# Lowell City Council Regular Meeting Agenda Tuesday, April 15th at 7:00 P.M.

Lowell Rural Fire Protection District Fire Station 1 389 North Pioneer Street, Lowell, OR 97452

## 1. Call to Order/Roll Call/Pledge

Councilors: Mayor Weathers \_\_\_\_ Murray \_\_\_\_ Harris \_\_\_\_ Stratis \_\_\_\_ Bennett \_\_\_\_

## 2. Approval of Agenda

**3.** Consent Agenda: Council members may request an item be removed from the Consent Agenda to be discussed as the first business item of the meeting.

a. Financial Report March 2025

**4. Public Comments:** Speakers will be limited to three (3) minutes. The Council may ask questions but will not engage in discussion or make decisions based on public comment at this time. The Mayor may direct the City Administrator to follow up on comments received. When called, please state your name and address for the record. Direct all comments to the Council through the Mayor.

**5.** Council Comments (three minutes per speaker) All speakers are expected to be polite, courteous, and respectful when making their comments. Personal attacks, insults, profanity, and inflammatory comments will not be permitted.

## 6. Public Hearings: None

## 7. Staff Reports:

- a. City Administrator Report
- b. Public Works Report
- c. Library Report

## 8. Presentations: None

## 9. Old Business:

- a. Resolution 850, "A Resolution Adopting Salary Survey Report". Discussion/Possible Action
- b. Resolution 851 "A Resolution Making Appointments to the Budget Committee".
- c. Interim City Administrator contract extension- Discussion/Possible Action
- d. Interim Public Works Director contract extension- Discussion/Possible Action
- e. Sale of Old City Hall- Discussion/Possible Action

## **10. New Business:**

**a.** Resolution 852, "A resolution to adopt the 2019 Pavement Preservation Plan and Cost Memo Update." – Discussion/ Possible action

The meeting location is accessible to persons with disabilities. A request for an interpreter for the hearing impaired or for other accommodations for persons with disabilities should be made at least 48 hours before the meeting to Sam Dragt at 541-937-2157.

- b. Memorial Plaque for Hall O'Regan. Discussion/Possible Action
- **c.** Review "Renewal notification process" letter from the Oregon Liquor and Cannabis Commission for liquor license renewals. Discussion/ Possible action

## 11. Other Business:

- a. Interim City Administrator Evaluation Mayor Weathers Discussion/Possible Action
- b. Reminder- First Budget Committee Meeting May 14th at 6PM

## Adjourn

## Future Meetings / Dates to Remember:

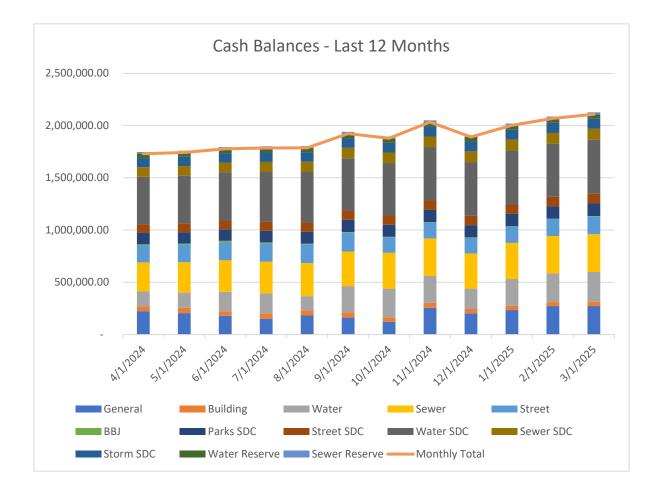
- 5/1 Parks and Recreation Committee Meeting at 7 PM at LRFPD Community Room
- 5/6 Lowell City Council Work Session at 7 PM at LRFPD Community Room
- 5/13 Blackberry Jam Festival Committee Meeting at 6 PM at LRFPD Community Room
- 5/14 Budget Committee Meeting at 6pm LRFPD Community Room
- 5/14 Library Committee Meeting at 7 PM Maggie Osgood Community Room
- 5/20 Lowell City Council Regular Meeting at 7 PM at LRFPD Community Room
- 5/21 Budget Committee Meeting at 6pm LRFPD Community Room
- 6/3 Lowell City Council Work Session at 7 PM at LRFPD Community Room

## Members of the public may provide comments or testimony through the following:

- Joining in person or by phone, tablet, or PC. For details, click on the event at www.ci.lowell.or.us.
- Mailing written comments to PO Box 490, Lowell, OR 97452 or delivering in person at Lowell City Hall located at 70 N. Pioneer St.
- By email to admin@ci.lowell.or.us.
- Comments received by 4:00 pm on the meeting date will be included in the record.

The meeting location is accessible to persons with disabilities. A request for an interpreter for the hearing impaired or for other accommodations for persons with disabilities should be made at least 48 hours before the meeting to Sam Dragt at 541-937-2157.

## City of Lowell Cash Balances for the Previous 12 Months



### For the Period Ending:

3/31/2025

110 General Fund	Period Actual	YTD Actual	Budget	Unearned	Pcnt
3100 Beginning Fund Balance		176,650.70	108,737.00		
Revenues					
310 Property Taxes	4,601.81	207,053.83	205,095.00	(1,958.83)	100.96
315 Interest Earned	528.04	5,030.24	6,500.00	1,469.76	77.39
320 Intergovernmental Revenue	1,346.96	27,722.55	41,588.00	13,865.45	66.66
325 Operating Grants	1,440.00	22,219.70	62,944.00	40,724.30	35.30
328 Capital Grants	-	-	-	-	0.00
330 Franchise Fees	1,837.98	74,015.64	86,263.00	12,247.36	85.80
335 Licenses & Permits	969.25	16,083.84	58,750.00	42,666.16	27.38
340 Charges for Service	270.61	4,859.17	3,075.00	(1,784.17)	158.02
345 Reimbursement SDC's	47.00	329.00	235.00	(94.00)	140.00
350 Fines & Forfeitures	10.93	1,477.82	2,500.00	1,022.18	59.11
360 Loan Proceeds	-	-	-	-	0.00
370 Other Revenue	-	5,590.81	5,500.00	(90.81)	101.65
375 Gain(Loss) on Sale of Fixed Assets	-	-	302,459.00	302,459.00	0.00
380 Fundraising & Event Revenue	100.00	5,950.00	-	(5,950.00)	0.00
385 Miscellaneous Revenue	-	205.13	50.00	(155.13)	410.26
Total Revenues	11,152.58	370,537.73	774,959.00	404,421.27	47.81
Expenditures					
410 Administration	007.00				10.00
5000 Personal Services	897.90	23,456.45	48,832.00	25,375.55	48.03
6000 Materials & Services	3,236.60	87,938.95	131,859.00	43,920.05	66.69
8000 Capital Outlay	-	-	110,000.00	110,000.00	0.00
Total Administration	4,134.50	111,395.40	290,691.00	179,295.60	38.32
420 Parks & Recreation					
5000 Personal Services	2,344.18	27,249.33	40,917.00	13,667.67	66.60
6000 Materials & Services	1,908.38	40,098.34	55,897.00	15,798.66	71.74
8000 Capital Outlay	-	5,022.93	21,000.00	15,977.07	23.92
Total Parks & Recreation	4,252.56	72,370.60	117,814.00	45,443.40	61.43
430 <b>Police</b>					
5000 Personal Services	-	-	-	-	0.00
6000 Materials & Services	-	1,575.00	10,426.00	8,851.00	15.11
8000 Capital Outlay	-	-	-	-	0.00
Total Police		1,575.00	10,426.00	8,851.00	15.11
440 Community Development					
5000 Personal Services	412.42	7,285.42	11,658.00	4,372.58	62.49
6000 Materials & Services	45.02	14,007.69	49,558.00	35,550.31	28.27
8000 Capital Outlay	-	-	-	-	0.00
Total Community Development	457.44	21,293.11	61,216.00	39,922.89	34.78
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### For the Period Ending:

3/31/2025

110 General Fund	Period Actual	YTD Actual	Budget	Unearned	Pcnt
450 Librory					
450 Library 5000 Personal Services	2,287.66	27,598.16	46,269.00	18,670.84	59.65
6000 Materials & Services	774.21	21,715.40	39,724.00	18,008.60	54.67
8000 Capital Outlay	-	2,185.00	4,599.00	2,414.00	47.51
		_,	.)000100	_,	
Total Library	3,061.87	51,498.56	90,592.00	39,093.44	56.85
460 Code Enforcement					
5000 Personal Services	-	3,448.16	8,435.00	4,986.84	40.88
6000 Materials & Services	0.86	180.15	1,704.00	1,523.85	10.57
8000 Capital Outlay	-	-	-	-	0.00
Total Code Enforcement	0.86	3,628.31	10,139.00	6,510.69	35.79
470 Tourism					
5000 Personal Services	-	-	-	-	
6000 Materials & Services	78.01	614.54	35,578.00	34,963.46	1.73
8000 Capital Outlay	-	-	-	-	0.00
Total Tourism	78.01	614.54	35,578.00	34,963.46	1.73
480 Municipal Court					
5000 Personal Services	340.27	6,992.18	11,891.00	4,898.82	58.80
6000 Materials & Services	0.86	3,099.93	857.00	(2,242.93)	361.72
8000 Capital Outlay	-	-	-	-	0.00
Total Municipal Court	341.13	10,092.11	12,748.00	2,655.89	79.17
800 Debt Service					
7111 Principal	-	7,243.38	139,005.00	131,761.62	5.21
7511 Interest	-	4,785.44	24,003.00	19,217.56	19.94
Total Debt Service	-	12,028.82	163,008.00	150,979.18	7.38
900 Other Requirements					
9100 Transfers to Other Funds	-	-	-	-	0.00
9500 Contingency	-	-	70,061.00	70,061.00	0.00
9800 Ending Balance (Budgeted)	-	-	21,423.00	21,423.00	0.00
Total Other Requirements			91,484.00	91,484.00	0.00
Total General Fund Expenditu	res 12,326.37	284,496.45	883,696.00	599,199.55	32.19
Net Revenues over Expenditur	res (1,173.79)	86,041.28	(108,737.00)	(194,778.28)	(79.13)
Ending Fund Balance		262,691.98	-		

	For the Period Ending:	3/31/2025			
220 Building Fund	Period Actual	YTD Actual	Budget	Unearned	Pcnt
3100 Beginning Fund Balance		44,107.38	34,052.00		
Revenues					
315 Interest Earned	124.08	1,026.45	100.00	(926.45)	1026.45
335 Licenses & Permits	1,093.81	27,603.38	23,370.00	(4,233.38)	118.11
340 Technology Fee	384.39	1,062.98	-	(1,062.98)	0.00
375 Gain(Loss) on Sale of Fixed A	ssets -	-	-	-	0.00
385 Miscellaneous Revenue	-	7.23	-	(7.23)	0.00
390 Transfers in from Other Fund	ds -	-	-	-	0.00
Total Revenues	1,602.28	29,700.04	23,470.00	(6,230.04)	126.54
Expenditures					
220 Building Department					
5000 Personal Services	1,027.63	11,318.88	14,748.00	3,429.12	76.75
6000 Materials & Services	650.81	25,026.26	31,065.00	6,038.74	80.56
8000 Capital Outlay	-	-	-	-	0.00
Total Building Department	1,678.44	36,345.14	45,813.00	9,467.86	79.33
900 Other Requirements					
9100 Transfers to Other Funds	-	-	-	-	0.00
9500 Contingency	-	-	11,709.00	11,709.00	0.00
9800 Ending Balance (Budgeted)	-	-	-	-	0.00
Total Other Requirements		<u> </u>	11,709.00	11,709.00	
Total Building Fund Expendi	tures 1,678.44	36,345.14	57,522.00	21,176.86	63.18
Net Revenues over Expendi	tures (76.16)	(6,645.10)	(34,052.00)	(27,406.90)	(19.51)
Ending Fund Balance		37,462.28	-		

3/31/2025

For the Period Ending:

230 Water Fund	Period Actual	YTD Actual	Budget	Unearned	Pcnt
3100 Beginning Fund Balance		141,455.53	106,339.00		
Revenues					
315 Interest Earned	816.29	4,479.42	-	(4,479.42)	0.00
325 Operating Grants	-	-	-	-	0.00
328 Capital Grants	-	227,984.00	1,100,000.00	872,016.00	20.73
335 Licenses & Permits	-	2,550.00	2,500.00	(50.00)	102.00
340 Charges for Service	35,608.54	457,488.61	563,965.00	106,476.39	81.12
345 Reimbursement SDC's	745.00	5,215.00	3,725.00	(1,490.00)	140.00
360 Loan Payments & Proceeds	-	-	-	-	0.00
375 Gain(Loss) on Sale of Fixed Assets	-	-	-	-	0.00
385 Miscellaneous Revenue	267.50	2,466.10	3,270.00	803.90	75.42
390 Transfers in from Other Funds	-	-	-	-	0.00
Total Revenues	37,437.33	700,183.13	1,673,460.00	973,276.87	41.84
Expenditures					
230 Water Department					
5000 Personal Services	17,468.32	187,800.06	241,220.00	53,419.94	77.85
6000 Materials & Services	8,124.67	128,106.74	245,243.00	117,136.26	52.24
8000 Capital Outlay	635.50	237,768.17	1,108,000.00	870,231.83	21.46
Total Water Department	26,228.49	553,674.97	1,594,463.00	1,040,788.03	34.72
800 Debt Service					
7111 Principal	-	13,470.35	31,903.00	18,432.65	42.22
7511 Interest	-	5,488.71	26,439.00	20,950.29	20.76
Total Debt Service		18,959.06	58,342.00	39,382.94	32.50
900 Other Requirements					
Transfers to Other Funds	-	-	-	-	0.00
Contingency	-	-	126,994.00	126,994.00	0.00
Ending Balance (Budgeted)	-	-			0.00
Total Other Requirements			126,994.00	126,994.00	0.00
Total General Fund Expenditures	26,228.49	572,634.03	1,779,799.00	1,207,164.97	32.17
Net Revenues over Expenditures	11,208.84	127,549.10	(106,339.00)	(233,888.10)	119.95
Ending Fund Balance		269,004.63	-		

For the Period Ending: 3/31/2025

240 Sewer Fund	Period Actual	YTD Actual	Budget	Unearned	Pcnt
3100 Beginning Fund Balance		303,091.63	227,928.00		
Revenues					
315 Interest Earned	1,068.78	8,442.92	5,500.00	(2,942.92)	153.51
325 Operating Grants	-	14,475.00	-	(14,475.00)	0.00
328 Capital Grants	-	-	-	-	0.00
335 Licenses & Permits	115.00	1,895.60	-	(1,895.60)	0.00
340 Charges for Service	42,975.87	427,777.58	530,496.00	102,718.42	80.64
345 Reimbursement SDC's	618.00	4,326.00	3,090.00	(1,236.00)	140.00
360 Loan Payments & Proceeds	-	-	-	-	0.00
375 Gain(Loss) on Sale of Fixed Assets	-	-	-	-	0.00
385 Miscellaneous Revenue	12,483.50	14,412.90	4,200.00	(10,212.90)	343.16
390 Transfers in from Other Funds	-	-	-	-	0.00
Total Revenues	57,261.15	471,330.00	543,286.00	71,956.00	86.76
Expenditures					
230 Sewer Department					
5000 Personal Services	17,446.24	188,880.20	243,052.00	54,171.80	77.71
6000 Materials & Services	35,340.34	160,027.97	273,573.00	113,545.03	58.50
8000 Capital Outlay	-	-	58,000.00	58,000.00	0.00
Total Sewer Department	52,786.58	348,908.17	574,625.00	225,716.83	60.72
800 Debt Service					
7111 Principal	-	29,657.95	37,028.00	7,370.05	80.10
7511 Interest	-	6,822.68	15,199.00	8,376.32	44.89
Total Debt Service		36,480.63	52,227.00	15,746.37	69.85
900 Other Requirements					
Transfers to Other Funds	-	-	-	-	0.00
Contingency	-	-	144,362.00	144,362.00	0.00
Ending Balance (Budgeted)	-	-	-	-	0.00
Total Other Requirements			144,362.00	144,362.00	0.00
Total General Fund Expenditures	52,786.58	385,388.80	771,214.00	385,825.20	49.97
Net Revenues over Expenditures	4,474.57	85,941.20	(227,928.00)	(313,869.20)	37.71
Ending Fund Balance		389,032.83	-		

For the Period Ending: 3/31/2025

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312 Street Fund	Period Actual	YTD Actual	Budget	Unearned	Pcnt
3100 Beginning Fund Balance		173,400.73	114,150.00		
Revenues		·	,		
315 Interest Earned	416.50	3,912.15	3,200.00	(712.15)	122.25
325 Operating Grants	-	-	-	-	0.00
328 Capital Grants	-	-	-	-	0.00
335 Intergovernmental	9,027.82	78,807.59	95,000.00	16,192.41	82.96
345 Reimbursement SDC's	104.00	728.00	520.00	(208.00)	140.00
360 Loan Payments & Proceeds	-	-	-	-	0.00
375 Gain(Loss) on Sale of Fixed Assets	-	-	-	-	0.00
385 Miscellaneous Revenue	615.80	626.65	-	(626.65)	0.00
390 Transfers in from Other Funds	-	-	-	-	0.00
Total Revenues	10,164.12	84,074.39	98,720.00	14,645.61	85.16
Expenditures					
312 Street Department					
5000 Personal Services	2,208.29	23,511.65	32,398.00	8,886.35	72.57
6000 Materials & Services	1,511.99	23,728.87	90,120.00	66,391.13	26.33
8000 Capital Outlay	-	38,910.05	60,428.00	21,517.95	64.39
Total Street Department	3,720.28	86,150.57	182,946.00	96,795.43	47.09
800 Debt Service					
7111 Principal	-	3,578.31	5,334.00	1,755.69	67.08
7511 Interest	-	1,593.25	1,594.00	0.75	99.95
Total Debt Service		5,171.56	6,928.00	1,756.44	74.65
900 Other Requirements					
Transfers to Other Funds	-	-	-	-	0.00
Contingency	-	-	22,996.00	22,996.00	0.00
Ending Balance (Budgeted)	-	-	-	-	0.00
Total Other Requirements		<u> </u>	22,996.00	22,996.00	0.00
Total General Fund Expenditures	3,720.28	91,322.13	212,870.00	121,547.87	42.90
Net Revenues over Expenditures	6,443.84	(7,247.74)	(114,150.00)	(106,902.26)	(6.35)
Ending Fund Balance		166,152.99	-		

	For the Period Ending:	3/31/2025			
314 Blackberry Jam Fund	Period Actual	YTD Actual	Budget	Unearned	Pcnt
3100 Beginning Fund Balance		12,118.10	8,821.00		
Revenues					
315 Interest Earned	0.09	0.88	10.00	9.12	8.80
370 Other Revenue	-	-	564.00	564.00	0.00
380 Fundraising & Event Revenue	3,410.00	8,132.05	4,275.00	(3,857.05)	190.22
385 Miscellaneous Revenue	-	-	100.00	100.00	0.00
390 Transfers in from Other Fund	S -	-	-	-	0.00
Total Revenues	3,410.09	8,132.93	4,949.00	(3,183.93)	164.33
Expenditures					
314 Blackberry Jam					
5000 Personal Services	-	-	-	-	0.00
6000 Materials & Services	629.09	13,231.91	13,770.00	538.09	96.09
8000 Capital Outlay	-	-	-	-	0.00
Total Blackberry Jam	629.09	13,231.91	13,770.00	538.09	96.09
900 Other Requirements					
Transfers to Other Funds	-	-	-	-	0.00
Contingency	-	-	-	-	0.00
Ending Balance (Budgeted)	-	-	-	-	0.00
Total Other Requirements	-			 	0.00
Total General Fund Expendit	ures 629.09	13,231.91	13,770.00	538.09	96.09
Net Revenues over Expendit	ures <u>2,781.00</u>	(5,098.98)	(8,821.00)	(3,722.02)	(57.81)
Ending Fund Balance		7,019.12	-		

	For the Period Ending:	3/31/2025			
410 Parks SDC Fund	Period Actual	YTD Actual	Budget	Unearned	Pcnt
3100 Beginning Fund Balance		110,249.87	109,778.00		
Revenues		, i	,		
315 Interest Earned	453.20	4,152.99	3,000.00	(1,152.99)	138.43
345 SDC Revenue	1,004.00	7,009.00	9,945.00	2,936.00	70.48
385 Miscellaneous Revenue	-	-	-	-	0.00
390 Transfers in from Other Funds	5 -	-	-	-	0.00
Total Revenues	1,457.20	11,161.99	12,945.00	1,783.01	86.23
Expenditures					
410 Parks SDC					
6000 Materials & Services	-	-	-	-	0.00
8000 Capital Outlay	-	2,119.23	122,723.00	120,603.77	1.73
Total Parks SDC		2,119.23	122,723.00	120,603.77	1.73
900 Other Requirements					
Transfers to Other Funds	-	-	-	-	0.00
Contingency	-	-	-	-	0.00
Ending Balance (Budgeted)	-	-	-	-	0.00
Total Other Requirements					#DIV/0!
Total General Fund Expendit	ures	2,119.23	122,723.00	120,603.77	1.73
Net Revenues over Expendit	ures <u>1,457.20</u>	9,042.76	(109,778.00)	(118,820.76)	8.24
Ending Fund Balance		119,292.63	-		

	For the Period Ending:	3/31/2025			
412 Streets SDC Fund	Period Actual	YTD Actual	Budget	Unearned	Pcnt
3100 Beginning Fund Balance		85,484.59	85,138.00		
Revenues		,	,		
315 Interest Earned	351.00	3,194.62	2,500.00	(694.62)	127.78
345 SDC Revenue	592.00	4,144.00	2,975.00	(1,169.00)	139.29
385 Miscellaneous Revenue	-	-	-	-	0.00
390 Transfers in from Other Fund	5 -	-	-	-	0.00
Total Revenues	943.00	7,338.62	5,475.00	(1,863.62)	134.04
Expenditures					
412 Streets SDC					
6000 Materials & Services	-	-	-	-	0.00
8000 Capital Outlay	-	-	90,613.00	90,613.00	0.00
Total Streets SDC			90,613.00	90,613.00	0.00
900 Other Requirements					
Transfers to Other Funds	-	-	-	-	0.00
Contingency	-	-	-	-	0.00
Ending Balance (Budgeted)	-	-	-	-	0.00
Total Other Requirements	-			·	#DIV/0!
Total General Fund Expendit	ures	-	90,613.00	90,613.00	0.00
Net Revenues over Expenditi	ures 943.00	7,338.62	(85,138.00)	(92,476.62)	8.62
Ending Fund Balance		92,823.21	-		

	For the Period Ending:	3/31/2025			
430 Water SDC Fund	Period Actual	YTD Actual	Budget	Unearned	Pcnt
3100 Beginning Fund Balance		461,732.95	464,777.00		
Revenues					
315 Interest Earned	1,987.91	18,149.41	15,000.00	(3,149.41)	121.00
345 SDC Revenue	7,068.00	46,238.00	45,500.00	(738.00)	101.62
385 Miscellaneous Revenue	-	-	-	-	0.00
390 Transfers in from Other Fund	S -	-	-	-	0.00
Total Revenues	9,055.91	64,387.41	60,500.00	(3,887.41)	106.43
Expenditures					
430 Water SDC					
6000 Materials & Services	-	-	-	-	0.00
8000 Capital Outlay	-	8,239.00	525,277.00	517,038.00	1.57
Total Water SDC		8,239.00	525,277.00	517,038.00	1.57
900 Other Requirements					
Transfers to Other Funds	-	-	-	-	0.00
Contingency	-	-	-	-	0.00
Ending Balance (Budgeted)	-	-	-	-	0.00
Total Other Requirements		-		-	#DIV/0!
Total General Fund Expendit	ures -	8,239.00	525,277.00	517,038.00	1.57
Net Revenues over Expendit	ures <u>9,055.91</u>	56,148.41	(464,777.00)	(520,925.41)	12.08
Ending Fund Balance		517,881.36	-		

	For the Period Ending:	3/31/2025			
440 Sewer SDC Fund	Period Actual	YTD Actual	Budget	Unearned	Pcnt
3100 Beginning Fund Balance		93,041.81	146,338.00		
Revenues 315 Interest Earned	384.58	2 550 10	2 500 00	(50.10)	101.69
345 SDC Revenue	384.58 1,071.00	3,559.19 7,497.00	3,500.00 8,035.00	(59.19) 538.00	93.30
385 Miscellaneous Revenue	1,071.00	7,497.00	8,055.00	556.00	0.00
390 Transfers in from Other Fund	- S -	-	-	-	0.00
Total Revenues	1,455.58	11,056.19	11,535.00	478.81	95.85
Expenditures					
440 Sewer SDC					
6000 Materials & Services	-	-	-	-	0.00
8000 Capital Outlay	-	-	157,873.00	157,873.00	0.00
Total Sewer SDC	-	-	157,873.00	157,873.00	0.00
900 Other Requirements					
Transfers to Other Funds	-	-	-	-	0.00
Contingency	-	-	-	-	0.00
Ending Balance (Budgeted)	-	-	-	-	0.00
Total Other Requirements	-	-	-	-	#DIV/0!
Total General Fund Expendit	ures	-	157,873.00	157,873.00	0.00
Net Revenues over Expendit	ures <u>1,455.58</u>	11,056.19	(146,338.00)	(157,394.19)	7.56
Ending Fund Balance		104,098.00	-		

	For the Period Ending:	3/31/2025			
445 Stormwater SDC Fund	Period Actual	YTD Actual	Budget	Unearned	Pcnt
3100 Beginning Fund Balance		89,310.31	89,145.00		
Revenues					
315 Interest Earned	360.49	3,289.59	2,500.00	(789.59)	131.58
345 SDC Revenue	673.00	4,711.00	5,000.00	289.00	94.22
385 Miscellaneous Revenue	-	-	-	-	0.00
390 Transfers in from Other Func	ls -	-	-	-	0.00
Total Revenues	1,033.49	8,000.59	7,500.00	(500.59)	106.67
Expenditures					
445 Stormwater SDC					
6000 Materials & Services	-	-	-	-	0.00
8000 Capital Outlay	-	-	96,645.00	96,645.00	0.00
Total Stormwater SDC			96,645.00	96,645.00	0.00
900 Other Requirements					
Transfers to Other Funds	-	-	-	-	0.00
Contingency	-	-	-	-	0.00
Ending Balance (Budgeted)	-	-	-	-	0.00
Total Other Requirements	-			·	#DIV/0!
Total General Fund Expendit	ures	-	96,645.00	96,645.00	0.00
Net Revenues over Expendit	ures <u>1,033.49</u>	8,000.59	(89,145.00)	(97,145.59)	8.97
Ending Fund Balance		97,310.90	-		

	For the Period Ending:	3/31/2025			
520 Water Reserve Fund	Period Actual	YTD Actual	Budget	Unearned	Pcnt
3100 Beginning Fund Balance		41,933.08	41,882.00		
Revenues	161.62	4 454 63	1 500 00	45.20	06.07
315 Interest Earned	161.63	1,454.62	1,500.00	45.38	96.97
345 SDC Revenue	-	-	-	-	0.00
385 Miscellaneous Revenue	-	-	-	-	0.00
390 Transfers in from Other Funds	-	-	-	-	0.00
Total Revenues	161.63	1,454.62	1,500.00	45.38	96.97
Expenditures					
520 Water Reserve					
6000 Materials & Services	-	-	-	-	0.00
8000 Capital Outlay	-	-	-	-	0.00
Total Water Reserve		·	-		0.00
900 Other Requirements					
Transfers to Other Funds	-	-	-	-	0.00
Contingency	-	-	-	-	0.00
Ending Balance (Budgeted)	-	-	43,382.00	43,382.00	0.00
Total Other Requirements	-	·	43,382.00	43,382.00	0.00
Total General Fund Expenditu	ires	·	43,382.00	43,382.00	0.00
Net Revenues over Expenditu	ıres <u>161.63</u>	1,454.62	(41,882.00)	(43,336.62)	3.47
Ending Fund Balance		43,387.70	-		

	For the Period Ending:	3/31/2025			
521 Sewer Reserve Fund 3100 Beginning Fund Balance Revenues	Period Actual	YTD Actual 16,598.41	Budget 16,581.00	Unearned	Pcnt
315 Interest Earned	56.57	494.49	500.00	5.51	98.90
345 SDC Revenue	-	-	-	-	0.00
385 Miscellaneous Revenue	-	_	_	-	0.00
390 Transfers in from Other Funds		-	-	-	0.00
Total Revenues	56.57	494.49	500.00	5.51	98.90
Expenditures					
521 Sewer Reserve					
6000 Materials & Services	-	-	-	-	0.00
8000 Capital Outlay	-	-	-	-	0.00
Total Sewer Reserve	-	<u> </u>		-	0.00
900 Other Requirements					
Transfers to Other Funds	-	-	-	-	0.00
Contingency	-	-	-	-	0.00
Ending Balance (Budgeted)	-	-	17,081.00	17,081.00	0.00
Total Other Requirements		·	17,081.00	17,081.00	0.00
Total General Fund Expenditu	ires -	<u> </u>	17,081.00	17,081.00	0.00
Net Revenues over Expenditu	ires <u>56.57</u>	494.49	(16,581.00)	(17,075.49)	2.98
Ending Fund Balance		17,092.90	-		

#### CITY OF LOWELL COMBINED CASH INVESTMENT MARCH 31, 2025

	COMBINED CASH ACCOUNTS			
999-1111 999-1115	CASH IN BANK - CHECKING CASH IN BANK - LGIP	_		420,856.92 1,704,605.50
999-1110	TOTAL COMBINED CASH CASH ALLOCATED TO FUNDS	(	(	2,125,462.42 2,125,462.42)
	TOTAL UNALLOCATED CASH	=		.00

#### CASH ALLOCATION RECONCILIATION

110	ALLOCATION TO GENERAL FUND		271,616.93
220	ALLOCATION TO BUILDING FUND		38,502.13
230	ALLOCATION TO WATER FUND		287,405.20
240	ALLOCATION TO SEWER FUND		360,649.18
312	ALLOCATION TO STREET FUND		168,383.16
314	ALLOCATION TO BLACKBERRY JAM FUND		7,019.12
410	ALLOCATION TO PARKS SDC FUND		119,292.63
412	ALLOCATION TO STREETS SDC FUND		92,823.21
430	ALLOCATION TO WATER SDC FUND		517,881.36
440	ALLOCATION TO SEWER SDC FUND		104,098.00
445	ALLOCATION TO STORMWATER SDC FUND		97,310.90
520	ALLOCATION TO WATER RESERVE FUND		43,387.70
521	ALLOCATION TO SEWER RESERVE FUND		17,092.90
	TOTAL ALLOCATIONS TO OTHER FUNDS		2,125,462.42
	ALLOCATION FROM COMBINED CASH FUND - 999-1110	(	2,125,462.42)

ZERO PROOF IF ALLOCATIONS BALANCE

.00

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#### CITY OF LOWELL BALANCE SHEET MARCH 31, 2025

GENERAL FUND

#### ASSETS

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110-1110	ALLOCATED CASH		143,547.87	
110-1115	CASH IN BANK - LGIP		128,069.06	
110-1120	PETTY CASH		250.00	
110-1710	LAND		2,588,360.20	
110-1720	BUILDINGS & FACILITIES		1,016,818.56	
110-1730	EQUIPMENT & FURNISHINGS		86,009.96	
110-1740	VEHICLES & ROLLING STOCK		40,847.50	
110-1750	INFRASTRUCTURE		32,762.99	
110-1795	CONSTRUCTION IN PROGRESS		31,145.93	
110-1820	AD - BUILDINGS & FACILITIES	(	285,931.30)	
110-1830	AD - EQUIPMENT & FURNISHINGS	(	26,661.25)	
110-1840	AD - VEHICLES & ROLLING STOCK	(	26,140.21)	
110-1850	AD - INFRASTRUCTURE	(	19,116.67)	

TOTAL ASSETS

3,709,962.64

=

#### LIABILITIES AND EQUITY

#### LIABILITIES

110-2205 WAGES PAYABLE 3.14	<u>8 24</u>
110-2210 PAYROLL TAXES PAYABLE 1,232	
	1.51
110-2250 RETIREMENT PAYABLE 1,364	4.77
110-2255 DEFERRED COMP PAYABLE 82	2.78
110-2515 CET TAX COLLECTED 2,453	3.61
110-2525 OTHER DEPOSITS 303	3.26
110-2750 LONG TERM DEBT 657,214	1.62
TOTAL LIABILITIES	666,389.57
FUND EQUITY	
110-3100 BEGINNING FUND BALANCE 176,650	).70
110-3275 GASB - FIXED ASSETS 3,438,095	5.71
110-3277 GAAP - LONG TERM DEBT ( 657,214	62)
REVENUE OVER EXPENDITURES - YTD 86,041.28	
BALANCE - CURRENT DATE 86.04	1.28
TOTAL FUND EQUITY	3,043,573.07
TOTAL LIABILITIES AND EQUITY	3,709,962.64
	3,703,302.04

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEARNED	PCNT
	TAXES					
110-310-4112 110-310-4114	PROPERTY TAXES - CURRENT PROPERTY TAXES - PRIOR	4,496.53 105.28	205,115.51 1,938.32	203,895.00 1,200.00	( 1,220.51) ( 738.32)	100.6 161.5
110-310-4114	The ERT TALEST NOR		1,300.02	1,200.00	( 130.32)	
	TOTAL TAXES	4,601.81	207,053.83	205,095.00	( 1,958.83)	101.0
	INVESTMENT EARNINGS					
110-315-4125	INTEREST EARNED	528.04	5,030.24	6,500.00	1,469.76	77.4
	TOTAL INVESTMENT EARNINGS	528.04	5,030.24	6,500.00	1,469.76	77.4
	INTERGOVERNMENTAL					
110-320-4132	STATE REVENUE SHARING	.00	9,439.15	13,244.00	3,804.85	71.3
110-320-4134	CIGARETTE TAX	58.43	565.24	708.00	142.76	79.8
110-320-4136	LIQUOR TAX	1,288.53	16,275.53	24,724.00	8,448.47	65.8
110-320-4145	TRANSIENT ROOM TAX	.00	.00	50.00	50.00	.0
110-320-4148	MARIJUANA TAX DISTRIBUTION	.00	1,442.63	2,862.00	1,419.37	50.4
	TOTAL INTERGOVERNMENTAL	1,346.96	27,722.55	41,588.00	13,865.45	66.7
	OPERATING GRANTS					
110-325-4151	GENERAL GOVT - OPERATING GRANT	.00	.00	23,759.00	23,759.00	.0
110-325-4152	TOURISM - OPERATING GRANT	.00	16,604.00	19,100.00	2,496.00	.0 86.9
110-325-4154	LIBRARY - OPER GRANT	1,440.00	5,615.70	14,525.00	8,909.30	38.7
110-325-4158	COMM DEV - OPERATING GRANT	.00	.00	2,000.00	2,000.00	.0
110-325-4160	PARKS - OPERATING GRANT	.00	.00	5,000.00	5,000.00	.0
	TOTAL OPERATING GRANTS	1,440.00	22,219.70	64,384.00	42,164.30	34.5
	FRANCHISE FEES					
110-330-4310	CABLE FRANCHISE FEES	.00	5,165.81	9,356.00	4,190.19	55.2
110-330-4312		.00	58,923.05	60,659.00	1,735.95	97.1
110-330-4314		1,837.98	9,127.07	14,748.00	5,620.93	61.9 53 3
110-330-4316	TELECOM FRANCHISE FEES	.00	799.71	1,500.00	700.29	53.3
	TOTAL FRANCHISE FEES	1,837.98	74,015.64	86,263.00	12,247.36	85.8

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEARNED	PCNT
	LICENSES & PERMITS					
110-335-4352	LAND USE PERMITS	969.25	15,377.84	38,500.00	23,122.16	39.9
110-335-4353	LAND USE COST REIMB	.00	.00	19,150.00	19,150.00	.0
110-335-4354	MISC PERMITS & LICENSES	.00	292.00	500.00	208.00	58.4
110-335-4360	DOG LICENSES	.00	414.00	600.00	186.00	69.0
	TOTAL LICENSES & PERMITS	969.25	16,083.84	58,750.00	42,666.16	27.4
	CHARGES FOR SERVICE					
110-340-4410	COPY, FAX, NOTARY	103.35	588.90	500.00	( 88.90)	117.8
110-340-4415	LIBRARY SALES & SERVICES	.00	.00	25.00	25.00	.0
110-340-4416	LIBRARY BOOK SALES	.00	1,244.52	1,500.00	255.48	83.0
110-340-4417	LIEN SEARCHES	65.00	360.00	225.00	( 135.00)	160.0
110-340-4419	ELECTION FILING FEES	.00	50.00	75.00	25.00	66.7
110-340-4421	SDC/CET ADMIN FEE	102.26	2,524.75	650.00	( 1,874.75)	388.4
110-340-4423	PAY STATION REVENUE	.00	91.00	100.00	9.00	91.0
	TOTAL CHARGES FOR SERVICE	270.61	4,859.17	3,075.00	( 1,784.17)	158.0
	SDC REVENUE					
110-345-4511	PARKS REIMBURSEMENT SDC	47.00	329.00	235.00	( 94.00)	140.0
	TOTAL SDC REVENUE	47.00	329.00	235.00	( 94.00)	140.0
	FINES & FORFEITURES					
110-350-4625	MUNICIPAL COURT REVENUE	10.93	1,477.82	2,500.00	1,022.18	59.1
	TOTAL FINES & FORFEITURES	10.93	1,477.82	2,500.00	1,022.18	59.1
	OTHER REVENUE					
110-370-4825	LIBRARY DONATIONS	.00	140.81	1,000.00	859.19	14.1
110-370-4826	PARKS DONATIONS	.00	5,450.00	4,500.00	( 950.00)	121.1
	TOTAL OTHER REVENUE	.00	5,590.81	5,500.00	( 90.81)	101.7
	GAIN/LOSS ON SALE OF ASSETS					
110-375-4849	CAPITAL ASSET DISPOSAL	.00	.00	302,459.00	302,459.00	.0
	TOTAL GAIN/LOSS ON SALE OF ASSETS	.00	.00	302,459.00	302,459.00	.0

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	U	NEARNED	PCNT
	FUNDRAISING & EVENT REVENUE						
110-380-4865	LIBRARY CAPITAL CAMPAIGN	100.00	400.00	.00	(	400.00)	.0
110-380-4867	PARKS CAPITAL DONATIONS	.00	5,550.00	.00	(	5,550.00)	.0
	TOTAL FUNDRAISING & EVENT REVENUE	100.00	5,950.00	.00	(	5,950.00)	.0
	MISELLANEOUS REVENUE						
110-385-4895	MISCELLANEOUS REVENUE	.00	205.13	50.00	(	155.13)	410.3
	TOTAL MISELLANEOUS REVENUE	.00	205.13	50.00	(	155.13)	410.3
	TOTAL FUND REVENUE	11,152.58	370,537.73	776,399.00		405,861.27	47.7

