site Improvements         0.00         0           G50 Site Communications         0.00         0           G90 Miscellaneous Site Construction         0.00         0           Subtotal         0.00         0           Total Direct Costs (Building & Site)         32.17         4,864           Pre Construction Fees         0.00%         0.00         0           General Conditions         6.00%         1.93         292           General Requirements         12.00%         4.09         619           Contractor's Fee including Bonds, Insurance, B&O         7.00%         2.67         404	G10	Site Preparation		0.00	0
G30         Liquid & Gas Site Utilities         0.00         0           G40         Electrical Site Improvements         0.00         0           G50         Site Communications         0.00         0           G90         Miscellaneous Site Construction         0.00         0           Subtotal         0.00         0           Total Direct Costs (Building & Site)         32.17         4,864           Pre Construction Fees         0.00%         0.00         0           General Conditions         6.00%         1.93         292           General Requirements         12.00%         4.09         619           Contractor's Fee including Bonds, Insurance, B&O         7.00%         2.67         404					0
G40         Electrical Site Improvements         0.00         0           G50         Site Communications         0.00         0           G90         Miscellaneous Site Construction         0.00         0           Subtotal         0.00         0           Total Direct Costs (Building & Site)         32.17         4,864           Pre Construction Fees         0.00%         0.00         0           General Conditions         6.00%         1.93         292           General Requirements         12.00%         4.09         619           Contractor's Fee including Bonds, Insurance, B&O         7.00%         2.67         404					0
G50         Site Communications         0.00         0           G90         Miscellaneous Site Construction         0.00         0           Subtotal         0.00         0           Total Direct Costs (Building & Site)         32.17         4,864           Pre Construction Fees         0.00%         0.00         0           General Conditions         6.00%         1.93         292           General Requirements         12.00%         4.09         619           Contractor's Fee including Bonds, Insurance, B&O         7.00%         2.67         404					0
G90 Miscellaneous Site Construction         0.00 Subtotal         0.00 0         0           Total Direct Costs (Building & Site)         32.17 4,864         4,864           Pre Construction Fees         0.00% 0.00 0         0.00 0         0           General Conditions         6.00% 1.93 292         292           General Requirements         12.00% 4.09 619         6.00% 2.67 404					0
Total Direct Costs (Building & Site)         32.17         4,864           Pre Construction Fees         0.00%         0.00         0           General Conditions         6.00%         1.93         292           General Requirements         12.00%         4.09         619           Contractor's Fee including Bonds, Insurance, B&O         7.00%         2.67         404					
Total Direct Costs (Building & Site)         32.17         4,864           Pre Construction Fees         0.00%         0.00         0           General Conditions         6.00%         1.93         292           General Requirements         12.00%         4.09         619           Contractor's Fee including Bonds, Insurance, B&O         7.00%         2.67         404	000	Wilderia College Colle	Subtotal		
Pre Construction Fees         0.00%         0.00         0           General Conditions         6.00%         1.93         292           General Requirements         12.00%         4.09         619           Contractor's Fee including Bonds, Insurance, B&O         7.00%         2.67         404	Tot	al Direct Costs (Building & Cita)	- Castota.		
General Conditions         6.00%         1.93         292           General Requirements         12.00%         4.09         619           Contractor's Fee including Bonds, Insurance, B&O         7.00%         2.67         404	lot		0.000/		
General Requirements 12.00% 4.09 619 Contractor's Fee including Bonds, Insurance, B&O 7.00% 2.67 404					
Contractor's Fee including Bonds, Insurance, B&O 7.00% 2.67 404					
		·			
Total Construction Costs (incl. Contingencies) Mar-2023 40.87 6,179					
	Tot	al Construction Costs (incl. Contingencies)	Mar-2023	40.87	6,179

# **SOUNDTRANSIT**

Sound Transit			March 6, 2023
Fare Gates Study - DRAFT Seattle, WA			
University of Washington Station	Gross	Floor Area	151,168 SF
UNIVERSITY OF WASHINGTON STATION SUMMARY			
Design Allowance	30.00%	12.26	1,854
Allocated Contingency (8-15%)	15.00%	7.97	1,205
Total Construction Costs (incl. Contingencies & Escalation)	Mar-2023	61.11	9,238
ESTIMATED CONSTRUCTION COST	Mar-2023	61.11	9,238
Owner's Costs			
0111101 0 0 0000	25.00%		2,309
Design Costs			•
Construction Management	14.00%		1,293
Project Administration	8.00%		739
Permitting	0.25%		23
3rd Party	2.00%		185
Traffic Control	0.00%		0
Safety and Security Certification	1.00%		92
Unallocated Contingency	20.00%		1,848
ESTIMATED PROJECT COST	Mar-2023	104.04	15,727
Escalation			
	0.450/		205
2024	2.45%		385
2025	3.97%		639
2026	4.08%		684
2027	4.20%		732
ESTIMATED PROJECT COST	Mar-2023	120.18	18,167



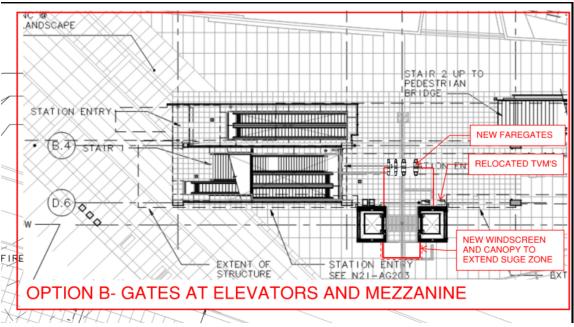
**SOUNDTRANSIT Sound Transit** 

Fare Gates Study - DRAFT Seattle, WA **University of Washington Station** 

Gross Floor Area 151,168 SF

Item Description	Quantity	Unit	Rate	Totals	
A10 FOUNDATIONS					Drawings provided by Jonathan Sirois
Subtotal - Foundations					
A20 SUBGRADE ENCLOSURES					0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Total - Subgrade Enclosures					
A40 SLABS-ON GRADE					
Subtotal - Slabs-On-Grade					
A60 WATER & GAS MITIGATION					OPTION A
Subtotal - Water & Gas Mitigation					
A90 SUBSTRUCTURE RELATED ACTIVITIES					ANDSCAPE
Subtotal - Substructure and Related Activities					STATION ENTRY
B10 SUPERSTRUCTURE					(B.4) STAIR =
Subtotal - Superstructure					D.6
B20 EXTERIOR VERTICAL ENCLOSURE					FIRE
B2010 Exterior Walls					OPTION B- GATE
Elevator surge area, 67"-6" exterior Demo and remove SOG	260	SF	8.00	2,080	
Wind screen, 10ft, Elevator Surge Area  New footing and stem wall, assume very low quality soils  Aluminum windscreen with steel support, assume 10ft tall	30 300	LF SF	1,500.00 250.00	45,000 75,000	

