PROJECT PROSPECTUS

Part 1 — Project Request (Page 1 of 2)

Key Number:	Jurisdiction:

Section:		Region:	Area:	District:
38th Street (Franklin Ave.) Bridge No. 07T03		2	North West Oregon Act	1

State Highway No.:	Highway Name:	Mile Point From:	To:	Length: (mi)	(km)

Urban / Rural	City:	MPO:	Within UGB	Yes / No	County:	Road/Street Name:
☑ Urban ☐ Rural				☑ Yes ☐ No	Clatsop	Franklin Ave.

Route No.:	NHS	HPMS:	FC:	Applicant (if other than State):
	☐ YES ☐ NO			City of Astoria

US Congressional District:	State Senate District:	State Representative District:
1	16	31

Cost Estimates (x $ 1,000)			Project Components		Right Of Way		
Preliminary Engineering		$476	Grading	x	Files	(#)	8
Right Of Way		$24	Paving	x	Hectares	(#)	.4
Utility Reimbursement			Structures	x	Relocations	(#)	0
			Signing	x	Acquisitions	(#)	4
Roadway	$69		Signals		Easements	(#)	4
Structures	$1,267		Illumination	x	Work By: State / Consultant / Applicant		
Signals	$0				Preliminary Engineering	(S,C,A)	C
Illumination	$85				Construction Engineering	(S,C,A)	C
Temp. Protection	$25				Right of Way Descriptions	(S,C,A)	C
Const. Contingencies	$476				Right Of Way Acquisitions	(S,C,A)	A
Const. Engineering	$381		Project Categories		Constructed By		
Remove Exist Bridge	$85		Environmental Class	(1, 2, 3, PCE)			
Other	$375		Design Category	(1-7)			
Total CE and Construction:		$2,763	Work Type Code	(1-13)			
Total Estimate:		$ 3,263	Primary STIP Work Type:				

☑ Contract ☐ County Force ☐ State Force ☐ Other ☐ City Force

Recommended Let Date By Federal Fiscal Year (Quarter-Year):

PE Fund:	R/W Fund:	UR Fund:	CE-CN Fund:
PE EA:	R/W EA:	UR EA:	CE-CN EA:

Item		Existing	Proposed
Travel Lanes	(#)	2	2
Structures	(#)	1	1
Signals	(#)	0	0
Bike Way	(#)	0	2
Average Daily Traffic		550	605
Year of ADT		1999	2019
Throughway	Y/N	N	N

Define The Problem:

Franklin at 38th Street Bridge

During their October 2002 inspection of the Franklin Avenue Bridge at 38th Street, engineers from Burgess and Niple observed settlement at two of the timber bents. They determined that the bridge had serious structural deficiencies and recommended a load rating of three tons (severely load restricted). The bridge is geometrically insufficient in width and has a substandard traffic barrier. The walk is of substandard width.

Describe Proposed Solution: - Attach Sketch Map

The existing bridge will be replaced with a new structure meeting current AASHTO and ODOT standards for load capacity, width, and geometry. The new bridge will include a modern/safe guard rail. The new bridge will be multiple spans with sufficient clearance (horizontal and vertical) to the roadway below.

Prepared By:	Date:	OTC Approval Date:	Program Year:	Funding Amount:
X				

(F 2501)

PROJECT PROSPECTUS

Part 1 Project Request (Page 2 of 2)

Key Number:	Jurisdiction:

Section:	38th Street (Franklin Ave.) Bridge No. 07T03	Region: 2	Area: North West Oregon Act	District: 1

Project Justification

Franklin at 38th Street Bridge

The Franklin Avenue Bridge at 38th Street has recently been determined to have serious structural deficiencies. This bridge provides the only access to a residential area with more than 40 homes. Franklin Avenue is also the only access for emergency vehicles. Due to the hilly topography of the area, alternate routes are not feasible. The bridge crosses over 38th Street and structural failure would have serious consequences for the motorists and pedestrians traveling below. The bridge is a critical pedestrian carrier and has one substandard width walk and an inadequate railing.

Additional Information For Project Requested By Local Jurisdictions

Responsible Local Office To Be Contacted For The Following Activities:

1. Public Hearing / Citizen Involvement _____ (Office) _____ (Phone)
2. Environmental / Planning _____ (Office) _____ (Phone)
3. Pre-Engineering _____ (Office) _____ (Phone)

This Official Request is From:

City of: Astoria and/or _____ County

By: Mike Caccavano, City Engineer By: _____

By: _____ By: _____

By: _____

Applicable Intergovernmental Agreements:

IGA Number:	Jurisdiction Name:	Agreement Date:

Administrative Recommendation

Bridge Prospectus Cost Estimate

		NBIS Bridge No.		
Applicant:	City of Astoria	07T03		
Project / Section	38th Street (Franklin Ave.) Bridge No. 07T03	Region: 2	Area: North West Oregon Act	District: 1