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	ADMINISTRATION					
	PERSONAL SERVICES					
110-410-5110	CITY ADMINISTRATOR	.00	10,029.36	24,737.00	14,707.64	40.5
110-410-5114	CITY CLERK	412.73	4,113.34	4,953.00	839.66	83.1
110-410-5158	MAINTENANCE WORKER	168.68	1,973.47	2,387.00	413.53	82.7
110-410-5220	OVERTIME	.00	14.29	69.00	54.71	20.7
110-410-5315	SOCIAL SECURITY/MEDICARE	44.48	1,234.03	2,459.00	1,224.97	50.2
110-410-5320	WORKER'S COMP	.26	69.76	207.00	137.24	33.7
110-410-5350	UNEMPLOYMENT	.00	.00	2,250.00	2,250.00	.0
110-410-5410	HEALTH INSURANCE	148.84	2,570.96	4,974.00	2,403.04	51.7
110-410-5450	PUBLIC EMPLOYEES RETIREMENT	122.91	3,451.24	6,796.00	3,344.76	50.8
	TOTAL PERSONAL SERVICES	897.90	23,456.45	48,832.00	25,375.55	48.0
	MATERIALS & SERVICES					
110 110 6110	AUDITING	00	0 220 00	12 224 00	2 004 00	75.6
110-410-6110		.00	9,320.00	12,324.00	3,004.00	75.6
		.00	25,647.70	50,000.00	24,352.30	51.3
110-410-6114		1,862.20	14,748.80	14,842.00	93.20	99.4
	IT SERVICES	.00	7,947.12	14,125.00	6,177.88	56.3
110-410-6124		95.96	1,670.04	3,000.00	1,329.96	55.7
110-410-6128	OTHER CONTRACT SERVICES	227.79	3,328.06	5,081.00	1,752.94	65.5
110-410-6210	INSURANCE & BONDS	.00	3,089.20	3,038.00	( 51.20)	101.7
110-410-6220	POSTAGE, PRINTING, PUBLICATION	.00	279.85	1,500.00	1,220.15	18.7
110-410-6222	NEWSLETTER EXPENDITURE	.00	.00	625.00	625.00	.0
110-410-6225	SOFTWARE & SUBSCRIPTIONS	325.28	7,228.22	8,096.00	867.78	89.3
110-410-6228	PUBLIC NOTICES	.00	.00	2,000.00	2,000.00	.0
110-410-6230	OFFICE SUPPLIES/EQUIPMENT	321.15	1,689.14	3,000.00	1,310.86	56.3
110-410-6234	GENERAL SUPPLIES	52.73	511.80	500.00	( 11.80)	102.4
110-410-6238	BANK SERVICE CHARGES	.88	5.80	50.00	44.20	11.6
110-410-6245	MEMBERSHIPS & DUES	.00	2,029.21	3,350.00	1,320.79	60.6
110-410-6290	MISCELLANEOUS	.00	648.65	500.00	( 148.65)	129.7
110-410-6320	BUILDING REPAIR & MAINTENANCE	.00	122.73	500.00	377.27	24.6
110-410-6324	EQUIPMENT REPAIR & MAINTENANCE	.00	35.00	250.00	215.00	14.0
110-410-6334	NON-CAPITALIZED ASSETS	.00	2,101.16	3,000.00	898.84	70.0
110-410-6420	WATER SERVICES	49.59	802.05	1,750.00	947.95	45.8
110-410-6425	SEWER SERVICES	81.00	752.48	1,500.00	747.52	50.2
110-410-6430	ELECTRICITY SERVICES	212.52	1,191.27	2,000.00	808.73	59.6
110-410-6435	INTERNET SERVICES	7.50	72.50	48.00	( 24.50)	151.0
110-410-6440	TELEPHONE SERVICES	.00	825.60	1,100.00	274.40	75.1
110-410-6445	REFUSE SERVICES	.00	923.89	1,200.00	276.11	77.0
110-410-6510	COUNCIL & COMMITTE EXPENSES	.00	232.00	500.00	268.00	46.4
110-410-6512	STATE ETHICS COMMISSION	.00	945.68	1,100.00	154.32	86.0
110-410-6705	RENT	.00	1,791.00	2,080.00	289.00	86.1
	TOTAL MATERIALS & SERVICES	3,236.60	87,938.95	137,059.00	49,120.05	64.2

		GENERAL FUND				
		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	CAPITAL OUTLAY					
110-410-8225	BUILDINGS & FACILITIES	.00	.00	110,000.00	110,000.00	.0
	TOTAL CAPITAL OUTLAY	.00	.00	110,000.00	110,000.00	.0
	TOTAL ADMINISTRATION	4,134.50	111,395.40	295,891.00	184,495.60	37.7
	PARKS & RECREATION					
	PERSONAL SERVICES					
110-420-5110	CITY ADMINISTRATOR	.00	2,656.36	4,948.00	2,291.64	53.7
110-420-5150	PUBLIC WORKS DIRECTOR	284.52	2,593.33	2,514.00	( 79.33)	103.2
110-420-5152	LEAD OPERATOR	276.12	3,066.02	1,521.00	( 1,545.02)	201.6
110-420-5154	OPERATOR	.00	.00	1,521.00	1,521.00	.0
110-420-5156	OPERATOR TRAINEE	742.71	6,189.30	8,610.00	2,420.70	71.9
110-420-5158	MAINTENANCE WORKER	202.43	2,868.51	2,864.00	( 4.51)	100.2
110-420-5220	OVERTIME	34.01	679.05	1,775.00	1,095.95	38.3
110-420-5315	SOCIAL SECURITY/MEDICARE	117.79	1,410.60	1,737.00	326.40	81.2
110-420-5320	WORKER'S COMP	.64	765.57	229.00	( 536.57)	334.3
110-420-5350	UNEMPLOYMENT	.00	.00	1,590.00	1,590.00	.0
110-420-5410	HEALTH INSURANCE	315.24	4,127.37	8,808.00	4,680.63	46.9
110-420-5450	PUBLIC EMPLOYEES RETIREMENT	370.72	2,893.22	4,800.00	1,906.78	60.3
	TOTAL PERSONAL SERVICES	2,344.18	27,249.33	40,917.00	13,667.67	66.6

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	MATERIALS & SERVICES					
110-420-6122	IT SERVICES	.00	.00	1,676.00	1,676.00	.0
110-420-6122	OTHER CONTRACT SERVICES	.00	203.30	1,221.00	1,017.70	.0 16.7
110-420-6210	INSURANCE & BONDS	.00	2,825.49	2,760.00	( 65.49)	102.4
110-420-6220	POSTAGE, PRINTING, PUBLICATION	.00	87.09	100.00	12.91	87.1
110-420-6225	SOFTWARE & SUBSCRIPTIONS	106.22	1,213.68	1,740.00	526.32	69.8
110-420-6234	GENERAL SUPPLIES	.56	262.09	3,000.00	2,737.91	8.7
110-420-6238	BANK SERVICE CHARGES	.00	1.04	2,500.00	2,498.96	.0
110-420-6240	TRAVEL & TRAINING	.00	.00	500.00	500.00	.0
110-420-6290	MISCELLANEOUS	.00	910.40	1,700.00	789.60	53.6
110-420-6320	<b>BUILDING REPAIR &amp; MAINTENANCE</b>	.00	2,354.27	3,000.00	645.73	78.5
110-420-6324	EQUIPMENT REPAIR & MAINTENANCE	.00	470.22	2,500.00	2,029.78	18.8
110-420-6328	PROPERTY MAINTENANCE	.00	1,156.99	3,500.00	2,343.01	33.1
110-420-6330	OTHER REPAIR & MAINTENANCE	.00	7,076.06	3,000.00	( 4,076.06)	235.9
110-420-6339	DO NOT USE - NELSON LAND DONAT	.00	.00	4,000.00	4,000.00	.0
110-420-6420	WATER SERVICES	737.43	14,880.45	15,500.00	619.55	96.0
110-420-6425	SEWER SERVICES	648.00	5,163.06	7,400.00	2,236.94	69.8
110-420-6430	ELECTRICITY SERVICES	305.74	1,983.12	4,000.00	2,016.88	49.6
110-420-6445	REFUSE SERVICES	.00	2.04	500.00	497.96	.4
110-420-6535	MOVIES IN THE PARK	.00	500.00	1,000.00	500.00	50.0
110-420-6710	GAS & OIL	110.43	1,009.04	2,500.00	1,490.96	40.4
	TOTAL MATERIALS & SERVICES	1,908.38	40,098.34	62,097.00	21,998.66	64.6
110-420-8225 110-420-8335 110-420-8520	CAPITAL OUTLAY BUILDINGS & FACILITIES EQUIPMENT & FURNISHINGS PARKS IMPROVEMENTS	.00 .00 .00	.00 5,022.93 .00	16,000.00 5,500.00 5,000.00	16,000.00 477.07 5,000.00	.0 91.3 .0
110-420-0320				· · · · · · · · · · · · · · · · · · ·		
	TOTAL CAPITAL OUTLAY		5,022.93	26,500.00	21,477.07	19.0
	TOTAL PARKS & RECREATION	4,252.56	72,370.60	129,514.00	57,143.40	55.9
	POLICE					
	MATERIALS & SERVICES					
440 400 0440		~~	4 575 00	40.000.00	0 405 00	45.0
110-430-6118	POLICE SERVICES	.00	1,575.00	10,000.00	8,425.00	15.8
110-430-6334	NON-CAPITALIZED ASSETS	.00	.00	426.00	426.00	.0
	TOTAL MATERIALS & SERVICES	.00	1,575.00	10,426.00	8,851.00	15.1
	TOTAL POLICE	.00	1,575.00	10,426.00	8,851.00	15.1

#### GENERAL FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	COMMUNITY DEVELOPMENT					
	PERSONAL SERVICES					
110-440-5110	CITY ADMINISTRATOR	.00	2,507.32	4,948.00	2,440.68	50.7
110-440-5150	PUBLIC WORKS DIRECTOR	284.53	2,458.43	2,514.00	55.57	97.8
110-440-5220	OVERTIME	.00	98.80	182.00	83.20	54.3
110-440-5315	SOCIAL SECURITY/MEDICARE	21.77	387.46	585.00	197.54	66.2
110-440-5320	WORKER'S COMP	.06	9.91	50.00	40.09	19.8
110-440-5350	UNEMPLOYMENT	.00	.00	540.00	540.00	.0
110-440-5410	HEALTH INSURANCE	45.91	742.53	1,222.00	479.47	60.8
110-440-5450	PUBLIC EMPLOYEES RETIREMENT	60.15	1,080.97	1,617.00	536.03	66.9
	TOTAL PERSONAL SERVICES	412.42	7,285.42	11,658.00	4,372.58	62.5
	MATERIALS & SERVICES					
110-440-6112	LEGAL SERVICES	.00	243.75	3,838.00	3,594.25	6.4
110-440-6116	ENGINEERING SERVICES	12.71	8,735.04	29,348.00	20,612.96	29.8
110-440-6117	PLANNING SERVICES	.00	2,815.99	11,965.00	9,149.01	23.5
110-440-6122	IT SERVICES	.00	639.48	3,267.00	2,627.52	19.6
110-440-6128	OTHER CONTRACT SERVICES	.00	.00	90.00	90.00	.0
110-440-6220	POSTAGE, PRINTING, PUBLICATION	.00	69.96	200.00	130.04	35.0
110-440-6225	SOFTWARE & SUBSCRIPTIONS	17.52	276.40	300.00	23.60	92.1
110-440-6230	OFFICE SUPPLIES/EQUIPMENT	.86	34.48	200.00	165.52	17.2
110-440-6238	BANK SERVICE CHARGES	13.93	93.56	350.00	256.44	26.7
110-440-6245	MEMBERSHIPS & DUES	.00	1,060.00	1,500.00	440.00	70.7
110-440-6290	MISCELLANEOUS	.00	39.03	250.00	210.97	15.6

TOTAL COMMUNITY DEVELOPMENT	457.44	21.293.11	62.966.00	41.672.89	33.8
		21,200	02,000.00	,0. 2.00	00.0

LIBRARY

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	PERSONAL SERVICES					
110-450-5130	LIBRARIAN/SPECIAL EVENTS	1,606.97	18,219.78	22,234.00	4,014.22	82.0
110-450-5158	MAINTENANCE WORKER	168.68	1,973.47	2,387.00	413.53	82.7
110-450-5160	TEMPORARY/ SEASONAL	.00	1,190.93	9,694.00	8,503.07	12.3
110-450-5315	SOCIAL SECURITY/MEDICARE	135.83	1,691.27	2,695.00	1,003.73	62.8
110-450-5320	WORKER'S COMP	.81	253.83	298.00	44.17	85.2
110-450-5350	UNEMPLOYMENT	.00	.00	2,370.00	2,370.00	.0
110-450-5410	HEALTH INSURANCE	.00	.00	876.00	876.00	.0
110-450-5450	PUBLIC EMPLOYEES RETIREMENT	375.37	4,268.88	7,155.00	2,886.12	59.7
	TOTAL PERSONAL SERVICES	2,287.66	27,598.16	47,709.00	20,110.84	57.9
	MATERIALS & SERVICES					
110-450-6122	IT SERVICES	.00	1,278.95	8,169.00	6,890.05	15.7
110-450-6128	OTHER CONTRACT SERVICES	183.16	3,031.05	9,254.00	6,222.95	32.8
110-450-6210	INSURANCE & BONDS	.00	1,140.14	1,151.00	10.86	99.1
110-450-6220	POSTAGE, PRINTING, PUBLICATION	.00	253.30	375.00	121.70	67.6
110-450-6225	SOFTWARE & SUBSCRIPTIONS	70.67	6,923.13	9,329.00	2,405.87	74.2
110-450-6230	OFFICE SUPPLIES/EQUIPMENT	3.42	562.66	600.00	37.34	93.8
110-450-6234	GENERAL SUPPLIES	45.45	397.94	200.00	( 197.94)	199.0
110-450-6238	BANK SERVICE CHARGES	.00	1.91	50.00	48.09	3.8
110-450-6240	TRAVEL & TRAINING	.00	101.17	.00	( 101.17)	.0
110-450-6245	MEMBERSHIPS & DUES	.00	.00	140.00	140.00	.0
110-450-6290	MISCELLANEOUS	.00	.00	200.00	200.00	.0
110-450-6320	BUILDING REPAIR & MAINTENANCE	.00	122.74	500.00	377.26	24.6
110-450-6334	NON-CAPITALIZED ASSETS	.00	2,041.21	2,658.00	616.79	76.8
110-450-6420		49.80	892.84	1,750.00	857.16	51.0
110-450-6425 110-450-6430	SEWER SERVICES ELECTRICITY SERVICES	81.00 300.81	759.33 1,697.53	1,300.00	540.67	58.4 56.6
110-450-6435	INTERNET SERVICES	.00	.00	3,000.00 48.00	1,302.47 48.00	.0
110-450-6445	REFUSE SERVICES	.00	1,008.51	1,500.00	48.00	.0 67.2
110-450-6530	SUMMER READING PROGRAM	.00	614.52	1,000.00	385.48	61.5
110-450-6780	MATERIALS & COLLECTIONS	39.90	888.47	1,000.00	111.53	88.9
	TOTAL MATERIALS & SERVICES	774.21	21,715.40	42,224.00	20,508.60	51.4
	CAPITAL OUTLAY					
110-450-8225		00	0 105 00	4 2 4 0 0 0	2 161 00	50.0
110-450-8225	BUILDINGS & FACILITIES EQUIPMENT & FURNISHINGS	.00 .00	2,185.00	4,349.00 250.00	2,164.00	50.2 .0
	TOTAL CAPITAL OUTLAY	.00	2,185.00	4,599.00	2,414.00	47.5
	TOTAL LIBRARY	3,061.87	51,498.56	94,532.00	43,033.44	54.5
	CODE ENFORCEMENT					

#### GENERAL FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	PERSONAL SERVICES					
110-460-5110	CITY ADMINISTRATOR	.00	2,507.32	4,948.00	2,440.68	50.7
110-460-5315	SOCIAL SECURITY/MEDICARE	.00	191.81	529.00	337.19	36.3
110-460-5320	WORKER'S COMP	.00	5.91	1,003.00	997.09	.6
110-460-5350	UNEMPLOYMENT	.00	.00	360.00	360.00	.0
110-460-5410	HEALTH INSURANCE	.00	202.75	549.00	346.25	36.9
110-460-5450	PUBLIC EMPLOYEES RETIREMENT	.00	540.37	1,046.00	505.63	51.7
	TOTAL PERSONAL SERVICES	.00	3,448.16	8,435.00	4,986.84	40.9
	MATERIALS & SERVICES					
110-460-6128	OTHER CONTRACT SERVICES	.00	.00	1,054.00	1,054.00	.0
110-460-6220	POSTAGE, PRINTING, PUBLICATION	.00	40.50	200.00	159.50	20.3
110-460-6225	SOFTWARE & SUBSCRIPTIONS	.00	8.59	.00	( 8.59)	.0
110-460-6234	GENERAL SUPPLIES	.86	34.48	100.00	65.52	34.5
110-460-6238	BANK SERVICE CHARGES	.00	.47	100.00	99.53	.5
110-460-6540	DOG/CAT CONTROL	.00	96.11	250.00	153.89	38.4
	TOTAL MATERIALS & SERVICES	.86	180.15	1,704.00	1,523.85	10.6

	TOTAL CODE ENFORCEMENT	.86	3,628.31	10,139.00	6,510.69	35.8
	TOURISM					
	MATERIALS & SERVICES					
110-470-6220	POSTAGE, PRINTING, PUBLICATION	.00	.00	50.00	50.00	.0
110-470-6224	MARKETING	.00	.00	500.00	500.00	.0
110-470-6290	MISCELLANEOUS	.00	.00	100.00	100.00	.0
110-470-6326	COVERED BRIDGE MAINTENANCE	78.01	614.54	34,928.00	34,313.46	1.8
	TOTAL MATERIALS & SERVICES	78.01	614.54	35,578.00	34,963.46	1.7

TOTAL TOURISM	78.01	614.54	35,578.00	34,963.46	1.7

MUNICIPAL COURT

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	PERSONAL SERVICES					
				4 0 4 0 0 0		
110-480-5110		.00	2,507.32	4,948.00	2,440.68	50.7
110-480-5114	CITY CLERK	206.36	2,056.62	2,476.00	419.38	83.1
110-480-5220	OVERTIME	.00	7.15	35.00	27.85	20.4
110-480-5315	SOCIAL SECURITY/MEDICARE	15.78	349.65	571.00	221.35	61.2
110-480-5320	WORKER'S COMP	.08	12.12	113.00	100.88	10.7
110-480-5350	UNEMPLOYMENT	.00	.00	510.00	510.00	.0
110-480-5410		74.42	1,082.63	1,661.00	578.37	65.2
110-480-5450	PUBLIC EMPLOYEES RETIREMENT	43.63	976.69	1,577.00	600.31	61.9
	TOTAL PERSONAL SERVICES	340.27	6,992.18	11,891.00	4,898.82	58.8
	MATERIALS & SERVICES					
110-480-6120	JUDGE CONTRACT	.00	1,000.00	2,000.00	1,000.00	50.0
110-480-6121	BAILIFF CONTRACT	.00	126.68	500.00	373.32	25.3
110-480-6128	OTHER CONTRACT SERVICES	.00	875.39	1,307.00	431.61	67.0
110-480-6220	POSTAGE, PRINTING, PUBLICATION	.00	6.22	50.00	43.78	12.4
110-480-6225	SOFTWARE & SUBSCRIPTIONS	.00	8.59	50.00	41.41	17.2
110-480-6230	OFFICE SUPPLIES/EQUIPMENT	.86	770.65	1,100.00	329.35	70.1
110-480-6238	BANK SERVICE CHARGES	.00	12.40	50.00	37.60	24.8
110-480-6560	STATE ASSESSMENTS	.00	300.00	500.00	200.00	60.0
110-480-6565	COURT COLLECTION FEES	.00	.00	50.00	50.00	.0
	TOTAL MATERIALS & SERVICES	.86	3,099.93	5,607.00	2,507.07	55.3
	TOTAL MUNICIPAL COURT	341.13	10,092.11	17,498.00	7,405.89	57.7
	DEBT SERVICE					
	DEBT SERVICES					
110-800-7111	LOAN PRINCIPAL - LIBRARY/CITY	.00	.00	11,895.00	11,895.00	.0
110-800-7112	LOAN PRINCIPAL - ROLLING ROCK	.00	.00	9,924.00	9,924.00	.0
110-800-7113	LOAN PRINCIPAL - OEDD LIBRARY	.00	3,812.32	62,082.00	58,269.68	6.1
110-800-7114	LOAN PRINCIPAL - OEDD CITYHALL	.00	3,431.06	55,104.00	51,672.94	6.2
110-800-7511	LOAN INTEREST - LIBRARY/CITY	.00	.00	10,755.00	10,755.00	.0
110-800-7512	LOAN INTEREST - ROLLING ROCK	.00	.00	8,403.00	8,403.00	.0 .0
110-800-7513	LOAN INTEREST - OEDD LIBRARY	.00	2,518.66	2,550.00	31.34	.0 98.8
110-800-7514	LOAN INTEREST - OEDD CITY HALL	.00	2,266.78	2,295.00	28.22	98.8
	TOTAL DEBT SERVICES	.00	12,028.82	163,008.00	150,979.18	7.4
	TOTAL DEBT SERVICE	.00	12,028.82	163,008.00	150,979.18	7.4

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	OTHER REQUIREMENTS					
	OTHER REQUIREMENTS					
110-900-9590	CONTINGENCY	.00	.00	44,161.00	44,161.00	.0
110-900-9895	RESERVED FOR FUTURE USE - PARK	.00	.00	21,423.00	21,423.00	.0
	TOTAL OTHER REQUIREMENTS	.00	.00	65,584.00	65,584.00	.0
	TOTAL OTHER REQUIREMENTS	.00	.00	65,584.00	65,584.00	.0
	TOTAL FUND EXPENDITURES	12,326.37	284,496.45	885,136.00	600,639.55	32.1
	NET REVENUE OVER EXPENDITURES	( 1,173.79)	86,041.28	( 108,737.00)	( 194,778.28)	79.1

#### CITY OF LOWELL BALANCE SHEET MARCH 31, 2025

BUILDING FUND

	ASSETS					
	ALLOCATED CASH				7,063.71	
220-1115	CASH IN BANK - LGIP				31,438.42	
	TOTAL ASSETS					38,502.13
	TOTAL ASSETS				=	30,302.13
	LIABILITIES AND EQUITY					
220-2205	WAGES PAYABLE				447.83	
	PAYROLL TAXES PAYABLE				225.35	
220-2245	HEALTH INSURANCE PAYABLE				153.19	
220-2250	RETIREMENT PAYABLE				191.15	
220-2255	DEFERRED COMP PAYABLE				22.33	
	TOTAL LIABILITIES					1 020 95
	TOTAL LIABILITIES					1,039.85
	FUND EQUITY					
220-3100	BEGINNING FUND BALANCE				44,107.38	
	REVENUE OVER EXPENDITURES - YTD	(	6,645.10)			
	BALANCE - CURRENT DATE			(	6,645.10)	
	BALANCE - CONCENT BATE			(	0,040.10)	
	TOTAL FUND EQUITY					37,462.28
					-	
	TOTAL LIABILITIES AND EQUITY				_	38,502.13

#### BUILDING FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEARNED	PCNT
	INVESTMENT EARNINGS					
220-315-4125	INTEREST EARNED	124.08	1,026.45	100.00	( 926.45)	1026.5
	TOTAL INVESTMENT EARNINGS	124.08	1,026.45	100.00	( 926.45)	1026.5
	LICENSES & PERMITS					
220-335-4356	BUILDING PERMIT FEES	885.49	23,114.20	21,645.00	( 1,469.20)	106.8
220-335-4358	ELECTRICAL PERMIT FEES	208.32	4,489.18	1,725.00	( 2,764.18)	260.2
	TOTAL LICENSES & PERMITS	1,093.81	27,603.38	23,370.00	( 4,233.38)	118.1
220-340-4445	TECHNOLOGY FEE	384.39	1,062.98	.00	( 1,062.98)	.0
	TOTAL SOURCE 340	384.39	1,062.98	.00	( 1,062.98)	.0
	MISELLANEOUS REVENUE					
220-385-4895	MISCELLANEOUS REVENUE	.00	7.23	.00	( 7.23)	.0
	TOTAL MISELLANEOUS REVENUE	.00	7.23	.00	( 7.23)	.0
	TOTAL FUND REVENUE	1,602.28	29,700.04	23,470.00	( 6,230.04)	126.5

#### BUILDING FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	NON-DEPARTMENTAL					
	PERSONAL SERVICES					
220-490-5110	CITY ADMINISTRATOR	.00	1,003.02	1,979.00	975.98	50.7
220-490-5114	CITY CLERK	206.36	2,056.62	2,476.00	419.38	83.1
220-490-5150	PUBLIC WORKS DIRECTOR	474.22	4,097.67	4,191.00	93.33	97.8
220-490-5220	OVERTIME	.00	171.87	339.00	167.13	50.7
220-490-5315	SOCIAL SECURITY/MEDICARE	52.06	560.64	688.00	127.36	81.5
220-490-5320	WORKER'S COMP	.18	14.82	69.00	54.18	21.5
220-490-5350	UNEMPLOYMENT	.00	.00	630.00	630.00	.0
220-490-5410	HEALTH INSURANCE	150.93	1,860.70	2,475.00	614.30	75.2
220-490-5450	PUBLIC EMPLOYEES RETIREMENT	143.88	1,553.54	1,901.00	347.46	81.7
	TOTAL PERSONAL SERVICES	1,027.63	11,318.88	14,748.00	3,429.12	76.8
	MATERIALS & SERVICES					
220-490-6110	AUDITING	.00	1,165.00	1,562.00	397.00	74.6
220-490-6114	FINANCIAL SERVICES	232.77	1,843.60	1,856.00	12.40	99.3
220-490-6122	IT SERVICES	.00	639.48	3,269.00	2,629.52	19.6
220-490-6128	OTHER CONTRACT SERVICES	.00	.00	186.00	186.00	.0
220-490-6150	BUILDING INSPECTION SERVICES	.00	15,449.93	20,000.00	4,550.07	77.3
220-490-6152	ELECTRICAL INSPECTION SERVICES	300.00	2,760.75	5,000.00	2,239.25	55.2
220-490-6220	POSTAGE, PRINTING, PUBLICATION	.00	157.34	200.00	42.66	78.7
220-490-6225	SOFTWARE & SUBSCRIPTIONS	22.93	270.03	392.00	121.97	68.9
220-490-6230	OFFICE SUPPLIES/EQUIPMENT	.86	64.04	150.00	85.96	42.7
220-490-6238	BANK SERVICE CHARGES	47.24	159.91	250.00	90.09	64.0
220-490-6330	OTHER REPAIR & MAINTENANCE	.00	59.98	200.00	140.02	30.0
220-490-6420	WATER SERVICES	11.04	188.34	600.00	411.66	31.4
220-490-6425	SEWER SERVICES	18.00	167.98	500.00	332.02	33.6
220-490-6430	ELECTRICITY SERVICES	17.97	89.40	100.00	10.60	89.4
220-490-6524	BUILDING STATE SURCHARGE	.00	1,697.52	3,000.00	1,302.48	56.6
220-490-6525	ELECTRICAL STATE SURCHARGE	.00	312.96	1,000.00	687.04	31.3
		650.81		38,265.00	13,238.74	65.4

TOTAL NON-DEPARTMENTAL	1,678.44	36,345.14	53,013.00	16,667.86	68.6

OTHER REQUIREMENTS

#### BUILDING FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	OTHER REQUIREMENTS					
220-900-9590	CONTINGENCY	.00	.00	4,509.00	4,509.00	.0
	TOTAL OTHER REQUIREMENTS	.00	.00	4,509.00	4,509.00	.0
	TOTAL OTHER REQUIREMENTS	.00	.00	4,509.00	4,509.00	.0
	TOTAL FUND EXPENDITURES	1,678.44	36,345.14	57,522.00	21,176.86	63.2
	NET REVENUE OVER EXPENDITURES	( 76.16)	( 6,645.10)	( 34,052.00)	( 27,406.90)	( 19.5)

#### CITY OF LOWELL BALANCE SHEET MARCH 31, 2025

WATER FUND

#### ASSETS

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ALLOCATED CASH		80,686.47	
CASH IN BANK - LGIP		206,718.73	
ACCOUNTS RECEIVABLE		44,531.53	
LAND		81,179.00	
BUILDINGS & FACILITIES		35,875.00	
EQUIPMENT & FURNISHINGS		40,026.38	
VEHICLES & ROLLING STOCK		34,066.66	
INFRASTRUCTURE		4,817,521.42	
CONSTRUCTION IN PROGRESS		106,557.92	
AD - BUILDINGS & FACILITIES	(	22,600.32)	
AD - EQUIPMENT & FURNISHINGS	(	24,744.09)	
AD - VEHICLES & ROLLING STOCK	(	24,264.42)	
AD - INFRASTRUCTURE	(	2,630,437.00)	
TOTAL ASSETS			2,745,117
	CASH IN BANK - LGIP ACCOUNTS RECEIVABLE LAND BUILDINGS & FACILITIES EQUIPMENT & FURNISHINGS VEHICLES & ROLLING STOCK INFRASTRUCTURE CONSTRUCTION IN PROGRESS AD - BUILDINGS & FACILITIES AD - EQUIPMENT & FURNISHINGS AD - VEHICLES & ROLLING STOCK AD - INFRASTRUCTURE	CASH IN BANK - LGIP ACCOUNTS RECEIVABLE LAND BUILDINGS & FACILITIES EQUIPMENT & FURNISHINGS VEHICLES & ROLLING STOCK INFRASTRUCTURE CONSTRUCTION IN PROGRESS AD - BUILDINGS & FACILITIES ( AD - EQUIPMENT & FURNISHINGS ( AD - VEHICLES & ROLLING STOCK ( AD - INFRASTRUCTURE (	CASH IN BANK - LGIP       206,718.73         ACCOUNTS RECEIVABLE       44,531.53         LAND       81,179.00         BUILDINGS & FACILITIES       35,875.00         EQUIPMENT & FURNISHINGS       40,026.38         VEHICLES & ROLLING STOCK       34,066.66         INFRASTRUCTURE       4,817,521.42         CONSTRUCTION IN PROGRESS       106,557.92         AD - BUILDINGS & FACILITIES       (         AD - EQUIPMENT & FURNISHINGS       (         AD - EQUIPMENT & FURNISHINGS       (         AD - VEHICLES & ROLLING STOCK       (         AD - INFRASTRUCTURE       (         AD - INFRASTRUCTURE       (

2,745,117.28

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#### LIABILITIES AND EQUITY

#### LIABILITIES

230-2205	WAGES PAYABLE			7,730.53	
230-2203	PAYROLL TAXES PAYABLE			·	
				3,523.47	
	HEALTH INSURANCE PAYABLE			2,857.26	
	RETIREMENT PAYABLE			3,211.28	
230-2255	DEFERRED COMP PAYABLE			279.56	
230-2520	UTILITY DEPOSITS			44,220.00	
230-2530	H2O DONATIONS			1,110.00	
230-2750	LONG TERM DEBT			961,473.30	
	TOTAL LIABILITIES				1,024,405.40
	FUND EQUITY				
230-3100	BEGINNING FUND BALANCE			141,455.53	
230-3275	GASB - FIXED ASSETS			2,413,180.55	
230-3277	GAAP - LONG TERM DEBT		(	961,473.30)	
	REVENUE OVER EXPENDITURES - YTD	127,549.10			
	BALANCE - CURRENT DATE			127,549.10	
	TOTAL FUND EQUITY				1,720,711.88
	TOTAL LIABILITIES AND EQUITY				2,745,117.28
				-	

		WATER FUND				
		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEARNED	PCNT
	INVESTMENT EARNINGS					
230-315-4125	INTEREST EARNED	816.29	4,479.42	.00	( 4,479.42)	.0
	TOTAL INVESTMENT EARNINGS	816.29	4,479.42	.00	( 4,479.42)	.0
	CAPITAL GRANTS					
230-328-4162	WATER - CAPITAL GRANTS	.00	227,984.00	1,100,000.00	872,016.00	20.7
	TOTAL CAPITAL GRANTS	.00	227,984.00	1,100,000.00	872,016.00	20.7
	LICENSES & PERMITS					
230-335-4370	WATER/SEWER CONNECTION PERMIT	.00	2,550.00	2,500.00	( 50.00)	102.0
	TOTAL LICENSES & PERMITS	.00	2,550.00	2,500.00	( 50.00)	102.0
	CHARGES FOR SERVICE					
230-340-4425	WATER/SEWER SALES	35,178.04	452,704.20	552,196.00	99,491.80	82.0
230-340-4426	BULK WATER SALES	.00	426.54	1,200.00	773.46	35.6
230-340-4430	WATER/SEWER CONNECTION FEES	.00	.00	4,325.00	4,325.00	.0
		430.50	4,268.28	4,994.00	725.72	85.5
230-340-4440	BACKFLOW TESTING		89.59	1,250.00	1,160.41	7.2
	TOTAL CHARGES FOR SERVICE	35,608.54	457,488.61	563,965.00	106,476.39	81.1
	SDC REVENUE					
230-345-4531	WATER REIMBURSEMENT SDC	745.00	5,215.00	3,725.00	( 1,490.00)	140.0
	TOTAL SDC REVENUE	745.00	5,215.00	3,725.00	( 1,490.00)	140.0
	MISELLANEOUS REVENUE					
230-385-4850	WATER/SEWER PENALTIES	267.50	2,162.50	3,270.00	1,107.50	66.1
230-385-4895	MISCELLANEOUS REVENUE	.00	303.60	.00	( 303.60)	.0
	TOTAL MISELLANEOUS REVENUE	267.50	2,466.10	3,270.00	803.90	75.4
	TOTAL FUND REVENUE	37,437.33	700,183.13	1,673,460.00	973,276.87	41.8

# WATER FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	NON-DEPARTMENTAL					
	PERSONAL SERVICES					
230-490-5110	CITY ADMINISTRATOR	.00	13,467.72	24,738.00	11,270.28	54.4
230-490-5114	CITY CLERK	1,650.90	16,453.17	19,811.00	3,357.83	83.1
230-490-5150	PUBLIC WORKS DIRECTOR	3,983.42	34,351.90	35,201.00	849.10	97.6
230-490-5152	LEAD OPERATOR	4,207.28	38,633.68	25,106.00	( 13,527.68)	153.9
230-490-5154	OPERATOR	.00	.00	21,302.00	21,302.00	.0
230-490-5156	OPERATOR TRAINEE	891.25	7,427.46	10,334.00	2,906.54	71.9
230-490-5158	MAINTENANCE WORKER	67.47	934.35	955.00	20.65	97.8
230-490-5220	OVERTIME	517.76	9,638.99	8,547.00	( 1,091.99)	112.8
230-490-5315	SOCIAL SECURITY/MEDICARE	865.83	9,218.17	11,202.00	1,983.83	82.3
230-490-5320	WORKER'S COMP	3.66	341.10	1,053.00	711.90	32.4
230-490-5350	UNEMPLOYMENT	.00	.00	10,230.00	10,230.00	.0
230-490-5410	HEALTH INSURANCE	2,833.83	32,771.93	41,789.00	9,017.07	78.4
230-490-5450	PUBLIC EMPLOYEES RETIREMENT	2,446.92	24,561.59	30,952.00	6,390.41	79.4
	TOTAL PERSONAL SERVICES	17,468.32	187,800.06	241,220.00	53,419.94	77.9

# WATER FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	MATERIALS & SERVICES					
230-490-6110	AUDITING	.00	5,825.00	7,712.00	1,887.00	75.5
230-490-6112	LEGAL SERVICES	.00	31.25	.00	( 31.25)	.0
230-490-6114	FINANCIAL SERVICES	1,163.88	9,218.04	9,276.00	57.96	99.4
230-490-6116	ENGINEERING SERVICES	.00	3,618.25	35,500.00	31,881.75	10.2
230-490-6122	IT SERVICES	.00	1,278.95	219.00	( 1,059.95)	584.0
230-490-6128	OTHER CONTRACT SERVICES	89.26	1,338.03	5,064.00	3,725.97	26.4
230-490-6210	INSURANCE & BONDS	.00	16,340.15	16,349.00	8.85	100.0
230-490-6220	POSTAGE, PRINTING, PUBLICATION	.00	2,152.49	1,500.00	( 652.49)	143.5
230-490-6225	SOFTWARE & SUBSCRIPTIONS	464.16	7,901.68	8,896.00	994.32	88.8
230-490-6230	OFFICE SUPPLIES/EQUIPMENT	7.42	682.81	1,250.00	567.19	54.6
230-490-6234	GENERAL SUPPLIES	21.98	21.98	.00	( 21.98)	.0
230-490-6238	BANK SERVICE CHARGES	371.24	3,839.56	7,000.00	3,160.44	54.9
230-490-6240	TRAVEL & TRAINING	.00	1,025.00	2,500.00	1,475.00	41.0
230-490-6245	MEMBERSHIPS & DUES	122.50	291.10	1,525.00	1,233.90	19.1
230-490-6290	MISCELLANEOUS	.00	.00	1,500.00	1,500.00	.0
230-490-6320	<b>BUILDING REPAIR &amp; MAINTENANCE</b>	.00	1,246.88	5,500.00	4,253.12	22.7
230-490-6324	EQUIPMENT REPAIR & MAINTENANCE	.00	5,201.37	15,550.00	10,348.63	33.5
230-490-6330	OTHER REPAIR & MAINTENANCE	3,700.00	17,209.17	25,000.00	7,790.83	68.8
230-490-6334	NON-CAPITALIZED ASSETS	.00	2,481.61	11,500.00	9,018.39	21.6
230-490-6420	WATER SERVICES	62.08	863.24	1,800.00	936.76	48.0
230-490-6425	SEWER SERVICES	72.00	644.51	1,020.00	375.49	63.2
230-490-6430	ELECTRICITY SERVICES	1,551.27	14,096.24	20,000.00	5,903.76	70.5
230-490-6435	INTERNET SERVICES	117.88	1,060.92	2,700.00	1,639.08	39.3
230-490-6440	TELEPHONE SERVICES	67.72	1,816.51	3,800.00	1,983.49	47.8
230-490-6445	REFUSE SERVICES	6.60	( 62.58)	600.00	662.58	(10.4)
230-490-6710	GAS & OIL	.00	73.55	1,520.00	1,446.45	4.8
230-490-6712	OPERATIONS & SUPPLIES	7.45	8,748.65	6,150.00	( 2,598.65)	142.3
230-490-6750	CHEMICALS & LAB SUPPLIES	8.53	13,734.92	42,454.00	28,719.08	32.4
230-490-6755	WATER/SEWER ANALYSIS	290.70	3,302.90	4,358.00	1,055.10	75.8
230-490-6758	WATER/SEWER CONNECTION EXPENDI	.00	4,124.56	5,000.00	875.44	82.5
	TOTAL MATERIALS & SERVICES	8,124.67	128,106.74	245,243.00	117,136.26	52.2