# EJ-5 & EJ-4 AT WALL SMART CARD READER TVM OPTION A & B- GATES AT BRIDGE ELEVATORS



Replace guardrail to remove risk of climbing

Fare Gates Study - DRAFT Seattle, WA
University of Washington Station

Gross Floor Area 151,168 SF

Oniversity of Washington Station					Closs floor Alea Tollito Gr
Item Description	Quantity	Unit	Rate	Totals	
					As builts for reference
Canopy					As builts for reference
Footings, allowance assume weak soils	2	EA	20,000.00	40,000	S CAENING VIGORET
Structure and cladding	2		15,000.00	30,000	
Glass and steel canopy	260	SF	275.00	71,500	SERVICE ACCESS THAT THE PLANE CAPE DE LEGION CONTRACTOR DE LEGION CONTRA
Connection to existing cladding system	24	LF	1,000.00	24,000	A A RELADED BLACK CARD REAGER 1-0-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1
Commodition to oxiding diadding dystem			1,000.00	21,000	
New SOG	260	SF	18.00	4,680	B C-S SMART CASH FRANCE IS SECTION
Re work tactile pavers	1	LS	4,000.00	4,000	OUAPGRAIL NO05 WP-3 ON STEEL FRAME
The Work tablile pavers	•		1,000.00	1,000	SMAPT CARD TO THE STANDARD A STAN
					Martin Barrance 5, 4 Reviews 1 Revie
					The state of the s
Elevator surge area, 67"-6", interior					SEPOLATOR SUPPLIES  WE-4-00' SEPOLATOR STRUCTURAL  NO TOPP IND STRUCTURAL  STRUCT BELOW  SEPOLATOR SUPPLIES  SEPOLATOR SUPPLIE
Demo and remove SOG	960	SF	8.00	7,680	
Wind screen, 10ft, Elevator Surge Area	300	OI.	0.00	7,000	TOURSET +82-11 LOUISET +82-11 LOUISE
New footing and stem wall, allow for footings or connecting to					SECOND STEEL FRANCE
existing structure	50	LF	2,000.00	100,000	B SJ-55 W H SSNATN STAR STAR STAR STAR STAR STAR STAR STAR
Repair to existing waterproofing	50	LF	50.00	2,500	NZ1 ADD 12 10 STRUCTURAL NZ1 ADD 12 TOOL 18 STRUCTURAL NZ1 ADD 12 STRUCTURAL NZ1 ADD
Screen wall with steel support, assume 10ft tall	500	SF	200.00	100,000	SMART CARD READER LIGHT CHANGES CHARGEAUL SSEED CHARGEAUL SSEE
Allow for connection to existing ceiling	50	LF	150.00	7,500	
New SOG	960	SF	18.00	17,280	PIB-B-BII
New SOG	900	SF	16.00	17,200	COLIN PAID FOR B. STRUCTION. NO. ACCESS
				531,220	
					28'-2\frac{4}{1}''- -28'-4"
					(B) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (75'-8"
Subtotal - Exterior Vertical Enclosure				531,220	
Subtotal - Exterior Vertical Efficiosure				551,220	-2" 27'-9" 33'-7" 36'-4" 36'-4" 35'-7" 27'-9" 46'-2"
					17'-10"
B30 EXTERIOR HORIZONTAL ENCLOSURE					N21-AX531 N21-AX532 N21-AX533 N21-AX534 N21-AX535 N21-AX542
B30 EXTERIOR HORIZONTAL ENGLOSURE					N21-AX531 N21-AX532 N21-AX533 N21-AX534 N21-AX535 N21-AX54 N21-AX542
					A N21-AX123
					N21-AX543
Subtotal - Exterior Horizontal Enclosure					
Subtotal - Exterior Horizontal Enclosure					
C10 INTERIOR CONSTRUCTION					
CIO INTERIOR CONSTRUCTION					BO LID ● MECHANICAL EL +55'-6"
C1090 Interior Specialties					MEZZANINE LEVEL
01000 interior opeciaties					BASEMENT LEVEL 1 EL +35 -0° BASEMENT LEVEL 1 EL +22 -0° BASEMENT LEVEL 2 EL +10 -0°
Remove existing TVM	6	EA	5,000.00	30,000	BASEMENT LEYEL 2
Temove existing TVW	<u> </u>	L/ \	0,000.00	00,000	BASEMENT LEVEL 3
Remove existing OCRA card readers and patch	10	EA	3,500.00	35,000	
			5,550.00	23,000	PLATFORM LEVEL EL VARTES
Screen 10ft, Elevator Surge Area 88"-6" Bridge level, no topping					The state of the s
slab looks to exist					
X ray precast bridge	1	LS	1,500.00	1,500	adining escapending escape and a preparation and animal escape and a second will be a second to be a second to
Connection to existing slab	27	LF	150.00	4,050	
Reinforced concrete curb	27	LF	200.00	5,400	N21-AD666 A
Aluminum windscreen with steel support, assume 10ft tall	270	SF	200.00	54,000	
Replace guardrail to remove risk of climbing	150		200.00	30,000	

150 SF

200.00

30,000

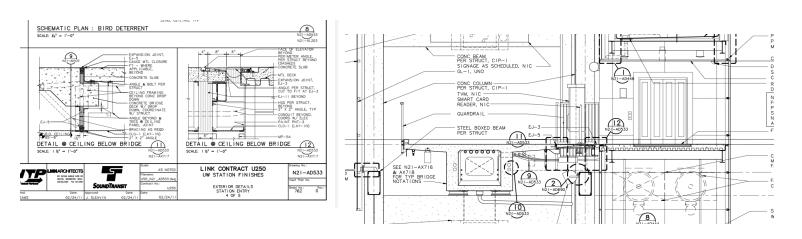
# **SOUNDTRANSIT**

**Sound Transit** 

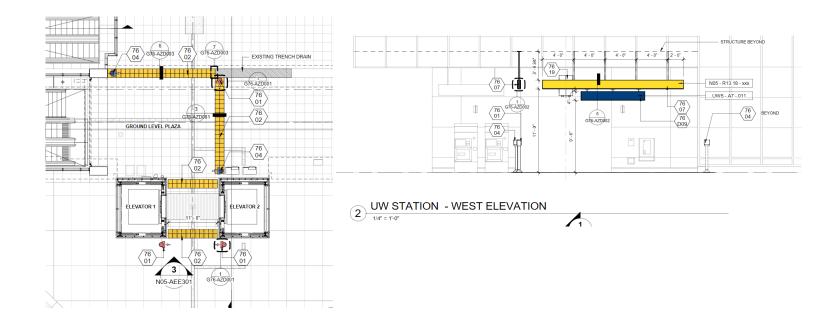
Fare Gates Study - DRAFT Seattle, WA University of Washington Station

Gross Floor Area 151,168 SF

Item Description	Quantity	Unit	Rate	Totals
Expansion joint detail at screen Allow for connection to existing ceiling	20	LF	300.00	6,000
	27	LF	150.00	4,050
Fare gate prep Allow for connection to existing structure, precast, assume epoxy anchor detail Allow for connection to existing structure, concrete pad to finished elevation Repair finish to surrounding	12	EA	500.00	6,000
	4	EA	2,000.00	8,000
	16	EA	2,000.00	32,000
Fare gates Standard ADA Premium for bridge level to mezz - core, firestop, waterproof, architectural detailing Premium for entrance level to mezz - core, firestop, waterproof, architectural detailing	8 8 4 4	EA EA EA	65,000.00 70,000.00 10,000.00 8,000.00	520,000 560,000 40,000 32,000
Fare gate side walls, Mezz Connection to existing slab Reinforced concrete curb Aluminum screen with steel support, assume 10ft tall Allow for connection to existing ceiling Re work tactile pavers Allow for emergency egress gates, including supports, including electrical connection?? Or push bar?? Included after subsequent conversation with Jonathan Sirois	115	LF	150.00	17,250
	115	LF	140.00	16,100
	270	SF	200.00	54,000
	115	LF	150.00	17,250
	1	LS	4,000.00	4,000
TVM relocation Demo at new TVM location Allow for wall structure to support TVM Architectural detailing at new TVM location TVM relocation, allowance	6 6 6	EA EA EA	2,000.00 3,000.00 20,000.00 10,000.00	12,000 18,000 120,000 60,000