New Bridge / Roadway Configuration:			Existing Bridge:		
Left Side Rail	1	feet	Bridge Length	217	feet
Left Sidewalk	6	feet	Bridge Width	30	feet
Shoulder	12	feet	Area	723	square yds.
Lane 2	0	feet			
Lane 1	12	feet	New AC Top Width	48	feet
---CL---	0	feet	New AC Depth	4	inches
Lane 1	12	feet	New Base Depth	12	inches
Lane 2	0	feet	Project Length	600	feet
Shoulder	12	feet	Net Road Work Length	373	feet
Right Sidewalk	6	feet	X-S Side Slope		
Right Side Rail	1	feet	AC Avg Width	49.33	feet
			Base Avg Width	54.64	feet
Bridge Length	227	feet	Asphalt Density	2	tons / yd
Bridge Width	62	feet	Base Density	2	tons / yd
New Area	1564	square yds.	New AC Received	450	tons
			New Base Required	1510	tons

COST ESTIMATE:	Quantity	Unit	Price per unit	Cost ($x1000s)
Right-of-Way	0	Acre	$ 60,000	$24
	==Roadway==			
Clear & Grub	$ 5,000	lump sum		$5
General Excavation	600	cubic yards	$ 10.00	$6
Embankment in Place	-	cubic yards	$ 26.00	$0
Pavement Removal	12,000	square feet	$ 1.00	$12
Aggregate Base	1510	tons	$ 14.00	$21
Asphalt Concrete	450	tons	$ 55.00	$25
Riprap		cubic yards	$ 35.00	$0
Guardrail, Type 2A		feet	$ 15.00	$0
Guardrail, Type 3		feet	$ 35.00	$0
Guardrail Trans		feet	$ 1,650.00	$0
Flared Terminals		each	$ 1,500.00	$0
			Subtotal Roadway	$69
Structures	14,074	square feet	$ 90.00	$1,267
Signals	$ -	lump sum		$0
Illumination	$ 85,000	lump sum		$85
Temporary Protection	$ 25,000	lump sum		$25
Remove Existing Bridge	$ 6,510	square feet	13	$85
DetourStructure/Appr grd	$ 200,000	lump sum		$200
Site Specific Bridge Items	175,000	lump sum		$175
			Subtotal Structures	$1,836
			Subtotal Construction	$1,905
	==Engineering==			
Construction Engineering	20	percent of construction		$381
Contingency	25	percent of construction		$476
			Subtotal Const. Eng.	$857
Preliminary Engineering				
Consultant	20	percent of construction		$381
State	3	percent of construction		$57
County	2	percent of construction		$38
			Subtotal PE	$476
			Total Estimate	$3,263

Bridge Project Prospectus
Additional Bridge Information

Applicant: City of Astoria			NBIS Bridge Number: 07T03
Project Name / Section: 38th Street (Franklin Ave.) Bridge No. 07T03		Region: 2	Area: h West Oregon	District: 1

Funding

Preferred Source:
- [x] OTIA III
- [ ] Federal HBRR

Acceptable Source:
- [x] OTIA III
- [x] Federal HBRR

Heavy Vehicle Usage

	Existing	Proposed
Truck AADT:	restricted	25

Fire Truck Usage:
- [ ] YES, at least 25% of trips use bridge.
- [x] No. Less than 25% of trips

Detour

Detour Route:
Length: Dead End
Map: (Please attach map)

Regional Freight Corridor Analysis:

Special Consideration:

The existing structure is inadequate to facilitate pedestrian, bike, and vehicular traffic associated with the urban development surrounding it. The bridge is the only access for this part of town (reference attached map). The bridge has been recently posted at 3 tons (reference attached letter dated October 7, 2002 from Burgess & Niple.

Bridge Project Prospectus

Requested Changes to National Bridge Inventory System (NBIS) Data

(Form Optional)

Applicant: City of Astoria	Bridge Number: 07T03		
Project Name / Section: 38th Street (Franklin Ave.) Bridge No. 07T03	Region: 2	Area: h West Oregon	District: 1

This form must be completed if an agency is proposing a change to the data in the existing National Bridge Inventory System data. The information must be in conformance with the Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges, Report No. FHWA-PD-96-001, December 1995.

Changes proposed to the Detour Length, Average Daily Traffic and Truck Average Daily Traffic will be acquired from other parts of this application and used to compute updated Federal Sufficiency Ratings and in the calculation of the Technical Ranking Score.