	TOTAL NON-DEPARTMENTAL	25,592.99	315,906.80	486,463.00	170,556.20	64.9
	CAPITAL OUTLAY CAPITAL OUTLAY					
230-700-8225 230-700-8540	BUILDINGS & FACILITIES WATER SYSTEMS IMPROVEMTS	.00 635.50	.00 237,768.17	8,000.00 1,100,000.00	8,000.00 862,231.83	.0 21.6
	TOTAL CAPITAL OUTLAY	635.50	237,768.17	1,108,000.00	870,231.83	21.5
	TOTAL CAPITAL OUTLAY	635.50	237,768.17	1,108,000.00	870,231.83	21.5

FOR ADMINISTRATION USE ONLY

75 % OF THE FISCAL YEAR HAS ELAPSED

# WATER FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	DEBT SERVICE					
	DEBT SERVICES					
230-800-7122	LOAN PRINCIPAL - J05001 SPWF	.00	5,487.95	5,488.00	.05	100.0
230-800-7124	LOAN PRINCIPAL - RUS 91-03	.00	.00	18,432.00	18,432.00	.0
230-800-7125	LOAN PRINCIPAL - L21001	.00	7,982.40	7,983.00	.60	100.0
230-800-7522	LOAN INTEREST - J05001 SPWF	.00	1,934.55	1,935.00	.45	100.0
230-800-7524	LOAN INTEREST - RUS 91-03	.00	.00	20,949.00	20,949.00	.0
230-800-7525	LOAN INTEREST - L21001	.00	3,554.16	3,555.00	.84	100.0
	TOTAL DEBT SERVICES	.00	18,959.06	58,342.00	39,382.94	32.5
	TOTAL DEBT SERVICE	.00	18,959.06	58,342.00	39,382.94	32.5
	OTHER REQUIREMENTS					
	OTHER REQUIREMENTS					
230-900-9590	CONTINGENCY	.00	.00	126,994.00	126,994.00	.0
	TOTAL OTHER REQUIREMENTS	.00	.00	126,994.00	126,994.00	.0
	TOTAL OTHER REQUIREMENTS	.00	.00	126,994.00	126,994.00	.0
	TOTAL FUND EXPENDITURES	26,228.49	572,634.03	1,779,799.00	1,207,164.97	32.2
	NET REVENUE OVER EXPENDITURES	11,208.84	127,549.10	( 106,339.00)	( 233,888.10)	120.0

ASSETS	5
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240-1110	ALLOCATED CASH		89,951.45	
240-1115	CASH IN BANK - LGIP		270,697.73	
240-1510	ACCOUNTS RECEIVABLE		45,963.69	
240-1710	LAND		11,000.00	
240-1720	BUILDINGS & FACILITIES		89,114.40	
240-1730	EQUIPMENT & FURNISHINGS		93,182.36	
240-1740	VEHICLES & ROLLING STOCK		21,779.50	
	INFRASTRUCTURE		4,959,303.28	
240-1820	AD - BUILDINGS & FACILITIES	(	51,196.42)	
240-1830	AD - EQUIPMENT & FURNISHINGS	(	47,469.52)	
	AD - VEHICLES & ROLLING STOCK	ì	11,978.73)	
	AD - INFRASTRUCTURE	í	3,220,306.23)	
			-,,	
	TOTAL ASSETS			2,250,041.51
			:	,,
	LIABILITIES AND EQUITY			
	LIABILITIES			
240-2205	WAGES PAYABLE		7,750.39	
240-2210	PAYROLL TAXES PAYABLE		3,565.56	
240-2245	HEALTH INSURANCE PAYABLE		2,756.93	
240-2250	RETIREMENT PAYABLE		3,227.60	
240-2255	DEFERRED COMP PAYABLE		279.56	
240-2750	LONG TERM DEBT		444,867.14	
	TOTAL LIABILITIES			462,447.18
	FUND EQUITY			
240-3100	BEGINNING FUND BALANCE		303,091.63	
240-3275	GASB - FIXED ASSETS		1,843,428.64	
240-3277	GAAP - LONG TERM DEBT	(	444,867.14)	
	REVENUE OVER EXPENDITURES - YTD 85,941.20			
	BALANCE - CURRENT DATE		85,941.20	
	TOTAL FUND EQUITY			1,787,594.33
	TOTAL LIABILITIES AND EQUITY			2,250,041.51
			:	

		SEWER FUND				
		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEARNED	PCNT
	INVESTMENT EARNINGS					
240-315-4125	INTEREST EARNED	1,068.78	8,442.92	5,500.00	( 2,942.92)	153.5
	TOTAL INVESTMENT EARNINGS	1,068.78	8,442.92	5,500.00	( 2,942.92)	153.5
	OPERATING GRANTS					
240-325-4151	SEWER - OPERATING GRANTS	.00	14,475.00	.00	( 14,475.00)	.0
	TOTAL OPERATING GRANTS	.00	14,475.00	.00	( 14,475.00)	.0
	LICENSES & PERMITS					
240-335-4370	WATER/SEWER CONNECTION PERMIT	115.00	1,895.60	.00	( 1,895.60)	.0
	TOTAL LICENSES & PERMITS	115.00	1,895.60	.00	( 1,895.60)	.0
	CHARGES FOR SERVICE					
240-340-4425	WATER/SEWER SALES	42,975.87	427,777.58	530,496.00	102,718.42	80.6
	TOTAL CHARGES FOR SERVICE	42,975.87	427,777.58	530,496.00	102,718.42	80.6
	SDC REVENUE					
240-345-4541	SEWER REIMBURSEMENT SDC	618.00	4,326.00	3,090.00	( 1,236.00)	140.0
	TOTAL SDC REVENUE	618.00	4,326.00	3,090.00	( 1,236.00)	140.0
	MISELLANEOUS REVENUE					
240-385-4850	WATER/SEWER PENALTIES	237.50	2,046.00	4,200.00	2,154.00	48.7
240-385-4895	MISCELLANEOUS REVENUE	12,246.00	12,366.90	.00	( 12,366.90)	.0
	TOTAL MISELLANEOUS REVENUE	12,483.50	14,412.90	4,200.00	( 10,212.90)	343.2
	TOTAL FUND REVENUE	57,261.15	471,330.00	543,286.00	71,956.00	86.8

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	NON-DEPARTMENTAL					
	PERSONAL SERVICES					
240-490-5110	CITY ADMINISTRATOR	.00	13,467.73	24,738.00	11,270.27	54.4
240-490-5114	CITY CLERK	1,650.90	16,453.17	19,811.00	3,357.83	83.1
240-490-5150	PUBLIC WORKS DIRECTOR	3,983.42	34,351.89	35,201.00	849.11	97.6
240-490-5152	LEAD OPERATOR	4,259.78	41,390.44	21,302.00	( 20,088.44)	194.3
240-490-5154	OPERATOR	.00	.00	25,106.00	25,106.00	.0
240-490-5156	OPERATOR TRAINEE	891.25	7,427.44	10,334.00	2,906.56	71.9
240-490-5158	MAINTENANCE WORKER	67.47	934.35	955.00	20.65	97.8
240-490-5220	OVERTIME	525.43	8,318.20	8,547.00	228.80	97.3
240-490-5315	SOCIAL SECURITY/MEDICARE	870.44	9,327.91	11,202.00	1,874.09	83.3
240-490-5320	WORKER'S COMP	3.68	341.70	2,885.00	2,543.30	11.8
240-490-5350	UNEMPLOYMENT	.00	.00	10,230.00	10,230.00	.0
240-490-5410	HEALTH INSURANCE	2,734.26	32,310.53	41,789.00	9,478.47	77.3
240-490-5450	PUBLIC EMPLOYEES RETIREMENT	2,459.61	24,556.84	30,952.00	6,395.16	79.3
	TOTAL PERSONAL SERVICES	17,446.24	188,880.20	243,052.00	54,171.80	77.7

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	MATERIALS & SERVICES					
240-490-6110	AUDITING	.00	5,825.00	7,712.00	1,887.00	75.5
240-490-6112	LEGAL SERVICES	.00	31.25	.00	( 31.25)	.0
240-490-6114	FINANCIAL SERVICES	1,163.88	9,218.04	9,276.00	57.96	99.4
240-490-6116	ENGINEERING SERVICES	.00	10,969.60	45,000.00	34,030.40	24.4
240-490-6122	IT SERVICES	.00	1,278.95	219.00	( 1,059.95)	584.0
240-490-6128	OTHER CONTRACT SERVICES	89.26	1,338.03	3,800.00	2,461.97	35.2
240-490-6210	INSURANCE & BONDS	.00	14,848.11	14,895.00	46.89	99.7
240-490-6220	POSTAGE, PRINTING, PUBLICATION	.00	1,337.84	2,000.00	662.16	66.9
240-490-6225	SOFTWARE & SUBSCRIPTIONS	464.16	5,808.37	8,896.00	3,087.63	65.3
240-490-6230	OFFICE SUPPLIES/EQUIPMENT	7.42	639.31	750.00	110.69	85.2
240-490-6234	GENERAL SUPPLIES	.00	43.39	.00	( 43.39)	.0
240-490-6238	BANK SERVICE CHARGES	422.76	3,665.26	5,500.00	1,834.74	66.6
240-490-6240	TRAVEL & TRAINING	256.88	856.87	2,500.00	1,643.13	34.3
240-490-6245	MEMBERSHIPS & DUES	122.50	291.10	4,370.00	4,078.90	6.7
240-490-6290	MISCELLANEOUS	.00	39.98	500.00	460.02	8.0
240-490-6320	<b>BUILDING REPAIR &amp; MAINTENANCE</b>	.00	1,894.94	6,000.00	4,105.06	31.6
240-490-6324	EQUIPMENT REPAIR & MAINTENANCE	.00	5,674.30	11,800.00	6,125.70	48.1
240-490-6330	OTHER REPAIR & MAINTENANCE	22,289.00	25,231.15	17,500.00	( 7,731.15)	144.2
240-490-6334	NON-CAPITALIZED ASSETS	1,281.50	5,600.94	13,000.00	7,399.06	43.1
240-490-6420	WATER SERVICES	456.97	4,333.88	12,000.00	7,666.12	36.1
240-490-6425	SEWER SERVICES	648.00	5,800.59	7,500.00	1,699.41	77.3
240-490-6430	ELECTRICITY SERVICES	2,742.23	20,342.07	29,100.00	8,757.93	69.9
240-490-6435	INTERNET SERVICES	101.69	915.21	2,700.00	1,784.79	33.9
240-490-6440	TELEPHONE SERVICES	55.51	1,193.18	1,380.00	186.82	86.5
240-490-6445	REFUSE SERVICES	6.60	48.24	9,000.00	8,951.76	.5
240-490-6520	PERMITS	.00	.00	4,300.00	4,300.00	.0
240-490-6705	RENT	90.00	720.00	.00	( 720.00)	.0
240-490-6710	GAS & OIL	376.54	1,268.97	3,150.00	1,881.03	40.3
240-490-6712	OPERATIONS & SUPPLIES	205.11	3,813.84	4,750.00	936.16	80.3
240-490-6750	CHEMICALS & LAB SUPPLIES	3,321.93	16,087.96	25,795.00	9,707.04	62.4
240-490-6755	WATER/SEWER ANALYSIS	1,238.40	10,911.60	17,680.00	6,768.40	61.7
240-490-6758	WATER/SEWER CONNECTION EXPENDI	.00	.00	2,500.00	2,500.00	.0
	TOTAL MATERIALS & SERVICES	35,340.34	160,027.97	273,573.00	113,545.03	58.5

TOTAL NON-DEPARTMENTAL	52,786.58	348,908.17	516,625.00	167,716.83	67.5
CAPITAL OUTLAY CAPITAL OUTLAY					
EQUIPMENT & FURNISHINGS SEWER SYSTEMS	.00 .00	.00 .00	8,000.00 50,000.00	8,000.00 50,000.00	.0 .0
TOTAL CAPITAL OUTLAY	.00	.00	58,000.00	58,000.00	.0

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	TOTAL CAPITAL OUTLAY	.00	.00	58,000.00	58,000.00	.0
	DEBT SERVICE					
	DEBT SERVICES					
240-800-7110	LOAN PRINCIPAL - G02002	.00	24,170.00	24,170.00	.00	100.0
240-800-7122	LOAN PRINCIPAL - J05001 SPWF	.00	5,487.95	5,488.00	.05	100.0
240-800-7124	LOAN PRINCIPAL - RUS 92-05	.00	.00	7,370.00	7,370.00	.0
240-800-7510	LOAN INTEREST - G02002	.00	4,888.13	4,889.00	.87	100.0
240-800-7522	LOAN INTEREST - J05001 SPWF	.00	1,934.55	1,935.00	.45	100.0
240-800-7524	LOAN INTEREST - RUS 92-05	.00	.00	8,375.00	8,375.00	.0
	TOTAL DEBT SERVICES	.00	36,480.63	52,227.00	15,746.37	69.9
	TOTAL DEBT SERVICE	.00	36,480.63	52,227.00	15,746.37	69.9
	OTHER REQUIREMENTS					
	OTHER REQUIREMENTS					
240-900-9590	CONTINGENCY	.00	.00	144,362.00	144,362.00	.0
	TOTAL OTHER REQUIREMENTS	.00	.00	144,362.00	144,362.00	.0
	TOTAL OTHER REQUIREMENTS	.00	.00	144,362.00	144,362.00	.0
	TOTAL FUND EXPENDITURES	52,786.58	385,388.80	771,214.00	385,825.20	50.0
	NET REVENUE OVER EXPENDITURES	4,474.57	85,941.20	( 227,928.00)	( 313,869.20)	37.7

STREET FUND

ASSETS
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312-1110	ALLOCATED CASH		62,997.06	
312-1115	CASH IN BANK - LGIP		105,386.10	
312-1710	LAND		93,558.00	
312-1720	BUILDINGS & FACILITIES		528.00	
312-1730	EQUIPMENT & FURNISHINGS		6,061.05	
312-1740	VEHICLES & ROLLING STOCK		11,299.83	
312-1750	INFRASTRUCTURE		2,344,523.75	
312-1820	AD - BUILDINGS & FACILITIES	(	140.80)	
312-1830	AD - EQUIPMENT & FURNISHINGS	(	3,180.12)	
312-1840	AD - VEHICLES & ROLLING STOCK	(	6,214.89)	
312-1850	AD - INFRASTRUCTURE	(	580,861.47)	
	TOTAL ASSETS		_	2,033,956.51
			_	
	LIABILITIES AND EQUITY			
	LIABILITIES			
312-2205	WAGES PAYABLE		981.69	
	PAYROLL TAXES PAYABLE		452.12	
	HEALTH INSURANCE PAYABLE		330.91	
312-2250	RETIREMENT PAYABLE		433.12	
312-2255	DEFERRED COMP PAYABLE		32.33	
312-2750	LONG TERM DEBT		72,750.91	
				74 004 00
	TOTAL LIABILITIES			74,981.08
	FUND EQUITY			
312-3100	BEGINNING FUND BALANCE		173,400.73	
	GASB - FIXED ASSETS		1,865,573.35	
	GAAP - LONG TERM DEBT	(	72,750.91)	
0.2 02.1		(	, ,	
	REVENUE OVER EXPENDITURES - YTD ( 7,247.74	)		
	BALANCE - CURRENT DATE	(	7,247.74)	
	TOTAL FUND EQUITY		_	1,958,975.43
	TOTAL LIABILITIES AND EQUITY		_	2,033,956.51

		STREET FUND					
		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEARNED		PCNT
	INVESTMENT EARNINGS						
312-315-4125	INTEREST EARNED	416.50	3,912.15	3,200.00	(	712.15)	122.3
	TOTAL INVESTMENT EARNINGS	416.50	3,912.15	3,200.00	(	712.15)	122.3
	INTERGOVERNMENTAL						
312-320-4142	STATE HWY STREET TAX	9,027.82	78,807.59	95,000.00		16,192.41	83.0
	TOTAL INTERGOVERNMENTAL	9,027.82	78,807.59	95,000.00		16,192.41	83.0
	SDC REVENUE						
312-345-4513	TRANSPORTATION REIMBURSEMENT S	104.00	728.00	520.00	(	208.00)	140.0
	TOTAL SDC REVENUE	104.00	728.00	520.00	(	208.00)	140.0
	MISELLANEOUS REVENUE						
312-385-4895	MISCELLANEOUS REVENUE	615.80	626.65	.00	(	626.65)	.0
	TOTAL MISELLANEOUS REVENUE	615.80	626.65	.00	(	626.65)	.0
	TOTAL FUND REVENUE	10,164.12	84,074.39	98,720.00		14,645.61	85.2

# STREET FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	NON-DEPARTMENTAL					
	PERSONAL SERVICES					
312-490-5110	CITY ADMINISTRATOR	.00	2,596.74	2,969.00	372.26	87.5
312-490-5150	PUBLIC WORKS DIRECTOR	474.22	4,097.67	4,191.00	93.33	97.8
312-490-5152	LEAD OPERATOR	460.16	4,157.41	2,536.00	( 1,621.41)	163.9
312-490-5154	OPERATOR	.00	.00	2,536.00	2,536.00	.0
312-490-5156	OPERATOR TRAINEE	445.62	3,713.73	5,167.00	1,453.27	71.9
312-490-5158	MAINTENANCE WORKER	.00	348.80	.00	( 348.80)	.0
312-490-5220	OVERTIME	56.69	928.50	1,055.00	126.50	88.0
312-490-5315	SOCIAL SECURITY/MEDICARE	109.92	1,189.75	1,411.00	221.25	84.3
312-490-5320	WORKER'S COMP	.48	46.01	2,002.00	1,955.99	2.3
312-490-5350	UNEMPLOYMENT	.00	.00	1,290.00	1,290.00	.0
312-490-5410		330.37	3,670.91	5,342.00	1,671.09	68.7
312-490-5450	PUBLIC EMPLOYEES RETIREMENT	330.83	2,762.13	3,899.00	1,136.87	70.8
	TOTAL PERSONAL SERVICES	2,208.29	23,511.65	32,398.00	8,886.35	72.6
	MATERIALS & SERVICES					
312-490-6110	AUDITING	.00	1,165.00	1,562.00	397.00	74.6
312-490-6114	FINANCIAL SERVICES	232.77	1,843.52	1,856.00	12.48	99.3
312-490-6116	ENGINEERING SERVICES	.00	880.33	20,000.00	19,119.67	4.4
312-490-6122	IT SERVICES	.00	440.52	1,674.00	1,233.48	26.3
312-490-6128	OTHER CONTRACT SERVICES	.00	203.30	20,000.00	19,796.70	1.0
312-490-6210	INSURANCE & BONDS	.00	5,671.90	5,678.00	6.10	99.9
312-490-6220	POSTAGE, PRINTING, PUBLICATION	.00	38.64	50.00	11.36	77.3
312-490-6225	SOFTWARE & SUBSCRIPTIONS	87.88	784.02	2,500.00	1,715.98	31.4
312-490-6230	OFFICE SUPPLIES/EQUIPMENT	1.42	105.72	150.00	44.28	70.5
312-490-6238	BANK SERVICE CHARGES	.00	.00	50.00	50.00	.0
312-490-6324	EQUIPMENT REPAIR & MAINTENANCE	.00	.00	500.00	500.00	.0
312-490-6330	OTHER REPAIR & MAINTENANCE	.00	818.31	10,000.00	9,181.69	8.2
312-490-6334	NON-CAPITALIZED ASSETS	.00	.00	5,000.00	5,000.00	.0
312-490-6430		853.50	8,588.33	14,100.00	5,511.67	60.9
312-490-6720	STORM DRAIN MAINTENANCE	336.42	1,705.82	5,000.00	3,294.18	34.1
312-490-6724	STREET SIGNS	.00	1,483.46	1,000.00	( 483.46)	148.4
	STREET MAINTENANCE	.00	.00	1,000.00	1,000.00	.0
312-490-6726						

TOTAL NON-DEPARTMENTAL	3,720.28	47,240.52	122,518.00	75,277.48	38.6

CAPITAL OUTLAY

		STREET FUND				
		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	CAPITAL OUTLAY					
312-700-8530	STREET IMPROVEMENTS	.00	38,910.05	60,428.00	21,517.95	64.4
	TOTAL CAPITAL OUTLAY	.00	38,910.05	60,428.00	21,517.95	64.4
	TOTAL CAPITAL OUTLAY	.00	38,910.05	60,428.00	21,517.95	64.4
	DEBT SERVICE					
	DEBT SERVICES					
312-800-7111 312-800-7125 312-800-7525	LOAN PRINCIPAL - LIBRARY/CITY LOAN PRINCIPAL - L21001 LOAN INTEREST - L21001	.00 .00 .00	.00 3,578.31 1,593.25	1,755.00 3,579.00 1,594.00	1,755.00 .69 .75	.0 100.0 100.0
	TOTAL DEBT SERVICES	.00	5,171.56	6,928.00	1,756.44	74.7
	TOTAL DEBT SERVICE	.00	5,171.56	6,928.00	1,756.44	74.7
	OTHER REQUIREMENTS					
	OTHER REQUIREMENTS					
312-900-9590	CONTINGENCY	.00	.00	22,996.00	22,996.00	.0
	TOTAL OTHER REQUIREMENTS	.00	.00	22,996.00	22,996.00	.0
	TOTAL OTHER REQUIREMENTS	.00	.00	22,996.00	22,996.00	.0
	TOTAL FUND EXPENDITURES	3,720.28	91,322.13	212,870.00	121,547.87	42.9
	NET REVENUE OVER EXPENDITURES	6,443.84	( 7,247.74)	( 114,150.00)	( 106,902.26)	( 6.4)

# BLACKBERRY JAM FUND

#### ASSETS

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314-1110	ALLOCATED CASH				7,019.12	
	TOTAL ASSETS				:	7,019.12
	LIABILITIES AND EQUITY					
	FUND EQUITY					
314-3100	BEGINNING FUND BALANCE				12,118.10	
	REVENUE OVER EXPENDITURES - YTD	(	5,098.98)			
	BALANCE - CURRENT DATE			(	5,098.98)	
	TOTAL FUND EQUITY					7,019.12
	TOTAL LIABILITIES AND EQUITY					7,019.12

# BLACKBERRY JAM FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEARNED	PCNT
	INVESTMENT EARNINGS					
314-315-4125	INTEREST EARNED	.09	.88	10.00	9.12	8.8
	TOTAL INVESTMENT EARNINGS	.09	.88	10.00	9.12	8.8
	OTHER REVENUE					
314-370-4824	BBJ DONATIONS	.00	.00	564.00	564.00	.0
	TOTAL OTHER REVENUE	.00	.00	564.00	564.00	.0
	FUNDRAISING & EVENT REVENUE					
314-380-4861	CRAFT/COMMERCIAL BOOTH SALES	1,060.00	2,445.00	1,000.00	( 1,445.00)	244.5
314-380-4862	FOOD BOOTH SALES	250.00	750.00	500.00	( 250.00)	150.0
314-380-4863	BEER GARDEN	.00	200.00	.00	( 200.00)	.0
314-380-4864	JAM SALES	.00	1,657.20	950.00	( 707.20)	174.4
314-380-4870	SPONSORSHIP REVENUE	2,100.00	2,600.00	1,500.00	( 1,100.00)	173.3
314-380-4878	CAR SHOW REVENUE	.00	.00	325.00	325.00	.0
314-380-4882	HORSESHOE TOURNEY REVENUE	.00	185.00	.00	( 185.00)	.0
314-380-4884	KIDZ KORNER REVENUE	.00	294.85	.00	( 294.85)	.0
	TOTAL FUNDRAISING & EVENT REVENUE	3,410.00	8,132.05	4,275.00	( 3,857.05)	190.2
	MISELLANEOUS REVENUE					
314-385-4895	MISCELLANEOUS REVENUE	.00	.00	100.00	100.00	.0
	TOTAL MISELLANEOUS REVENUE	.00	.00	100.00	100.00	.0
	TOTAL FUND REVENUE	3,410.09	8,132.93	4,949.00	( 3,183.93)	164.3

# BLACKBERRY JAM FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEX		PCNT
	NON-DEPARTMENTAL						
	MATERIALS & SERVICES						
314-490-6118	POLICE SERVICES	.00	3,957.67	2,500.00	(	1,457.67)	158.3
314-490-6122	IT SERVICES	.00	42.16	660.00		617.84	6.4
314-490-6220	POSTAGE, PRINTING, PUBLICATION	.00	.00	100.00		100.00	.0
314-490-6225	SOFTWARE & SUBSCRIPTIONS	28.05	252.45	550.00		297.55	45.9
314-490-6238	BANK SERVICE CHARGES	7.04	21.63	50.00		28.37	43.3
314-490-6290	MISCELLANEOUS	.00	2,069.46	450.00	(	1,619.46)	459.9
314-490-6445	REFUSE SERVICES	.00	.00	1,500.00		1,500.00	.0
314-490-6705	RENT	90.00	760.00	960.00		200.00	79.2
314-490-6714	MATERIALS & SERVICES	.00	965.24	4,500.00		3,534.76	21.5
314-490-6814	JAM SALES EXP	504.00	1,111.75	.00	(	1,111.75)	.0
314-490-6858	KIDZ KORNER EXP	.00	626.55	.00	(	626.55)	.0
314-490-6864	ENTERTAINMENT EXP	.00	3,425.00	2,500.00	(	925.00)	137.0
	TOTAL MATERIALS & SERVICES	629.09	13,231.91	13,770.00		538.09	96.1

TOTAL NON-DEPARTMENTAL	629.09	13,231.91	13,770.00	538.09	96.1
TOTAL FUND EXPENDITURES	629.09	13,231.91	13,770.00	538.09	96.1
NET REVENUE OVER EXPENDITURES	2,781.00	( 5,098.98)	( 8,821.00)	( 3,722.02)	( 57.8)

PARKS SDC FUND

#### ASSETS

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	ALLOCATED CASH CASH IN BANK - LGIP	-	4,368.43 114,924.20	
	TOTAL ASSETS		=	119,292.63
	LIABILITIES AND EQUITY			
	FUND EQUITY			
410-3100	BEGINNING FUND BALANCE		110,249.87	
	REVENUE OVER EXPENDITURES - YTD	9,042.76		
	BALANCE - CURRENT DATE	-	9,042.76	
	TOTAL FUND EQUITY		-	119,292.63
	TOTAL LIABILITIES AND EQUITY		=	119,292.63

## PARKS SDC FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEARNED	PCNT
	INVESTMENT EARNINGS					
410-315-4125	INTEREST EARNED	453.20	4,152.99	3,000.00	( 1,152.99)	138.4
	TOTAL INVESTMENT EARNINGS	453.20	4,152.99	3,000.00	( 1,152.99)	138.4
	SDC REVENUE					
410-345-4510 410-345-4511	PARK SDC FEES PARKS REIMBURSEMENT SDC	1,004.00	7,009.00	5,020.00 4,925.00	( 1,989.00) 4,925.00	139.6 .0
	TOTAL SDC REVENUE	1,004.00	7,009.00	9,945.00	2,936.00	70.5
	TOTAL FUND REVENUE	1,457.20	11,161.99	12,945.00	1,783.01	86.2

		PARKS SDC FUND				
		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	CAPITAL OUTLAY CAPITAL OUTLAY					
410-700-8520	PARKS IMPROVEMENTS	.00	2,119.23	122,723.00	120,603.77	1.7
	TOTAL CAPITAL OUTLAY	.00	2,119.23	122,723.00	120,603.77	1.7
	TOTAL CAPITAL OUTLAY	.00	2,119.23	122,723.00	120,603.77	1.7
	TOTAL FUND EXPENDITURES	.00	2,119.23	122,723.00	120,603.77	1.7
	NET REVENUE OVER EXPENDITURES	1,457.20	9,042.76	( 109,778.00)	( 118,820.76)	8.2

# STREETS SDC FUND

	ASSETS			
	ALLOCATED CASH CASH IN BANK - LGIP		3,817.89 89,005.32	
	TOTAL ASSETS			92,823.21
	LIABILITIES AND EQUITY			
	FUND EQUITY			
412-3100	BEGINNING FUND BALANCE		85,484.59	
	REVENUE OVER EXPENDITURES - YTD	7,338.62		
	BALANCE - CURRENT DATE		7,338.62	
	TOTAL FUND EQUITY			92,823.21
	TOTAL LIABILITIES AND EQUITY			92,823.21

# STREETS SDC FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNE	EARNED	PCNT
	INVESTMENT EARNINGS						
412-315-4125	INTEREST EARNED	351.00	3,194.62	2,500.00	(	694.62)	127.8
	TOTAL INVESTMENT EARNINGS	351.00	3,194.62	2,500.00	(	694.62)	127.8
	SDC REVENUE						
412-345-4512	TRANSPORTATION SDC	592.00	4,144.00	2,975.00	(	1,169.00)	139.3
	TOTAL SDC REVENUE	592.00	4,144.00	2,975.00	(	1,169.00)	139.3
	TOTAL FUND REVENUE	943.00	7,338.62	5,475.00	(	1,863.62)	134.0

		STREETS SDC FUN	D			
		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	CAPITAL OUTLAY CAPITAL OUTLAY					
412-700-8530	STREET IMPROVEMENTS	.00	.00	90,613.00	90,613.00	.0
	TOTAL CAPITAL OUTLAY	.00	.00	90,613.00	90,613.00	.0
	TOTAL CAPITAL OUTLAY	.00	.00	90,613.00	90,613.00	.0
	TOTAL FUND EXPENDITURES	.00	.00	90,613.00	90,613.00	.0
	NET REVENUE OVER EXPENDITURES	943.00	7,338.62	( 85,138.00)	( 92,476.62)	8.6

## WATER SDC FUND

#### ASSETS

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430-1110 430-1115	ALLOCATED CASH CASH IN BANK - LGIP	-	13,751.30 504,130.06	
	TOTAL ASSETS		_	517,881.36
	LIABILITIES AND EQUITY			
430-3100	BEGINNING FUND BALANCE		461,732.95	
	REVENUE OVER EXPENDITURES - YTD	56,148.41		
	BALANCE - CURRENT DATE	-	56,148.41	
	TOTAL FUND EQUITY		_	517,881.36
	TOTAL LIABILITIES AND EQUITY		=	517,881.36

# WATER SDC FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNE	ARNED	PCNT
	INVESTMENT EARNINGS						
430-315-4125	INTEREST EARNED	1,987.91	18,149.41	15,000.00	(	3,149.41)	121.0
	TOTAL INVESTMENT EARNINGS	1,987.91	18,149.41	15,000.00	(	3,149.41)	121.0
	SDC REVENUE						
430-345-4530	WATER SDC	7,068.00	46,238.00	45,500.00	(	738.00)	101.6
	TOTAL SDC REVENUE	7,068.00	46,238.00	45,500.00	(	738.00)	101.6
	TOTAL FUND REVENUE	9,055.91	64,387.41	60,500.00	(	3,887.41)	106.4

		WATER SDC FUND				
		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
430-700-8540	CAPITAL OUTLAY WATER SYSTEMS IMPROVEMTS	.00	8,239.00	525,277.00	517,038.00	1.6
	TOTAL CAPITAL OUTLAY	.00	8,239.00	525,277.00	517,038.00	1.6
	TOTAL CAPITAL OUTLAY	.00	8,239.00	525,277.00	517,038.00	1.6
	- TOTAL FUND EXPENDITURES	.00	8,239.00	525,277.00	517,038.00	1.6
	NET REVENUE OVER EXPENDITURES	9,055.91	56,148.41	( 464,777.00)	( 520,925.41)	12.1
	NET REVENUE OVER EXPENDITURES	9,055.91	56,148.41	( 464,777.00)	( 520,925.41)	12.1

## SEWER SDC FUND

#### ASSETS

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	ALLOCATED CASH CASH IN BANK - LGIP	_	6,586.93 97,511.07	
	TOTAL ASSETS		=	104,098.00
	LIABILITIES AND EQUITY			
	FUND EQUITY			
440-3100	BEGINNING FUND BALANCE		93,041.81	
	REVENUE OVER EXPENDITURES - YTD	11,056.19		
	BALANCE - CURRENT DATE	-	11,056.19	
	TOTAL FUND EQUITY		-	104,098.00
	TOTAL LIABILITIES AND EQUITY		-	104,098.00

# SEWER SDC FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEARNED	PCNT
	INVESTMENT EARNINGS					
440-315-4125	INTEREST EARNED	384.58	3,559.19	3,500.00	( 59.19)	101.7
	TOTAL INVESTMENT EARNINGS	384.58	3,559.19	3,500.00	( 59.19)	101.7
	SDC REVENUE					
440-345-4540	SEWER SDC	1,071.00	7,497.00	8,035.00	538.00	93.3
	TOTAL SDC REVENUE	1,071.00	7,497.00	8,035.00	538.00	93.3
	TOTAL FUND REVENUE	1,455.58	11,056.19	11,535.00	478.81	95.9

		SEWER SDC FUND	1			
		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	CAPITAL OUTLAY CAPITAL OUTLAY					
440-700-8550	SEWER SYSTEMS	.00	.00	157,873.00	157,873.00	.0
	TOTAL CAPITAL OUTLAY	.00	.00	157,873.00	157,873.00	.0
	TOTAL CAPITAL OUTLAY	.00	.00	157,873.00	157,873.00	.0
	TOTAL FUND EXPENDITURES	.00	.00	157,873.00	157,873.00	.0
	NET REVENUE OVER EXPENDITURES	1,455.58	11,056.19	( 146,338.00)	( 157,394.19)	7.6

# STORMWATER SDC FUND

	ASSETS			
	ALLOCATED CASH CASH IN BANK - LGIP		5,905.62 91,405.28	
	TOTAL ASSETS			97,310.90
	LIABILITIES AND EQUITY			
	FUND EQUITY			
445-3100	BEGINNING FUND BALANCE		89,310.31	
	REVENUE OVER EXPENDITURES - YTD	8,000.59		
	BALANCE - CURRENT DATE		8,000.59	
	TOTAL FUND EQUITY			97,310.90
	TOTAL LIABILITIES AND EQUITY			97,310.90

# STORMWATER SDC FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEARNED	PCNT
445-315-4125	INVESTMENT EARNINGS	360.49	3,289.59	2,500.00	( 789.59)	131.6
	TOTAL INVESTMENT EARNINGS	360.49	3,289.59	2,500.00	( 789.59)	131.6
	SDC REVENUE					
445-345-4545	STORM DRAINAGE SDC	673.00	4,711.00	5,000.00	289.00	94.2
	TOTAL SDC REVENUE	673.00	4,711.00	5,000.00	289.00	94.2
	TOTAL FUND REVENUE	1,033.49	8,000.59	7,500.00	( 500.59)	106.7

# STORMWATER SDC FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	CAPITAL OUTLAY					
	CAPITAL OUTLAY					
445-700-8560	STORMWATER IMPROVEMENTS	.00	.00	96,645.00	96,645.00	.0
	TOTAL CAPITAL OUTLAY	.00	.00	96,645.00	96,645.00	.0
	TOTAL CAPITAL OUTLAY	.00	.00	96,645.00	96,645.00	.0
	TOTAL FUND EXPENDITURES	.00	.00	96,645.00	96,645.00	.0
	NET REVENUE OVER EXPENDITURES	1,033.49	8,000.59	( 89,145.00)	( 97,145.59)	9.0

# WATER RESERVE FUND

	ASSETS			
	ALLOCATED CASH CASH IN BANK - LGIP		2,404.98 40,982.72	
020 1110	TOTAL ASSETS			43,387.70
	LIABILITIES AND EQUITY			
	FUND EQUITY			
520-3100	BEGINNING FUND BALANCE		41,933.08	
	REVENUE OVER EXPENDITURES - YTD	1,454.62		
	BALANCE - CURRENT DATE		1,454.62	
	TOTAL FUND EQUITY			43,387.70
	TOTAL LIABILITIES AND EQUITY			43,387.70

# WATER RESERVE FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEARNED	PCNT
	INVESTMENT EARNINGS					
520-315-4125	INTEREST EARNED	161.63	1,454.62	1,500.00	45.38	97.0
	TOTAL INVESTMENT EARNINGS		1,454.62	1,500.00	45.38	97.0
	TOTAL FUND REVENUE	161.63	1,454.62	1,500.00	45.38	97.0

# WATER RESERVE FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	OTHER REQUIREMENTS					
	OTHER REQUIREMENTS					
520-900-9892	RESERVED FOR WATER BOND PYMT	.00	.00	43,382.00	43,382.00	.0
	TOTAL OTHER REQUIREMENTS	.00	.00	43,382.00	43,382.00	.0
	TOTAL OTHER REQUIREMENTS	.00	.00	43,382.00	43,382.00	.0
	TOTAL FUND EXPENDITURES	.00	.00	43,382.00	43,382.00	.0
	NET REVENUE OVER EXPENDITURES	161.63	1,454.62	( 41,882.00)	( 43,336.62)	3.5

# SEWER RESERVE FUND

	ASSETS			
	ALLOCATED CASH CASH IN BANK - LGIP		2,756.09 14,336.81	
	TOTAL ASSETS			17,092.90
	LIABILITIES AND EQUITY			
	FUND EQUITY			
521-3100	BEGINNING FUND BALANCE		16,598.41	
	REVENUE OVER EXPENDITURES - YTD 494.	9		
	BALANCE - CURRENT DATE		494.49	
	TOTAL FUND EQUITY			17,092.90
	TOTAL LIABILITIES AND EQUITY			17,092.90

# SEWER RESERVE FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEARNED	PCNT
	INVESTMENT EARNINGS					
521-315-4125	INTEREST EARNED	56.57	494.49	500.00	5.51	98.9
	TOTAL INVESTMENT EARNINGS	56.57	494.49	500.00	5.51	98.9
	TOTAL FUND REVENUE	56.57	494.49	500.00	5.51	98.9

# SEWER RESERVE FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	OTHER REQUIREMENTS					
	OTHER REQUIREMENTS					
521-900-9892	RESERVED FOR SEWER BOND PYMT	.00	.00	17,081.00	17,081.00	.0
	TOTAL OTHER REQUIREMENTS	.00	.00	17,081.00	17,081.00	.0
	TOTAL OTHER REQUIREMENTS	.00	.00	17,081.00	17,081.00	.0
	TOTAL FUND EXPENDITURES	.00	.00	17,081.00	17,081.00	.0
	NET REVENUE OVER EXPENDITURES	56.57	494.49	( 16,581.00)	( 17,075.49)	3.0



City Administrator's Office P.O. Box 490 Lowell, OR 97452 Phone: 541-937-2157 Email: admin@ci.lowell.or.us

- To: Mayor Weathers and City Council
- From: Max Baker, Interim City Administrator
- **Date:** Tuesday, February 15, 2025
- **Re:** City Administrator Staff Report

ΜΕΜΟ

This report highlights activities from March 11, 2025, to current

#### 25/26 Budget Process

The 25/26 budget document is in the final review stage of the rough draft. I am still working on the budget message and Staff member are proof reading for errors, clericals and miss calculations.

#### ECWAG Water Treatment Plant Sed Basin Project

Monday, April 7, Civil West Engineering, City Staff and USDA held a video conference to discuss update to the ECWAG project, specifically the cultural resources work performed onsite by USACE earlier in the year.