Fare paid zone drawings for reference



1,806,600

Subtotal - Interior Construction 1,806,600

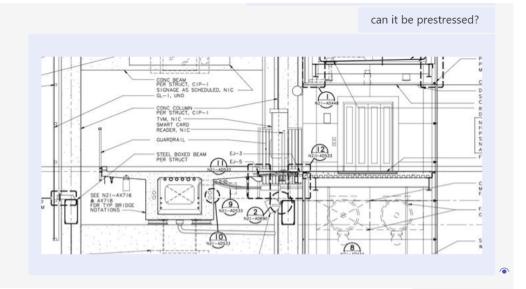
# **SOUNDTRANSIT**

Fare Gates Study - DRAFT Seattle, WA

Gross Floor Area 151,168 SF

Iniversity of Washington Station				
Item Description	Quantity	Unit	Rate	Totals
C2010 Wall Finishes				
Patch and repair wall	1	LS	40,000.00	40,000
				40,000
C2020 Interior Fabrications				
New and modify existing signage and wayfinding	4	LS	20,000.00	80,000
	•			80,000
C2030 Flooring				
Patch and repair ceiling at conduit run	1	LS	5,000.00	5,000
Pavement detection, allow	1,200	LF	130.00	156,000
Undo "Fare Paid" Zone work	1	LS	300,000.00	300,000
Remove tile, mezz level	1,500	SF	20.00	30,000
Replace tile (thick set) mezz level	1,500	SF	200.00	300,000
				791,000
Subtotal - Interior Finishes				911,000
10 CONVEYING				
Subtotal - Conveying				
20 PLUMBING				
Subtotal - Plumbing				
30 HEATING, VENTILATION & AIR CONDITIONING				
Subtotal - Heating, Ventilation & Air Conditioning				
40 FIRE PROTECTION				
Subtotal - Fire Protection				

# Potential Risk at Bridge





# Egan, Edward 10:20 AM

The boxed section of the bridge were likely prestressed at the factory and shipped to the site in a completed form. I would not recommend core drilling as an exploratory exercise though. ST should be able to figure out where some obvious anchorage locations are from the drawings.

## 10:41 AM

What are your thoughts on anchoring into the prestressed bridge? Can we at least do that?



# Egan, Edward 10:49 AM

The prestressed strands should be in the lower boxed section. The flat upper walking deck should be mild reinforcing, like #5 at 10" Each way. A contractor should be able to scan and avoid the the reinforcement and get proper embedment of the anchors.





Fare Gates Study - DRAFT Seattle, WA
University of Washington Station

**Subtotal - Communications** 

March 6, 2023

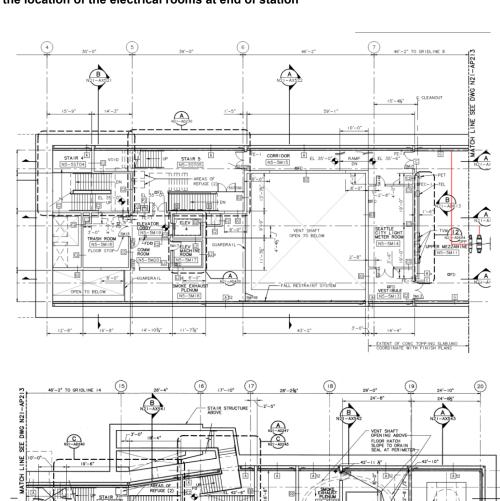
Gross Floor Area 151,168 SF

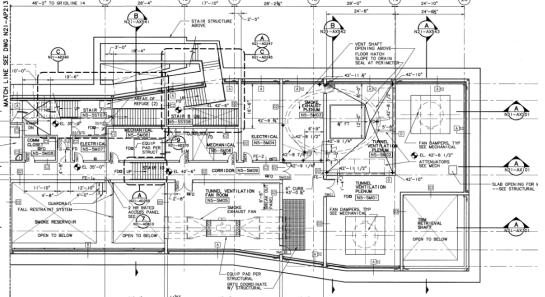
I. SEE DRAWING P

Item Description	Quantity	Unit	Rate	Totals
0 ELECTRICAL				
D5000 Electrical				
TVM Rework power at existing TVM location New TVM location	6	EA EA	5,000.00 15,000.00	90,000
Fare gates Fare gates	12	EA	25,000.00	300,000
New lighting allowance	4	LOC	15,000.00	60,000
Need to be connected to back up power				
				450,000
Subtotal - Electrical				450,000
0 COMMUNICATIONS				
D6010 Data Communications				
Data connection Rework power at existing TVM location New TVM location Fare gates Fare gates with fire alarm connection Reprogram fire alarm Fare gates with BMS connection Reprogram BMS Call box	6 6 12 12 1 1 1 8	EA EA EA LS LS LS	5,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 25,000.00	30,000 90,000 180,000 180,000 15,000 15,000 200,000
				725,000

725,000

# Note the location of the electrical rooms at end of station







Fare Gates Study - DRAFT Seattle, WA
University of Washington Station

Gross Floor Area 151,168 SF

Item Description	Quantity	Unit	Rate	Totals
D70 ELECTRONIC SAFETY & SECURITY				
D7010 Access Control and Intrusion Detection				
CCTV - allowance - assume 6 cameras per location	4	LOC	50,000.00	200,000
Audio prompt system	4	LOC	30,000.00	120,000
Fire alarm, allowance devices etc.	4	LOC	30,000.00	120,000
				440,000
Subtotal - Electronic Safety & Security				440,000
D80 INTEGRATED AUTOMATION				
Subtotal - Integrated Automation				
E10 EQUIPMENT				
Subtotal - Equipment				
E20 FURNISHINGS				
Subtotal - Furnishings				
F10 SPECIAL CONSTRUCTION				
Subtotal - Special Construction				
F20 FACILITY REMEDIATION				



Fare Gates Study - DRAFT Seattle, WA
University of Washington Station

Gross Floor Area 151,168 SF

Item Description	Quantity Unit	Rate	Totals
Subtotal - Facility Remediation			
F30 DEMOLITION			
Subtotal - Demolition			
G10 SITE PREPARATION			
Subtotal - Site Preparation			
G20 SITE IMPROVEMENT			
Subtotal - Site Improvement			
G30 LIQUID & GAS SITE UTILITIES			
Subtotal - Liquid & Gas Site Utilities			
G40 ELECTRICAL SITE IMPROVEMENTS			
Subtotal - Electrical Site Improvement			
G50 SITE COMMUNICATIONS			
Subtotal - Site Communication	<u>-</u>		
G90 MISCELLANEOUS SITE CONSTRUCTION			
Subtotal - Miscellaneous Site Construction			



**Conceptual Study** 

Sound Transit
Fare Gates Study - DRAFT Seattle, WA
Northgate Station

March 6, 2023

Schedule of Areas	SF	SF
Enclosed Areas "Northgate Station" GFA	126,378	
Subtotal, Enclosed Area		126,378
Covered Area  Building overhang		
Subtotal, Covered Area		
Covered Area @ 50%		
TOTAL GROSS FLOOR AREA		126,378