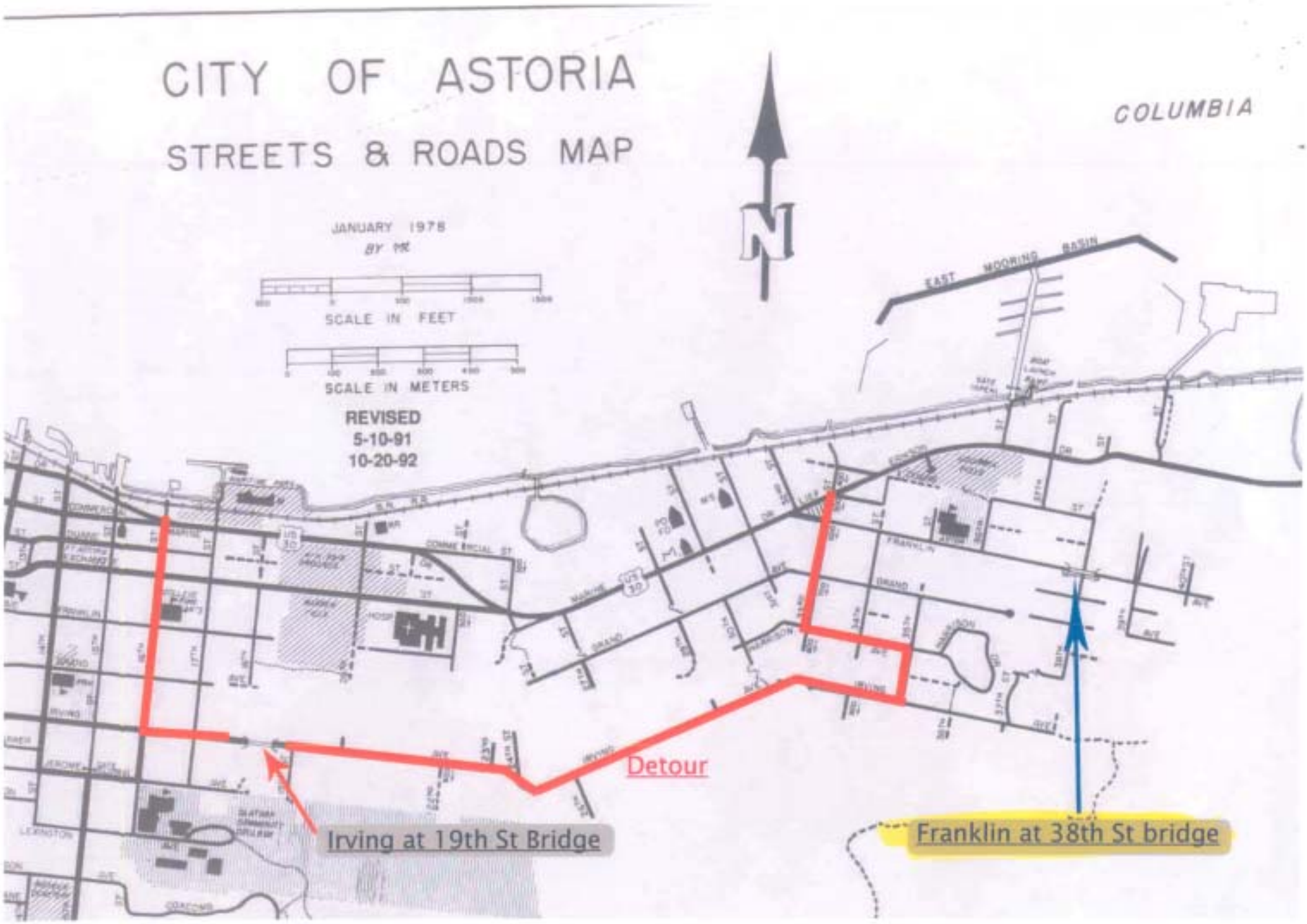
The data listed below are used in the calculations of the Technical Ranking Score and proposed changes will be considered. For any changes proposed, attach backup data as to the reason for the change.

Item 26	Functional Classification	
Item 28	A Lanes on Structure	
Item 32	Approach Roadway Width	
Item 43	Structure Type, Main	
Item 51	Bridge Roadway Width	
Item 53	Vertical Clearance over Deck	
Item 54	Underclearance	
Item 55	Minimum Left	
Item 56	Minimum Right	
Item 100	Defense Highway Designation	

Items 58, 59, 60, 62, 67, 68, 69, 71 and 72 are used in the calculation of the Federal Sufficiency Rating. These data elements are supplied by ODOT and are not subject to corrections at this time.

The Inventory Rating (Item 66) must be provided by a Licensed Professional Engineer, based on calculations following ODOT's Load Rating Guidelines. The engineer's calculations must be included.

Item 66	Inventory Rating	3


CITY OF ASTORIA
STREETS & ROADS MAP
JANUARY 1978
SCALE IN FEET
SCALE IN METERS
REVISED
5-10-91
10-20-92
COLUMBIA
EAST MOORING BASIN
Detour
Irving at 19th St Bridge
Franklin at 38th St bridge

Photographs

Photograph No. 1 — Approach looking west.