#### **E-Permitting**

The e-permitting system is becoming increasingly easier to use. There is still issues but the program in working as intended. Beginning this Month all land use will also be processed through e-permitting.

#### Land Use

The planned development for N. Hyland and Carol is in the early stages of the process. The proposal has changed from what was originally submitted early last year.

#### **Personnel Manual Update**

While it is not currently a top priority, I have been slowly working on the template provided by CIS when I need a distraction from other tasks.

#### **Questions from the Council**



Public Works Department P.O. Box 490 Lowell, OR 97452 Phone: 541-937-2157 Email: admin@lowelloregon.gov

TO: Mayor Weathers and Council

FROM: Hunter Harris

**DATE:** April 15, 2025

SUBJECT: Public Works Report

#### **Streets and Parks**

Staff will be fixing/replacing the doors of the restrooms at Rolling Rock and Paul Fisher Park.

The culvert on West Main Street is fixed, staff is waiting to pave approach until better weather.

#### Water Treatment Plant/Distribution

Staff increased plant flows to 160 GPM to meet demand during the day, By the end of the month we anticipate an increase to our maximum treatment capacity to continue to meet demand.

The first round of 20 lead and copper re-sample bottles will be going out this month. Hopefully this 20 and the next will allow us to test out of a corrosion control plan requirements.

Staff members have been on site with contractor Valhalla, a boring crew, all month for underground work on Loftus and Everly Street. The ground in this area is extremely difficult, so progress on the project has taken way longer than expected, but they are almost done and are moving on to the cleanup and restoration portion of the job.

#### **Sewer Plant/Collections**

We had a Generator failure at the treatment plant, a temporary rental unit from Peterson cat has been installed until back ordered parts come in for the repairs of our generator. The current generator is getting old and parts are becoming more and more difficult to find.

C-More Pipe has completed most of the work identified in the scope and only one manhole remains.

Staff have been working on cleaning up and organizing the sewer plant and discarding things we don't need.

The Alarm Auto-dialer failed at the sewer lift station. TAG installed a temp unit but recommends we replace it with a unit that uses cellular or radio communication VS Century link.

Library Director's Report

April 2025

Numbers:

Library users: 459 library cards are out. Of those 152 cards used so far in 2024/2025 fiscal year.

Collection: 7,332 items about half of them have never circulated. I will begin weeding in spring 2026.

Door count: average 41 visits a week in 2025

#### Ongoing Projects

- 1. MOLDR/Oral history approximately 1000 items. No recent work done.
  - a. I need to complete at least 1 oral history and write up reports.
- 2. Cleaning up catalog
  - a. Level 1 subject headings have been de-duplicated.
  - b. Junior non-fiction has been re-cataloged and is in the process of being re-labeled.
  - c. Junior biography is being re-cataloged
- 3. Book sales/donations
  - a. Sending material to Thrift books is going well.
  - b. We have many books set aside for the Blackberry Jam Book sale.
- 4. Budget
  - a. Max and I have had good conversations regarding the 2025/26 FY budget. There will be money in the book and donation lines.
- 5. Bricks/capitol
  - a. Plan is to spend the remaining money in the brick campaign fund by the end of May.
  - b. All of the existing gray bricks will be replaced with red bricks.
- 6. Volunteers
  - a. We have two new regular volunteers Crystal and Eric. Maureen has agreed to be on call in case of emergencies.
- 7. Teen Intern
  - a. I have started training for hiring a teen worker 10 hours a week from the end of June through August. Ads go out in May to local schools, the Bridge etc. This is funded by a federal grant through the State Library. We have the check already.
- 8. Library cards
  - a. We are running out and will make due with temporary cards until FY25/26.

#### Upcoming:

Oregon Library Association conference is in Eugene. I will attend April 23 and 24.

I have been offered a \$1,200 scholarship to attend a conference on digital repositories in Philadelphia in late June. I have until mid-May to decide.

## **Agenda Item Sheet**

City of Lowell City Council

#### Item title/recommended action:

Motion to approve resolution 850, " A resolution adopting March 2025 City of Lowell Salary Survey Report." – Discussion/ Possible action

#### Justification or background:

At your April 8th work session Ruth Mattox, a contracted consultant with LCOG, presented the March 2025 draft of the Salary Survey Report prepared for the City of Lowell. This resolution will adopted the study and included methodology.

#### Budget impact:

N/A

#### Department or Council sponsor:

Administration

#### Attachments:

Resolution 850

Meeting date:	04/15/2025
---------------	------------

#### **CITY OF LOWELL, OREGON**

#### **RESOLUTION 850**

#### A RESOLUTION ADOPTING MARCH 2025 CITY OF LOWELL SALARY SURVEY REPORT

#### BE IT RESOLVED, by the City Council of the City of Lowell, Oregon as follows:

**Section 1.** The "March 2025 City of Lowell Salary Survey Report" attached to this resolution are adopted.

Adopted by the City Council of the City of Lowell this 15th day of April, 2025.

AYES: \_\_\_\_\_

NOES: \_\_\_\_\_

APPROVED:

Maureen Weathers, Mayor

ATTEST:

Max Baker, City Recorder

# SALARY SURVEY REPORT

Prepared for:

# **City of Lowell, Oregon**

# March 2025

Prepared by:

Ruth S. Mattox Fingerhold Consulting LLC Contracted Consultant



Local Government Personnel Services - LGPS

a program of Lane Council of Governments 859 Willamette St, Ste 500 Eugene, OR 97401



541-682-4283 | www.lcog.org

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## 1 SCOPE OF STUDY

#### 1.1 **PROJECT SUMMARY**

At the request of the city of Lowell (City), Local Government Personnel Services (LGPS) conducted a salary survey, including market-based salary recommendations, for the city's information and consideration.

#### **1.2 POSITIONS INCLUDED**

Eight (8) city positions were included in the project, as listed below:

Position Title
City Administrator
City Clerk
Public Works Director
Lead Operator
Operator
Utility Worker
Maintenance Worker
Library Director

### 1.3 COMPARATORS

Ten (10) Oregon cities were included as market comparators. Appropriate comparators were selected in consultation with LGPS, with consideration of population\*, services provided, and market area. LGPS collected data from comparators, as listed below.

City	Population*	Participation
Brownsville	1,846	Participated
Amity	1,826	Participated
Clatskanie	1,767	Participated
Canyonville	1,703	Partial Participation
Adair Village	1,496	Participated
Coburg	1,475	Participated
Riddle	1,248	Partial Participation
Siletz	1,242	Participated
Yoncalla	1,078	Partial Participation
Falls City	1,066	Participated
Coburg Riddle Siletz Yoncalla	1,475 1,248 1,242 1,078	Participated Partial Participation Participated Partial Participation

The city of Lowell is estimated to have a population of 1,261\*. \*PSU Certified Population Estimates, December 15, 2023.

## 2 **METHODOLOGY**

#### 2.1 OVERVIEW

LGPS engaged in discussions with the City Administrator and Public Works Director to obtain expectations and define project parameters. This was done vie email and video conference.

LGPS collected job descriptions, salary data, and benefits information from the city of Lowell and each comparator organization. Data was analyzed, compiled and presented in this report.

#### 2.2 **POSITION ANALYSES**

Appendix A includes raw data tables for 8 city positions. The data presented in Appendix A illustrates the city's market position compared to similar jobs in the surveyed organizations.

In terms of mathematics, salary data in Appendix A is presented as a percentage difference from the average and median (at the minimum, mid-point, and maximum). This method is used to clearly communicate what percentage the city would apply to their own data should the city chose to adjust wages up or down to match the market data.

**Example 1:** If the city paid \$4,000 per month and the market average was \$5,000 per month, the difference would be calculated as follows: \$4,000 - \$5,000 = <\$1,000>. The difference of <\$1,000> would then be divided by \$4,000 to show the city as behind the market average by 25%. The city's wages could then be increased by 25% to match the market average as follows: \$4,000 x 1.25 = \$5,000.

**Example 2:** If the city paid \$5,000 per month and the market average was \$4,000 per month, the difference would be calculated as follows: \$5,000 - \$4,000 = \$1,000. The difference of \$1,000 would then be divided by \$5,000 to show the city ahead of the market by 20%.

This is a simple math method to provide clear and easily understandable information regarding how the city compares to the market.

## **3 FINDINGS AND ANALYSIS**

## 3.1 INSUFFICIENT JOB MATCHES

In most cases, no two jobs are exactly alike; therefore, LGPs evaluated job descriptions to match the city's jobs with similar jobs of comparator entities.

Because each entity has a different structure for program delivery, staff size, and organizational philosophies not all comparators have positions that can be matched with the city's positions. In these cases, no comparable class exists and is noted, where applicable, on the Raw Data Report (see Appendix A).

Each job should have at least three to four job matches to provide adequate market data for use in making compensation decisions, but this is not the case for all surveyed positions.

The following positions yielded an insufficient number of job matches:

Position Title	Matches
Utility Worker	2
Maintenance Worker	0
Library Director	2

## 3.2 MARKET PLACEMENT

The table provided in this section summarizes the results of the external market salary survey, showing how the city's positions place in relation to the market average. Detailed information can be found in Appendix A.

Adjusted base reflects base wages (stated monthly), adjusted by any employee paid insurance premiums and/or employer paid PERS IAP "pick-up" when applicable.

Job Title		Current Monthly Base	9	Adjusted Monthly Market Average			Current vs Adjusted Market Average			
	MIN	MID	MAX	MIN	MID	MAX	MIN	MID	MAX	
City Administrator	8,246.08	8,246.08	8,246.08	8,471.67	8,907.68	9,343.69	-2.74%	-8.02%	-13.31%	
City Clerk	3,722.55	4,397.99	5,073.42	4,099.35	4,640.48	5,181.61	-10.12%	-5.51%	-2.13%	
Public Works Director	5,489.73	6,485.74	7,481.75	6,521.05	7,452.15	8,383.25	-18.79%	-14.90%	-12.05%	
Lead Operator	4,226.68	4,993.59	5,760.50	4,934.03	5,570.17	6,206.32	-16.74%	-11.55%	-7.74%	
Operator	3,812.25	4,503.92	5,195.58	3,725.23	4,278.66	4,832.10	2.28%	5.00%	7.00%	
Utility Worker	2,870.40	3,391.20	3,912.00	Insufficient Job Matches			In	sufficient Job Match	es	
Maintenance Worker	2,870.40	3,391.20	3,912.00	Insufficient Job Matches			In	sufficient Job Match	es	
Library Director	3,229.20	3,815.19	4,401.17	Insufficient Job Matches			In	sufficient Job Match	es	

LGPS has relied on the <u>mid-point</u> as the basis for its findings and recommendations. This is primarily because the city and some comparator entities pay flat rates for some or all positions (rather paying within established ranges).

The above table reflects the following:

- Four (4) of eight (8) positions place below the market\*.
- One (1) of eight (8) positions place at market\*.
- Three (3) of eight (8) positions resulted in an insufficient number of job matches to provide adequate market data (see section 3.1).

\*LGPS defines "at market" as: placing within +/- 5% of the market average.

## 3.3 HEALTH INSURANCE COMPARISON

LGPS collected health plan details from the city's comparators. Plan details and other related information were evaluated and have been summarized in the table below.

The majority of comparators offer a standard co-pay plan, while the city offers a qualified high deductible health plan.

In relation to the two comparators who also offer a qualified high deductible health plan, the city provides substantially similar levels of benefit. The city pays 100% of monthly medical, dental, and vision plan premiums and, additionally, contributes to a Health Savings Account which employees may utilize to be reimbursed for their out-of-pocket medical expenses.

	MEDICAL	ANNUAL D	EDUCTIBLE	ANNUAL OUT-O	F-POCKET MAX	COINSURANCE	PRESCRIP	TION CO-PAY	ANNUAL EMPLOYER	R PD HSA/HRA/VEBA	PREMIUM	MONTHLY PR	REMIUMS - FAMIL	
Comparators	PLAN NAME	Individual	Family	Individual	Family	LEVEL	Generic	Brand Preferred	Individual	Family	COST SHARE	Total	Employer Pd	Employee Pd
Brownsville	CIS CoPay E	250.00	750.00	2,250.00	4,750.00	20%	\$10	\$40	0.00	0.00	95% ER Paid	2,666.36	2,533.04	-133.32
Amity	Oregon Laborers Hrly Assoc II & A	200.00	600.00	2,200.00	5,600.00	20%	\$4	30%	0.00	0.00	100% ER Paid	1,200.00	1,200.00	0.00
Clatskanie	CIS CoPay E	250.00	750.00	2,250.00	4,750.00	20%	\$10	\$40	0.00	0.00	100% ER Paid	2,622.80	2,622.80	0.00
Canyonville	CIS HDHP-4	1,700.00	3,400.00	3,400.00	6,800.00	20%	20%	20%	1,700.00	3,400.00	95% ER Paid	2,108.36	2,012.09	-96.27
Adair Village	CIS HDHP-5	2,500.00	5,000.00	5,000.00	10,000.00	20%	20%	20%	3,800.00	3,800.00	100% ER Paid	1,986.42	1,986.42	0.00
Coburg	CIS CoPay F	500.00	1,500.00	2,500.00	5,000.00	20%	\$10	\$40	600.00	600.00	95% ER Paid	2,518.75	2,392.81	-125.94
Riddle	CIS CoPay E	250.00	750.00	2,250.00	4,750.00	20%	\$10	\$40	0.00	0.00	100% ER Paid	2,627.38	2,627.38	0.00
Siletz	CIS CoPay E	250.00	750.00	2,250.00	4,750.00	20%	\$10	\$40	0.00	0.00	100% ER Paid	2,631.22	2,631.22	0.00
Yoncalla	CIS CoPay E	250.00	750.00	2,250.00	4,750.00	20%	\$10	\$40	0.00	0.00	85% ER Paid	2,583.82	2,196.25	-387.57
Falls City	CIS Kaiser CoPay B	0.00	0.00	1,500.00	3,000.00	N/A*	\$10	\$20	0.00	0.00	Flat Rate	2,756.23	2,556.23	-200.00
				0 505 00	5,415.00	0.00			610.00	780.00		2,370.13	2,275.82	-94.31
Average		615.00	1,425.00	2,585.00	4,750.00	0.20			0.00	0.00		2,603.31	2,275.82	-94.31 -48.14
Median Lowell	CIS HDHP-4	250.00 <b>1,700.00</b>	750.00 <b>3,400.00</b>	2,250.00 <b>3,400.00</b>	6,800.00	0.20 20%	20%	20%	1,700.00	3,400.00	100% ER Paid	2,003.31	2,402.93	0.00
% difference from average		63.82%	58.09%	23.97%	20.37%	0.00%			64.12%	77.06%		-10.14%	-5.76%	İ.
% difference from median		85.29%	77.94%	33.82%	30.15%	0.00%			100.00%	100.00%		-20.98%	-14.45%	

#### Notes / Comments related to Health Insurance Comparison:

ER: is an abbreviation for "employer".

Monthly Premium Columns: Include premiums for Medical, Dental, and Vision coverage.

Prescription Co-Pay Columns: Prescription co-pay types are not standardized across plans, resulting in a mix of Flat Dollar and Percentage Copays. Consequently, average and median are unable to be accurately calculated and, therefore, are not presented.

Clatskanie: The city contributes \$600 per year to a HRA/VEBA for represented positions only. Represented positions have coverage through Teamsters Trust plans.

Amity: For the total monthly premium, the city provided an estimated amount, rather than an actual amount

Falls City: Keizer managed care plan provides that covered members pay a CoPay for most services (different from a traditional CoPay plan which typically requires CoPays for office visits and co-insurance for other types of services).

## 3.4 PAID LEAVE COMPARISON

LGPS collected details about paid leave programs from the city and its comparators. Paid leave accruals are presented in the below table, in terms of days accrued per year. Where comparators offer different accrual schedules per employee group, information for the general employee group is presented in the table below.

When considering holiday leave alone, the city offers .61 fewer paid holidays (-6%) per year.

For vacation leave, the city offers more days per year at hire (6% on average) and fewer days per year as employee tenure increases (-22% on average at the 25-year mark).

Total days of leave at the 10-year mark includes: sick, holiday, personal/other, and vacation accrued upon completion of 10 years. And, at the 10-year mark, on average the city offers .56 of one day more per year than its comparators (1%).

DAYS PER YEAR				VACATION LEAVE - DAYS PER YEAR						TOTAL
Comparators	Sick	Holiday	Personal/Other	Start	5 Years	10 Years	15 Years	20 Years	25 Years	10-Year Mark
Brownsville	12.00	11.50	0.00	10.00	15.00	20.00	20.00	20.00	20.00	43.50
Amity	12.00	12.00	1.00	12.00	13.50	16.50	19.50	21.00	24.00	41.50
Clatskanie	12.00	12.00	0.00	10.00	15.00	20.00	25.00	30.00	30.00	44.00
Canyonville	12.00	11.00	0.00	5.00	12.50	15.00	16.00	20.00	20.00	38.00
Adair Village	12.00	11.00	0.00	12.00	15.00	21.00	24.00	24.00	24.00	44.00
Coburg	12.00	12.00	0.00	12.00	12.00	17.00	19.00	20.00	20.00	41.00
Riddle				No	Response Rece	eived				
Siletz	12.00	12.00	1.00	12.00	15.00	18.00	21.00	21.00	21.00	43.00
Yoncalla	12.00	11.00	0.00	0.00	15.00	20.00	25.00	30.00	35.00	43.00
Falls City	12.00	12.00	0.00	12.00	15.00	20.00	20.00	25.00	25.00	44.00
Average	12.00	11.61	0.22	9.44	14.22	18.61	21.06	23.44	24.33	42.44
Median	12.00	12.00	0.00	12.00	15.00	20.00	20.00	21.00	24.00	43.00
Lowell	12.00	11.00	0.00	10.00	15.00	20.00	20.00	20.00	20.00	43.00
% difference from average	0%	-6%		6%	5%	7%	-5%	-17%	-22%	1%
% difference from median	0%	-9%		-20%	0%	0%	0%	-5%	-20%	0%

#### Notes / Comments:

Amity: The City Administrator may request up to a maximum of five days of Administrative Leave per fiscal year, which may be granted by the sole discretion of the City Council.

## 3.5 RETIREMENT BENEFITS COMPARISON

LGPS collected policy statements and other documents from the city and its comparators in order to glean details about retirement benefits offered.

Seven (7) out of eight (8) PERS-participating comparators "pick up" the employee's 6% IAP contribution, whereas the city does not. This impacts the city's pay in relation to the adjusted market average (see section 3.2) and should be factored into the city's total compensation package.

Comparators	PERS RETIREMENT	NON-PERS RETIREMENT
Brownsville	Not PERS Participating	<ul> <li>Employer Sponsored 401(a) Retirement Plan</li> <li>City contributes 15% for employees with 10 or fewer years of service, 20% for employees with more than 10 years of service</li> <li>Employer Sponsored Deferred Compensation Plan</li> <li>Voluntary, employee paid contributions via payroll deduction</li> </ul>
Amity	PERS Participating Employer     Employer pays 6% IAP contribution on behalf of employee	Not Applicable
Clatskanie	PERS Participating Employer     Employer pays 6% IAP contribution on behalf of employee	<ul> <li>Employer Sponsored Deferred Compensation Plan</li> <li>Voluntary, employee paid contributions via payroll deduction</li> </ul>
Canyonville	PERS Participating Employer     Employer pays 6% IAP contribution on behalf of employee	No Response Received
Adair Village	PERS Participating Employer     Employer pays 6% IAP contribution on behalf of employee	Not Applicable
Coburg	PERS Participating Employer     Employer pays 6% IAP contribution on behalf of employee	<ul> <li>Employer Sponsored Deferred Compensation Plan</li> <li>City matches employee contributions by up to \$50/month</li> </ul>
Riddle	PERS Participating Employer     Employer pays 6% IAP contribution on behalf of employee	No Response Received
Siletz	Not PERS Participating	<ul> <li>Employer Sponsored Simplified Employee Pension (SEP Plan)</li> <li>Employees who work in excess of 120 hours/mo or 1440 hours/yr are eligible</li> <li>City contributes 6% of employee gross wages</li> <li>Employee must match city contribution by a minimum of 3%</li> </ul>
Yoncalla	PERS Participating Employer     Employer pays 6% IAP contribution on behalf of employee	<ul> <li>Employer Sponsored Deferred Compensation Plan</li> <li>Voluntary, employee paid contributions via payroll deduction</li> </ul>
Falls City	PERS Participating Employer     Employee IAP contribution deducted from pay	Not Applicable
Lowell	PERS Participating Employer     Employee IAP contribution deducted from pay	<ul> <li>Employer Sponsored Deferred Compensation Plan</li> <li>Voluntary, employee paid contributions via payroll deduction</li> </ul>

## 3.6 ANCILLARY BENEFITS COMPARISON

LGPS collected information from the city and its comparators about ancillary benefits offered.

The city and all responsive comparators offer employer paid basic life and/or accidental death and dismemberment coverage. Three (3) of the responsive comparators provide employer paid long-term disability coverage. The majority of comparators who responded to our requests for information indicated sponsorship of a variety of voluntary, employee-paid coverages for which employees can elect to pay through payroll deduction.

Comparators	LIFE / AD&D	LONG-TERM DISABILITY	OTHER
Brownsville	Employer Paid Basic Life of \$20,000     Additional, Employee Paid Voluntary Life and AD&D available	Employee Pays Premiums based on plan selected	Voluntary Flexible Spending Account     Employer Paid Employee Assistance Program     Voluntary, Employee Paid Supplemental Insurance Available
Amity	Employer Paid Basic Life and AD&D, amount not provided     Additional, Employee Paid Voluntary Life available	Not Applicable	Not Applicable
Clatskanie	Employer Paid Basic Life and AD&D of \$35,000     Additional, Employee Paid Voluntary Life and AD&D available	Not Applicable	Voluntary Flexible Spending Account     Voluntary, Employee Paid Short-Term Disability coverage available
Canyonville		No Response Received	
Adair Village	Employer Paid Basic Life and AD&D of \$10,000     Additional, Employee Paid Voluntary Life and AD&D available	Employer Paid Premiums     -Benefit is 50% of salary up to \$5,000 monthly max,     after 90-day waiting period	Employer Paid Employee Assistance Program     Voluntary, Employee Paid Supplemental Insurance Available:     Identity Protection, Critical Illness,Hospital Indemnity, Accident, & Trauma
Coburg	Employer Paid Basic Life, amount not provided     Additional, Employee Paid Voluntary Life and AD&D available	<ul> <li>Employer Paid Premiums</li> <li>Benefit is 50% of salary up to \$5,000 monthly max, after 90-day waiting period</li> </ul>	<ul> <li>Employer Paid Employee Assistance Program</li> <li>Voluntary, Employee Paid Flexible Spending Program</li> <li>Voluntary, Employee Paid Supplemental Insurance Available:</li> <li>Short Term Disability, Identity Protection, Critical Illness, Hospital Indemnity, Accident, &amp; Trauma</li> </ul>
Riddle	Employer Paid Basic Life and AD&D of \$20,000     Additional, Employee Paid Voluntary Life available		No Response Received
Siletz	Employer Paid Basic Life and AD&D of \$10,000     Additional, Employee Paid Voluntary Life available	Employer Paid Premiums     Benefit is 50% of salary up to \$5,000 monthly max,     after 90-day waiting period	Employer Paid Employee Assistance Program
Yoncalla	No Response Receiv	ed	Employer Paid Employee Assistance Program     Employer Paid Yearly Costco Membership     Voluntary, Employee Paid Flexible Spending Program     Voluntary, Employee Paid Supplemental Insurance Available via AFLAC
Falls City	Employer Paid Basic Life and AD&D of \$50,000     Additional, Employee Paid Voluntary Life available	Not Applicable	Employer Paid Employee Assistance Program
Lowell	• Employer Paid Basic Life of \$50,000 - Additional, Employee Paid Voluntary Life available	Not Applicable	• Employer Paid Employee Assistance Program

# 3.7 ON-CALL/CALL OUT & CERTIFICATION PAY COMPARISON

LGPS collected information from the city and its comparators about on-call/call-out pay provisions and certification pay incentives offered.

The city and the majority of comparators define parameters related to pay for employees who are required to remain on-call and/or respond to work outside normal working hours, with no two policies alike.

Additionally, five (5) of the city's comparators provide incentives for employees who receive approved certifications; again, with a variety of incentives offered.

Comparators	ON-CALL / CALLOUT PAY	CERTIFICATION PAY
Brownsville	<u>On-Call</u> : employees compensated 4 hours for being on-call during weekends and holidays. <u>Call Out</u> : any extra call out required will be calculated at time and a half for hours worked.	Employees receive at least \$1.00 to base salary if they obtain a license or certification that helps the city accomplish its goals.
Amity	Standby Time: employees on standby for the week receive 4 hours of compensation at the regular rate. Call Back Time: employees receive comp time of not less than 2 hours when called back to work for hours not anexed consecutively to one end of the work shift or work day.	Not Applicable
Clatskanie	Callback: paid at a minimum of 2 hours at the rate of time and one-half the employee's regular rate of pay. After hours work phone call: employees responding to a work-initiated phone call for more than 5 minutes when off duty will be compensated in a minimum increment of 15 minutes. (this does not apply to requests for callback) Weekend duties: employees assigned weekend or holiday responsibilities receive an additional \$10 per day for each weekend or holiday assigned.	Incentives: as listed below and limited to 2 certifications to a maximum of 7%. If employee is promoted to a position that includes a requirement for a particular certification, the incentive will no longer be paid/applicable. A. For Utility I and II, Plant Operators, and Foreman: • Fitter Endorsement, Cross Control Specialist - 3% each • AWS/API Welding Certificate, Pesticide App License, Limited Maintenance Electrician - 1% each • March For Utility Worker I: • Water Distribution II, Water Treatment II, Wastewater Collections II - 3% each C. For Utility Worker II: • Wastewater Treatment III, Water Treatment III, Wastewater Collection III - 3% each D. For Wastewater Plant Operator: • Wastewater Treatment IV, Water Distribution II, Water Treatment II - 3% each E. For Kater Treatment II, Wastewater Collection II - 3% each E. For Water Treatment II, Wastewater Collection II - 3% each E. For Foreman: • Wastewater Treatment II, Wastewater Collection II - 3% each E. For Foreman: • Wastewater Treatment II, Filtration Endorsement, Wastewater Treatment II - 3% each
Canyonville	Standby: when assigned weekend or holiday standby duty, employee required to work four hours but will receive 8 hours of pay. If an employee is called back after having worked less than the full 8 hours, they will not receive call back pay until they have exceeded 8 hours. <u>Call Back</u> : each time an employee is called back during the same stand- by shift, they will be paid a minimum of 2 hours of work	Employees who obtain, at the city's request, a certification beyond that which is required by their job description receive an additional \$0.70 per hour added to their base wage. Employees not eligible to receive certification pay for more than 2 certifications. If advanced to higher classification, employees will not receive certification pay for certifications required for the position.
Adair Village	Not Applicable	Not Applicable
Coburg	On Call: paid at 1 hour at the standard rate of pay for every eight hours on-call.	As approved by the Supervisor and the City Administrator, certification pay is as follows: Public Works employees are limited to pay for 6 certificates, each paid at 1.5% of the employee's gross wage.
Riddle	N	o Response Received
Siletz	Not Applicable	Not Applicable
Yoncalla	<u>Standby Time</u> ; employees are on standby for 7 days and are paid \$200 (\$28.58 per day) for staying within a 30-minute radius of the city. <u>On Call Emergency Time</u> ; when called in to work outside of regular defined busiess hours, employee is paid at 1.5 times the regular hourly wage.	No Response Received
Falls City	Not Applicable	Employees receive an increase to hourly pay, based on certification received: \$0.50 per hour
Lowell	<u>On-Call</u> : paid 1 hour at the overtime rate per on-call shift <u>Call-Out</u> : when responding to a call employee is paid call-out pay in lieu of on-call pay as follows: paid at the overtime rate for actual hours worked in response to a call, in no case less than 2 hours.	Not Applicable

## 3.8 SALARY STRUCTURE COMPARISON

LGPS analyzed salary structures of each comparator in order to evaluate how the city's structure compares to that if its comparators.

There is high variation in the organization of salary structures. While the city and most comparators have step-in-grade salary structures the spread, number of steps, and percent between steps vary.

Comparators	Structure Type	Spread (diff between Min & Max)	# of Ranges / Grades	# of Steps	% Between Steps	% Between Ranges / Grades
Brownsville	Step in Grade	24.9%	10 (one per position)	10	2.5%	No Standard
Amity	Step in Grade	26.7%	9 (one per position)	7, plus 2 longevity steps	3%	No Standard
Clatskanie	Step in Grade	27.6%	18	6	5%	5%
Canyonville	Step in Grade	27% (generally)	5	10	2.6% (generally)	No Standard
Adair Village	Step in Grade	27.6%	7 (one per position)	6	5%	No Standard
Coburg	Step in Grade	29.4%	22 (one per position)	14	2%	No Standard
Riddle	Step in Grade	55%	6 (one per position)	10	5%	No Standard
Siletz	Step in Grade	12.6% (plus probationary step)	6 (one per position)	7 (plus probationary step)	2% (plus probationary step)	No Standard
Yoncalla	Flat Rates per Employee	N/A	N/A	N/A	N/A	N/A
Falls City	Flat Rates per Employee	N/A	N/A	N/A	N/A	N/A
Lowell	Step in Grade	36.3%	9 (one per position)	10	3.5%	No Standard

#### Notes / Comments:

Siletz: Ranges include a probationary step, which is not standardized across all positions

### 4 **Recommendations**

This section contains recommendations for use by the city as it takes into account its own needs and unique characteristics. The city retains the ability to employ the use of these recommendations as it deems appropriate.

#### 4.1 INTERNAL EQUITY

The scope of this project included market-based recommendations only. Due to provisions of Oregon's Equal Pay Act, which became effective in 2019, internal equity – or more specifically "work of comparable character" – must, be considered when determining employee compensation. Oregon's Equal Pay Act defines "work of comparable character" as; "work that requires substantially similar knowledge, skill, effort, responsibility, and working conditions in the performance of work, regardless of job description or job title."

If the city does not already have an internal equity evaluation methodology, it may choose to utilize LGPS's proprietary position evaluation methodology for this purpose or consider implementing another methodology for evaluating its jobs to determine "work of comparable character" within its organization.

## 4.2 EXTERNAL EQUITY

The city should consider evaluating the competitiveness of its defined market at regular intervals (generally every four to six years) in order to maintain market competitiveness.

In addition, the city should consider adopting a compensation philosophy that identifies a range within which its positions should place in relation to the market, overall. In the absence of a pre-defined compensation philosophy, LGPS generally considers "at market" to be within plus or minus five percent (+/-5%) of the market average of surveyed groups.

It is important to understand that, once market adjustments are made to the city's salary schedule, it is highly unlikely all of the city's positions will place within its target range; this is in large part due to the fact that both the city and its comparators will have different methodologies for determining internal equity, different philosophies for maintaining market competitiveness, different salary structures, and different organizational structures/distribution of work.

Internal equity and external (market) equity should be considered in tandem in order to ensure both are appropriately maintained. To do so, the city's current salary structure should be adjusted, when appropriate, to maintain overall market equity; next, individual positions should be assigned a salary range in a manner that maintains internal equity (as described above); and finally, individual employees should be placed on steps within their position's assigned salary range in a manner that is consistent with the city's salary administration policies/protocols and while maintaining internal equity (generally one step per year of service).

### 4.3 MARKET-BASED ADJUSTMENTS

This section includes market-based recommendations intended to bring the city's wages in line with the market. Base wages are presented monthly for ease of comparison. See appendix B for a full recommended salary structure, which includes annual, monthly, and hourly rates of pay.

#### City Administrator – by Contract

The city administrator is paid at a flat rate, set by contract with the city council.

Some comparators have established a step-in-grade salary structure for their City Administrator/Manager positions and others set pay for the position at a flat rate. This is reflected in the data results as show by the variation between the market average at the minimum, mid-point, and maximum shown in the table below.

The proposed 7% adjustment to the monthly base is intended to bring this position in line with the market at the mid-point.

Job Title	(	Current Monthly Base			roposed Monthly Ba	se		Current vs Propos	sed	Proposed vs Adjusted Market Average		
500 Tile	MIN	MID	MAX	MIN	MID	MAX	MIN	MID	MAX	MIN	MID	MAX
City Administrator	8,246.08	8,246.08	8,246.08	7,468.93	8,823.31	10,177.69	-9.42%	7.00%	23.42%	-11.84%	-0.95%	8.93%

#### **Implementation Scenarios**

In considering how to implement the results of this study for the City Administrator position, the council may wish to discuss various scenarios. For example:

• The city council could utilize the results to assist in developing a hiring range, if a flat rate of pay is maintained.

Implementation Scenario	MIN	MID	MAX
Hiring Range	7,468.93	8,823.31	10,177.69

• Or, the city may wish to implement a step-in-grade, merit-based scale for the city administrator position consistent with the structure currently in place for all remaining positions.

Implementation Scenario	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10
Step-in-Grade	7,468.93	7,730.34	8,000.91	8,280.94	8,570.77	8,870.75	9,181.22	9,502.57	9,835.16	10,179.39

Note: differences in the maximum values presented above are due to rounding.

### <u>All Remaining Positions – non-contracted</u>

Recommended market-based adjustments for all remaining positions are as follows:

- City Clerk and Library Director: 7% market-based adjustments (the same percentage as recommended for the City Administrator position above)
- Public Works Director, Lead Operator, Utility Worker, and Maintenance Worker: 10% market-based adjustments
- Operator: currently "at-market". No adjustment is recommended for this position.

Job Title		Current Monthly Base	ę	P	Proposed Monthly Ba	se	Current vs	Current vs Proposed vs Adjusted Mar		
JOD THE	MIN	MID	MAX	MIN	MID	MAX	Proposed	MIN	MID	MAX
City Clerk	3,722.55	4,397.99	5,073.42	3,983.50	4,705.84	5,429.10	7.00%	-2.91%	1.39%	4.56%
Public Works Director	5,489.73	6,485.74	7,481.75	6,039.20	7,134.31	8,230.81	10.00%	-7.98%	-4.46%	-1.85%
Lead Operator	4,226.68	4,993.59	5,760.50	4,649.78	5,492.95	6,337.17	10.00%	-6.11%	-1.41%	2.06%
Operator	3,812.25	4,503.92	5,195.58	3,812.25	4,503.92	5,195.58	0.00%	2.28%	5.00%	7.00%
Utility Worker	2,870.40	3,391.20	3,912.00	3,157.72	3,730.32	4,303.65	10.00%	In	sufficient Job Match	es
Maintenance Worker	2,870.40	3,391.20	3,912.00	3,157.72	3,730.32	4,303.65	10.00%	In	sufficient Job Match	es
Library Director	3,229.20	3,815.19	4,401.17	3,455.62	4,082.25	4,709.66	7.00%	In	sufficient Job Match	es

#### **Implementation Recommendations**

- To ensure the city maintains its position in the market, it is recommended that when market-based adjustments are applied to the entire salary schedule, employees receive the adjustment in accordance with their current range and step.
  - Any cost of living and/or merit-based adjustments should be made separate from market-based adjustments.

## <u>Salary Structure – General</u>

The city's current merit-based pay scale is appropriate and should be maintained with its 36.3% spread and steps at 3.5% each.

• In addition to recommended merit-based adjustments described above (see section 4.3), LGPS recommends the make appropriate updates to its employee manual to accurately reflect the structure of the pay scale.

See appendix B for LGPS's recommended salary structure.

## 4.4 TOTAL COMPENSATION PROGRAMS

In addition to base pay, the city should ensure its total compensation and benefit programs are competitive with the market and appropriately aligned for internal equity. This section reviews recommendations for non-base-pay compensation and benefit programs included in the analysis.

#### Health Insurance

The high deductible health plan (HDHP), accompanying city-paid HSA contribution, and employer paid premiums offered by the city are at or above the benefits provided by other comparators who also offer HDHPs.

No change is recommended to this benefit at this time.

## Paid Leave

On average, at the 10-year mark, the total days of paid leave offered by the city are substantially similar to the total days of paid leave offered by comparators at the 10-year mark.

If the city determines that it's appropriate to make adjustments to paid leave benefits, it may wish to increase days of paid leave for longer-term employees.

## **Retirement Benefits**

The city is amongst the minority of PERS-participating comparators who do not "pick up" the employee portion of benefits. This has been taken into consideration in making the market-based recommendations above (section 4.3). Should the city choose to begin "picking up" the employee's IAP contribution, market-based wages should be adjusted correspondingly.

## **Ancillary Benefits**

Ancillary benefits provide the opportunity for the city to offer benefits that can be meaningful for employees at minimal overall cost to the city. The city may wish to consider offering supplemental benefits which employees can purchase and pay for via payroll deduction. Programs such as long-term and/or short-term disability insurance, identity protection, critical illness coverage, etc. can be obtained through CityCounty Insurance Services and insurance providers.

## **On-Call/Call Out Pay and Certification Incentives:**

LGPS recommends the following with regard to these programs:

- On-Call Pay: the city's current on-call pay policy is adequate. No change is recommended at this time.
- Call-Out Pay
  - Although the current call out pay policy only applies to employees assigned to public works, the city may consider to offer call out pay to any hourly, non-exempt employee who is required to respond and assist in city operations in cases of emergency. It is unnecessary, although not prohibited, to offer call out pay to employees in salaried, exempt positions.
- Certification Pay
  - The city does not currently offer certification pay. If the city decides to implement certification incentive pay, LGPS recommends the following guiding principles:
    - Do not offer incentive pay for certifications that are required to in order to qualify for and/or perform the essential functions of a given position.
      - If provided, certification pay should be offered as an incentive to employees who obtain certifications that are above those minimally required for a given position, of value/benefit to the city and related to work performed.
    - Predetermine all parameters including certifications that may qualify for incentives, the amounts of any certification incentives, and any maximum/caps to incentives.
    - Do not increase the employee's base pay by the amount of the certification incentive. Base pay should reflect only the city's meritbased pay scale.
- In general, any additional pay/incentive (such as on-call, call out, and certification pay) should not be rolled into the employee's base hourly wage.

## 4.5 JOB DESCRIPTIONS/JOB TITLES

LGPS recommends the city ensure job descriptions and job titles accurately and appropriately reflect the duties, qualifications, and requirements for each positions. Specifically, LGPS recommends the following:

- Create an accurate job description for the city's current Maintenance Worker position and retitle the position as "Custodian".
- Create an accurate job description for the seasonal/temporary position (which was not included in this analysis)
- Review and update job descriptions for all remaining positions and ensure appropriate job titles.
- Follow the recommendations for on-going maintenance and continuation presented in section 5.4 below.

## 5 **FUTURE CONSIDERATIONS**

## 5.1 RECRUITMENT

It is important to be aware of recruitment and retention issues. One indicator of the possible need to address a classification would be a history of difficulties in recruiting for and retaining employees in a particular job.