Sound Transit March 6, 2023

Fare Gates Study - DRAFT Seattle, WA

Northgate Station Gross Floor Area 126,378 SF

NORT	HGATE STATION SUMMARY			
Item	Description		Cost	Total
			\$/SF	(\$x1,000)
٨	SUBSTRUCTURE			
Α Λ10	SUBSTRUCTURE Foundations		0.00	0
A20			0.00	0
	Slabs-On-Grade		0.00	0
	Water and Gas Mitigation		0.00	
A90	_		0.00	0
A90	Substitucture Related Activities	Subtotal _	0.00	0
В	SHELL	Subiolai	0.00	U
	Superstructure		0.00	0
B20			1.95	247
B30	Exterior Vertical Enclosure  Exterior Horizontal Enclosure		0.00	
D30	Exterior Horizontal Efficiosure	Subtotal _	1.95	0 247
C	INTEDIODS	Subtotal	1.95	241
C C10	INTERIORS Interior Construction		9.99	1,262
C20	Interior Finishes		3.57	452
C20	interior Finishes	Subtotal _	13.56	1,714
D	SED/ICES	Subtotal	13.30	1,7 14
	SERVICES Conveying		0.00	0
				0
	Plumbing		0.00	0
D30	Heating, Ventilation & Air Conditioning		0.00	0
			0.00	0
D50	Electrical		2.82	356
	Communications		5.07	641
	Electronic Safety & Security		2.61	330
D80	Integrated Automation	Cubtatal	0.00	0
_	FOLUDMENT & FUDNICHINGS	Subtotal	10.50	1,327
E	EQUIPMENT & FURNISHINGS		0.00	0
E10	Equipment		0.00	0
E20	Furnishings	Cubtatal	0.00	0
_	CDECIAL CONCEDUCTION	Subtotal	0.00	0
F	SPECIAL CONSTRUCTION Special Construction		0.00	0
F10	Special Construction		0.00	0
F20	Facility Remediation Demolition		0.00	0
F30	Demoliuon	Cubtatal	0.00	0
_	CITEMODIC	Subtotal	0.00	U
G	SITEWORK Site Department		0.00	0
	Site Preparation		0.00	0
	Site Improvements		0.00	0
	Liquid & Gas Site Utilities		0.00	0
	Electrical Site Improvements		0.00	0
	Site Communications		0.00	0
G90	Miscellaneous Site Construction	Cubtatal	0.00	0
		Subtotal	0.00	0
Tot	al Direct Costs (Building & Site)		26.01	3,288
	Pre Construction Fees	0.00%	0.00	0
	General Conditions	6.00%	1.56	197
	General Requirements	12.00%	3.31	418
	Contractor's Fee including Bonds, Insurance, B&O	7.00%	2.16	273
Tot	al Construction Costs (incl. Contingencies)	Mar-2023	33.05	4,176

# **SOUNDTRANSIT**

Sound Transit	March 6, 2023			
Fare Gates Study - DRAFT Seattle, WA Northgate Station	Gross Floor Area		126,378 SF	
NORTHGATE STATION SUMMARY				
Design Allowance	30.00%	9.91	1,253	
Allocated Contingency (8-15%)	15.00%	6.44	814	
ESTIMATED CONSTRUCTION COST	Mar-2023	49.40	6,243	
Owner's Costs				
Design Costs	25.00%		1,561	
Construction Management	14.00%		874	
Project Administration	8.00%		499	
Permitting	0.25%		16	
3rd Party	2.00%		125	
Traffic Control	0.00%		0	
Safety and Security Certification	1.00%		62	
Unallocated Contingency	20.00%		1,249	
ESTIMATED PROJECT COST	Mar-2023	84.11	10,629	
Escalation				
2024	2.45%		260	
2024	3.97%		432	
2026	4.08%		462	
2027	4.20%		495	
2021	4.2070		433	
ESTIMATED PROJECT COST	Mar-2023	97.15	12,278	



Fare Gates Study - DRAFT Seattle, WA
Northgate Station

March 6, 2023

Iorthgate Station  Item Description	Quantity Unit Rate Totals	Gross Floor Area	126,378 SF
10 FOUNDATIONS	Surface Level Drawings From Jonathan Sirois	THE THE PARTY NAMED IN COLUMN TO THE PARTY NA	
Total - Subgrade Enclosures	SHOT TO DIED CILL  THE TOTAL  THE	COMMUNICATION CONTROL TO CONTROL CONTROL TO	2 3 3 3 3 3 3 3 3
40 SLABS-ON GRADE	SANTANCATES	CONTROL PROPERTY OF THE PROPER	1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Subtotal - Slabs-On-Grade	THE COLOR TO EXCENT POSITION. TO CALL P. CANTE.  TO SERV EXCENT POSITION. TO CANTE.  THE COLOR SERVICE POSITION. THE CANTE.  THE COLOR SERVICE POSITION.	FOOR OF PRATFORM	S 1 2 (188)
60 WATER & GAS MITIGATION	THE WASTER, AND GLASS POWER  CETTED SICH PLOTTED  AND SICH PLOTTED	STAPLANEND ACCUS	
Subtotal - Water & Gas Mitigation	SOUTH AND CONTRIBUTE OF THE PROPERTY OF THE PR	STAFF STEEN STAFF SEE NIGHTS SEE	
90 SUBSTRUCTURE RELATED ACTIVITIES	TRASH SECYCLE FUTURE VEN		<b>2</b>
Subtotal - Substructure and Related Activities	Mezzanine Level Drawings From Jonathan Sirois	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
10 SUPERSTRUCTURE	OVERHEAD CAR NO OVERHEAD CAR N	COSC (PEAM - UP THE TOTAL COST (PEAM - UP THE	_
Subtotal - Superstructure	EMPLOSATE FORESS EMERGENCY	RENATION STATE OF THE STATE OF	
	SO S SOLAR PET S	SOUNG TOWNS OF THE SOUNG OF	
	STUROUT - DEED STRUCT - PD  SOLAND SO	TOTAL THE PROPERTY OF THE PROP	
		PD CONC CURB THAN 1400 THE CONC CURB RECEPTACES	



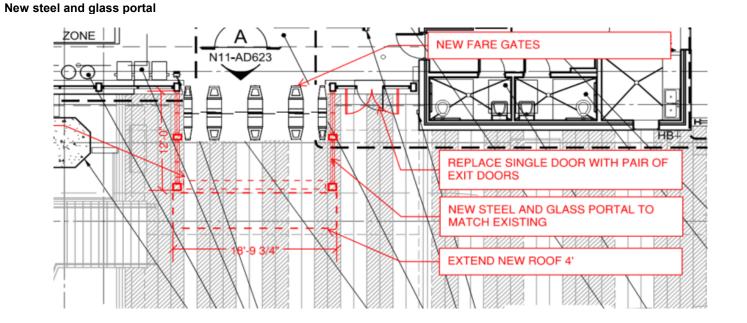
Fare Gates Study - DRAFT Seattle, WA

Gross Floor Area

126.378 SF

Northgate Station				Gross Floor Area 120,376 SF
Item Description	Quantity Unit	Rate	Totals	
B20 EXTERIOR VERTICAL ENCLOSURE				
B2020 Exterior Windows				
Storefront replacement Demo and remove storefront New storefront Glazed double door	63 SF 63 SF 1 EA	30.00 150.00 8,000.00	1,890 9,450 8,000	Storefront replacement  HB
				REPLACE SINGLE DOOR WITH PAIR OF EXIT DOORS