Photograph No. 2 — Approach looking east.

Photograph No. 3 — Elevation looking north.

Photograph No. 4 — Elevation looking south.

BURGESS & NIPLE

RECEIVED
OCT 10 2002
ENGINEERING DEPARTMENT

Mr. Mike Caccavana, Director Public Works, City of Astoria
Mr. Mike Ramsdell, Senior Engineering Technician, City of Astoria
1095 Duane Street
Astoria, OR 97103

Re Bridge with Serious Structural Deficiencies
Bridge #07T03 Carrying Franklin Avenue over 38th Street, City of Astoria

October 7 2002

Burgess & Niple, Limited
5085 Reed Road
Columbus, OH 43220
614 459 2050
Fax 614 451.1385

Dear Mr. Caccavana and Mr. Ramsdell:

On September 24, 2002, Ryan M. Nataluk, PE, and Edward M. Cinadr, PE, performed a routine inspection of the above referenced bridge to evaluate the overall condition of the structure. This routine inspection was conducted according to the scope of work of our current contract with the Oregon Department of Transportation for Local Agency Bridge Inspection Services, Zone 2201. We met with Mr. Caccavana and Mr. Ramsdell at the bridge site to point out the severity of the substructure settlement to the bridge owner. Mr. Caccavana and Ramsdell remained for approximately thirty minutes and were made aware of the condition of the bridge.

Upon visual observation of the bridge, the inspectors noted a number of timber bents tilting to the east (see table below for magnitude of tilts). The tilting was measured with a plumb bob from the south fascia of the bridge. The cause of the tilting appears to be subsidence of the slope. The concrete pedestal and/or timber sill bent foundations are sliding down the slope as the adjacent soil subsides. (See Photograph 2 for the tilting of Bent 9)

Bent	Tilt (inches)
B2	7/8"
B3	vertical
B4	½"
B5	vertical
B6	1"
B7	5"
B8	2 ½"
B9	2"

Bents 9 and 10 are of particular concern. The concrete pedestal under Column 1 of Bent 9 has settled to the north and west (out and down), leaving a gap of approximately 2 inches below the timber sill member (see Photograph 3). At Bent 9, the stringers between Columns 1 and 2 are essentially being supported by cantilever action of the bent cap and sill member. Additionally, Bents 8 and 10 are carrying additional load due to this condition at Bent 9. A gap was also noted between the top of Column 1 and the bent cap (see Photograph 4).

Bent 10 (the east abutment) appears to have been widened in the past. This widened portion apparently was not doweled or attached to the existing portion of the abutment.

The widened portion of the concrete abutment is rotating and sliding down the slope (see Photograph 5). This portion of the abutment supports Stringers 1, 2, and 3 (see Bent 9 above). Stringers 1, 2, and 3 are crushing and splitting at the edge of the bearing seat, apparently due to the movement of the substructure and also possibly due to the additional load being transmitted to Bent 10 due to the conditions at Bent 9.

One final point of concern lies in the fact that the timber stringers are simple spans from bent-to-bent. This means that the loss/collapse of a single bent would cause a catastrophic failure of the bridge. If continuity existed over the intermediate bents, the bridge could probably support its own dead load if a single bent failed. Unfortunately, this is not the case on this structure.

The substructure was down rated from a 5 to a 3, meaning "serious condition". This evaluation was based on the ODOT Concrete Substructure Supplemental Rating Guidelines stipulating that ". . .undermining of footings are affecting the stability of the unit, settlement of the substructure may have occurred and shoring may be necessary."

Also, an ODOT PONTIS Smart Flag element for settlement (#360) was added and rated 3, the lowest element condition state possible. This condition state stipulates that the settlement is significant enough to warrant analysis of the structure.

Finally, we recommend the bridge be posted for the minimum allowable load (3 tons) until the substructure settlement/tilting is permanently corrected or an analysis of the substructure shows that the bridge is capable of safely carrying higher loads. Additionally, we recommend a 3-month interval monitoring program be established to gauge the rate and severity of the bent tilting/movement. We also recommend an annual inspection schedule for this bridge. Consideration should be given to replacing/repairing the damaged stringers at Bent 10.

Please do not hesitate to contact us if you have any questions or need further information.

Respectfully,

BURGESS & NIPLE, LIMITED

Ryan M. Nataluk, PE
Bridge Engineer/Inspector/Team Leader

Edward M. Cinadr, PE
Bridge Engineer/Assistant Team Leader

RN/EC:sdb
copy: Mr. Steve Tuttle, Oregon Department Of Transportation
Mark E. Bernhardt, PE, Burgess and Niple
File