## 5.2 INTERNAL EQUITY

As of January 1, 2019 wage disparities for "work of comparable character" are unlawful. The city should implement an internal equity evaluation methodology to guard against inequities amongst employees internally, and consistently apply the methodology for any new and/or modified positions internally. Additionally, the city should be aware that total compensation programs are considered "pay" by Oregon's Equal Pay Act.

#### 5.3 TOTAL COMPENSATION

The city should consider the impact of total compensation on the competitiveness of its job. The data within this report represents an analysis of base wage compensation along with other compensable factors. Raw data tables provided in appendix A show base wages, adjusted by employer paid PERS (or other similar employer sponsored pension program) contributions and employee paid insurance premiums.

Additional comparison tables have been provided in the body of this report to show how the City compares to the market in regards to paid time off, health insurance benefits, longevity incentives, and other programs.

Any modifications to the wages and/or benefits should include consideration of total compensation.

#### 5.4 MAINTENANCE AND CONTINUATION

Individual classifications should be monitored and tracked as part of the city's regular salary review process. At minimum all job descriptions should be reviewed on an annual basis and internal equity maintained as part of the city's merit review process.

Additionally, a market-based analysis and the compensation structure should be reviewed every four to six years. Some individual jobs may require closer monitoring and be reviewed on a more frequent basis.

On-going, the city should consider making non-merit-based Cost of Living Adjustments (COLAs) to the adopted pay scale on an annual basis. The city should consider several factors when considering COLAs such as the Consumer Price Index, the state of the local economy, the city's ability to fund such increases, and/or its comparator's COLAs.

Any market-based adjustments and/or COLAs made should be applied to the entire salary schedule and all employees should receive the adjustment in accordance with their current range and step.

Employees who *have not* reached the top step of their classification's assigned range, would be eligible to receive any market-based adjustment and/or COLA applied to the salary schedule, as well as a merit-based step increase in accordance with the city's policies and practices. Employees who *have* reached the top step of their classification's assigned range would be eligible to receive any COLA applied to the salary schedule, but not a step increase.

On-going, the city should ensure compensation practices are consistent with policies and state/federal regulations. Where inconsistencies exist, the city should determine the appropriate adjustment to be made and maintained for compliance.

# APPENDIX A: RAW SURVEY DATA

## INDEX OF POSITIONS INCLUDED IN THE RAW DATA, APPENDIX A LISTED IN ALPHABETICAL ORDER

Position Title	Page
City Administrator	1
City Clerk	2
Lead Operator	4
Library Director	8
Maintenance Worker	7
Operator	5
Public Works Director	3
Utility Worker	6

City Administrator											
			MONT	HLY SALARY (PER 1.0	)FTE)			AL	DJUSTED COMPENSAT	ION	
Organization	population	Title	MIN	MID	MAX	PERS	EE Ins Cost	MIN	MID	MAX	Comments
Brownsville	1,846	City Administrator	7,099.73	7,982.87	8,866.00	0%	-133.32	6,966.41	7,849.55	8,732.68	
Amity	1,826	City Administrator	6,825.00	7,487.00	8,149.00	6%	0.00	7,234.50	7,936.22	8,637.94	
Clatskanie	1,767	City Manager	11,005.00	11,005.00	11,005.00	6%	0.00	11,665.30	11,665.30	11,665.30	
Canyonville		City Administrator/Recorder	5,151.47	5,868.20	6,584.93	6%	-96.27	5,364.28	6,124.02	6,883.76	
Adair Village		City Administrator	13,167.00	13,167.00	13,167.00	6%	0.00	13,957.02	13,957.02	13,957.02	Wage effective Jan 1, 2025
Coburg	1,475	City Administrator	9,583.33	9,583.33	9,583.33	6%	-125.94	10,032.40	10,032.40	10,032.40	
Riddle	1,248	City Manager/Recorder/Treasurer	5,695.91	5,810.22	5,924.53	6%	0.00	6,037.66	6,158.83	6,280.01	
Siletz	1,242	NCC					<u> </u>			<u> </u>	City Recorder not a match
Yoncalla	1,078	City Administrator	9,583.33	9,583.33	9,583.33	6%	-387.57	9,770.76	9,770.76	9,770.76	
Falls City	1,066	City Manager / Recorder	5,416.67	6,875.00	8,333.33	0%	-200.00	5,216.67	6,675.00	8,133.33	
		Average	8,169.72	8,595.77	9,021.83		-104.79	8,471.67	8,907.68	9,343.69	9
		Median	7,099.73	7,982.87	8,866.00		-96.27	7,234.50	7,936.22	8,732.68	# of position matches
Lowell	1,261	City Administrator	8,246.08	8,246.08	8,246.08	0%	0.00	8,246.08	8,246.08	8,246.08	1
		% difference from average	0.93%	-4.24%	-9.41%			-2.74%	-8.02%	-13.31%	NCC: No Comparable Class
		% difference from median	13.90%	3.19%	-7.52%			12.27%	3.76%	-5.90%	NR: No Response Received

City Clerk											
			MON	THLY SALARY (PER 1.0	ER 1.0 FTE)			AL	DJUSTED COMPENSAT	TION	
Organization	population	Title	MIN	MID	MAX	PERS	EE Ins Cost	MIN	MID	MAX	Comments
Brownsville	1,846	Administrative Assistant	4,331.60	4,870.67	5,409.73	0%	-133.32	4,198.28	4,737.35	5,276.41	
Amity	1,826	City Clerk	3,954.00	4,337.50	4,721.00	6%	0.00	4,191.24	4,597.75	5,004.26	Works under direction of Treasurer/Recorder
Clatskanie	1,767	Senior Clerk	4,230.00	4,814.50	5,399.00	6%	0.00	4,483.80	5,103.37	5,722.94	
Canyonville	1,703	Administrative Assistant	3,055.87	3,452.80	3,849.73	6%	-96.27	3,142.95	3,563.70	3,984.45	
Adair Village	1,496	Assistant City Recorder	4,827.92	5,494.88	6,161.83	6%	0.00	5,117.59	5,824.57	6,531.54	
Coburg	1,475	NCC				}				<u> </u>	
Riddle	1,248	Deputy Clerk	3,749.20	4,782.27	5,815.33	6%	0.00	3,974.15	5,069.20	6,164.25	low quals
Siletz	1,242	NCC			<u>;</u>	<u>}</u>	<u> </u>		<u>.</u>	<u> </u>	
Yoncalla	1,078	City Clerk	3,750.00	3,750.00	3,750.00	6%	-387.57	3,587.43	3,587.43	3,587.43	
Falls City	1,066	NCC				<u> </u>	<u>.</u>				
							}			ļ	
		Average	3,985.51	4,500.37	5,015.23		-88.17	4,099.35	4,640.48	5,181.61	7
		Median	3,954.00	4,782.27	5,399.00	<u>.</u>	0.00	4,191.24	4,737.35	5,276.41	# of position matches
Lowell	1,261	City Clerk	3,722.55	4,397.99	5,073.42	0%	0.00	3,722.55	4,397.99	5,073.42	
	·····	% difference from average	*****	-2.33%		{		-10.12%	-5.51%	-2.13%	NCC: No Comparable Class
		% difference from median	-6.22%	-8.74%	-6.42%	·····	·····	-12.59%	-7.72%	-4.00%	NR: No Response Received

Public Works Direct	tor										
			MONTHLY SALARY (PER 1.0 FTE)						JUSTED COMPENSAT	ION	
Organization	population	Title	MIN	MID	MAX	PERS	EE Ins Cost	MIN	MID	MAX	Comments
Brownsville	1,846	Public Works Superintendent	6,120.40	6,883.07	7,645.73	0%	-133.32	5,987.08	6,749.75	7,512.41	low quals
Amity	1,826	Public Works Superintendent	5,471.00	6,002.00	6,533.00	6%	0.00	5,799.26	6,362.12	6,924.98	
Clatskanie	1,767	Public Works Director	7,835.00	8,917.50	10,000.00	6%	0.00	8,305.10	9,452.55	10,600.00	
	1,703	NCC									
Adair Village		Public Work Superintendent	7,441.92	8,469.96	9,498.00	6%	0.00	7,888.43	8,978.16	10,067.88	low quals
Coburg	1,475	Public Works Director	6,929.87	7,946.47	8,963.07	6%	-125.94	7,219.72	8,297.32	9,374.91	
Riddle	1,248	Public Works Director	6,751.33	8,614.67	10,478.00	6%	0.00	7,156.41	9,131.55	11,106.68	
Siletz	1,242	NCC					}				
Yoncalla	1,078	Public Works Supervisor	6,666.67	6,666.67	6,666.67	6%	-387.57	6,679.10	6,679.10	6,679.10	
Falls City	1,066	Public Works Superintendent	3,333.33	4,166.67	5,000.00	0%	-200.00	3,133.33	3,966.67	4,800.00	
		]					]			[	
		Average	6,318.69	7,208.37	8,098.06		-105.85	6,521.05	7,452.15	8,383.25	8
		Median	6,709.00	7,414.77	8,304.40		-62.97	6,917.76	7,523.53	8,443.66	# of position matches
Lowell	1,261	Public Works Director	5,489.73	6,485.74	7,481.75	0%	0.00	5,489.73	6,485.74	7,481.75	
		% difference from average	-15.10%	-11.14%	-8.24%			-18.79%	-14.90%	-12.05%	NCC: No Comparable Class
		% difference from median	-22.21%	-14.32%	-11.00%			-26.01%	-16.00%	-12.86%	NR: No Response Received

Lead Operator											
			MON	THLY SALARY (PER 1.	OFTE)			AL	JUSTED COMPENSAT	ION	
Organization	population	Title	MIN	MID	MAX	PERS	EE Ins Cost	MIN	MID	MAX	Comments
Brownsville	1,846	NCC									
Amity	1,826	Public Works Utility Worker II	4,439.07	5,031.00	5,622.93	6%	0.00	4,705.41	5,332.86	5,960.31	
Clatskanie	1,767	Water Treatment Plant Operator II	5,142.00	5,852.50	6,563.00	6%	0.00	5,450.52	6,203.65	6,956.78	
Canyonville	1,703	Water Treatment Plant Operator	3,950.27	4,484.13	5,018.00	6%	-96.27	4,091.01	4,656.91	5,222.81	Associate's Degree
Adair Village		Utility Worker III	5,005.67	5,697.13	6,388.58	6%	0.00	5,306.01	6,038.95	6,771.90	
Coburg	1,475	Public Works Operator 3	4,598.53	5,273.67	5,948.80	6%	-125.94	4,748.51	5,464.15	6,179.79	
Riddle	1,248	Utility II	4,333.33	5,529.33	6,725.33	6%	0.00	4,593.33	5,861.09	7,128.85	
Siletz	1,242	Water Plant Operator	4,958.33	5,384.67	5,811.00	0%	0.00	4,958.33	5,384.67	5,811.00	
Yoncalla	1,078	Public Works Specialist II	5,666.67	5,666.67	5,666.67	6%	-387.57	5,619.10	5,619.10	5,619.10	
Falls City	1,066	NCC								Į	
								ļ		ļ	
		Average	4,761.73	5,364.89	5,968.04		-76.22	4,934.03	5,570.17	6,206.32	8
		Median	4,778.43	5,457.00	5,879.90		0.00	4,853.42	5,541.62	6,070.05	# of position matches
Lowell	1,261	Lead Operator	4,226.68	4,993.59	5,760.50	0%	0.00	4,226.68	4,993.59	5,760.50	
		% difference from average	-12.66%	-7.44%	-3.60%			-16.74%	-11.55%	-7.74%	NCC: No Comparable Class
		% difference from median	-13.05%	-9.28%	-2.07%			-14.83%	-10.97%	-5.37%	NR: No Response Received

Operator											
			MON	THLY SALARY (PER 1.	OFTE)			AD	JUSTED COMPENSAT	ION	
Organization	population	Title	MIN	MID	МАХ	PERS	EE Ins Cost	MIN	MID	MAX	Comments
Brownsville	1,846	Public Works Operator	3,570.67	4,014.40	4,458.13	0%	-133.32	3,437.35	3,881.08	4,324.81	
Amity	<i>1,826</i>	Public Works Utility Worker	3,957.20	4,485.00	5,012.80	6%	0.00	4,194.63	4,754.10	5,313.57	
Clatskanie	1,767	Utility Worker I	4,230.00	4,814.50	5,399.00	6%	0.00	4,483.80	5,103.37	5,722.94	
Canyonville	1,703	Utility Worker	3,468.40	3,928.60	4,388.80	6%	-96.27	3,580.23	4,068.05	4,555.86	
Adair Village	1,496	Utility Worker I	3,104.17	3,532.96	3,961.75	6%	0.00	3,290.42	3,744.94	4,199.46	
Coburg	1,475	Public Works Operator 2	4,028.27	4,620.20	5,212.13	6%	-125.94	4,144.03	4,771.47	5,398.92	
Riddle	1,248	Utility I	3,749.20	4,782.27	5,815.33	6%	0.00	3,974.15	5,069.20	6,164.25	
Siletz	1,242	NCC								}	
Yoncalla	1,078	Public Works Specialist I	3,833.33	3,833.33	3,833.33	6%	-387.57	3,675.76	3,675.76	3,675.76	
Falls City	1,066	Public Works Worker I	2,946.67	3,640.00	4,333.33	0%	-200.00	2,746.67	3,440.00	4,133.33	
		Average	3,654.21	4,183.47	4,712.74		-104.79	3,725.23	4,278.66	4,832.10	9
		Median	3,749.20	4,014.40	4,458.13		-96.27	3,675.76	4,068.05	4,555.86	# of position matches
Lowell	1,261	Operator	3,812.25	4,503.92	5,195.58	0%	0.00	3,812.25	4,503.92	5,195.58	
		% difference from average	4.15%	7.11%	9.29%			2.28%	5.00%	7.00%	NCC: No Comparable Class
		% difference from median	1.65%	10.87%	14.19%			3.58%	9.68%	12.31%	NR: No Response Received

Utility Worker											
			MON	MONTHLY SALARY (PER 1.0 FTE)				ADJUSTED COMPENSATION			
Organization	population	Title	MIN	MID	MAX	PERS	EE Ins Cost	MIN	MID	MAX	Comments
Brownsville	1,846	NCC								}	
Amity	1,826	NCC						[		}	
Clatskanie	1,767	NCC					}			}	
Canyonville	1,703	NCC								1	
Adair Village	1,496	NCC					}			<u>}</u>	
Coburg	1,475	Public Works Operator 1	3,594.93	4,122.73	4,650.53	6%	-125.94	3,684.69	4,244.16	4,803.63	
Riddle	1,248	NCC					<u>}</u>	<u>.</u>	<u>.</u>	<u>}</u>	
Siletz	1,242	Utility Worker I	3,291.67	3,582.83	3,874.00	0%	0.00	3,291.67	3,582.83	3,874.00	Training position
Yoncalla	1,078	NCC		<u>.</u>						<u> </u>	
Falls City	1,066	NCC					Į			<u> </u>	
							<u> </u>			ļ	
							ļ			<u> </u>	
		Average	3,443.30	3,852.78	4,262.27		-62.97	3,488.18	3,913.50	4,338.81	2
		Median	3,443.30	3,852.78	4,262.27		-62.97	3,488.18	3,913.50	4,338.81	# of position matches
Lowell	1,261	Utility Worker	2,870.40	3,391.20	3,912.00	0%	0.00	2,870.40	3,391.20	3,912.00	
		% difference from average	-19.96%	-13.61%	-8.95%			-21.52%	-15.40%	-10.91%	
		% difference from median	-19.96%	-13.61%	-8.95%			-21.52%	-15.40%	-10.91%	NR: No Response Received

# Raw Data Report

Maintenance Work	er											
			MON	THLY SALARY (PER 1.	)FTE)			AD	JUSTED COMPENSAT	ION		
Organization	population	Title	MIN	MID	МАХ	PERS	EE Ins Cost	MIN	MID	MAX	Comments	
Brownsville	1,846	NCC										
Amity	1,826	NCC							[	]	Utility Workers perform this work	
Clatskanie	1,767	NCC					}			]		
Canyonville	1,703	NCC				{				]		
Adair Village	1,496	NCC					}			]		
Coburg	1,475	NCC								Į		
Riddle	1,248	NCC								Utility I performs this work		
Siletz	1,242	NCC				<u> </u>				Parks & Grounds performs this work		
Yoncalla	1,078	NCC										
Falls City	1,066	NCC				<u> </u>	<u>.</u>					
										<u>.</u>		
		Average	#DIV/0!	#DIV/0!	#DIV/0!	<u> </u>	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	
		Median	#NUM!	#NUM!	#NUM!	[	#NUM!	#NUM!	#NUM!	#NUM!	# of position matches	
Lowell	1,261	Maintenance Worker	2,870.40	3,391.20	3,912.00	0%	0.00	2,870.40	3,391.20	3,912.00		
		% difference from average				{				<u>[</u>	NCC: No Comparable Class	
		% difference from median				}					NR: No Response Received	

# Raw Data Report

Library Director											
			MON	THLY SALARY (PER 1.	OFTE)			AL	UUSTED COMPENSAT	ION	
Organization	population	Title	MIN	MID	MAX	PERS	EE Ins Cost	MIN	MID	MAX	Comments
Brownsville	1,846	Librarian	3,596.67	4,043.87	4,491.07	0%	-133.32	3,463.35	3,910.55	4,357.75	
Amity	1,826	Head Librarian	2,816.67	2,816.67	2,816.67	6%	0.00	2,985.67	2,985.67	2,985.67	Part-time, hourly, but performs
Clatskanie	1,767	NCC								[	
Canyonville		NCC								{	
Adair Village	1.496	NCC								1	
Coburg	1,475	NCC								<u> </u>	
Riddle	1,248	NCC									
Siletz	1,242	NCC									
Yoncalla	1,078	NCC									
Falls City	1,066	NCC									
							}				
											_
		Average	3,206.67	3,430.27	3,653.87		-66.66	3,224.51	3,448.11	3,671.71	2
		Median	3,206.67	3,430.27	3,653.87		-66.66	3,224.51	3,448.11	3,671.71	# of position matches
Lowell	1,261	Library Director	3,229.20	3,815.19	4,401.17	0%	0.00	3,229.20	3,815.19	4,401.17	
		% difference from average	0.70%	10.09%	16.98%			0.15%	9.62%	16.57%	NCC: No Comparable Class
		% difference from median	0.70%	10.09%	16.98%			0.15%	9.62%	16.57%	NR: No Response Received

# **APPENDIX B: RECOMMENDED SALARY STRUCTURE**

Range No	Job Title		Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10
1	City Administrator	Annual	Set by contract	t								
		Monthly										
		Hourly										
2	City Clerk	Annual	47,802	49,475	51,207	52,999	54,854	56,774	58,761	60,817	62,946	65,149
		Monthly	3,983.50	4,122.92	4,267.22	4,416.58	4,571.16	4,731.15	4,896.74	5,068.12	5,245.51	5,429.10
		Hourly	22.98	23.79	24.62	25.48	26.37	27.30	28.25	29.24	30.26	31.32
3	Public Works Director	Annual	72,470	75,007	77,632	80,349	83,161	86,072	89,085	92,203	95,430	98,770
		Monthly	6,039.20	6,250.57	6,469.34	6,695.77	6,930.12	7,172.68	7,423.72	7,683.55	7,952.47	8,230.81
		Hourly	34.84	36.06	37.32	38.63	39.98	41.38	42.83	44.33	45.88	47.49
4	Lead Operator	Annual	55,797	57,750	59,772	61,864	64,029	66,270	68,589	70,990	73,474	76,046
		Monthly	4,649.78	4,812.52	4,980.96	5,155.29	5,335.73	5,522.48	5,715.77	5,915.82	6,122.87	6,337.17
		Hourly	26.83	27.76	28.74	29.74	30.78	31.86	32.98	34.13	35.32	36.56
5	Operator	Annual	45,747	47,348	49,005	50,720	52,495	54,332	56,234	58,202	60,239	62,347
		Monthly	3,812.25	3,945.67	4,083.75	4,226.67	4,374.58	4,527.67	4,686.17	4,850.17	5,019.92	5,195.58
		Hourly	21.99	22.76	23.56	24.38	25.24	26.12	27.04	27.98	28.96	29.97
6	Utility Worker	Annual	37,893	39,219	40,592	42,012	43,483	45,005	46,580	48,210	49,897	51,644
		Monthly	3,157.72	3,268.24	3,382.63	3,501.02	3,623.56	3,750.38	3,881.64	4,017.50	4,158.11	4,303.65
		Hourly	18.22	18.86	19.52	20.20	20.91	21.64	22.39	23.18	23.99	24.83
7	Custodian (formerly	Annual	37,893	39,219	40,592	42,012	43,483	45,005	46,580	48,210	49,897	51,644
	Maintenance Worker)	Monthly	3,157.72	3,268.24	3,382.63	3,501.02	3,623.56	3,750.38	3,881.64	4,017.50	4,158.11	4,303.65
		Hourly	18.22	18.86	19.52	20.20	20.91	21.64	22.39	23.18	23.99	24.83
8	Library Director	Annual	41,467	42,919	44,421	45,976	47,585	49,250	50,974	52,758	54,605	56,516
-		Monthly	3,455.62	3,576.57	3,701.75	3,831.31	3,965.40	4,104.19	4,247.84	4,396.51	4,550.39	4,709.66
		Hourly	19.94	20.63	21.36	22.10	22.88	23.68	24.51	25.36	26.25	27.17
		,				-						
9	Temp / Seasonal*	Annual	34,445	35,650	36,898	38,189	39,526	40,909	42,341	43,823	45,357	46,944
		Monthly	2,870.40	2,970.83	3,074.83	3,182.42	3,293.83	3,409.08	3,528.42	3,651.92	3,779.75	3,912.00
	*Not evaluated	Hourly	16.56	17.14	17.74	18.36	19.00	19.67	20.36	21.07	21.81	22.57

# **Agenda Item Sheet**

City of Lowell City Council

Type of item:	Resolution
---------------	------------

#### Item title/recommended action:

Motion to approve resolution 851, " A Resolution correctring appointmnets to the budget committee and rescinding Resolution 845." – Discussion/ Possible action

#### Justification or background:

At your February 18th meeting, Council approved resolution 845 making appointments to the Budget Committee. I made an error and placed the applicant in the wrong position in the middle of a vacant term. This resolution will correct the error and place the applicant in seat 5 and start a new three-year term. Adoption of this resolution will rescind resolution 845.

#### Budget impact:

N/A

#### Department or Council sponsor:

Administration

#### Attachments:

Resolution 851

Meeting date:	04/15/2025
---------------	------------

#### **CITY OF LOWELL, OREGON**

#### **RESOLUTION 851**

#### A RESOLUTION MAKING APPOINTMENTS TO THE BUDGET COMMITTEE TO FILL EXPIRED AND VACANT POSITIONS.

#### The City Council of the City of Lowell finds as follows:

One Budget Committee term expired on December 31, 2024. Also, the Budget Committee currently has two vacancy. In accordance with Sec. 2.600, *et seq.*, of the Lowell Revised Code, the city issued a call for applications to fill the expiring terms and vacancy. The City Council has reviewed the application(s) received and wishes to appoint the people listed below.

#### NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Lowell as follows:

**Section 1.** That the following appointments to the Budget Committee are approved. Adoption of this resolution rescinds Resolution 845

Seat	Appointee	For the term expiring
5	Lisa Bee-Wilson	December 31, 2027

**Section 2.** That the appointments are effective as of April 15, 2025.

#### [THIS SECTION INTENTIONALLY LEFT BLANK. SIGNATURE PAGE TO FOLLOW.]

#### Adopted by the City Council of the City of Lowell on this 15<sup>st</sup> day of April 2025.

AYES: \_\_\_\_\_

NOES: \_\_\_\_\_

APPROVED:

Maureen Weathers, Mayor

ATTEST:

Max Baker, City Recorder

#### CITY OF LOWELL AGREEMENT AMENDMENT EXTENSION OF CITY ADMINISTRATOR PRO TEM AGREEMENT

- 1. The City of Lowell currently has an agreement with Max Baker ("Employee"), effective December 5, 2024, to serve as City Administrator Pro Tem through May 30, 2025.
- 2. The Agreement with the Employee provides that it may be amended only by a written document signed by both parties.
- 3. It is agreed by both parties to extend the Agreement until June 30, 2025. All terms and conditions stated in the original Agreement will remain the same for the duration of this extension.

Max Baker, City Administrator Pro Tem

Date:

Maureen Weathers, Mayor

Date:

#### CITY OF LOWELL AGREEMENT AMENDMENT EXTENSION OF PUBLIC WORKS DIRECTOR PRO TEM AGREEMENT

- 1. The City of Lowell currently has an agreement with Hunter Harris ("Employee"), effective December 1, 2024, to serve as City Public Works Director Pro Tem through May 30, 2025.
- 2. The Agreement with the Employee provides that it may be amended only by a written document signed by both parties.
- 3. It is agreed by both parties to extend the Agreement until June 30, 2025. All terms and conditions stated in the original Agreement will remain the same for the duration of this extension.

Hunter Harris, Public Works Director Pro Tem

Max Baker, City Administrator Pro Tem

Date:

# **Agenda Item Sheet**

City of Lowell City Council

#### Item title/recommended action:

I move to Adopt the 2019 Pavement Preservation Plan and Cost Memo.

#### Justification or background:

Beginning in 2018 the City work kwith Civil West Engineering to develop a Pavement Preservation Plan. The Plan was completed in 2019, but never formally adopted by Council. The document is used to secure Grant funding, specifically the small city alloment grant, and adoption would identify the projects Staff seeks grant funding for.

#### Budget impact:

N/A

#### Department or Council sponsor:

Administration

#### Attachments:

20419 Pavement Preservation Plan and updated Cost Memo

Meeting date:	04/15/2025
---------------	------------





























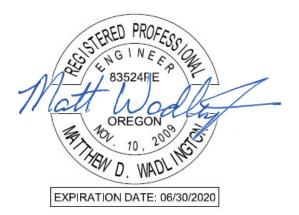




# **CITY OF LOWELL**

Pavement Preservation Plan

March 2019







Millamette Valley | South Coast | North Coast | Rogue Valley

2% MIN



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# **1** INTRODUCTION

#### 1.1 INTRODUCTION

The City of Lowell is located 19 miles southeast of Springfield and Interstate 5, in Lane County, Oregon. The City has provided roadways to its residents and travelers since the mid-1900's when the Highway Commission and Forest Services worked together to survey and build the Lakeview Burns Highway No. 18, currently known as Highway 58, passing the southern edge of the City of Lowell. In 1907 the Lowell Covered Bridge was built connecting the community to the surrounding areas. This bridge was used to pass over the Middle Fork of the Willamette River.

Today, the City's transportation system has approximately 5 miles of paved roads, which the City maintains. Most of the roadway consists of local and minor-collector roads providing access to residential properties. Some elements of the road facilities include sidewalks, roadside ditches, storm drains, traffic control signage, and pavement markings.

The population in the City of Lowell is 1,115 people as of 2017.

#### 1.2 STUDY DESCRIPTION

This study uses geotechnical investigative and observatory methods to determine the pavement condition and to develop a pavement preservation plan. This plan will identify where improvements are needed, provide cost estimates, and provide financial overview that will address the current pavement deficiencies and plan for future projects. These projects have been outlined in the capital improvement plan (CIP), in section 7 of this report. See figure 1-1 for an overview of the roadway system and project locations.

The City has hired Civil West Engineering Services, Inc. to complete this Pavement Preservation Plan. Civil West has worked alongside Carlson Testing, Inc. to complete limited geotechnical investigation to better asses the structural integrity of the pavement throughout the City of Lowell.

#### 1.3 PROJECT OVERVIEW

This plan identifies 9 pavement preservation projects that include full or partial sections of 10 different streets throughout the City. Pavement projects consist of crack sealing, slurry seal, patching, grind and overlays, and pavement replacement. Project 9 specifically identifies the annual cost of maintenance that should be budgeted to maintain the roadways.

#### 1.4 SUMMARY OF CAPITAL IMPROVEMENT PLAN

Recommendations in section 6 of this Plan have been prioritized in the CIP to help the City determine which projects should be completed each year to effectively maintain the transportation system of Lowell.



The total cost to complete all projects included in the CIP is estimated to be **\$896,054.29**. This estimate does not include the annual maintenance cost.

In addition to these projects the City should plan for the future. The annual cost determined to be able to maintain the roadways and pavement condition within the city is **\$265,439.52** per year.





# 2 HISTORY AND NEED

#### 2.1 HISTORY AND NEED FOR THIS PROJECT

Most of the streets within the City of Lowell have very low traffic loads and there has been minimal maintenance completed to preserve the life of the pavement. This has left the City with roads that are starting to show signs of deterioration and failure. The standard road is expected to last 20-30 years before it is recommended to be rebuilt entirely. To extend the life of the pavement the City would need to complete preventative maintenance. Section 4 in this report outlines the maintenance methods most typically used and when.

The local streets surrounding the public schools are the most heavily used and some sections are not equipped to handle two-way traffic, pedestrians, and street parking. Some of the roads are suspected to have been constructed with limited base and subbase layers. Since there are no record drawings or asbuilt information on the City streets, some locations will require geotechnical investigations.



## **3** DISTRESS IN ASPHALT PAVEMENT

#### 3.1 INTRODUCTION

This section will discuss the different types of pavement distress and failure. Since there are many types of pavement distress, this report will only discuss the most commonly observed throughout the City of Lowell or that are the most typically seen. This section will also define some common terms related to pavement.

**Oxidation** is a polar bonding molecular process that occurs when asphalt is exposed to oxygen. Over time molecular bonds harden and the pavement becomes brittle. Oxidized pavement will experience a loss of elasticity and increase the probability of failure. The pavement color will also change during this process, black to grey in color as oxidation becomes more apparent. Once the pavement is brittle, cracks begin to form causing base weakening, fatigue and failure.

**Base weakening** is caused when surface water leaks in to the cracks of the pavement. This allows water to enter the base and sub-base layers, reducing the pavement structural capacity. This will increase the load applied to the pavement and the result is fatigued pavement.

**Fatigue** occurs when water has entered the pavement sub-base layers through open cracks in the pavement surface or sub-surface layers. Fatigue is accelerated when the water present and the pavement is forced to take on more loading then designed for due to the base weakening. This is also referred to as alligator cracking as described more in section 3.2.1.

**Failure** occurs after fatigue and is caused by continuous weather conditions, traffic loading and movement in the pavement. After time the base layers will begin to show. This is called pavement failure.



#### 3.2 CRACKING

#### 3.2.1 ALLIGATOR CRACKING

Alligator or "fatigue" cracking is a series of interconnected cracks caused by repeated traffic loading to the pavement surface. The cracks begin at the bottom layer of the pavement and eventually make their way to the surface. This allows for water to penetrate the base and sub-base layers of the pavement,

causing more distress. The cracks reach the pavement surface, initially as parallel longitudinal cracks. After repeated loading, the cracks make connections to form a pattern resembling alligator skin. The cracked pieces of pavement are usually less than 1.5 feet on the longest side.

Alligator cracking is caused by traffic loading, poor sub-base or base structure, and aging pavement.

Typical treatment methods include: patching, 2" hot mix overlay, and chip seal. In low severity cases slurry seal or fog sealing may be recommended.



Figure 3-1 Alligator Cracking on Main St.

#### 3.2.2 EDGE CRACKING

Edge cracking is a section of parallel cracks to the pavement edge. Typically seen within 1 to 1.5 feet of the outer edge of the pavement. This pavement distress is associated with traffic loading, weakened base or subgrade caused by frost heave or thaw weakening. Edge cracking at a high-severity can be classified as raveling (see section 3.2 below for more information on raveling). These cracks usually range from 1/8-inch to greater than ¼-inch.

Edge cracking is caused by traffic loading, environment, poor



Figure 3-2 Edge Cracking on 2<sup>nd</sup> St.

construction methods, and pavement shoulder deficiencies.



Typical treatment methods include: crack sealing, cold mix overlay, and shoulder maintenance/reconstruction.

#### 3.2.3 LONGITUDINAL AND TRANSVERSE CRACKING

Longitudinal cracking is parallel to the pavement's centerline. Cracking may be seen anywhere along the pavement in the parallel direction. Severe longitudinal cracking can be classified as alligator cracking. Longitudinal cracks can be anywhere from 3/8-inch to 3-inches in width.

Transverse cracking are cracks that are formed in right angles or perpendicular from the pavement centerline. These cracks vary in size, ranging from ¼-inch to 2-inches in width. Transverse cracking is not caused by traffic loading.



Longitudinal and Transverse cracks are usually caused by environmental impacts (freeze and thaw), swelling or shrinkage of the subgrade, poor construction methods,

Figure 3-3 Longitudinal Cracking on Main St.

settlement, poor drainage and reflections cracks (cracks that occur on an overlay over an exciting crack).

Typical treatment methods include crack sealing, chip seal, or patching.

#### 3.2.4 BLOCK CRACKING

Block cracking is connected cracks creating rectangular or square cracked sections. These cracks range from an area of the size 1 by 1-foot to 10 by 10-foot sections. Block cracking is caused by the shrinkage of the asphalt and temperature change.

Block cracking is not caused by traffic loading. Block cracking is caused by environmental conditions and aging pavement.

Typical treatment methods include crack sealing, fog sealing, slurry seal, chip seal, or overlay.



Figure 3-4 Block Cracking (not in Lowell)



#### 3.3 RAVELING

Raveling also is known as "weathering", is the wearing of the pavement binder on the surface. Climate conditions can accelerate the loss of binder and aggregates. New pavement can see raveling start to occur

in as little as 6 months after pavement construction due to poor construction methods (inadequate compaction) or oxidation and erosion (water on the pavement surface). The aggregate may be exposed in the sizes of 0.05inch in low severity cases to greater than ¼-inch in more severe cases.

Raveling is caused by the loss of asphalt binder due to weather, erosion, aging and daily use.

Typical treatment methods include fog sealing, slurry seal, chip seal, or overlay.



Figure 3-5 Pavement Raveling on Loftus Ave.

#### 3.4 RUTTING

Rutting of the pavement is observed surface depression along the wheel path. This pavement and subgrade deformation are caused by repeated traffic loading and construction method deficiencies. Rutting is more noticeable in rainy weather when standing water can occur. The levels of depression in the wheel path are usually between ½-inch in less severe cases to 2-inches for more severe cases.

Rutting is caused by repeated traffic loading.

Typical treatment methods include milling and overlay.



Figure 3-6 Pavement Rutting (not in Lowell)



# 4 PAVEMENT PRESERVATION METHODS

#### 4.1 INTRODUCTION

There are a variety of rehabilitation methods depending on the severity of the pavement conditions. This section will discuss pavement preservation methods, how the process is completed when to use each method and the cost effectiveness for each option.

#### 4.2 CRACK SEALING

This treatment involves cleaning cracks (over  $1/8^{"}$  wide) using a "hot air lance" to blow out debris, burn grass and weeds, and dry the crack. Cracks should be  $1/8^{"} - 1^{"}$  in size for crack sealing to be recommended. Immediately after cleaning, the crack is filled with a specialized elastomeric sealing compound. The elastomeric sealant has a low modulus of elasticity and will stretch easily. The compound has a high durability and can last up to 4 years. Regular traffic can be allowed 5 minutes after the application. This method is recommended for pavement with longitudinal, transverse, and block cracking. Benefits of crack sealing include: preventing water from entering the base and subgrade, preventing debris from entering the cracks, and preparing the road for overlay or other maintenance treatments. Crack sealing is a cost-effective way to treat roads with minimal deterioration.

#### 4.3 SLURRY SEAL

This is a treatment using a mixture of water, asphalt emulsion, and aggregate to the existing pavement. The combined mixture represents a slurry. Additives like latex polymer are commonly added to the asphalt emulsion. Placing the mixture over existing pavement is called a seal. Typically, applications are on residential streets and can last up to 7 years. A slurry truck designed with multiple compartments to hold and mix the water, asphalt emulsion, aggregate, and additives. The slurry mixture is dispersed out of the back of the truck. The slurry is then smoothed out on the surfaces with a squeegee. The slurry seal sets within 4 to 6 hours and is ready for regular traffic. This pavement preservation method seals cracks, restores flexibility to pavement surface and helps to preserve the underlying pavement structure. It also has an appealing uniform dark black color. This method is recommended for pavement with moderate distress, no rutting, and narrow crack widths and is usually completed on an intermittent or recurrent basis.

#### 4.4 CHIP SEAL

This treatment method requires a two-step process, first applying a layer of asphalt emulsion and then a layer of crushed rock to the existing surface. The asphalt emulsion usually contains additives like latex polymer and a rejuvenating agent. A distributor truck applies a layer of the asphalt emulsion to seal the existing pavement surface. This is followed by a chip spreader that applies the crushed rock. As the chip spreader travels, a dump truck dumps rock into the spreader. After the chips are spread, a steel drum



roller and rubber-tired rollers follow behind for compaction of the application. Chip sealing is usually cycled every 7 to 10 years. This method is recommended for pavement with moderate alligator cracking with no spalling (excess deterioration of cracks) or rutting and where feasible to extend the life of pavement until resurfacing can be performed.

#### 4.5 ASPHALT OVERLAY

This treatment method involves a mix design of hot liquid asphalt and aggregates. This mixture is applied directly to the top of a deteriorating pavement surface. Sometimes asphalt milling may be required prior to the application but is not always necessary. Milling involves removing the top layer of the pavement surface with cracks and raveling damage. A truck is used to apply the asphalt overlay, usually, the overlay is 1.5 to 2 inches in thickness. After the application, compaction is achieved using mechanical rollers with vibration. Usually, traffic can continue 4-6 hours after completion of the application. An asphalt overlay is expected to last 10 to 20 years. This method is recommended for pavement with cracks, raveling, no rutting, or root damage or when a need for regrading is observed.

#### 4.6 REMOVE AND REPLACE

Remove and replace pavement can be very expensive and is only recommended when there is extensive structural damage and severe deterioration of the pavement surface or the street carries more load then designed for. This will require geotechnical investigative sampling to help determine the best recommendation for the new pavement design. The new pavement design will also consider the traffic loading of the area chosen to remove and replace. This method is expected to last 20 years or more.

#### 4.7 DEEP PATCH

A deep patch is typically recommended on small sections of pavement that exhibit signs of base weakening and fatigue. These areas can be easily corrected by removing the pavement and base layers, then over excavating to provide a decent subbase layer (usually 6-8" of rock) and applying 4-inches of asphalt. This repair method is usually coupled with a slurry seal or grind and overly.



# 5 ENGINEERING FIELD ANALYSIS & RESULTS

#### 5.1 FIELD DATA AND OBSERVATIONS

Field data was collected by onsite inspection, observation, and core sampling. The City streets were walked, and areas showing pavement distress and deterioration were recorded. The City also identified areas of concern for traffic congestion, off street parking and pavement condition. From observation, many streets were in moderately good condition. Pavement distress most commonly visible throughout the City was raveling, alligator cracking, oxidation, and edge cracking.

#### 5.2 GEOTECHNICAL INVESTIGATIVE METHODS AND RESULTS

Core samples are taken to allow for a visual inspection of the asphalt layer, base and subbase layers. Pavement thickness, drainage and soil type all can be determined to allow for the best improvements or repair method.