### New steel and glass portal Roof 320 SF Cut and demo and remove colored concrete and pavers, chip around rebar 400 SF 20.00 8,000 400 SF Repair rebar as needed, allow 4.00 1,600 Footing, 14'x5' Structural excavation Formwork 56 SF 16.00 896 Allow for connection to existing 2 EΑ 500.00 1,000 Reinforcing steel, allow 150#/CY 778 LB 3.00 2,333 CY 1,000.00 5,185 Concrete 5 Stem wall 56 SF 16.00 896 Formwork 2 EΑ Allow for connection to existing 500.00 1,000 207 LB 622 Reinforcing steel, allow 150#/CY 3.00 CY 1,000.00 1,037 Concrete 400 SF Replace slab 20.00 8,000 EΑ 500.00 Anchor bolt, sets 4 2,000 320 SF 500.00 160,000 Steel canopy SF Glass portal, assume storefront 192 150.00 28,800 Relocated rollup door 1 EΑ 4,000.00 4,000 EΑ 2,000.00 2,000 Patch previous rollup door location



NEW STEEL AND GLASS PORTAL TO

246,710

246,710



Sound Transit
Fare Gates Study - DRAFT Seattle, WA
Northgate Station

March 6, 2023

Item Description Quantity Unit Rate Totals Gross Floor Area 126,378 SF

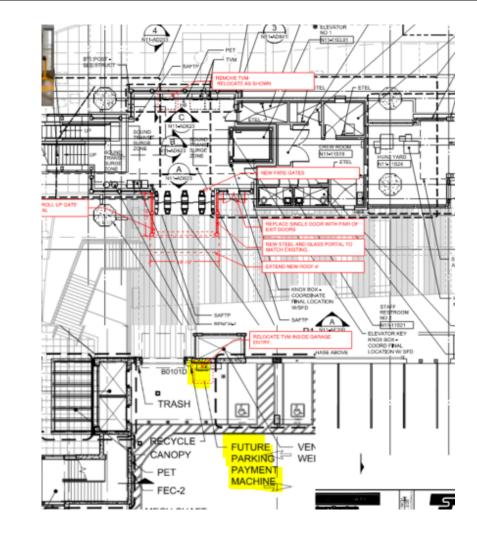
### **B30 EXTERIOR HORIZONTAL ENCLOSURE**

**Subtotal - Exterior Horizontal Enclosure** 

### **C10 INTERIOR CONSTRUCTION**

### **C1090 Interior Specialties**

Subtotal - Interior Construction				1,262,400
	<u>-</u>			1,262,400
Rework existing TVM kiosk	3	EA	25,000.00	75,000
TVM relocation, allowance	3	EA	10,000.00	30,000
Architectural detailing at new TVM location	3	EΑ	30,000.00	90,000
Allow for wall structure to support TVM	3	EΑ	3,000.00	9,000
TVM relocation  Demo at new TVM location	3	EA	2,000.00	6,000
Wall system allowance, allow 8ft tall	60	LF	1,600.00	96,000
Repair finish to surrounding	120	LF	100.00	12,000
Reinforced concrete curb	60	LF	140.00	8,400
Fare gate side walls Allow for connection to existing structure	60	LF	150.00	9,000
ADA	4	EΑ	70,000.00	280,000
Fare gates Standard	9	EA	65,000.00	585,000
Face water				
Repair finish to surrounding	13	EA	1,000.00	13,000
Fare gate prep Allow for connection to existing structure	13	EA	1,000.00	13,000
Remove existing OCRA card readers and patch	6	EA	3,500.00	21,000
Remove existing TVM	3	EA	5,000.00	15,000









Fare Gates Study - DRAFT Seattle, WA
Northgate Station

Subtotal - Plumbing

March 6, 2023

Northgate Station					Gross	s Floor Area	126,378 SF
Item Description	Quantity	Unit	Rate	Totals			
C20 INTERIOR FINISHES							
C2010 Wall Finishes							
Patch and repair wall, allow	1	LS	30,000.00	30,000			
				30,000			
C2020 Interior Fabrications							
New and modify existing signage and wayfinding	3	LOC	20,000.00	60,000			
				60,000			
C2030 Flooring							
Pavement detection, allow	600	LF	130.00	78,000			
Undo "Fare Paid" Zone work	1	LS	200,000.00	200,000			
Remove tile Replace tile (thin set)	1,070 1,070		10.00 40.00	10,700 42,800			
				331,500			
C2050 Ceiling Finishes				Re	move and rework MC ceiling		
Patch and repair ceiling at conduit run	1	LS	30,000.00	30,000	MC-1  CONC BEAM - SEE STRUCT  GUIDEWAY GUARDRAIL - SEE STRUCT		
				30,000	GUIDEWAY BEAM - SEE STRUCT  METAL FLASHING	EL 303' NORTH	-3 1/2" — •
Subtotal - Interior Finishes				451,500	STL BEAM - SEE STRU	EL 300'	-5 1/4" — •
D10 CONVEYING					MONORAIL STL POST - SEE STRU LIGHTING FIXTURE	ст	
Subtotal - Conveying					AS SCHEDULED CW-1 GDR-4	EL 280' MEZZA	
D20 PLUMBING					SAFTP MP-14  CONC SLAB - SEE STR  CONC BEAM - SEE STR		-0" (LOBBY
Subtotal - Plumbing					MC-1		



Fare Gates Study - DRAFT Seattle, WA
Northgate Station

Gross Floor Area 126,378 SF

Item Description	Quantity	Unit	Rate	Totals
30 HEATING, VENTILATION & AIR CONDITIONING				
Subtotal - Heating, Ventilation & Air Conditioning				
40 FIRE PROTECTION				
D4010 Fire Suppression				
	-			0
Subtotal - Fire Protection				
50 ELECTRICAL				
D5000 Electrical				
TVM				
Rework power at existing TVM location New TVM location	3	EA EA	2,000.00 15,000.00	6,000 45,000
Fare gates				
Fare gates	13	EA	20,000.00	260,000
New lighting allowance	3	LOC	15,000.00	45,000
Need to be connected to back up power				
	-			356,000
Subtotal - Electrical	7			356,000
60 COMMUNICATIONS				
D6010 Data Communications				
Data connection				
Rework power at existing TVM location	3	EA	2,000.00	6,000
New TVM location	3 1	EA EA	15,000.00 5,000.00	45,000 5,000
Premium for TVM in garage Fare gates	13	EA	15,000.00	195,000
Fare gates with fire alarm connection	13	EA	15,000.00	195,000
Reprogram fire alarm	1	LS	15,000.00	15,000
Fare gates with BMS connection	1	LS	15,000.00	15,000
Reprogram BMS	1	LS	15,000.00	15,000
Call box	6	EA	25,000.00	150,000
	-			044 000

641,000

126,378 SF



Fare Gates Study - DRAFT Seattle, WA
Northgate Station

March 6, 2023

**Gross Floor Area** 

Item Description	Quantity	Unit	Rate	Totals
Subtotal - Communications				641,000
70 ELECTRONIC SAFETY & SECURITY				
D7010 Access Control and Intrusion Detection				
CCTV - allowance - assume 6 cameras per location	3	LOC	50,000.00	150,000
Audio prompt system	3	LOC	30,000.00	90,000
Fire alarm, allowance devices etc.	3	LOC	30,000.00	90,000
	_			
				330,000
				200 000
Subtotal - Electronic Safety & Security				330,000
80 INTEGRATED AUTOMATION				
Subtotal - Integrated Automation				
0 EQUIPMENT				
V Eggii MENT				
Subtotal - Equipment				
20 FURNISHINGS				
Subtotal - Furnishings				
0 SPECIAL CONSTRUCTION				
0 SPECIAL CONSTRUCTION				