The City completed core samples on East Main Street and East Lakeview Street. The results were used to define the structural integrity of the pavement and to make recommendations for rehabilitation. The recommendations provided by the geotechnical engineer have been outlined in project 1, and section 6 of this report. For a full geotechnical report see Appendix A.



# 6 IMPROVEMENT PROJECTS

#### 6.1 INTRODUCTION

This section discusses in detail, the recommended pavement preservation projects from the combined results of core sampling and observed pavement distress. A cost estimate has been provided along with a drawing showing the location and extents of each project.

#### 6.2 DISCUSSION OF COST ESTIMATES

Once a preferred repair method was chosen, the associated improvements and local area conditions were assessed when developing cost estimates for each repair. The restoration of any existing facility, structure, or landscape was also included in the cost estimates. In addition to individual project costs, estimates include mobilization and temporary control, demo and site prep, contingency, legal/administration fees, and engineering. See below for a brief explanation.

**Mobilization** and temporary facilities costs are based upon a percentage of the overall project cost. Mobilization usually includes the cost to move and rent equipment along with any one-time costs associated with starting and ending construction. Temporary facilities include items such as fencing, traffic control, restrooms, markers, and erosion control. Some adjustments of these prices have been made to the estimates provided in the next section of the report for associated projects that have specialized equipment cost. This report, otherwise, utilizes a mobilization and temporary control costs of 10% and 5%, respectively.

**Contingency** costs are intended to account for any unknowns or unforeseen events that may arise. Improvement projects have not included subsurface geotechnical surveys, sewer lateral locations, or easement locations. As the projects continues through the design phase, the number of unknowns will decrease, as will the contingency allowance. This report utilizes a contingency of 20% of the overall construction cost for each project.

**Administration** costs are a small portion of the overall project cost and include legal fees, City staff costs, cost associated with permitting, internal planning, and any miscellaneous non-construction related work. This report utilizes an administration cost of 5% of the overall construction cost for each project.

**Engineering** fees are estimated as a percentage of the overall cost of construction. With projects varying in scope and uncertainties, the engineering costs can vary as well. This project utilizes an engineering cost of 20% of the overall cost of construction.

**Construction** cost estimates in this report are based on recent and similar projects, material costs from suppliers, and special construction costs.



#### 6.3 PAVEMENT PRESERVATION PROJECTS AND RECOMMENDATIONS

To address existing deficiencies in the City of Lowell, the following projects have been identified. Please note that some projects include improvements to more than one street, which should be bundled within small geographic locations.

In addition to the specific projects recommended herein, it is recommended that the city develop a budget for annual street improvements to treat or replace pavement as it deteriorates. As described in section 2.2, pavement is expected to last 20 years, if some maintenance is completed during that time period pavement is expected to last 30-40 years. Project 8, at the end of this section is included to develop the annual cost for pavement maintenance.

#### 6.3.1 Project 1

This project is on Main Street. Main Street runs parallel on the northside to the property of the Lowell High School. Main Street was identified by the City as priority projects due to the amount of traffic the street encounter's daily. Observed pavement distress on Main Street includes; severe to moderate alligator cracking, longitudinal cracking, oxidation, aging, and raveling.

Geotechnical investigation, completed July 2018, recommends Main Street be repaired with deep patching in areas of severe alligator cracking combined with a 2-inch grind and overlay of new asphalt pavement. See the project sheet C1 for more information. Below is the overall construction cost estimate for East Main Street improvements totaling **\$119,174.88**.

Item	Description	Unit	Est. Quantity	Unit Amount		Total
1	Mobilization - Bonds & Insurance (10%)	ls	1	\$ 6,736.85	\$	6,736.85
2	Construction Facilities & Temporary Controls (5%)	ls	1	\$ 3,368.43	\$	3,368.43
3	Demolition & Site Preparation (7%)	ls	1	\$ 4,715.80	\$	4,715.80
	Demolition					
4	Cold Pane/Grind Pavement Removal (2 inches deep)	sy	2331	\$ 3.00	\$	6,992.00
5	Over Excavate Deep Patches 6"	sy	123	\$ 25.00	\$	3,066.67
	Roadway Improvements					
7	Surface Treatments (seal cracks)	sy	2331	\$ 3.00	\$	6,992.00
8	Deep Patching at Driveways (5% of street) includes saw cutting, geo fabric, backfill and AC	ls	1	\$ 3,373.33	\$	3,373.33
9	2" AC Pavement Overlay- Level 3	sy	2331	\$ 14.00	\$ 3	32,629.33
10	Clean Pavement Surface and Apply Top Coat Per 00730 ODOT	sy	2453	\$ 5.00	\$ 1	12,266.67
Striping						
11	12" Thermoplastic 12' Stop Bar and 34' Crosswalk	lf	46	\$ 11.00	\$	506.00
12	4" White Dotted Line Per ODOT TM500 WD	lf	695	\$ 1.50	\$	1,042.50
13	Landscape Restoration & Cleanup	ls	1	\$ 500.00	\$	500.00
Construct	ion Subtotal				\$ 8	32,189.57
Continger	ncy		20%		\$ 1	16,437.91
Engineering 20%					\$ 1	16,437.91
Administrative 5%					\$	4,109.48
Total Proj	ect Cost				\$11	9,174.88

#### Table 6-1 East Main Street Improvements Cost Estimate



#### 6.3.2 Project 2

This project is on Lakeview Avenue. Lakeview runs parallel on the southside to the property of the Lowell High School. Lakeview was identified by the City as priority projects due to the amount of traffic the street encounter's daily. Observed pavement distress and deficiencies on Lakeview includes; longitudinal cracking, the width of the roadway, and no off-street parking.

Geotechnical investigation, completed July 2018, identified pavement deficiencies including poor subbase and lack of required pavement thickness for traffic loading. It is recommended Lakeview be repaired with a 2-inch grind and overlay for the ¼ most eastern section of the street and full removal and replacement of the remainder. See the project sheet C1 for more information. Below is the overall construction cost estimate for East Lakeview Avenue improvements totaling **\$142,100.82**.

Item	Description	Unit	Est. Quantity	Unit Amount	Total
1	Mobilization - Bonds & Insurance	ls	1	\$ 8,032.83	\$ 8,032.83
2	Construction Facilities & Temporary Controls	ls	1	\$ 4,016.42	\$ 4,016.42
3	Demolition & Site Preparation	ls	1	\$ 5,622.98	\$ 5,622.98
	Demolition				
4	Cold Pane/Grind Pavement Removal (2 inches deep) (1/4 most eastern section)	sy	383	\$ 3.00	\$ 1,150.00
5	Roadway Section Removal (3/4 most western section)	sy	1150	\$ 25.00	\$ 28,750.00
6	Sawcut existing Concrete, Sidewalks, & Pavement	lf	100	\$ 1.90	\$ 190.00
	Roadway Improvements				
7	Standard Curb	lf	650	\$ 12.00	\$ 7,800.00
8	Surface Treatments (Seal cracks)	sy	1533	\$ 3.00	\$ 4,600.00
9	2" AC Pavement Overlay- Level 3	sy	383	\$ 14.00	\$ 5,366.67
10	4" AC Pavement - Level 3	sy	1150	\$ 14.00	\$ 16,100.00
11	6" Aggregate Base	sy	1150	\$ 6.00	\$ 6,900.00
12	Clean Pavement Surface and Apply Top Coat Per 00730 ODOT	sy	1533	\$ 5.00	\$ 7,666.67
	Striping		_		
13	12" Thermoplastic 10' Stop Bar and 18' Crosswalk	lf	30	\$ 11.00	\$ 330.00
14	4" White Dotted Line Per ODOT TM500 WD	lf	650	\$ 1.50	\$ 975.00
15	Landscape Restoration & Cleanup	ls	1	\$ 500.00	\$ 500.00
Construction Subtotal					
Contingency 20%			\$ 19,600.11		
Engineering 20%				\$ 19,600.11	
Administr	Administrative 5%				
Total Proj	ect Cost				\$142,100.82

#### Table 6-2 East Lakeview Avenue Improvements Cost Estimate



#### **KEYED NOTES**

- 01 GRIND AND OVERLAY, SEE SHEET NOTES 4-8
- 02 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12

REMOVE TREE ROOTS, SEE SHEET NOTE 11

- 03 SLURRY SEAL, SEE SHEET NOTE 10
- 04 DEEP PATCH, SEE SHEET NOTE 9
- 05 REMOVE AND REPLACE PAVEMENT EDGE , SEE SHEET NOTE 13

07 CRACK SEALING

06

EXTENTS OF PAVEMENT TO BE REHABILLITATED

HATCH LEGEND

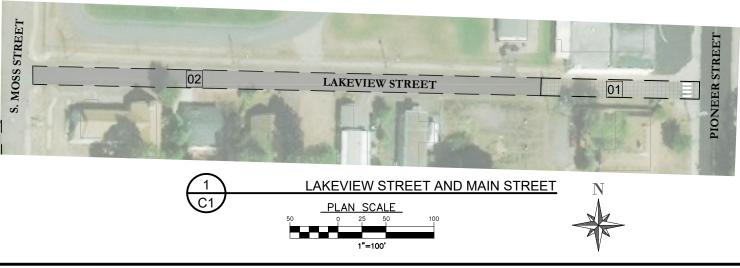
GRID AND OVERLAY

**TYPE 2 SLURRY SEAL** 

REMOVE AND REPLACE PAVEMENT

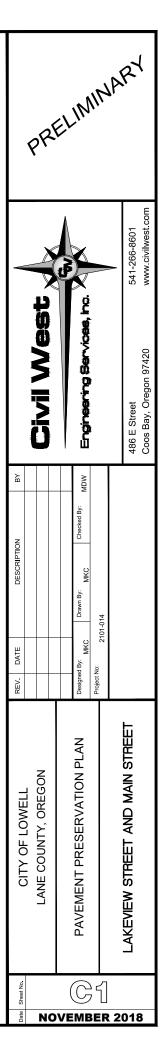
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- 2. NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. STAT. AUTH.: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- 4. GRIND EXISTING PAVEMENT, 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY
- 5. INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730.
- 6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, <sup>1</sup>/<sub>2</sub> DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH.
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED. CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS 1" AND LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS.
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING.
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES. MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES. REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT.
- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA.
- 16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER.



DEEP PATCH

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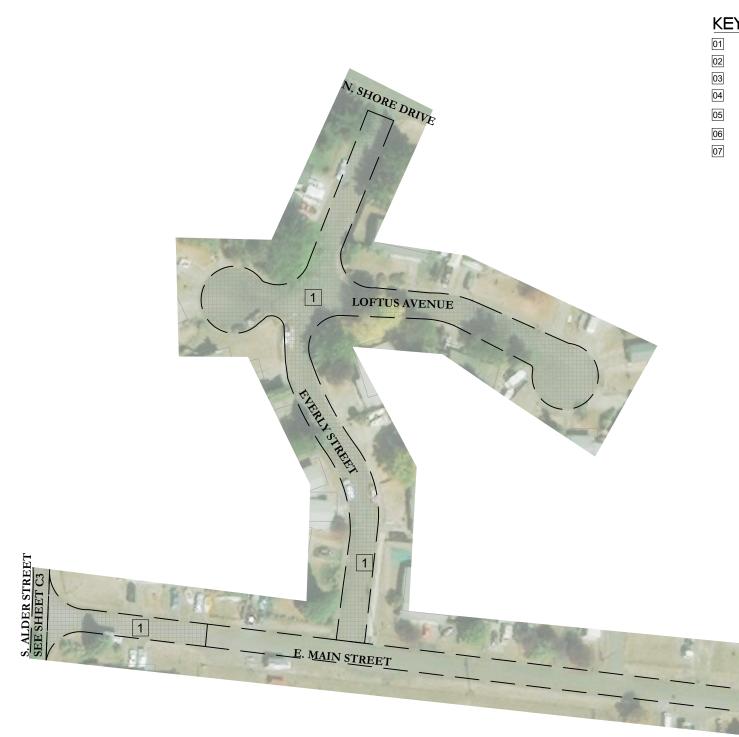
#### 6.3.3 Project 3

This project consists of three streets, Everly Street, Loftus Avenue, and two small sections of Main Street. Everly runs north and south and connects Main Street to N. Shore Drive. Loftus consists of two cul-de-sacs off Everly. Observed pavement distress on Main Street includes; oxidation, aging, and raveling. Observed pavement distress and deficiencies on Everly and Loftus include; longitudinal cracking, oxidation, aging and severe raveling.

It is recommended to complete a 2-inch grind and overlay of new asphalt pavement on the entire section of Loftus and Everly and on the most western portion of Main with a remove and replace on the eastern section. Before the overlay, it is recommended to seal all existing cracks in the pavement. See the project sheet C2 for more information. Below is the overall construction cost estimate for Everly, Loftus and West Main Street improvements totaling **\$166,245.21**, including geotechnical investigation.

Item	Description	Unit	Est. Quantity	Unit Amount	Total
1	Mobilization - Bonds & Insurance	ls	1	\$9,115.05	\$ 9,115.05
2	Construction Facilities & Temporary Controls	ls	1	\$4,557.52	\$ 4,557.52
3	Demolition & Site Preparation	ls	1	\$6,380.53	\$ 6,380.53
	Demolition		·		
4	Pavement removal and Over Excavate Deep Patch	sy	91	\$ 25.00	\$ 2,283.33
5	Saw Cut Existing Pavement for Deep Patch	lf	140	\$ 1.90	\$ 266.00
6	Cold Pane/Grind Pavement Removal (2 inches deep)	sy	3889	\$ 3.00	\$ 11,666.67
	Roadway Improvement	S			
7	Surface Treatment Seal Cracks	sy	4400	\$ 3.00	\$ 13,200.00
8	2"AC Pavement Overlay - Level 3 (Everly and Loftus)	sy	4400	\$ 14.00	\$ 61,600.00
9	4" AC Pavement	sy	30	\$ 28.00	\$ 840.00
10	Aggregate Base	су	30	\$ 6.00	\$ 182.48
11	Landscape Restoration & Cleanup	ls	1	\$ 500.00	\$ 500.00
	Striping				
12	12" thermoplastic Stop Bar	lf	12	\$ 11.00	\$ 132.00
13	Crosswalk thermoplastic Bar	lf	24	\$ 20.00	\$ 480.00
Construct	ion Subtotal				\$ 111,203.59
Geotechn	ical Investigation				\$ 5,000.00
Continge	псу		20%		\$ 22,240.72
Engineering			20%		\$ 22,240.72
Administ	Administrative 5%				\$ 5,560.18
Total Proj	ect Cost				\$ 166,245.21

#### Table 6-3 Everly and Main Street Improvements Cost Estimate



#### **KEYED NOTES**

GRIND AND OVERLAY, SEE SHEET NOTES 4-8 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12 SLURRY SEAL, SEE SHEET NOTE 10 GRID AND OVERLAY DEEP PATCH SEE SHEET NOTE 9 TYPE 2 SLURRY SEAL REMOVE AND REPLACE PAVEMENT EDGE, SEE SHEET NOTE 13 REMOVE TREE ROOTS. SEE SHEET NOTE 11 DEEP PATCH CRACK SEALING EXTENTS OF PAVEMENT TO BE REHABILLITATED

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- NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. 2 STAT. AUTH.: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- GRIND EXISTING PAVEMENT. 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY. 4.
- INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730. 5.
- SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT 6.
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, 1" DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED. CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS an AND LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS.
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES. MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES. REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT
- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA
- CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER. 16





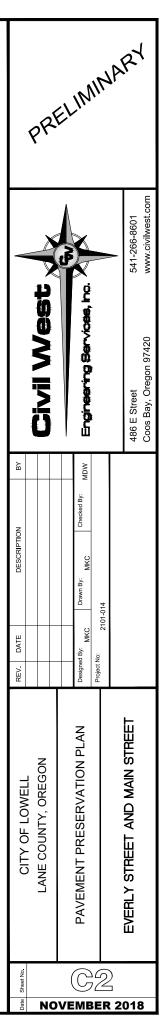
STREET

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02

#### HATCH LEGEND

REMOVE AND REPLACE PAVEMENT





#### 6.3.4 Project 4

This project is on Alder Street. Alder Street runs north and south from West Main Street. Observed pavement distress on Alder includes; longitudinal cracking, oxidation, again and raveling. The most southern portion of Alder Street is identified as less severe than the northern portion.

It is recommended to complete a 2-inch grind and overlay of new asphalt on Alder Street. Prior to completing this project, it is recommended the city compete geotechnical evaluation of the pavement layers to confirm there is a supportive base and subbase layers. If it is found the subbase layers of the pavement are inadequate the city will need to re-evaluate the maintenance method and reconstruction may be required. See the project sheet C3 for more information. Provided below is the overall construction cost estimate for Alder Street improvements totaling **\$81,361.83**.

Item	Description	Unit	Est. Quantity	A	Unit mount	Total
1	Mobilization - Bonds & Insurance	ls	1	\$4	,316.67	\$ 4,316.67
2	Construction Facilities & Temporary Controls	ls	1	\$2	2,158.33	\$ 2,158.33
3	Demolition & Site Preparation	ls	1	\$3	3,021.67	\$ 3,021.67
	Demolition					
4	Cold Pane/Grind Pavement Removal (2 inches deep)	sy	1000	\$	6.00	\$ 6,000.00
	Roadway Improvemen	ts				
5	Surface Treatment Seal Cracks	sy	1667	\$	3.00	\$ 5,000.00
6	2" AC Pavement Overlay	sy	1667	\$	14.00	\$ 23,333.33
7	Clean Pavement Surface and Apply Top Coat Per 00730 ODOT	sy	1667	\$	5.00	\$ 8,333.33
8	Landscape Restoration & Cleanup	ls	1	\$	500.00	\$ 500.00
Construct	ion Subtotal					\$ 52,663.33
Geotechn	Geotechnical Investigation			\$ 5,000.00		
Contingency 20%				\$ 10,532.67		
Engineeri	Engineering 20%			\$ 10,532.67		
Administrative 5%				\$ \$ 2,633.17		
Total Proj	ect Cost					\$ 81,361.83

#### Table 6-4 Alder Street Improvements Cost Estimate



#### **KEYED NOTES**

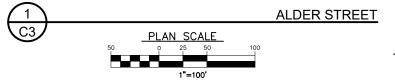
- 01 GRIND AND OVERLAY, SEE SHEET NOTES 4-8
- 02 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12
- 03 SLURRY SEAL. SEE SHEET NOTE 10
- 04 DEEP PATCH. SEE SHEET NOTE 9
- 05 REMOVE AND REPLACE PAVEMENT EDGE , SEE SHEET NOTE 13
- 06 REMOVE TREE ROOTS, SEE SHEET NOTE 11
- 07 CRACK SEALING

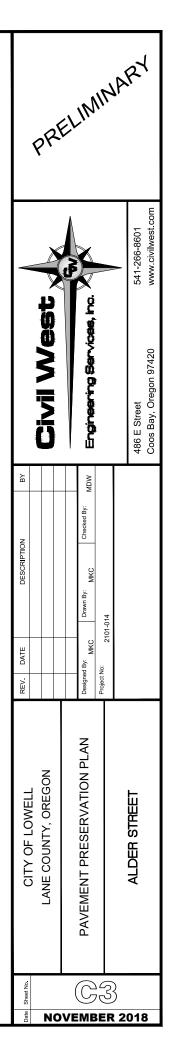
#### HATCH LEGEND

REMOVE AND REPLACE PAVEMENT	
GRID AND OVERLAY	
TYPE 2 SLURRY SEAL	
DEEP PATCH	
EXTENTS OF PAVEMENT TO BE REHABILLITATED	

#### GENERAL NOTES

- 1. <u>ATTENTION:</u> OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH 952-001-0090. YOU MAY OBTAIN A COPY OF THE RULES BY CALLING THE CENTER.
- 2. NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. STAT. AUTH .: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- 4. GRIND EXISTING PAVEMENT, 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY.
- 5. INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730.
- 6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, <sup>1</sup>/<sub>2</sub> DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH.
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED. CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS 1" AND LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS.
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING.
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES. MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES. REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT.
- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA.
- 16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER.







#### 6.3.5 Project 5

This project consists of two streets, 2<sup>nd</sup> Street and Cannon Street. 2<sup>nd</sup> Street runs west to east between Moss Street and Hyland Drive. Cannon Street runs south from 2<sup>nd</sup> Street. Observed pavement distress on 2<sup>nd</sup> Street includes; pavement edge cracking/longitudinal cracking, and an aging chip seal. Observed pavement distress on Cannon includes; alligator cracking, longitudinal cracking, oxidation, aging, and severe raveling.

It is recommended to complete a 2-inch grind and overlay of new asphalt pavement on the identified section of Cannon Street and a type two slurry seal on 2<sup>nd</sup> Street with pavement edge removal/deep patching in identified locations. See the project sheet C4 for more information. Below is the overall construction cost estimate for 2<sup>nd</sup> Street and Cannon Street improvements totaling **\$100,702.62**.

ltem	Description	Unit	Est. Quantity	Unit Amount	Total
1	Mobilization - Bonds & Insurance	ls	1	\$ 5,692.63	\$ 5,692.63
2	Construction Facilities & Temporary Controls	ls	1	\$ 2,846.31	\$ 2,846.31
3	Demolition & Site Preparation	ls	1	\$ 3,984.84	\$ 3,984.84
	Demolition				
4	Edge Roadway Section Removal 1'-6" Width	sy	144	\$ 25.00	\$ 3,611.11
5	Sawcut existing Concrete, Sidewalks, & Pavement	lf	700	\$ 1.90	\$ 1,330.00
6	Pavement Removal Deep Patch Over Excavate	sy	7	\$ 25.00	\$ 183.33
7	Cold Pane/Grind Pavement Removal (2" deep)	sy	1000	\$ 3.00	\$ 3,000.00
	Roadway Improvements				
8	Surface Treatments (Seal cracks)	sy	3822	\$ 3.00	\$ 11,466.67
9	2" AC Pavement Overlay	sy	1000	\$ 14.00	\$ 14,000.00
10	Type 2 Slurry Seal	sy	2822	\$ 5.00	\$ 14,111.11
11	4" AC - 2' wide edge reconstruction	sy	74	\$ 28.00	\$ 2,074.07
12	Clean Pavement Surface and Apply Top Coat Per 00730 ODOT	sy	1000	\$ 5.00	\$ 5,000.00
13	Reconstruct sub-base on the edge of roadway and deep patch 3/4-0" rock	су	50	\$ 3.00	\$ 150.00
14	Landscape Restoration & Cleanup	ls	1	\$ 500.00	\$ 500.00
Striping					
14	4" White Dotted Line Per ODOT TM500 WD	lf	1000	\$ 1.50	\$ 1,500.00
Construction Subtotal					
Continger	ncy		20%		\$ 13,890.02
Engineeri	Engineering		20%		\$ 13,890.02
Administr	Administrative 5%				\$ 3,472.50
Total Proj	ect Cost				\$100,702.62

#### Table 6-5 Cannon And 2nd Street Improvements Cost Estimate

#### **KEYED NOTES**

01

02

03

04

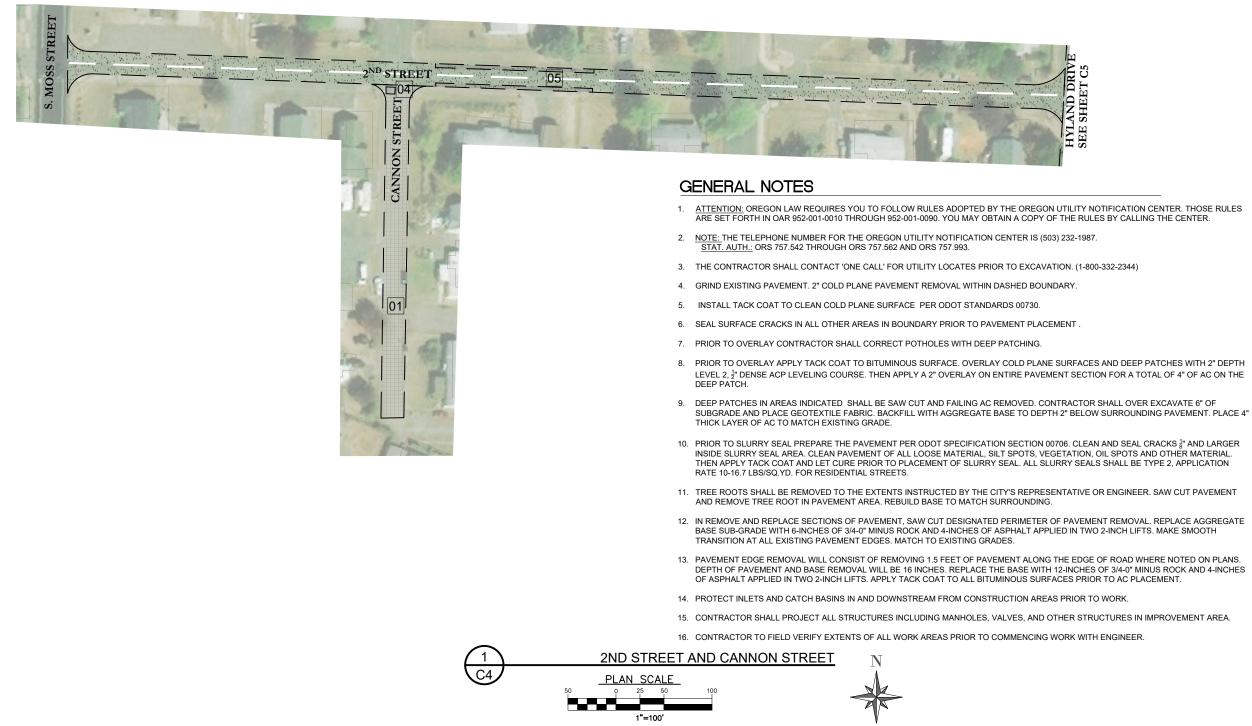
05

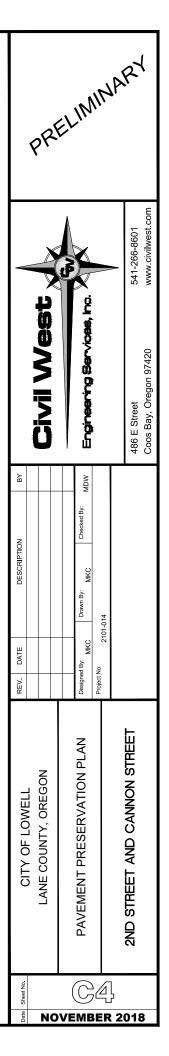
06

07

#### HATCH LEGEND

GRIND AND OVERLAY, SEE SHEET NOTES 4-8 REMOVE AND REPLACE PAVEMENT REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12 SLURRY SEAL, SEE SHEET NOTE 10 GRID AND OVERLAY DEEP PATCH, SEE SHEET NOTE 9 **TYPE 2 SLURRY SEAL** REMOVE AND REPLACE PAVEMENT EDGE, SEE SHEET NOTE 13 REMOVE TREE ROOTS, SEE SHEET NOTE 11 DEEP PATCH CRACK SEALING EXTENTS OF PAVEMENT TO BE REHABILLITATED







#### 6.3.6 Project 6

This project consists of two streets, 3<sup>rd</sup> Street and Hyland Drive. Hyland Drive runs north and south on the most eastern side of 3<sup>rd</sup> Street. 3<sup>rd</sup> street runs west from Hyland Drive. Observed pavement distress on Hyland Drive includes; alligator cracking, longitudinal cracking, minimal raveling. 3<sup>rd</sup> street is in good condition and observed pavement distress include minimal cracking and pavement flexibility loss.

Due to the good condition of the pavement and no major visible distress on 3<sup>rd</sup> Street, it is recommended to complete crack sealing prior to completing a type 2 slurry seal. This will give back some pavement flexibility and prolong the life of the pavement structure. Also, It is recommended to complete a type 2 slurry seal and deep patching on Hyland Drive. See sheet C5 for more information. Below is the overall construction cost estimate for 3<sup>rd</sup> Street and Hyland Drive improvements totaling **\$101,401.24**.

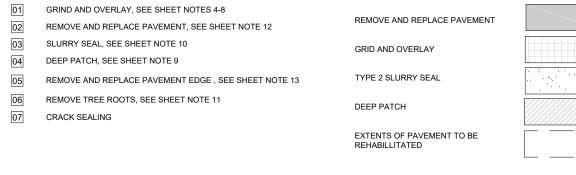
ltem	Description	Unit	Est. Quantity	Unit Amount			Total
1	Mobilization - Bonds & Insurance	ls	1	\$	5,732.12	\$	5,732.12
2	Construction Facilities & Temporary Controls	ls	1	\$	2,866.06	\$	2,866.06
3	Demolition & Site Preparation	ls	1	\$	4,012.49	\$	4,012.49
	Demolition						
4	Pavement Removal and Over Excavate Deep Patch	sy	122	\$	25.00	\$	3,055.56
5	Saw Cut Pavement	lf	210	\$	1.90	\$	399.00
	Roadway Improve	ements					
6	Surface Treatments (Seal cracks)	sy	6044	\$	3.00	\$	18,133.33
7	Type 2 Slurry Seal	sy	6044	\$	5.00	\$	30,222.22
8	4" AC Pavement - Level 3	sy	122	\$	14.00	\$	1,711.11
9	Aggregate base rock	су	50	\$	6.00	\$	300.00
10	Landscape Restoration & Cleanup	ls	1	\$	500.00	\$	500.00
Striping							
11	4" White Dotted Line Per ODOT TM500 WD	lf	2000	\$	1.50	\$	3,000.00
Construct	ion Subtotal					\$	69,931.89
Contingency			20%			\$	13,986.38
Engineering			20%			\$	13,986.38
Administ	rative		5%			\$	3,496.59
Total Proj	ect Cost					\$:	101,401.24

#### Table 6-6 3rd Street and Hyland Drive Improvement Cost Estimate



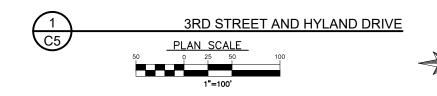
#### **KEYED NOTES**

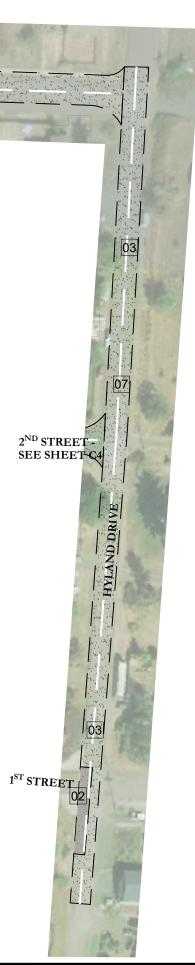
#### HATCH LEGEND

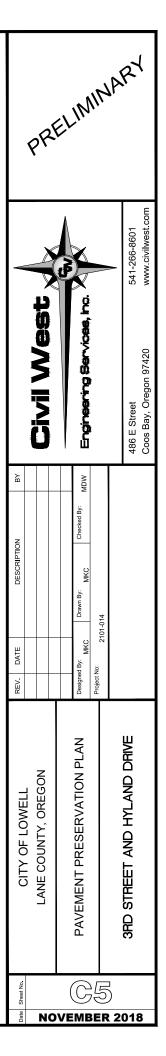


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- 2. NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. STAT. AUTH.: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- 4. GRIND EXISTING PAVEMENT. 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY.
- INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730. 5.
- 6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, <sup>1</sup>/<sub>2</sub> DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED. CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS and LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING.
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES. MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES. REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT
- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA.
- 16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER.







## Pavement Preservation Plan



### 6.3.7 Project 7

This project is on 4<sup>th</sup> Street. 4<sup>th</sup> Street runs west and east one block north of 3<sup>rd</sup> Street. This street is mostly in good condition. The most eastern section of 4<sup>th</sup> Street has a partial section with older pavement and tree root intrusion. Observed types of distress include; raveling, oxidation, alligator cracking, and tree root intrusion.

It is recommended to complete crack sealing and a type 2 slurry seal on the entire section of 4<sup>th</sup> street to maintain the road. It is assumed the road was constructed 10 or more years ago. A slurry seal will create one continuous surface to the somewhat patchy road on the eastern portion and extend the life of the pavement. The section identified on sheet C6 should be corrected with deep patch prior to the slurry seal. This will correct subbase damage due to the tree root intrusion. See Sheet C6 for more information. Below is the overall construction cost estimate for 4<sup>th</sup> Street improvements totaling **\$52,931.62**.

Item	Description	Unit	Est. Quantity	l	Unit Amount	nt Total	
1	Mobilization - Bonds & Insurance	ls	1	\$ 2,992.18 \$ 2,992			2,992.18
2	Construction Facilities & Temporary Controls	ls	1	\$	1,496.09	\$	1,496.09
3	Demolition & Site Preparation	ls	1	\$	2,094.52	\$	2,094.52
	Demolition						
4	Pavement Removal and Over Excavate Deep Patch	sy	13	\$	25.00	25.00 \$ 333.33	
5	Saw Cut Pavement	lf	100	\$ 1.90 \$ 1		190.00	
	Roadway Improve	ments					
4	Surface Treatments (Seal cracks)	sy	3556	\$	3.00	\$1	0,666.67
5	Type 2 Slurry Seal	sy	3556	\$	5.00	\$1	7,777.78
6	4" AC Pavement- Level 3	sy	13	\$ 28.00 \$ 36		364.00	
7	Aggregate Base	су	15	\$ 6.00 \$ 9		90.00	
8	Landscape Restoration & Cleanup	ls	1	\$ 500.00 \$ 5		500.00	
Construction Subtotal						\$3	6,504.57
Contingency			20%			\$	7,300.91
Engineeri	Engineering		20%			\$	7,300.91
Administ	rative		5%			\$	1,825.23
Total Proj	ect Cost					\$5	2,931.62

#### Table 6-7 4th Street Improvement Cost Estimate

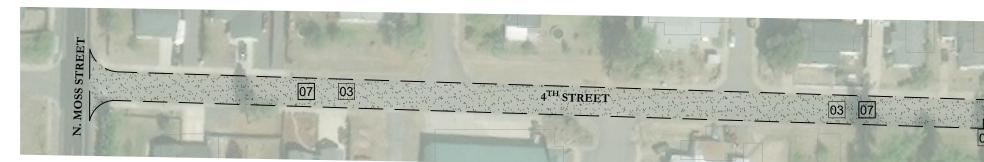
#### **KEYED NOTES**

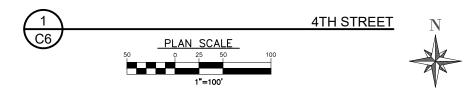
- 01 GRIND AND OVERLAY, SEE SHEET NOTES 4-8
- 02 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12
- 03 SLURRY SEAL SEE SHEET NOTE 10
- 04 DEEP PATCH. SEE SHEET NOTE 9
- 05 REMOVE AND REPLACE PAVEMENT EDGE , SEE SHEET NOTE 13
- 06 REMOVE TREE ROOTS, SEE SHEET NOTE 11
- 07 CRACK SEALING

REMOVE AND REPLACE PAVEMENT	
GRID AND OVERLAY	
TYPE 2 SLURRY SEAL	
DEEP PATCH	
EXTENTS OF PAVEMENT TO BE REHABILLITATED	

### **GENERAL NOTES**

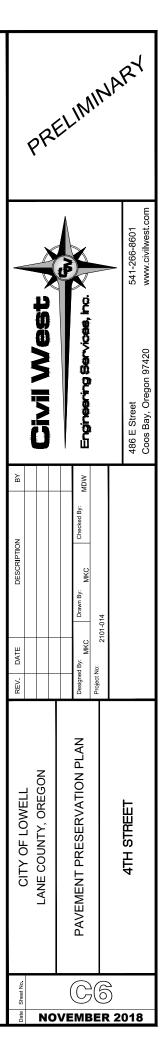
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- 2. NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. STAT. AUTH.: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- 4. GRIND EXISTING PAVEMENT. 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY.
- 5. INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730.
- 6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, 1" DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH.
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED, CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS 18" AND LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL, ALL SLURRY SEALS SHALL BE TYPE 2. APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS.
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING.
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES, MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES, REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS, APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT.
- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA.
- 16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER.











### Pavement Preservation Plan



### 6.3.8 Project 8

This project is on West Lakeview Avenue. West Lakeview Avenue is a dead-end residential road that runs west off S. Moss Street. Observed pavement distress on W. Lakeview includes; severe alligator cracking, severe raveling, oxidation, longitudinal cracking, and tree root intrusion.

Due to the severity of the pavement condition and unknown structural capacity of the base and subbase, it is recommended to either complete core samples on this street prior to any major improvements or remove and replace the entire pavement and subbase section. See sheet C7 for more project information. Below is the overall construction cost estimate for W. Lakeview Avenue, including geotechnical investigation totaling **\$132,136.06**.

Item	Description	Unit	Unit Est. Quantity Unit Amount				Total
1	Mobilization - Bonds & Insurance	ls	1	\$	7,186.89	\$	7,186.89
2	<b>Construction Facilities &amp; Temporary Controls</b>	ls	1	\$	3,593.44	\$	3,593.44
3	Demolition & Site Preparation	ls	1	\$	5,030.82	\$	5,030.82
	Demolition	n					
4	Tree Root Removal		1	\$	1,000.00	\$	1,000.00
5	Pavement Removal and Over Excavate Deep Patch	sy	1111	\$	25.00	\$	27,777.78
6	Saw Cut Existing Pavement	lf	200	\$	1.90	\$	380.00
	Roadway Improv	ements					
7	4" AC Pavement - Level 3 Deep patch	sy	1111	\$	28.00	\$	31,111.11
8	6" aggregate Base	су	1850	\$	6.00	\$	11,100.00
9	Landscape Restoration & Cleanup		1	\$	500.00	\$	500.00
Construct	ion Subtotal					\$	87,680.04
Geotechn	ical Investigation					\$	5,000.00
Contingency			20%			\$	17,536.01
Engineeri	Engineering		20%			\$	17,536.01
Administ	rative		5%			\$	4,384.00
Total Proj	ect Cost					\$1	132,136.06

#### Table 6-8 West Lakeview Improvement Cost Estimate

#### **KEYED NOTES**

- 01 GRIND AND OVERLAY, SEE SHEET NOTES 4-8
- 02 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12
- 03 SLURRY SEAL, SEE SHEET NOTE 10
- 04 DEEP PATCH, SEE SHEET NOTE 9
- 05 REMOVE AND REPLACE PAVEMENT EDGE, SEE SHEET NOTE 13
- 06 REMOVE TREE ROOTS, SEE SHEET NOTE 11
- 07 CRACK SEALING

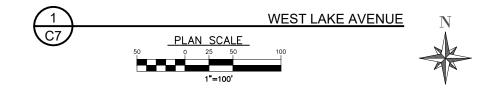
#### HATCH LEGEND

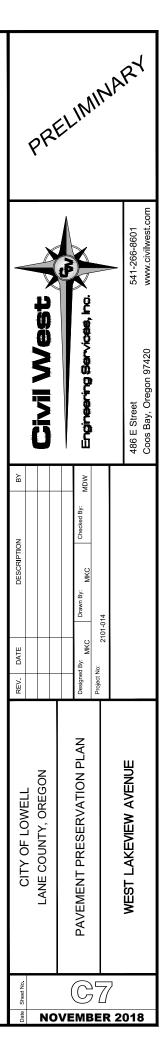
- REMOVE AND REPLACE PAVEMENT
- GRID AND OVERLAY
- TYPE 2 SLURRY SEAL
- DEEP PATCH
- EXTENTS OF PAVEMENT TO BE REHABILLITATED

#### GENERAL NOTES

- ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH 952-001-0090. YOU MAY OBTAIN A COPY OF THE RULES BY CALLING THE CENTER.
- NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. STAT. AUTH .: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- 4. GRIND EXISTING PAVEMENT, 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY
- INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730. 5.
- 6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH 8. LEVEL 2, 2" DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH.
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED. CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS <sup>1</sup>/<sub>8</sub> AND LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS.
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING.
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES. MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES. REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT.
- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA.
- 16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER







### Pavement Preservation Plan



#### 6.3.9 Project 9

This project will identify the annual pavement maintenance cost. These costs are based on miles of roadway for each maintenance repair type, and the assumed width of roadway is 30-feet. There is a total of 5 miles of streets paved in the City of Lowell.

Since it is recommended to complete some form of maintenance and the maintenance is intended to extend the life of the pavement 7-10 years, we will utilize the recommended time frame to assess the overall cost per specified distance. Thus, a 30-year time and life cycle will be used to evaluate the cost of maintenance. For reconstruction a 40- year life cycle will be sued assuming the pavement has had proper maintenance to extend the pavement life.

#### 6.3.9.1 Annual Cost for Each Repair Method

#### • Crack Sealing:

Crack sealing costs \$3.00 per square yard of pavement and the city has 87,991 square yards total of pavement, then the overall cost to treat all roads is \$263,973.00. If the planning period before a road needs to be reconstructed fully is now 30 years, then this leaves the annual expense for crack sealing to be \$8,799.10 per year. Crack sealing should be completed at minimum two times during a pavement life. See table 6-9 at the end of this section for an annual cost of all recommend pavement maintenance.

#### • Slurry Seal/Chip Seal:

Slurry seal/Chip sealing costs \$9.00 per square yard of pavement and the city has total 87,991 square yards total of pavement, then the overall cost to treat all roads is \$791,919.00. If the planning period before a road needs to be reconstructed fully is now 30 years, then this leaves the annual expense for slurry/chip seal to be \$26,397.30 per year. See table 6-9 at the end of this section for an annual cost of all recommend pavement maintenance.

#### • Grind and Overlay:

Grind and overlay costs \$26.00 per square yard of pavement and the city has total 87,991 square yards total of pavement, then the overall cost to treat all roads is \$2,287,766.00. If the planning period before a road needs to be reconstructed fully is now 30 years, then this leaves the annual expense for overlays to be \$76,258.87 per year. See table 6-9 at the end of this section for an annual cost of all recommend pavement maintenance.

#### • Full Removal and Reconstruction:

Remove and replace costs \$66.00 per square yard of pavement and the city has total 87,991 square yards total of pavement, then the overall cost to treat all roads is \$5,807,406.00. If the planning period before a road needs to be reconstructed fully is now 40 years, then this leaves the annual expense for reconstruction to be \$145,185.15 per year. See table 6-9 at the end of this section for an annual cost of all recommend pavement maintenance.

### Pavement Preservation Plan



Annual Maintenance Cost Estimates						
Repiar Annual Cost						
Crack seal	\$	17,598.20				
Slurry Seal/Chip Seal	\$	26,397.30				
Grind and Overlay	\$	76,258.87				
Total Estimated Cost	\$	120,254.37				

#### Table 6-9 Annual Maintenance Cost

Table 6-10 Annual Reconstruction Cost

Annual Reconstruction Cost Estimates						
Repiar	Annual Cost					
Reconstruction	\$	145,185.15				
Total Estimated Cost	\$	145,185.15				

From table 6-9 above, the annual cost for maintenance is estimated to be **\$120,254.37** and the annual reconstruction cost is estimated to be **\$145,185.15**. This is a total estimate of **\$265,439.52** that should be allocated to pavement preservation per year. The next section of this report will go over a yearly break down of all costs identified herein for the proceeding years.



# 7 CAPITAL IMPROVEMENT PLAN AND FINANCING OPTIONS

### 7.1 INTRODUCTION

This section summarizes the prioritization of the pavement preservation projects developed in section 6. These projects will help preserve the transportation system in the City of Lowell and have provided a basis for future planning.

### 7.2 CIP PROJECT RECOMMENDATIONS

Projects developed in section 6 of this Plan have been prioritized for the CIP to help the City determine which projects are of higher importance. Streets with more severe pavement condition are a higher priority than those in less severe condition. Input from the City also helped to classify priority. All projects should be completed in order to maintain the roadways and add to the life of the existing pavement structures.

#### Priority 1

Priority 1 projects address sections of the roadway with severe alligator cracking, severe raveling severe oxidation and areas with poor subbase. Priority 1 includes project numbers 1, 2, 3 and 8 outlined in section 6. This includes the improvements on Main Street, Lakeview Street, Everly and Loftus, and W. Lakeview Avenue. These projects should be completed in the next 1- 3 years. It is estimated the total cost to complete these projects is **\$559,656.97**. The recommended list of projects is below in Table 7-1.

Project No.	Project Location	Total Cost	
1	Main Street		119,174.88
2	Lakeview Avenue		166,245.21
3	Everly and Main Street		142,100.82
8	West Lakeview Avenue		132,136.06
Total Estin	\$	559,656.97	

#### Table 7-1 Priority 1 CIP Projects

#### Priority 2

Priority 2 addresses sections of the roadway with moderate alligator cracking, moderate raveling, and aging. Priority 2 includes project numbers 5 and 6 outlined in section 6. This includes improvements on 2<sup>nd</sup> Street, Cannon Street, 3<sup>rd</sup> Street, and Hyland Drive. These projects should be completed by year 4. It is estimated the total cost to complete these projects is **\$202,103.86**. The recommended list of projects is below in Table 7-2.



#### Table 7-2 Priority 2 CIP Projects

Project No.	Project Location	Total Cost	
5	2nd Street and Cannon Street	\$	100,702.62
6	3rd Street and Hyland Drive		101,401.24
Total Estimated Cost for Priority 2 Projects			202,103.86

#### Priority 3

Priority 3 addresses sections of roadway with less than moderately severe cracking and aging. Priority 3 includes project numbers 4 and 7 outlined in section 6. This includes improvements on Alder Street and 4<sup>th</sup> Street. These projects should be completed by year 5. It is estimated the total cost to complete these projects is **\$134,293.46**. The recommended list of projects is below in Table 7-3.

#### Table 7-3 Priority 3 CIP Projects

Project No.	Project Location	Total Cost	
4	Alder Street	\$	81,361.83
7	4th Street	\$	52,931.62
Total Estimated Cost for Priority 2 Projects			134,293.46

The total cost to complete all projects included in the CIP is **\$896,054.29**. It is recommended to complete these projects within the next 5 years.

#### 7.3 PLANNING FOR THE FUTURE

Planning for the future is an essential part of maintaining civil infrastructure. This section will outline the costs associated with future planning for pavement preservation projects and pavement reconstruction.

#### Table 7-4 Future Planning and Costs

Future Planning							
Year	2019	2020	2021	2022	2023	2023-2043	
Total Cost	\$ 285,420.08	\$142,100.82	\$132,136.06	\$202,103.86	\$134,293.46	\$265,439.52	
Project No.	1&2	3	8	5&6	4,7	9	

It is not reasonable for a small community to be able to pay for nearly \$300,000 for pavement improvements in one year. It is recommended the City pursue any grant opportunities and start a fund in the City's budget solely for future pavement preservations projects.

# **APPENDIX A**

**GEOTECHINAL REPORT** 

**Carlson Geotechnical** 

A division of Carlson Testing, Inc. Phone: (541) 345-0289 Fax: (541) 683-5367 Bend Office Eugene Office Salem Office Tigard Office (541) 330-9155 (541) 345-0289 (503) 589-1252 (503) 684-3460

November 21, 2018

Civil West Engineering Services, Inc. Attn: Ms. Manda Catterlin, E.I.T. 213 Water Ave. NW, Suite 100 Albany, Oregon 97321

Report of Geotechnical Investigation & Pavement Assessment City of Lowell Pavement Preservation East Main Avenue & East Lakeview Avenue Lowell, Oregon

CGT Project Number G1804905

# 1.0 INTRODUCTION

Carlson Geotechnical (CGT), a division of Carlson Testing, Inc. (CTI), is pleased to submit this report summarizing the results of our geotechnical investigation for the City of Lowell Pavement Preservation project. The project site includes the portions of East Main Avenue and East Lakeview Avenue between South Moss Street and Pioneer Street, as shown on the attached Site Plan, Figure 1. We performed our work in general accordance with CGT Authorization to Proceed & Work Order, dated July 19, 2018. Written authorization for our services was provided on July 24, 2018. Geotechnical findings, conclusions and recommendations for the project were conveyed to our client via e-mail transmittal in late July 2018. This report was prepared to formally present the recommendations for the project.

# 2.0 PROJECT INFORMATION

CGT developed an understanding of the proposed public street improvements to East Main Avenue (Main) and East Lakeview Avenue (Lakeview) based on our correspondence with our client. The project is in the preliminary stages of planning, but is anticipated to include:

- Rehabilitation of the subject portion of Main, and rehabilitation and widening of the subject portion of Lakeview. We anticipate grades within the existing roadway alignments will be maintained at or very near their existing grades. New pavements will be surfaced with asphalt concrete (AC).
- Installation of appurtenant utilities within each of the roadways.
- Although no stormwater plans have been provided, we anticipate stormwater from new impervious surfaces will be collected and routed to stormwater infiltration facilities near the subject roadways.

# 3.0 SCOPE OF SERVICES

Our scope of work included the following:

- Contact the Oregon Utilities Notification Center to mark the locations of public utilities at the site within a 20-foot radius of our explorations.
- Explore subsurface conditions within the subject roadways by advancing a total of six pavement cores and six hand auger borings.
- Perform visual condition surveys of the existing pavements within the subject portion of Main and Lakeview.

- Prepare a site plan to include the approximate locations of the explorations performed at the site.
- Perform a structural capacity evaluation of the existing pavement structures within the subject portion of Main and Lakeview in general accordance with Sections 5.3 and 5.4 of the 1993 AASHTO Pavement Design Manual.
- Provide geotechnical recommendations for rehabilitation of existing pavement structures within Main and Lakeview, including surface treatments, grind and inlays, and new pavement sections.
- Provide this written report summarizing the results of the geotechnical investigation.

# 4.0 SITE DESCRIPTION

The subject portion of East Main Avenue is a two-lane, asphalt-paved roadway that generally runs east to west and is classified as a Minor Collector. The north side of the street is developed with residential and commercial development. The south side of the street is developed with a public school (Lowell High School) and residential properties. The street is relatively level to very gently descending to the west.

The subject portion of East Lakeview Avenue is a narrow asphalt-paved roadway that generally runs east to west and is classified as a Residential Street. The north side of the street is flanked by Lowell High School, while the south side is flanked with residential properties. This street is also relatively level to very gently descending to the west.

Photographs of the two streets taken during our investigation are shown in the attached Appendix A.

# 5.0 FIELD INVESTIGATION

### 5.1 Pavement Investigation

A total of six pavement cores (C-1 through C-6) were advanced within the subject roadways on July 26, 2018. The approximate core locations are shown on the Site Plan, attached as Figure 2. The pavement core locations were determined based on measurements from existing site features (e.g. street intersection, driveways, etc.) and should be considered approximate. The cores were advanced using a portable coring machine provided and operated by CTI personnel.

Following the coring, we advanced a hand auger boring within each cored hole to penetrate base rock (where present) and characterize the subgrade soil. The borings (HA-1 through HA-6) were advanced using a manual, 3-inch-diameter, hand auger provided and operated by CGT. Practical refusal was met on coarsegrained clayey gravel (GC) subgrade soil directly below the pavement materials. Upon completion, the borings were loosely backfilled with the cuttings and the core holes were patched with cold patch asphalt.

A qualified member of CGT's geological staff logged the soils observed within the explorations in general accordance with the Visual-Manual Procedure (ASTM D2488). An explanation of this classification system is attached as Figure 3.

#### 5.2 Visual Condition Surveys

CGT engineering staff performed visual condition surveys of the existing pavements within the subject portions of Main and Lakeview in late July 2018. The purpose of the visit was to identify the type, frequency,

severity, and location of surface distress (deficiencies) in the existing pavement in accordance with procedures outlined in the 1993 AASHTO Guide for Design of Pavement Structures, (AASHTO) and the 2018 Oregon Department of Transportation Pavement Data Collection Manual (ODOT PDCM). The results of the survey for Main are presented in the attached Appendix B, and the results of the survey for Lakeview are presented in Appendix C.

# 6.0 SUBSURFACE CONDITIONS

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### 6.1 Pavement Materials

The following table presents an overview of the pavement materials at each sampling location.

Exploration <sup>1</sup>	Location	Pavement	Pavement Material Thickness (inches)			
	Location	Asphalt Concrete	Aggregate Base	Sub-Base	Subgrade Soils (USCS) <sup>1</sup>	
C-1	See Figure 2	3	2	0	Clayey Gravel (GC)	
C-2	See Figure 2	3	2	0	Clayey Gravel (GC)	
C-3	See Figure 2	81⁄2	0	0	Clayey Gravel (GC)	
C-4	See Figure 2	71⁄2	0	0	Clayey Gravel (GC)	
C-5	See Figure 2	8	0	0	Clayey Gravel (GC)	
C-6	See Figure 2	91⁄2	0	0	Clayey Gravel (GC)	

able 1	Pavement Material Thicknesses at Core Locations	
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#### 6.2 Groundwater

Groundwater was not encountered within the depths explored on July 26, 2018. Groundwater levels are reported at significant depths in the area of the site and not anticipated to be of significance for this project.

# 7.0 PAVEMENT STRUCTURAL CAPACITY EVALUATION

CGT performed a structural capacity evaluation of the pavement structures within the subject portions of Main and Lakeview using the results of the visual condition surveys and pavement investigation in general accordance with Section 5.3 of the referenced AASHTO manual. The complete results of our evaluation for Main are presented in the attached Appendix B. The complete results of our evaluation for Lakeview are presented in the attached Appendix C.

# 8.0 GEOTECHNICAL REVIEW & DISCUSSION

### 8.1 East Main Avenue

As indicated in the attached Appendix B, our analyses indicate the existing pavement structure does not exhibit a structural deficiency for the modeled vehicular traffic<sup>1</sup> over a 20-year design period. Although no structural deficiency was indicated, the pavement exhibits surface deficiencies that, if not mitigated, will inherently become more pronounced from vehicular traffic over time. Further deterioration will reduce the serviceability of the pavement structure to a level that is typically considered unacceptable for users and

<sup>&</sup>lt;sup>1</sup> Average daily traffic (ADT) for Main and Lakeview was estimated based on tabular values for the respective functional street classification. Methodologies for estimating ESAL values are presented in Appendices B and C.

require a more frequent maintenance cycle than typically expected. Accordingly, we recommend the surface deficiencies be mitigated by conventional "grind-and-inlay", with provision for addressing localized areas exhibiting moderate to severe fatigue cracking by installing deep patches. Geotechnical recommendations for enhancing the existing pavement structure are presented in Section 10.0 of this report.

#### 8.2 East Lakeview Avenue

#### 8.2.1 Eastern 1/4 of Roadway (Approximate)

As indicated in the attached Appendix C, our analyses indicate the existing pavement structure within this portion of Lakeview does not exhibit a structural deficiency for the modeled vehicular traffic<sup>1</sup> over a 20-year design period. Although no structural deficiency was determined, the pavement exhibits surface deficiencies that, if not mitigated, will inherently become more pronounced from vehicular traffic over time. Further deterioration will reduce the serviceability of the pavement structure to a level that is typically considered unacceptable for users and require a more frequent maintenance cycle than typically expected. Accordingly, we recommend the surface deficiencies be mitigated by a conventional "grind-and-inlay". Geotechnical recommendations for enhancing the existing pavement structure are presented in Section 11.1 of this report.

#### 8.2.2 <u>Western 3/4 of Roadway (Approximate)</u>

As indicated in the attached Appendix C, our analyses indicate the existing pavement structure within this portion of Lakeview exhibits a structural deficiency when considering expected vehicular traffic<sup>1</sup> over a 20-year design period. Recognizing the magnitude of the structural deficiency, the prevalence of surface deficiencies (e.g. fatigue cracking, raveling), and relatively minimal thicknesses of existing pavement materials, we recommend the structural deficiency be mitigated by full removal and replacement with a new pavement section. Geotechnical recommendations for new asphalt pavements are presented in Section 11.2 of this report.

## 9.0 RECOMMENDATIONS: SITE WORK

The following paragraphs present specific geotechnical recommendations for design and construction of pavements associated with the public street improvements described above. The recommendations presented in this report are based on the information provided to us, results of the field investigation, laboratory data, and professional judgment. CGT has observed only a small portion of the pertinent subsurface conditions. The recommendations are based on the assumptions that the subsurface conditions do not deviate appreciably from those found during the field investigation. CGT should be consulted for further recommendations if variations and/or undesirable geotechnical conditions are encountered during construction.

### 9.1 Site Preparation & Earthwork

#### 9.1.1 <u>Site Stripping</u>

Where present, existing vegetation and rooted soils should be removed from within, and for a 5-foot-margin around, the proposed new roadway and hardscaping areas. Although no explorations were conducted along roadway shoulders, stripping of rooted soils (where present) is anticipated to extend to depths of about ½-foot bgs. The geotechnical engineer or his representative should provide recommendations for actual

stripping depths based on observations during site stripping. Stripped vegetation and rooted soils should be transported off-site for disposal, or stockpiled for later use in landscaped areas.

#### 9.1.2 <u>Grubbing</u>

Grubbing of trees and shrubs should include the removal of the root mass and roots greater than 1-inch in diameter. Grubbed materials should be transported off-site for disposal or stockpiled for later use in landscaped areas. Where root masses are removed, the resulting excavation should be properly backfilled with imported granular structural fill in conformance with Section 9.4.2.1 of this report.

#### 9.1.3 Existing Utilities & Below-Grade Structures

All existing utilities at the site should be identified prior to excavation. Abandoned utility lines beneath new pavement and hardscaping features should be completely removed or grouted full. Soft, loose, or otherwise unsuitable soils encountered in utility trench excavations should be removed and replaced with structural fill as described in Section 9.4 of this report. No below-grade structures were encountered in our explorations. If encountered during site preparation, buried structures (i.e. footings, foundation walls, slabs-on-grade, tanks, etc.) should be completely removed and disposed of off-site. Excavations resulting from demolition of existing structures should be backfilled with structural fill as described in Section 9.4 of this report, as needed to achieve design grades.

#### 9.1.4 Erosion Control

Erosion and sedimentation control measures should be employed in accordance with applicable City, County and State regulations regarding erosion control.

#### 9.2 Wet Weather Considerations

For planning purposes, the wet season should be considered to extend from late September to late June. It is our experience that dry weather working conditions should prevail between early July and mid-September. Notwithstanding the above, soil conditions should be evaluated in the field by the geotechnical engineer or his representative at the initial stage of site preparation to determine whether the recommendations within this section should be incorporated into construction.

#### 9.2.1 General

Trafficability of the near-surface clayey gravel (GC) may be difficult, and significant damage to subgrade soils could occur, if earthwork is undertaken without proper precautions at times when the exposed soils are more than a few percentage points above optimum moisture content. Site preparation activities may need to be accomplished using track-mounted equipment, loading removed material onto trucks supported on granular haul roads, or other methods to limit soil disturbance. The geotechnical engineer or their representative should evaluate the subgrade during excavation by probing rather than proof rolling. Soils that have been disturbed during site preparation activities, or soft or loose areas identified during probing, should be over-excavated to firm, stable subgrade, and replaced with imported granular structural fill in conformance with Section 9.4.2.1 of this report.

#### 9.2.2 <u>Geotextile Separation Fabric</u>

We recommend a geotextile separation fabric be placed to serve as a barrier between the prepared finegrained subgrade and granular fill/base rock in areas of repeated or heavy construction traffic. The geotextile fabric should be in conformance with Section 02320 of the current Oregon Department of Transportation (ODOT) Standard Specification for Construction.

#### 9.2.3 Granular Working Surfaces (Haul Roads & Staging Areas)

Haul roads subjected to repeated heavy, tire-mounted, construction traffic (e.g. dump trucks, concrete trucks, etc.) will require a <u>minimum</u> of 18 inches of imported granular material. For light staging areas, 12 inches of imported granular material is typically sufficient. Additional granular material, geo-grid reinforcement, or cement amendment may be recommended based on site conditions and/or loading at the time of construction. The imported granular material should be in conformance with Section 9.4.2.1 of this report and have less than 5 percent material passing the U.S. Standard No. 200 Sieve. The prepared subgrade should be covered with geotextile fabric prior to placement of the imported granular material. The imported granular material should be placed in a single lift (up to 24-inches deep) and compacted using a smooth-drum, non-vibratory roller until well-keyed.

#### 9.3 Frozen Weather Considerations

For construction that occurs during extended periods of sub-freezing temperatures, the following special provisions are recommended:

- Structural fill should <u>not</u> be placed over frozen ground.
- Frozen soil should <u>not</u> be placed as structural fill.
- Fine-grained (i.e. silty or clayey) soils should <u>not</u> be placed as structural fill during sub-freezing temperatures.

Identification of frozen soils at the site should be in accordance with ASTM D4083-01 "Standard Practice for Description of Frozen Soils (Visual-Manual Procedure)". The geotechnical engineer can aid the contractor with supplemental recommendations for earthwork that will take place during extended periods of sub-freezing weather, as required.

#### 9.4 Structural Fill

The geotechnical engineer should be provided the opportunity to review all materials considered for use as structural fill (prior to placement). The geotechnical engineer or his representative should be contacted to evaluate compaction of structural fill as the material is being placed. Evaluation of compaction may take the form of in-place density tests and/or proof roll tests with suitable equipment. Structural fill should be evaluated at intervals not exceeding every 2 vertical feet as the fill is being placed. The following table presents recommended guidelines for frequency of density testing (where practical) of various fill designations.

	Recommended Frequency of Density Tests <sup>1</sup>			
Fill Designation	Maximum Depth Interval	Area-Wide		
General Structural Fill (Mass Grading)	Test every 1 vertical foot	At least one density test per every 200 feet of roadway		
Utility Trench Backfill	Test every 2 vertical feet	At least one density test per 200 feet of trench line		
Pavement Base Rock	Test at surface of section	At least one density test per every 200 feet of roadway		

#### **T**-11- A **.** . . ..

#### 9.4.1 On-Site Materials - General Use

#### 9.4.1.1 Asphalt Debris

Asphalt debris resulting from the demolition of existing pavements (where slated for removal) can be re-used as structural fill if processed/crushed into material that is fairly well graded between coarse and fine. The processed/crushed asphalt should contain no organic matter, debris, or particles larger than 4 inches in diameter. Moisture conditioning (wetting) should be expected in order to achieve adequate compaction. When used as structural fill, this material should be placed and compacted in general accordance with Section 9.4.2.1 of this report.

#### 9.4.1.2 Poorly Graded Gravel Fill (GP Fill)

Re-use of the on-site, existing gravel fill (base rock) as structural fill is feasible, provided the material is kept clean of organics, debris, and particles larger than 4 inches in diameter. If reused as structural fill, this material should be prepared in general accordance with Section 9.4.2.1 of this report.

#### 9.4.1.3 Clayey Gravel (GC)

Re-use of this soil as structural fill may be difficult because this soil is sensitive to small changes in moisture content and are difficult, if not impossible, to adequately compact during wet weather. We anticipate the moisture content of this soil will be higher than the optimum moisture content for satisfactory compaction. Therefore, moisture conditioning (drying) should be expected in order to achieve adequate compaction. If used as structural fill, this soil should be free of organic matter, debris, and particles larger than 1½ inches. When used as structural fill, this soil should be placed in lifts with a maximum thickness of about 8 inches at moisture contents within -1 and +3 percent of optimum, and compacted to not less than 92 percent of the material's maximum dry density, as determined in general accordance with ASTM D1557 (Modified Proctor).

If the on-site soils cannot be properly moisture-conditioned and/or processed, we recommend using imported granular material for structural fill.

#### 9.4.2 Imported Fill Materials

#### 9.4.2.1 Imported Granular Structural Fill (General Use)

Imported granular fill should consist of angular pit or quarry run rock, crushed rock, or crushed gravel that is fairly well graded between coarse and fine particle sizes. The granular fill should contain no organic matter, debris, or particles larger than 4 inches, and have less than 5 percent material passing the U.S. Standard No. 200 Sieve. The percentage of fines can be increased to 12 percent of the material passing the U.S. Standard No. 200 Sieve if placed during dry weather, and provided the fill material is moisture-conditioned,

as necessary, for proper compaction. As a guideline, grading of this material with particles up to about 4 inches in diameter may follow that presented in the following table.

Table 3	Guideline Gradation for Imported Coarse-Grained Granular Fill				
	Sieve Size	% Passing			
	4 inches	100			
	3 inches	88 – 100			
	³⁄₄-inch	70 – 90			
	U.S. Standard No. 4	40 – 60			
	U.S. Standard No. 40	20 - 40			
	U.S. Standard No. 200	Dry Weather: Less than 12			
	0.5. Standard No. 200	Wet Weather: Less than 5			

Imported granular fill material should be compacted to not less than 95 percent of the material's maximum dry density as determined in general accordance with ASTM D1557 (Modified Proctor). Granular fill materials with high percentages of particle sizes in excess of 11/2 inches are considered non-moisture-density testable materials. As an alternative to conventional density testing, compaction of these materials should be evaluated by periodic deflection (proof roll) testing in accordance with ODOT Test Method 158. Proof roll tests should be performed at maximum intervals of every 1 vertical foot as the fill is being placed.

#### 9.4.2.2 Trench Base Stabilization Material

If groundwater is present at the base of utility excavations, trench base stabilization material should be placed. Trench base stabilization material should consist of a minimum of 1 foot of well-graded granular material with a maximum particle size of 4 inches and less than 5 percent material passing the U.S. Standard No. 4 Sieve. The material should be free of organic matter and other deleterious material, placed in one lift, and compacted until well-keyed.

#### 9.4.2.3 Trench Backfill Material

Trench backfill for the utility pipe base and pipe zone should consist of granular material as recommended by the utility pipe manufacturer. Trench backfill above the pipe zone should consist of well-graded granular material containing no organic matter or debris, have a maximum particle size of 34 inch, and have less than 8 percent material passing the U.S. Standard No. 200 Sieve. As a guideline, trench backfill should be placed in maximum 12-inch-thick lifts. The earthwork contractor may elect to use alternative lift thicknesses based on their experience with specific equipment and fill material conditions during construction in order to achieve the required compaction. The following table presents recommended relative compaction percentages for utility trench backfill.

Table 4	Utility Trench Backfill Compaction			
Backfill Zone	Recommended Minimum Relative Compaction <sup>1</sup>			
Backilli Zolle	Structural Areas <sup>2</sup>	Landscaping Areas		
Pipe Base and Within Pipe Zone	90% ASTM D1557 or pipe manufacturer's recommendation	88% ASTM D1557 or pipe manufacturer's recommendation		
Above Pipe Zone	92% ASTM D1557	90% ASTM D1557		
Within 3 Feet of Design Subgrade	95% ASTM D1557	90% ASTM D1557		
Or as specified by the City of Lowell (v				
<sup>2</sup> Includes proposed pavement areas, st	ructural fill areas, exterior hardscaping,	etc.		

#### 9.4.2.4 Controlled Low-Strength Material (CLSM)

CLSM is a self-compacting, cementitious material that is typically considered when backfilling localized areas. CLSM is sometimes referred to as "controlled density fill" or CDF. Due to its flowable characteristics, CLSM typically can be placed in restricted-access excavations where placing and compacting fill is difficult. If chosen for use at this site, we recommend the CLSM be in conformance with Section 00442 of the most recent, State of Oregon, Standard Specifications for Highway Construction. The geotechnical engineer's representative should observe placement of the CLSM and obtain samples for compression testing in accordance with ASTM D4832. As a guideline, for each day's placement, two compressive strength specimens from the same CLSM sample should be tested. The results of the two individual compressive strength tests should be averaged to obtain the reported 28-day compressive strength. If CLSM is considered for use on this site, the geotechnical engineer should be consulted for site-specific and application-specific recommendations.

### 10.0 RECOMMENDATIONS: MAIN AVENUE PAVEMENTS

#### 10.1 Pavement Removal

In accordance with Section 9.1 above, we recommend the upper 2 inches (minimum) of the existing, distressed pavement be removed to prepare for placement of a pavement overlay. Pavement removal should be in conformance with Section 00620 of the most recent, ODOT SSC. Asphalt debris should be transferred and disposed off-site.

#### **10.2** Treatment of Surface Deficiencies

#### 10.2.1 Overview

The long-term performance of repairs to surface deficiencies in asphalt pavement is highly dependent on the quality of workmanship. Accordingly, we recommend an experienced, qualified asphalt contractor be retained to repair deficiencies. The contractor is encouraged to follow repair guidelines and procedures presented in the most recent, ODOT Standard Specifications for Construction (ODOT SSC) and the most recent, "Asphalt in Pavement Maintenance" manual developed by the Asphalt Institute (AI). Other resources may be utilized for review of repair procedures. Subject to review of the pavement engineer, the contractor retained for the repair work may present alternative methods than those indicated below.

#### 10.2.2 Fatigue (Alligator) Cracking

We recommend areas exhibiting severe fatigue cracking be repaired as a "deep patch." Sawcutting and removal of existing pavement should extend at least 1-foot into good pavement outside the cracked area. We recommend this form of pavement repair be in conformance with Section 00748 of the most recent, ODOT SSC. If encountered, soft, loose, or otherwise unsuitable subgrade materials should be removed to expose suitably firm subgrade, and brought back to grade with imported granular fill in conformance with Section 9.4.2.1 of this report. We recommend geotextile separation fabric be placed between the prepared subgrade and new base rock. The fabric should be in conformance with Section 9.2.2 of this report.

#### 10.2.3 Longitudinal & Transverse Cracking

For areas exhibiting cracking, we recommend that all cracks exceeding ¼ inch in width be cleaned and sealed with rubber or other elastomeric modified asphalt in conformance with Section 00746 of the most recent, ODOT SSC. As an alternative, to help mitigate the potential for reflective cracking through the asphalt overlay, a pavement overlay geotextile may be considered, in accordance with Table 02320-6 of the most recent, ODOT SSC.

#### 10.3 Overlay

The following is recommended for overlay surface preparation and construction:

- Once repair of surface deficiencies is complete, the surface that is to be overlaid should be thoroughly cleaned. Compressed air should be used for cleaning to remove all loose matter.
- A tack coat should be applied to the cleaned pavement surface in conformance with Section 00730 of ODOT SSC.
- The recommended minimum 2-inch thick overlay section should be placed on the tack coated surface in conformance with the project civil plans. We recommend asphalt pavement consist of Level 2, ½-inch, dense-graded HMAC in conformance with the most recent ODOT SSC, or as specified by the City of Lowell. Minimum lift thickness of HMAC pavement should be 2 inches, or as specified by City of Lowell. Maximum lift thickness of HMAC pavement should be in conformance with Section 00748 of the most recent ODOT SSC, or as specified by City of Lowell. Maximum lift thickness of HMAC pavement should be in conformance with Section 00748 of the most recent ODOT SSC, or as specified by City of Lowell. Asphalt pavement should be compacted to at least 91 percent of the material's theoretical maximum density as determined in general accordance with ASTM D2041 (Rice Specific Gravity), or as specified by the City of Lowell.

### 11.0 RECOMMENDATIONS: LAKEVIEW AVENUE PAVEMENTS

#### 11.1 Eastern 1/4 of Roadway (Approximate)

#### 11.1.1 Pavement Removal

In accordance with Section 8.2.1 above, we recommend the upper 2 inches (minimum) of the existing, distressed pavement be removed to prepare for placement of a pavement overlay. Pavement removal should be in conformance with Section 00620 of the most recent, ODOT SSC. Asphalt debris should be transferred and disposed off-site.

#### 11.1.2 Treatment of Surface Deficiencies

The recommendations presneted in Section 10.2 of this report are appropriate for treatment of deficiencies in East Lakeview Avenue, where present following removal of the upper 2 inches of pavement.

#### 11.1.3 <u>Overlay</u>

The recommendations presneted in Section 10.3 of this report are appropriate for placement of a new asphalt layer in East Lakeview Avenue.

#### 11.2 Western 3/4 of Roadway & Pavement Widening Areas

#### 11.2.1 Subgrade Preparation

After site preparation as recommended above, but prior to placement of structural fill and/or aggregate base, the geotechnical engineer or his representative should observe a proof roll test of the exposed subgrade soils in order to identify areas of excessive yielding. Proof rolling of subgrade soils is typically conducted during dry weather conditions using a fully-loaded, 10- to 12-cubic-yard, tandem-axle, tire-mounted, dump truck or equivalent weighted water truck. Areas that appear too soft and wet to support proof rolling equipment should be prepared in general accordance with the recommendations for wet weather construction presented in Section 9.2 of this report. If areas of soft soil or excessive yielding are identified, the affected material should be over-excavated to firm, stable subgrade, and replaced with imported granular structural fill in conformance with Section 9.4.2.1 of this report.

Pavement subgrade surfaces should be crowned (or sloped) for proper drainage in accordance with specifications provided by the project civil engineer.

#### 11.2.2 Input Parameters

Design of the HMAC pavement sections presented below were based on the parameters presented in the following table, the AASHTO 1993 "Design of Pavement Structures" manual, and pavement design manuals presented by APAO and ODOT. If any of the items listed need revision, please contact us and we will reassess the provided design sections.

Tuble o input l'alancters osca in finizio l'avenient Design					
Input Parameter	Design Value <sup>1</sup>		Inp	Design Value <sup>1</sup>	
Pavement Design Life	20 years		Resilient Modulus	Subgrade (Native Soils) <sup>4</sup>	8,000 psi
Annual Percent Growth	0 percent		Resilient Modulus	Crushed Aggregate Base <sup>2</sup>	20,000 psi
Serviceability <sup>2</sup>	4.2 initial, 2.5 terminal		Structural	Crushed Aggregate Base	0.10
Reliability <sup>2</sup>	75 percent		Coefficient <sup>2</sup>	Asphalt	0.42
Standard Deviation <sup>2</sup>	0.49		Vehicle Traffic <sup>5</sup>	Residential Street	90,000 ESAL
Drainage Factor <sup>3</sup>	1.0				

 Table 5
 Input Parameters Used in HMAC Pavement Design

<sup>1</sup> If any of the above parameters are incorrect, please contact us so that we may revise our recommendations, if warranted.

<sup>2</sup> Value based on guidelines presented in the ODOT Pavement Design Guide for flexible pavements.

<sup>3</sup> Assumes good drainage away from pavement, base, and subgrade is achieved by proper crowning of subgrades.

<sup>4</sup> Value selected based on tabular value for clayey gravel subgrade per APAO manual.

<sup>5</sup> ESAL = Total 18-Kip equivalent single axle load. Refer to Appendix C for additional discussion.

#### 11.2.3 Recommended Minimum Section

The following table presents the minimum HMAC pavement sections for the traffic load and design life indicated in the preceding table, based on the referenced AASHTO procedures.

#### Table 6 Recommended Minimum HMAC Pavement Sections (East Lakeview Avenue)

Material	Material Thickness (inches)			
Material	Dry Weather Construction <sup>1</sup>	Wet Weather Construction <sup>1</sup>		
HMAC Pavement	4	4		
Aggregate Base	6	6		
Granular Sub-Base <sup>2</sup>	Not required	12		
Geotextile Separation Fabric	Optional	Placed per Section 9.2.2 of this report		
Subgrade Soils	Prepared in conformance with Section 11.2.1 of this report			

<sup>1</sup> Refer to Section 9.2 of this report about the traditional dry and wet seasons in this region.

<sup>2</sup> Please note this layer does <u>not</u> represent a structural layer for the pavement section. Placement of a granular sub-base is recommended to help protect the moisture sensitive subgrade soils from disturbance in wet weather conditions.

#### 11.2.4 HMAC Pavement Materials

We recommend pavement aggregate sub-base consist of durable, relatively well-graded, granular fill in conformance with Section 00641.10.b of the most recent State of Oregon, Standard Specifications for Highway Construction (ODOT SSC), with the following considerations. We recommend the material have a maximum particle size of 4 inches and have less than 5 percent material passing the U.S. Standard No. 200 Sieve. Aggregate sub-base should be compacted to not less than 95 percent of the material's maximum dry density as determined in general accordance with ASTM D1557 (Modified Proctor), or visual equivalent as identified by deflection (proof roll) testing.

We recommend pavement aggregate base consist of dense-graded aggregate in conformance with Section 02630.10 of the most recent ODOT SSC, with the following additional considerations. We recommend the material consist of crushed rock or gravel, have a maximum particle size of 1½ inches, and have less than 5 percent material passing the U.S. Standard No. 200 Sieve. Aggregate base should be compacted to not less than 95 percent of the material's maximum dry density as determined in general accordance with ASTM D1557 (Modified Proctor).

We recommend asphalt pavement consist of Level 2, ½-inch, dense-graded HMAC in conformance with the most recent ODOT SSC. Asphalt pavement should be compacted to at least 91 percent of the material's theoretical maximum density as determined in general accordance with ASTM D2041 (Rice Specific Gravity), or as specified by the City of Lowell.

## 12.0 RECOMMENDED ADDITIONAL SERVICES

### 12.1 Design Review

Geotechnical design review is of paramount importance. We recommend the geotechnical design review take place <u>prior</u> to releasing bid packets to contractors.

#### 12.2 Observation of Construction

Satisfactory earthwork and pavement performance depends to a large degree on the quality of construction. Sufficient observation of the contractor's activities is a key part of determining that the work is completed in accordance with the construction drawings and specifications. Subsurface conditions observed during construction should be compared with those encountered during our subsurface explorations, and recognition of changed conditions often requires experience. We recommend qualified personnel visit the site with sufficient frequency to detect whether subsurface conditions change significantly from those observed to date and anticipated in this report.

We recommend the geotechnical engineer or their representative attend a pre-construction meeting coordinated by the contractor and/or owner. The project geotechnical engineer or their representative should provide observations and/or testing of at least the following earthwork elements during construction:

- Site Stripping
- Subgrade Preparation for Structural Fills & Pavements
- Compaction of Structural Fill & Utility Trench Backfill
- Compaction of Base Rock for New Pavements
- Placement and Compaction of Asphalt Concrete for New Pavements

It is imperative that the owner and/or contractor request earthwork observations and testing at a frequency sufficient to allow the geotechnical engineer to provide a final letter of compliance for the earthwork activities.