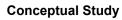


**Sound Transit** Fare Gates Study - DRAFT Seattle, WA Northgate Station

126,378 SF

**Gross Floor Area** 

Hortingate otation			Ologgi lool Alea
Item Description	Quantity Unit Rate	Totals	
F20 FACILITY REMEDIATION			
Subtotal - Facility Remediation			
0 DEMOLITION			
Subtotal - Demolition			
10 SITE PREPARATION			
Subtotal - Site Preparation			
G20 SITE IMPROVEMENT			
Subtotal - Site Improvement			
30 LIQUID & GAS SITE UTILITIES			
Subtotal - Liquid & Gas Site Utilities			
40 ELECTRICAL SITE IMPROVEMENTS			
Subtotal - Electrical Site Improvement			
50 SITE COMMUNICATIONS			
Subtotal - Miscellaneous Site Construction			





Sound Transit
Fare Gates Study - DRAFT, Seattle, WA
Othello Station

March 6, 2023

Schedule of Areas	SF	SF
Enclosed Areas "Othello Station"		
East Platform	6,104	
West Platform	6,306	
Subtotal, Enclosed Area	-	12,410
Covered Area  Building overhang		
Subtotal, Covered Area		
Covered Area @ 50%		
TOTAL GROSS FLOOR AREA		12,410



Sound Transit March 6, 2023

Fare Gates Study - DRAFT, Seattle, WA

Othello Station Gross Floor Area 12,410 SF

OTHE	ELLO STATION SUMMARY			
Item	Description		Cost	Total
			\$/SF	(\$x1,000)
Α	SUBSTRUCTURE			
	Foundations		0.00	0
A20			0.00	0
	Slabs-On-Grade		0.00	0
	Water and Gas Mitigation		0.00	0
	Substructure Related Activities		0.00	0
730	Oubstructure Related Activities	Subtotal	0.00	0
В	SHELL	Oubtotal	0.00	O
	Superstructure		0.00	0
	Exterior Vertical Enclosure		0.00	0
	Exterior Horizontal Enclosure		0.00	0
D30	Exterior Florizontal Enclosure	Subtotal	0.00	0
С	INTERIORS	Subiolai	0.00	U
C10			74.46	924
C20	Interior Finishes			
C20	interior Finishes	Subtotal	47.04	584
Ь	SED/ICES	Subiolai	121.50	1,508
D	SERVICES Companies		0.00	0
	Conveying		0.00	0
	Plumbing		0.00	0
	Heating, Ventilation & Air Conditioning		0.00	0
	Fire Protection		0.00	0
	Electrical		9.67	120
	Communications		25.46	316
	Electronic Safety & Security		9.02	112
D80	Integrated Automation	- · · · · · -	0.00	0
_		Subtotal	44.16	548
E	EQUIPMENT & FURNISHINGS			
E10			0.00	0
E20	Furnishings	<u>-</u>	4.83	60
		Subtotal	4.83	60
F	SPECIAL CONSTRUCTION			
	Special Construction		0.00	0
F20	Facility Remediation		0.00	0
F30	Demolition	_	0.00	0
		Subtotal	0.00	0
G	<u>SITEWORK</u>			
G10	Site Preparation		0.00	0
G20	Site Improvements		157.40	1,953
G30	Liquid & Gas Site Utilities		0.00	0
G40	Electrical Site Improvements		0.00	0
G50	Site Communications		0.00	0
G90	Miscellaneous Site Construction		0.00	0
		Subtotal	157.40	1,953
Tot	al Direct Costs (Building & Site)		327.89	4,069
Z	GENERAL REQUIREMENTS			,
	Pre Construction Fees	0.00%	0.00	0
	General Conditions	6.00%	19.66	244
	General Requirements	12.00%	39.32	488
	Contractor's Fee including Bonds, Insurance, B&O	7.00%	27.08	336
Tof	al Construction Costs (incl. General Requirements and Fees)	7.0070	413.96	5,137
100	ai construction costs (incl. General Requirements and Fees)		413.30	J, 13 <i>1</i>

# **SOUNDTRANSIT**

Sound Transit		N	larch 6, 2023	
Fare Gates Study - DRAFT, Seattle, WA Othello Station	Gross	Gross Floor Area		
OTHELLO STATION SUMMARY				
Design Allowance	30.00%	124.17	1,541	
Allocated Contingency (8-15%)	15.00%	80.72	1,002	
Total Construction Costs (incl. Contingencies)		618.85	7,680	
ESTIMATED CONSTRUCTION COST	Mar-2023	618.85	7,680	
Owner's Costs				
Design Costs	25.00%		1,920	
Construction Management	14.00%		1,075	
Project Administration	8.00%		614	
Permitting	0.25%		19	
3rd Party	2.00%		154	
Traffic Control	0.00%		C	
Safety and Security Certification	1.00%		77	
Unallocated Contingency	20.00%		1,536	
ESTIMATED PROJECT COST	Mar-2023	1,053.59	13,075	
Escalation				
2024	2.45%		320	
2025	3.97%		532	
2026	4.08%		568	
2027	4.20%		609	
ESTIMATED PROJECT COST	2027	1,217.04	15,103	



**Subtotal - Exterior Vertical Enclosure** 

Sound Transit

Fare Gates Study - DRAFT, Seattle, WA

Othello Station

Item Description	Quantity Unit Rate	otals
A10 FOUNDATIONS		Platform Drawings From Jonathan Sirois
Subtotal - Foundations		OPTION A- WIDEN PLATFORM, ADD CANOPY AND WINDSCREENS
A20 SUBGRADE ENCLOSURES		20'-0"
Total - Subgrade Enclosures		23 22 49 79 78 38 31 24 16 J
A40 SLABS-ON GRADE		NEW FARE GATES
Subtotal - Slabs-On-Grade		NB TICKET VENDING  (B)  (B)  (C)  (C)  (C)  (C)  (C)  (C)
A60 WATER & GAS MITIGATION		P PC CONC   18'-0"   DISTANCE TO FIRST   M (380'-0")   TRAIN DOOR
Subtotal - Water & Gas Mitigation		OPTION A- WIDEN PLATFORM, ADD CANOPY AND WINDSCREENS  3 20-0'   16'-0'   3 16'-0'   3 20'-0'   7 28'-0'   8 28'-0'   9
A90 SUBSTRUCTURE RELATED ACTIVITIES		B NEW WOODCHEIN  NO AUT  NO AU
Subtotal - Substructure and Related Activities		(TRACKS IDE RAIL ING ONLY)  (COL) TRACKS IDE RAIL ING ONLY)  (COL) TRACKS IDE RAIL ING ONLY)
B10 SUPERSTRUCTURE		SB FORTORN  SB ENTRY WALKWAY  SB TOKET  SB TOKET  SB TOKET  SB TOKET  SB PATTORN  SB PATTO
Subtotal - Superstructure		REMOVE ORGA READER  TYP  TYP  TYP  TYP  TYP  TYP  TYP  TY
B20 EXTERIOR VERTICAL ENCLOSURE		SCALE: 1/8" = 1"-0"  SCALE: 1/8" = 1"-0"  OPTION B- RELOCATE TVM'S, ADD CANOPY AND WINDSCREENS  NOTES:  Two sided led "pedestrian warning" sign and addible bell in the signal pole. SEE TRAFFIC SHEETS  I. FOR ARCHITECTURAL GENERAL NOTES, SEE DWG NO L50-AZOI.



Fare Gates Study - DRAFT, Seattle, WA
Othello Station

March 6, 2023

Gross Floor Area 12,410 SF

Item Description	Quantity Ur	nit R	ate '	Totals	
B30 EXTERIOR HORIZONTAL ENCLOSURE					

**Subtotal - Exterior Horizontal Enclosure** 

## C1090 Interior Specialties

**C20 INTERIOR FINISHES** 

C2010 Wall Finishes

Patch and repair existing

**C10 INTERIOR CONSTRUCTION** 

1030 interior opeciaties					
Remove existing TVM	8	EA	5,000.00	40,000	Street View of Existing TVM and Orca Readers
Remove existing OCRA card readers and patch	8	EA	3,500.00	28,000	
Fare gate prep Allow for connection to existing structure, concrete pad to finish elevation	8	EA	4,000.00	32,000	
Repair finish to surrounding	8	EA	2,000.00	16,000	
Fare gates Standard	4	EA	65,000.00	260,000	₹ Link
ADA	4	EA	70,000.00	280,000	
TVM relocation					
Demo at new TVM location	4	EA	2,000.00	8,000	
Allow for wall structure to support TVM, may need to concrete			,	,	- 170 GM
pad	4	EA	10,000.00	40,000	
Architectural detailing at new TVM location	4	EA	20,000.00	80,000	
TVM relocation, allowance	4	EA	10,000.00	40,000	
Rework existing TVM kiosk	4	EA	25,000.00	100,000	
	=			924,000	
Subtotal - Interior Construction				924,000	



1 LS

10,000.00

10,000



Fare Gates Study - DRAFT, Seattle, WA
Othello Station

Othello Station				
Item Description	Quantity	Unit	Rate	Totals
C2020 Interior Fabrications				
New and modify existing signage and wayfinding	4	LOC	10,000.00	40,000
				40,000
C2030 Flooring				
Pavement detection, allow length of station	800	LF	130.00	104,000
Undo "Fare Paid" Zone work	1	LS	275,000.00	275,000
Remove tile at new fare gates	000	05	00.00	40.000
Remove tile	600	SF	20.00	12,000
Saw cut concrete	240	LF	20.00	4,800
Chip and remove concrete, protect existing rebar	600	SF	30.00	18,000
Replace tile (thick set)	600	SF	200.00	120,000
				533,800
C2040 Stair Finishes				
				0
C2050 Ceiling Finishes				
				0
Subtotal - Interior Finishes				583,800
D10 CONVEYING				
Subtotal - Conveying				
D20 PLUMBING				
Subtotal - Plumbing				
D30 HEATING, VENTILATION & AIR CONDITIONING				





Fare Gates Study - DRAFT, Seattle, WA
Othello Station

Item Description	Quantity	Unit	Rate	Totals
Subtotal - Heating, Ventilation & Air Conditioning				
040 FIRE PROTECTION				
Subtotal - Fire Protection				
050 ELECTRICAL				
D5010 Facility Power Generation				
TVM Rework power at existing TVM location New TVM location, run power to box and use existing 2" conduit	4	EA	5,000.00	20,000
to electrical cabinet	4	EA	3,000.00	12,000
Fare gates Fare gates, run power to box and use existing 2" conduit to electrical cabinet and conduit to fare gates	8	EA	8,000.00	64,000
New lighting allowance	4	LOC	6,000.00	24,000
Need to be connected to back up power				
				120,000
Subtotal - Electrical				120,000
060 COMMUNICATIONS				
D6010 Data Communications				
Data connection Rework power at existing TVM location New TVM location, run cable to box and use existing 1" conduit	4	EA	5,000.00	20,000
cabinet  Fare gates, run cable to box and use existing 1" conduit cabinet	4	EA	8,000.00	32,000
•	8	EA	8,000.00	64,000
No fire alarm at grade stations Call box	8	EA	25,000.00	200,000
	-			316,000
Subtotal - Communications				316,000



Fare Gates Study - DRAFT, Seattle, WA
Othello Station

March 6, 2023

Item Description	Quantity	Unit	Rate	Totals
070 ELECTRONIC SAFETY & SECURITY				
D7010 Access Control and Intrusion Detection				
CCTV - allowance - assume 2 cameras per location	4	LOC	18,000.00	72,000
Audio prompt system	4	LOC	10,000.00	40,000
Fire alarm, allowance devices etc. No fire alarm and fire sprinkler at this station				
	-			112,000
Subtotal - Electronic Safety & Security				112,000
80 INTEGRATED AUTOMATION				
Subtotal - Integrated Automation				
10 EQUIPMENT				
Subtotal - Equipment				
20 FURNISHINGS				
E2010 Fixed Furnishings				
Allow for rework of existing bench and site furnishing	4	LOC	15,000.00	60,000
	-			60,000
Subtotal - Furnishings				60,000
F10 SPECIAL CONSTRUCTION				









Fare Gates Study - DRAFT, Seattle, WA
Othello Station

March 6, 2023

Item Description	Quantity	Unit	Rate	Totals	
D FACILITY REMEDIATION					
F2010 Hazardous Materials Remediation					
Assume none required					
, 1950					
				0	
Subtotal - Facility Remediation					
0 DEMOLITION					
Subtotal - Demolition					
10 SITE PREPARATION					
Subtotal - Site Preparation					
20 SITE IMPROVEMENT					
G2030 Pedestrian Plazas and Walkways					OPTION A- WIDEN PLATFORM, ADD CANOPY AND WINDSCREENS
Reinforced concrete structural slab	55	SF			(4) (5) (6) (7)
Structural fill	6	CY	300.00	1,833	20'-0"
Cut and remove planter walls	50	LF	100.00	5,000	NEW WINDSCREEN
Remove guardrail	25	LF	75.00	1,875	B NEW WINDSCREEN (SIM)
Rework guardrail	1	LS	2,000.00	2,000	N60-AL02 WIDEN
Connection existing slab, assume epoxy dowel system	25	LF	100.00	2,500	23 22 49 79 78 35 3 24 1 78 07 1 27 23 V 1 20 12 PLATFORM
Edgeforms	25		20.00	500	
Reinforcing steel	147	LB	4.00	587	
Concrete	2	CY	1,700.00	3,463	
Finish protect and cure	55	SF	4.00	220	NEW FARE GATES
Tile over structural slab	55	SF	120.00	6,600	
Planter wall at street, allowance including footings and stem wall to					
support screen wall, existing is 6" wall with 12" footing	25	LF	2,000.00	50,000	
					P PC CONC B PAVERS    DISTANCE TO FIRST   TRAIN DOOR   TR
				74,578	B PAVERS N60-AEO I TRAIN DOOR

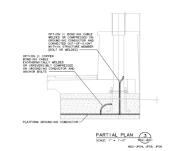
# **SOUNDTRANSIT**

Fare Gates Study - DRAFT, Seattle, WA
Othello Station

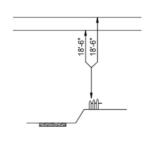
Gross Floor Area 12,410 SF

ello Station				
Item Description	Quantity	Unit	Rate	Totals
2060 Site Development				
Guardrail replacement	945	LF		
Demo and remove guardrail	945	LF	50.00	47,250
Assume not required due to side mount fence system	945	LF		,
Demo and remove existing wall and footing	945	LF		
Demo and remove tile and structural slab	945	LF		
New stem wall to support 8' tall fence, allowance	945	LF		
Footings				
Structural excavation	105	CY		
Formwork	1,890	SF		
Reinforcing steel, allow 150#/cy	10,500	LB		
Concrete	70	CY		
Wall				
Formwork	5,670	SF		
Reinforcing steel	10,500	LB		
Concrete	70	CY		
Allow for removal and replacement of landscaping	945	LF	50.00	47,250
Fence with side mount - grate system, 8ft tall	945	LF	600.00	567,000
*Non conductive fence excluded				
Grounding, ALLOWANCE	945	LF	100.00	94,500
Wind screen	144	LF		
Demo and remove guardrail	72	LF	50.00	3,600
Remove existing landscaping, cap irrigation	72	LF	50.00	3,600
Demo and remove existing wall and footing	144	LF	150.00	21,600
Demo and remove tile and structural slab, chip around existing				
rebar	144	LF	40.00	5,760
New stem wall to support 8' tall windscreen, allowance	72	LF		
Footings				
Structural excavation	8	CY	300.00	2,400
Formwork	144	SF	20.00	2,880
Reinforcing steel, allow 150#/cy	800	LB	4.50	3,600
Concrete	5	CY	750.00	4,000
Repair grounding wire, allowance	1	LS	5,000.00	5,000
Wall				
Formwork	432	SF	20.00	8,640
Reinforcing steel	1,600	LB	4.50	7,200
Concrete	11	CY	750.00	8,000
Wind screen - repair existing slab around stem wall	720	SF	250.00	180,000
Replace rebar include splice	72	LF	100.00	7,200
Concrete	5	CY	40.00	213
Finish protect and cure	144	SF	5.00	720
Thick set tile	144	SF	150.00	21,600
Wind screen, assume steel with aluminum system	720	SF	250.00	180,000
Grounding, ALLOWANCE	144	LF	100.00	14,400
Allow for drill and epoxy anchor wind screen on thickened slab				
section	72	LF	50.00	3,600
Demo and remove tile and tactile edge detail	72	LF	50.00	3,600
Repair and replace tile and tactile edge detail	72	LF	250.00	
rapair and replace the and tactile edge detail	12	ᄕ	∠50.00	18,000

### As Built Grounding Detail



### **Clearance Requirements**

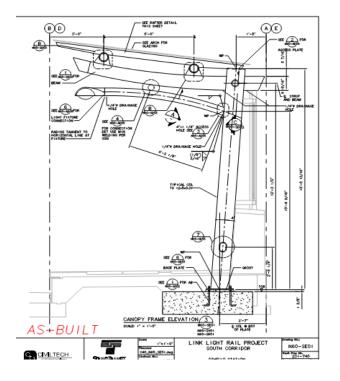


ABOVE GROUND IN AREAS ACCESSIBLE TO PEDESTRIANS OR RESTRICTED TRAFFIC

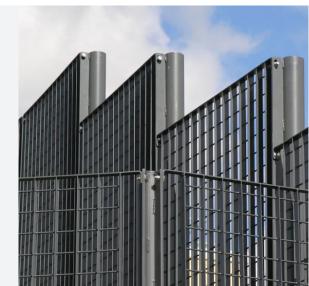
### **Guardrail Replacement**



## **Existing Canopy Detail**



### **Grated Fence Idea**





Fare Gates Study - DRAFT, Seattle, WA
Othello Station

Otherio Gtation						G1033 1 1001 A
Item Description	Quantity U	Unit	Rate	Totals		
Canopy					Canopy Footing Drawings	
Footings 5'x5' x1.5'	4	EA				
Saw cut tile	56	LF	10.00	560	(E)	
Demo and remove tile	196	SF	4.00	784	BASE R. SEE 6 Neo-Sp03	
Demo and remove slab	196	SF	10.00	1,960		
Structural excavation	15	CY	100.00	1,452	1/2" FIN FLOOR ELEV COL 11/2" GROUT CHAMFER STRUCTURAL	
Formwork	160	SF	10.00	1,600	CHAMFER STRUCTURAL WP THICKEN SLAB OVER FTG.	
Reinforcing steel, allow 150#/cy	160	LF	50.00	8,000		
Concrete	6	CY	1,000.00	5,556	FINISH D	
Slab replacement, including rebar and splice	196	SF	20.00	3,920	J SKADE	
Replace thick set tile	196	SF	200.00	39,200	STE BOUND TO STATE OF THE STATE	
Canopy structure, AESS	704	SF	750.00	528,000	SEE B NEO-SDOI FOR WALL	
Grounding, ALLOWANCE	1	LF	5,000.00	5,000		
	_			4 057 045	Bearings / Biningson 1	
				1,857,645	2'-7"	
					OF BASE PLATE 5" PROJECTION.	
G2080 Landscaping					FIRM UNDISTURBED SOIL.   BOTTOM OF FTG   1'-6" BELOW T/R:	
					FTG 5'x5'x1'-6" THICK	
Repair to existing landscaping	1	LS	20,000.00	20,000	DETAIL AT COLUMN FTG PLA	
Dama avietina landasana	EE	C.E.	20.00	1 100	SCALE: 1"=1"-0" N60-SD02 SCALE	
Demo existing landscape	55	SF	20.00	1,100	N60-SB01	
	_			21,100		
Subtotal - Site Improvement				1,953,323	Existing Site Furnishings	Slab to Track Detail
Subtotal - Site improvement				1,300,020		B 4'-7 1/4 4 € 11
						FIN FLOOR ELEV
G30 LIQUID & GAS SITE UTILITIES						IT SLOPE SEE STO GRAWING AS211
						TAIL TRACK ELEV
						\$5] µ4 ] ● 12° 0.0°
Subtotal - Liquid & Gas Site Utilities						SI DOTAL SIMILAR FOR ALL PLATFORM  SOUTH TO STAND STAN
						SEE AS211. KEY, TYP
O40 ELECTRICAL CITE IMPROVEMENTO						DETAIL 4 SCALE: 1"=1"-0" M(0-3001 1000-3001
G40 ELECTRICAL SITE IMPROVEMENTS						
					4. FORMETTING.  TO SHARE TO COME AND DRETRICTURE AND DRETRICTURE AND DRETRICTURE AND DRETRICTURE AND DRETRICTURE AND DRETRICTURE CENTRAL CONTINUE CENTRAL CONTI	ETAILS HE FORMATION MATERIAL ENCONFERED.
					OUT WHILE FAME FOOTING ELEVATIONS HE ETHLIS HAVE REED MODIF HE DAY SEQUENT 2.500 PSF. BRAILES! RETAINING WALLS AM OF 2000 PSF.	VE BERD BETEMHINED AND SUBSTRUCTURE D. ALLOWARLE BEARING CAPACITY E BASED ON AN ALLOWARLE BEARING CAPACITY
Subtotal - Electrical Site Improvement					4. Privates	
						soils capacity is weak 2000 to 2500 psf
G50 SITE COMMUNICATIONS						Or would wind be a concern as well?
						Othello station BTW
					Egain, Edward 2/1248 PM  Short answer is yes. Trick is the anchorage into the concrete. A top mounted anchorage will be tough to	
Subtotal - Site Communication					work due to how skinny the stem wall in. But a side mount (on the face of the stem wall) will be easier to worried about wind loading globally on the foundation, just the anchorage.	work out. Not

**Conceptual Study** 

March 6, 2023

**SOUNDTRANSIT** 

Fare Gates Study - DRAFT, Seattle, WA
Othello Station

Item Description	Quantity	Unit	Rate	Totals		
G90 MISCELLANEOUS SITE CONSTRUCTION						
Subtotal - Miscellaneous Site Construction					<u> </u>	