## 13.0 LIMITATIONS & CLOSURE

We have prepared this report for use by the owner and other members of the design and construction team for the proposed development. The opinions and recommendations contained within this report are not intended to be, nor should they be construed as a warranty of subsurface conditions, but are forwarded to assist in the planning and design process.

We have made observations based on our explorations that indicate the soil conditions at only those specific locations and only to the depths penetrated. These observations do not necessarily reflect soil types, strata thickness, or water level variations that may exist between or away from our explorations. If subsurface conditions vary from those encountered in our site explorations, CGT should be alerted to the change in conditions so that we may provide additional geotechnical recommendations, if necessary. Observation by experienced geotechnical personnel should be considered an integral part of the construction process.

The owner/developer is responsible for ensuring that the project designers and contractors implement our recommendations. When the design has been finalized, prior to releasing bid packets to contractors, we recommend that the design drawings and specifications be reviewed by our firm to see that our recommendations have been interpreted and implemented as intended. If design changes are made, we request that we be retained to review our conclusions and recommendations and to provide a written modification or verification. Design review and construction phase testing and observation services are beyond the scope of our current assignment, but will be provided for an additional fee.

The scope of our services does not include services related to construction safety precautions, and our recommendations are not intended to direct the contractor's methods, techniques, sequences, or procedures, except as specifically described in our report for consideration in design.

Geotechnical engineering and the geologic sciences are characterized by a degree of uncertainty. Professional judgments presented in this report are based on our understanding of the proposed construction, familiarity with similar projects in the area, and on general experience. Within the limitations of scope, schedule, and budget, our services have been executed in accordance with the generally accepted practices in this area at the time this report was prepared; no warranty, expressed or implied, is made. This report is subject to review and should not be relied upon after a period of 3 years.

We appreciate the opportunity to work with you on this project. Please contact us at 541.345.0289 if you have any questions regarding this report.

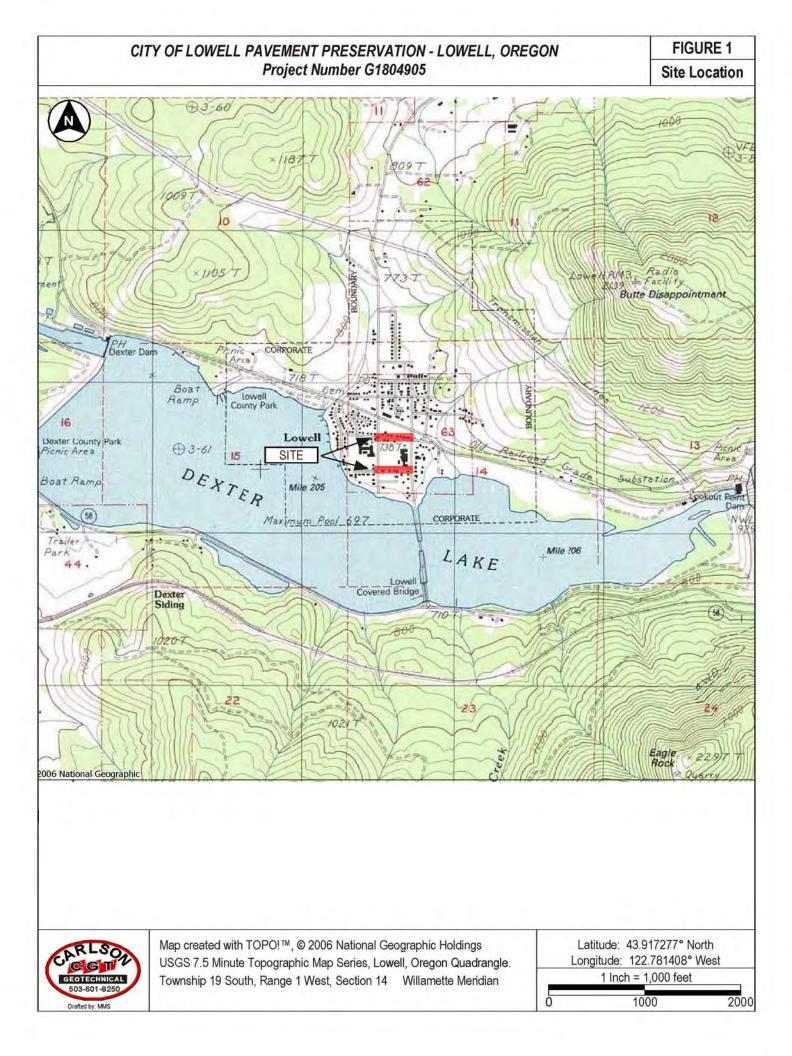
Respectfully Submitted, CARLSON GEOTECHNICAL

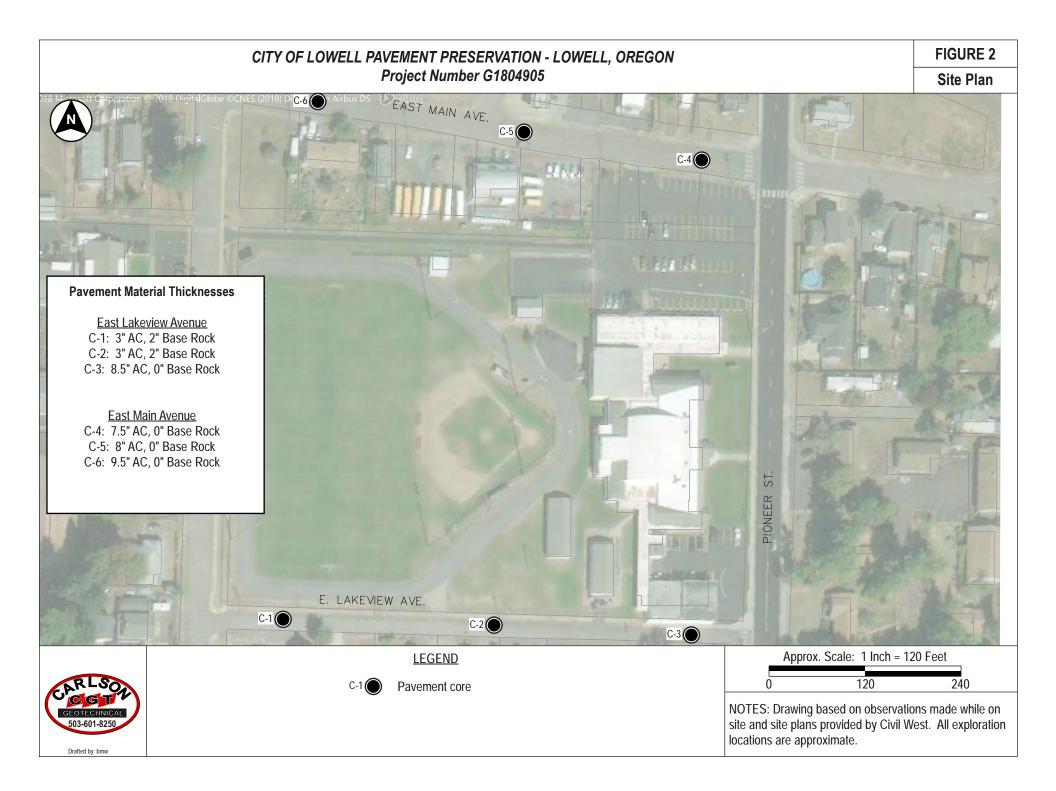


Brad M. Wilcox, P.E., G.E. Principal Geotechnical Engineer <u>bwilcox@carlsontesting.com</u>

Attachments: Site Location, Figure 1 Site Plan, Figure 2 Soil Classification & Terminology, Figure 3 Appendix A: Site Photographs Appendix B: Pavement Structural Capacity Evaluation (East Main Avenue) Appendix C: Pavement Structural Capacity Evaluation (East Lakeview Avenue)

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### CITY OF LOWELL PAVEMENT PRESERVATION - LOWELL, OREGON Project Number G1804905

FIGURE 3

Soil Classification

Project Number G1804905						Soil Classificatio			
Classification of Terms and Content					Grain Size			U.S. Standard Sieve	
NAME: Group Name and Symbol				Fines			<#200 (0.075 mm)		
Relative Density or Consistency Color Moisture Content Plasticity Other Constituents				Fine Sand Medium Coarse			#200 - #40 (0.425 mm) #40 - #10 (2 mm) #10 - #4 (4.75)		
			-	Gravel Coarse			#4 - 0.75 inch 0.75 inch - 3 inches		
		, Approximate G		-	Cobbles			3 to 12 inches	
Organics, Cement, Structure, Odor, etc. Geologic Name or Formation				Boulders			> 12 inches		
	-				e-Grained (Granula	r) Soils			
Rela	ative Density	,		ooure		or Constituen	ts		
SPT N <sub>60</sub> -Value	SPT Percent			Descriptor Example					
0 - 4 4 - 10	Very Loos		0 - 5%	I	"Trace" a	as part of soil des	cription "trace silt"		
10 - 30	Medium		5 - 15%	0	"With" as part of group name "POORLY G		me "POORLY GRADE	RADED SAND WITH SILT"	
30 - 50 >50	15 - 49%			%	Modifier	to group name	"SILTY SAND"		
		I		Fine	-Grained (Cohesive	) Soils			
	Forvane tsf lear Strength	Pocket Pen ts Unconfined	Consistenc	y N	Ianual Penetration Test		Minor Constituen	ts	
<2 2 - 4 0	<0.13 ).13 - 0.25	<0.25 0.25 - 0.50	Very Soft Soft		penetrates more than 1 in hb penetrates about 1 incl		Descriptor	Example	
	0.25 - 0.50	0.50 - 1.00	Medium Sti	ff Thum	b penetrates about 1/4 inc	h 0 - 5%	"Trace" as part of soil description	"trace fine-grained sa	
	0.50 - 1.00	1.00 - 2.00	Stiff		penetrates less than 1/4 in	15 200/	"Some" as part of soil description "With" as part of group name	"some fine-grained sa "SILT WITH SAND"	
5 - 30 1 >30	1.00 - 2.00 >2.00	2.00 - 4.00 >4.00	Very Stiff Hard		dily indented by thumbnai cult to indent by thumbnai	20 /0%	Modifier to group name	"SANDY SILT"	
/ 30	72.00		ture Content	Dillic			Structure		
rv Absence	of moisture du	usty, dry to the to							
ny. noschoc		<b>J</b> . <b>J</b>	Juch			Stratified: Alter	nating layers of material or color >6	5 mm thick	
loist∙ Leaves	s maisture an h	and					• •		
	s moisture on h ree water, likely		er table				ternating layers < 6 mm thick		
Vet: Visible fr	ree water, likely	/ from below wat		- 4	Tauahaaaa	Laminated: Ali Fissured: Brea	ternating layers < 6 mm thick aks along definite fracture planes		
Vet: Visible fr				atancy	Toughness	Laminated: Ali Fissured: Brea Slickensided:	ternating layers < 6 mm thick aks along definite fracture planes Striated, polished, or glossy fracture	•	
Vet: Visible fr PI ML N	ree water, likely P <b>lasticity</b> Non to Low	r from below wat <b>Dry Strer</b> Non to Lo	<b>Dila</b> Dila Dila Dila	to Rapid	Low, can't roll	Laminated: Al Fissured: Brea Slickensided: Blocky: Cohes	ternating layers < 6 mm thick aks along definite fracture planes	•	
Vet: Visible fr Pl ML N CL Low	ree water, likely P <b>lasticity</b> Non to Low w to Medium	r from below wat Dry Stren Non to Lo Medium to	n <b>gth Dila</b> ow Slow High Non	to Rapid e to Slow	Low, can't roll Medium	Laminated: Al Fissured: Brea Slickensided: Blocky: Cohes which	ternating layers < 6 mm thick aks along definite fracture planes Striated, polished, or glossy fracture ive soil that can be broken down in	to small angular lumps	
Vet: Visible fr Pl ML N CL Low MH Mec	ree water, likely P <b>lasticity</b> Non to Low	r from below wat <b>Dry Strer</b> Non to Lo	n <b>gth Dila</b> ow Slow High Non- dium Non-	to Rapid	Low, can't roll	Laminated: Al Fissured: Brea Slickensided: Blocky: Cohes which Lenses: Has s	ternating layers < 6 mm thick aks along definite fracture planes Striated, polished, or glossy fracture sive soil that can be broken down in resist further breakdown	to small angular lumps thickness	
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ASTM D2487 Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System) ASTM D2488 Standard Practice for Description and Identification of Soils (Visual-Manual Procedure) Terzaghi, K., and Peck, R.B., 1948, Soil Mechanics in Engineering Practice, John Wiley & Sons. **Carlson Geotechnical** 

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# Appendix A: Site Photographs

### City of Lowell Pavement Preservation East Main Avenue & East Lakeview Avenue Lowell, Oregon

### CGT Project Number G1804905

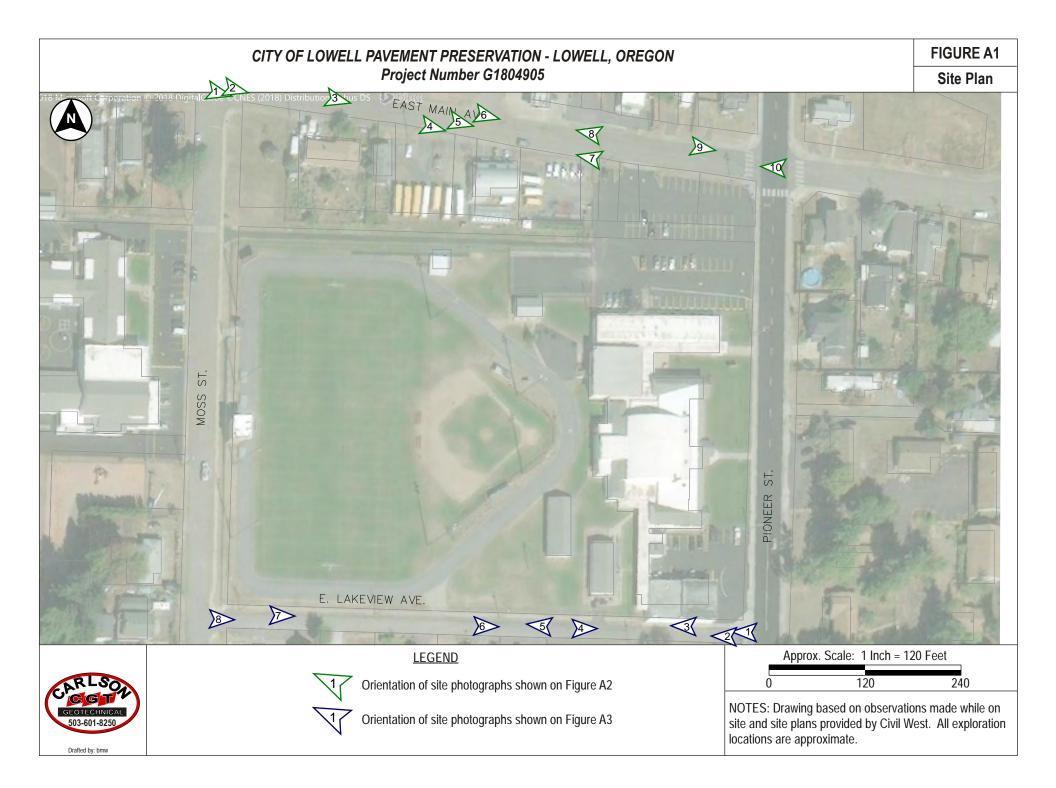
November 21, 2018

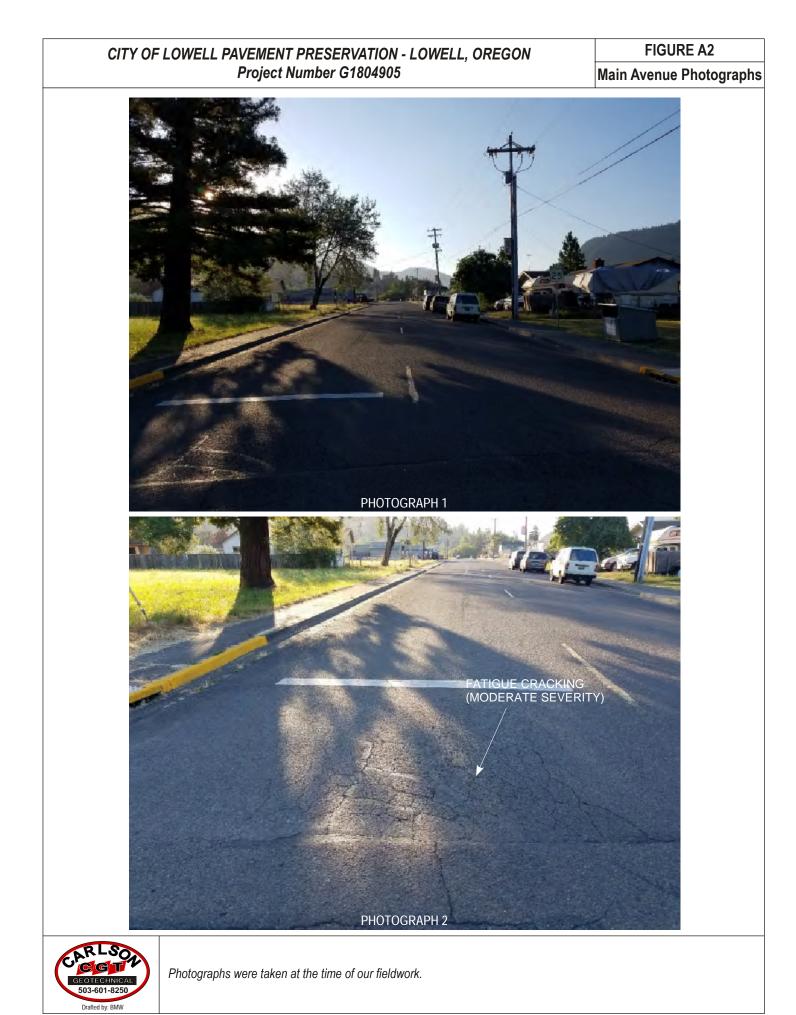
Prepared For:

Civil West Engineering Services, Inc. Attn: Ms. Manda Catterlin, E.I.T. 213 Water Ave. NW, Suite 100 Albany, Oregon 97321

> Prepared by Carlson Geotechnical

Site Plan	Figure A1
Main Avenue Photographs	Figure A2
East Lakeview Avenue Photographs	







### CITY OF LOWELL PAVEMENT PRESERVATION - LOWELL, OREGON Project Number G1804905

FIGURE A2

Main Avenue Photographs







Photographs were taken at the time of our fieldwork.



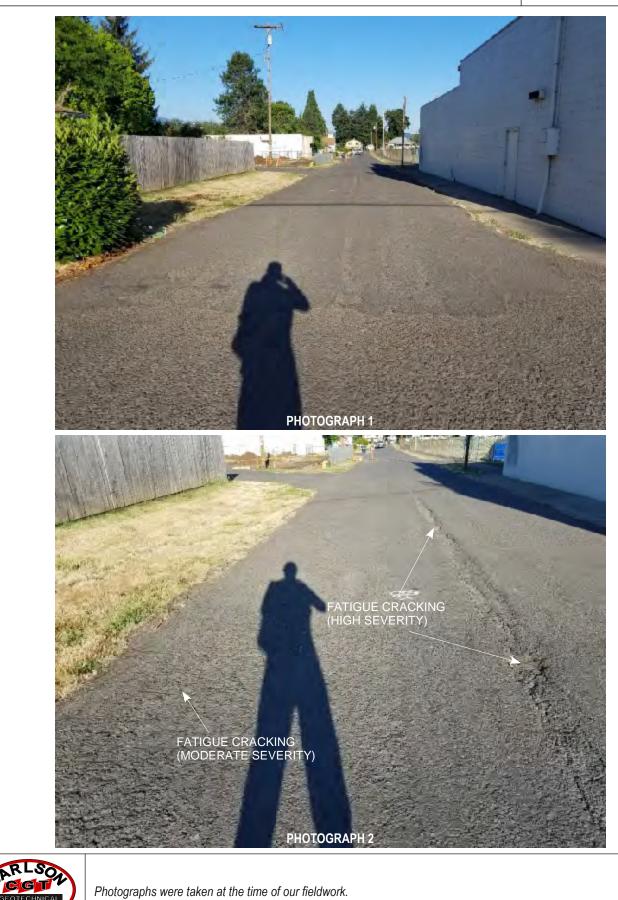


Photographs were taken at the time of our fieldwork.

### CITY OF LOWELL PAVEMENT PRESERVATION - LOWELL, OREGON Project Number G1804905

### **FIGURE A3**

Lakeview Avenue Photographs

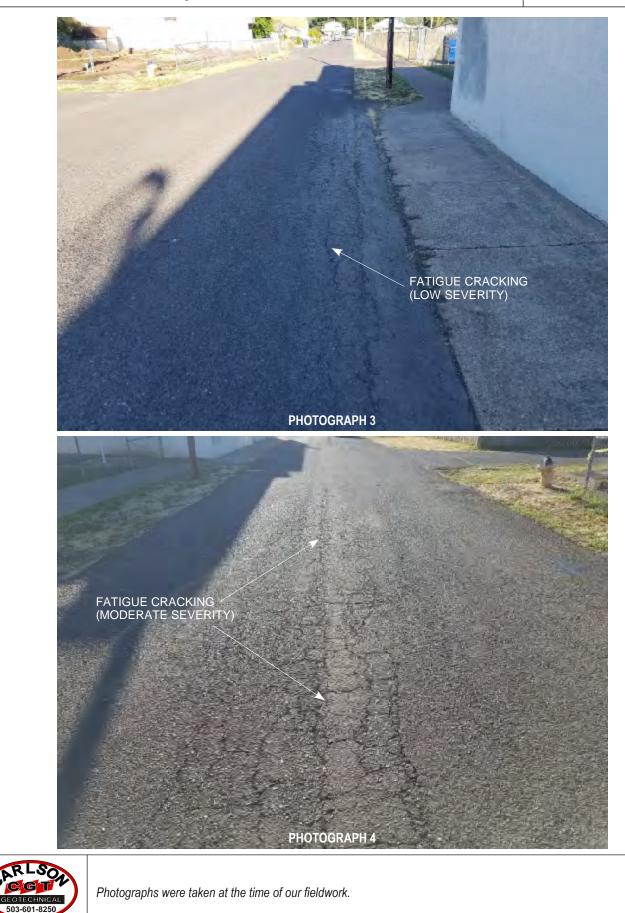


503-601-8250 Drafted by: BMW

### CITY OF LOWELL PAVEMENT PRESERVATION - LOWELL, OREGON Project Number G1804905

FIGURE A3

Lakeview Avenue Photographs



Drafted by: BMW



## CITY OF LOWELL PAVEMENT PRESERVATION - LOWELL, OREGON Project Number G1804905

FIGURE A3

Lakeview Avenue Photographs





Photographs were taken at the time of our fieldwork.

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# Appendix B: Pavement Structural Capacity Evaluation East Main Avenue

## City of Lowell Pavement Preservation East Main Avenue & East Lakeview Avenue Lowell, Oregon

CGT Project Number G1804905

November 21, 2018

Prepared For:

Civil West Engineering Services, Inc. Attn: Ms. Manda Catterlin, E.I.T. 213 Water Ave. NW, Suite 100 Albany, Oregon 97321

Prepared By:

**Carlson Geotechnical** 

#### **B.1** BACKGROUND

Based on information provided by Civil West Engineering, we understand public street improvements are planned for the subject portion<sup>1</sup> of East Main Avenue<sup>2</sup>. In order to estimate the remaining service life of the existing pavement within the subject roadway, and determine if structural enhancements were required to help maintain serviceability, a quantitative evaluation of its structural capacity was performed. We performed the structural capacity evaluation based on visual survey and materials investigation/testing in general accordance with Sections 5.3 and 5.4 of the AASHTO Guide for Design of Pavement Structures, 1993 (AASHTO). The following sections summarize the results of the visual condition survey, the results of our structural capacity analyses, and conclusions for the pavement structure.

#### **B.2 PAVEMENT MATERIALS INVESTIGATION**

As indicated in the geotechnical report, CGT advanced three shallow subsurface explorations, including pavement cores and hand auger borings within the existing roadway on July 26, 2018, in order to help refine existing conditions. The results of our completed field investigation were detailed in Section 6.0 of the report, and are briefly summarized below.

Devement Material	Material Thickness (inch			
Pavement Material	Core C-4	Core C-5	Core C-6	
Asphaltic Concrete	71⁄2	8	91⁄2	
Gravel Fill (Aggregate Base Rock)	0	0	0	

le B1	Pavement Material Thicknesses at Core Locations

#### **B.3 VISUAL CONDITION SURVEY**

#### B.3.1 **Overview**

CGT engineering staff observed surface conditions within the subject street in late July 2018. The Site Plan, Figure A1, presented in Appendix A shows the approximate locations and orientations of the photographs taken during our survey. Photographs taken during our site visit are presented therein on Figure A2. The purpose of the visit was to identify the type, amount, severity, and location of any observed surface distress (deficiencies) in the existing pavement in accordance with AASHTO procedures and the 2018 Oregon Department of Transportation Pavement Data Collection Manual (ODOT PDCM). The following table presents a checklist of typical surface deficiencies in flexible (asphalt) pavement. This table also includes our observations of the presence (lack thereof) of the surface deficiencies within the street.

This evaluation covers both traffic lanes of East Main Avenue, spanning between South Moss Street and Pioneer Street.

<sup>2</sup> Roadway is designated as a Minor Collector per input from Civil West Engineering Services.

Table B2         Pavement Distress Type & Those Observed at Site				
Distress Type	Typical Cause(s)	Observed at Site?		
Rutting in the wheel paths	Ruts typically develop from consolidation or lateral movement under traffic.	None of significance observed		
Fatigue cracking	Typically caused by excessive deflection of the surface over unstable subgrade or lower courses of pavement. The unstable support usually is the result of saturated granular base or subgrade.	Yes, see Section B.3.2 for discussion		
Longitudinal/transverse cracking	Typically due to poorly constructed paving joints, shrinkage of asphalt layer, daily temperature cycling, etc.	Yes, see Section B.3.3 for discussion		
Patching	Typically used where the original pavement surface is removed and replaced, or additional material is applied to the pavement surface after original construction.	Yes, see Section B.3.4 for discussion		
Disintegration (potholes)	Typically caused by weakness in the pavement resulting from insufficient asphalt, failure of base, and/or poor drainage.	Yes, see Section B.3.5 for discussion		
Disintegration (raveling)	Typically caused by lack of compaction and/or improper mix proportions.	None of significance observe		
Localized Subsidence	Typically caused by poor quality subgrade materials susceptible to consolidation	None observed		
Edge cracking	Typically due to lack of lateral (shoulder) support. Another cause of edge cracking can be settlement or yielding of subgrade or granular base.	None observed		
Edge joint (seam) "cracking"	Typically due to poor drainage due to a shoulder being higher than the main pavement.	None observed		
Corrugations (washboarding)	This form of distress typically occurs in asphalt layers that lack stability due to less than favorable mix proportions.	None observed		
Upheaval	Typically caused by expansive soils and/or tree roots.	None observed		

#### B.3.2 Fatigue Cracking

We observed fatigue (alligator) cracking within several areas within the subject street. The cracks were generally <sup>1</sup>/<sub>4</sub>- to <sup>1</sup>/<sub>2</sub>-inch in width and exhibited low to heavy spalling. The severity of fatigue cracking was characterized as "low to severe" in accordance with guidelines presented in the ODOT PDCM. Examples of fatigue cracking are shown on Photographs 2, 4, 6, 8, and 9 on the attached Figure A2.

#### **B.3.3 Longitudinal Cracking**

We observed longitudinal cracking within one location within the western portion of the subject street. The crack was generally up to ½ inch in width and is interpreted to be attributed to asphalt shrinkage along a paving joint. The severity of longitudinal cracking was characterized as "low" in accordance with guidelines presented in the ODOT PDCM. A photograph of the longitudinal crack is shown on Photograph 3 on the attached Figure A2.

#### B.3.4 Patching

We observed two patches within the subject street. The patches were variable in terms of size and footprint, and relatively free of distress within their respective footprints. The severity of patching was characterized as "low severity" in accordance with guidelines presented in the ODOT PDCM. Photographs of the patches are shown on Photographs 6 and 7 on the attached Figure A2.

#### **B.3.5** Disintegration (Potholes)

We observed disintegration (shallow potholes) along the localized edges of the subject street. The potholes are shown on Photographs 4 and 8 on the attached Figure A2. The potholes were generally less than 1 inch

deep. The severity of potholes in these areas was characterized as "low" in accordance with guidelines presented in the ODOT PDCM.

## B.4 STRUCTURAL CAPACITY EVALUATION

### B.4.1 Methodology

We evaluated the structural capacity of the existing pavement structure using the results of the pavement materials investigation and visual survey in general accordance with Section 5.4.5 of AASHTO. The purpose of this evaluation was to determine whether structural enhancement (such as an overlay) was required to help manage anticipated design vehicular traffic. The methodology presented by AASHTO incorporates the use of structural numbers (SN) as follows:

- SN<sub>eff</sub> = Effective structural number of the existing pavement structure, determined from the visual condition survey and investigation of the existing pavement.
- SN<sub>f</sub> = Required structural number for future traffic.
- SN<sub>ol</sub> = Required overlay structural number. This value is equal to SN<sub>f</sub> SN<sub>eff</sub>. The methodology indicates that, in the event that SN<sub>eff</sub> is greater than S<sub>f</sub>, and no functional deficiencies are observed in the existing pavement, an overlay is not required. Similarly, in the event that SN<sub>eff</sub> is less than SN<sub>f</sub>, an overlay is required to maintain the desired level of serviceability over the indicated design period.

## **B.4.2 Design Input Parameters**

For the purposes of calculating the structural numbers, a number of parameters were estimated based on the results of the visual survey and pavement investigation. In addition, input parameters related to future traffic and level of serviceability were estimated based on guidelines presented in AASHTO and pavement design manuals presented by the ODOT Pavement Design Guide (ODOT PDG)<sup>3</sup> and Asphalt Pavement Association of Oregon (APAO) manual<sup>4</sup>. The parameters used in the evaluation are shown in the following table and are discussed in narrative thereafter.

<sup>&</sup>lt;sup>3</sup> Oregon Department of Transportation (ODOT) Pavement Design Guide, December 2011.

<sup>&</sup>lt;sup>4</sup> Asphalt Pavement Association of Oregon (APAO) Asphalt Pavement Design Guide, Revised October 2003.

	Table B3         Design Input Parameters	
Structural Number	Required Input Parameter	Value Used in Evaluation
	a1 = Structural layer coefficient, AC layer	0.30
	a <sub>2</sub> = Structural layer coefficient, base layer	N/A (none encountered)
	a <sub>3</sub> = Structural layer coefficient, subbase layer	N/A (none encountered)
SN <sub>eff</sub>	D <sub>1</sub> = Thickness of existing pavement, surface layer <sup>1</sup>	8
SINeff	D <sub>2</sub> = Thickness of existing pavement, base layer <sup>1</sup>	0
	D <sub>3</sub> = Thickness of existing pavement, subbase layer	0
	M <sub>2</sub> = Drainage coefficient for granular base	N/A
	M <sub>3</sub> = Drainage coefficient for granular subbase	N/A
	N <sub>f</sub> = Design period	20 years
	ESAL <sub>f</sub> = Design 18-kip ESAL over design period	100,000
CN	M <sub>R</sub> = Design resilient modulus <sup>2</sup>	8,000 psi
SNf	Design Serviceability (PSI) Loss	1.7
	R = Design Reliability	85 percent
	S <sub>o</sub> = Design Standard Deviation	0.49

<sup>1</sup>Layer thickness selected based on results of site exploration and represents the location exhibiting the lowest structural number for pavement. <sup>2</sup>Value selected based on tabular value for clayey gravel subgrade per APAO manual.

The following summarizes additional comments on the values presented in Table B3:

- Layer coefficients (a<sub>1</sub>, a<sub>2</sub>, and a<sub>3</sub>) were determined based on results of visual condition survey discussed in Section B.3 above and Table 5.2 of AASHTO.
- Layer thicknesses (D<sub>1</sub>, D<sub>2</sub>, and D<sub>3</sub>) were based on results of our pavement materials investigation.
- A 20-year design period was assigned for the street in accordance with current standard of practice.
- The design 18-kip ESAL for the street was assigned based on the ESAL presented for the "middle of the road" value for Level III (Low Moderate) Traffic Classification per Table 3.1 of the APAO manual. This traffic classification lists typical ADTT of 7 to 14 per day over 20 years. Examples under this loading consist of urban minor collector streets, rural minor collector streets, and parking lots with more than 500 stalls.
- The value used for design reliability (R) and standard deviation (S<sub>o</sub>) was selected in accordance with Table 2A and Section 5.3, respectively, of the referenced ODOT design manual.

#### B.4.2.1 Results of Analyses

Using the above inputs and procedures presented by AASHTO, we determined the structural numbers for the pavement structure. The following table summarizes the results of our analyses:

	B4 Calcul	ated Structural Numbers			
Pavement	Existing Pavement Section (inches)		Calculated Structural Number		
Exploration <sup>1</sup>	AC Thickness <sup>1</sup>	Aggregate Base Thickness <sup>1</sup>	SN <sub>eff</sub>	SNf	<b>SN</b> ol
Core C-5	8	0	2.4	2.4	0
_	Exploration <sup>1</sup>	Exploration <sup>1</sup> AC Thickness <sup>1</sup>	Exploration <sup>1</sup> AC Thickness <sup>1</sup> Aggregate Base Thickness <sup>1</sup>	Exploration <sup>1</sup> AC Thickness <sup>1</sup> Aggregate Base Thickness <sup>1</sup> SN <sub>eff</sub>	Exploration <sup>1</sup> AC Thickness <sup>1</sup> Aggregate Base Thickness <sup>1</sup> SN <sub>eff</sub> SN <sub>f</sub>

## B.5 REVIEW & DISCUSSION

As indicated above, we completed a structural capacity evaluation of the existing pavement structure within the subject portion of East Main Avenue to determine whether structural enhancement was required to help manage anticipated future vehicular traffic. Our analyses indicated that, for the modeled design ESAL, the effective structural number ( $SN_{eff}$ ) for the existing pavement is equal to the required future structural number ( $SN_{eff}$ ) for this street.

Although no structural deficiency was determined, as indicated in Section B.3.1 above, the pavement surface exhibits surface deficiencies that, if not mitigated, will inherently lead to reduced serviceability and require maintenance/repairs at a frequency more common than typically expected. We recommend improvements to the pavement surface be performed to help maintain serviceability over the indicated design period. Recommendations for mitigation of the surface deficiencies are presented in the geotechnical report.

Attachments: None

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# Appendix C: Pavement Structural Capacity Evaluation East Lakeview Avenue

## City of Lowell Pavement Preservation East Main Avenue & East Lakeview Avenue Lowell, Oregon

CGT Project Number G1804905

November 21, 2018

Prepared For:

Civil West Engineering Services, Inc. Attn: Ms. Manda Catterlin, E.I.T. 213 Water Ave. NW, Suite 100 Albany, Oregon 97321

> Prepared By: Carlson Geotechnical

#### C.1 BACKGROUND

Based on information provided by Civil West Engineering, we understand public street improvements are planned for the subject portion<sup>1</sup> of East Lakewood Avenue<sup>2</sup>. In order to estimate the remaining service life of the existing pavement within the subject roadway, and determine if structural enhancements were required to help maintain serviceability, a quantitative evaluation of its structural capacity was performed. We performed the structural capacity evaluation based on visual survey and materials investigation/testing in general accordance with Sections 5.3 and 5.4 of the AASHTO Guide for Design of Pavement Structures, 1993 (AASHTO). The following sections summarize the results of the visual condition survey, the results of our structural capacity analyses, and conclusions for the pavement structure.

#### C.2 **PAVEMENT MATERIALS INVESTIGATION**

As indicated in the geotechnical report, CGT advanced three shallow subsurface explorations, including pavement cores and hand auger borings, within the existing roadway on July 26, 2018, in order to help refine existing conditions. The results of our completed field investigation were detailed in Section 6.0 of the report, and are briefly summarized below.

Bovement Material	Mater		ches)1	
Pavement Material	Core C-1	Core C-2	Core C-3	
Asphalt Concrete	3	3	81⁄2	
Gravel Fill (Aggregate Base Rock)	2	2	0	

le C1	Pavement Material Thicknesses at Core Locations

#### C.3 **VISUAL CONDITION SURVEY**

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#### C.3.1 **Overview**

CGT engineering staff observed surface conditions within the subject street in late July 2018. The Site Plan, Figure A1, presented in Appendix A shows the approximate locations and orientations of the photographs taken during our survey. Photographs taken during our site visit are presented therein on Figure A3. The purpose of the visit was to identify the type, amount, severity, and location of any observed surface distress (deficiencies) in the existing pavement in accordance with AASHTO procedures and the 2018 Oregon Department of Transportation Pavement Data Collection Manual (ODOT PDCM). The following table presents a checklist of typical surface deficiencies in flexible (asphalt) pavement. This table also includes our observations of the presence (lack thereof) of the surface deficiencies within the street.

This evaluation covers both traffic lanes of East Lakewood Avenue, spanning between South Moss Street and Pioneer Street.

<sup>2</sup> Roadway is designated as a Residential Street per input from Civil West Engineering Services.

Table C2         Pavement Distress Type & Those Observed at Site					
Distress Type	Typical Cause(s)	Observed at Site?			
Rutting in the wheel paths	Ruts typically develop from consolidation or lateral movement under traffic.	None of significance observed			
Fatigue cracking	Typically caused by excessive deflection of the surface over unstable subgrade or lower courses of pavement. The unstable support usually is the result of saturated granular base or subgrade.	Yes, see Section C.3.2 for discussion			
Longitudinal/transverse cracking	Typically due to poorly constructed paving joints, shrinkage of asphalt layer, daily temperature cycling, etc.	None observed			
Patching	Typically used where the original pavement surface is removed and replaced, or additional material is applied to the pavement surface after original construction.	None observed (utility patch only)			
Disintegration (potholes)	Typically caused by weakness in the pavement resulting from insufficient asphalt, failure of base, and/or poor drainage.	Yes, see Section C.3.3 for discussion			
Disintegration (raveling)	Typically caused by lack of compaction and/or improper mix proportions.	Yes, see Section C.3.4 for discussion			
Localized Subsidence	Typically caused by poor quality subgrade materials susceptible to consolidation	None observed			
Edge cracking	Typically due to lack of lateral (shoulder) support. Another cause of edge cracking can be settlement or yielding of subgrade or granular base.	None observed			
Edge joint (seam) "cracking"	Typically due to poor drainage due to a shoulder being higher than the main pavement.	None observed			
Corrugations (washboarding)	This form of distress typically occurs in asphalt layers that lack stability due to less than favorable mix proportions.	None observed			
Upheaval	Typically caused by expansive soils and/or tree roots.	None observed			

#### C.3.2 Fatigue Cracking

We observed fatigue (alligator) cracking within several areas within the subject street. The cracks were generally <sup>1</sup>/<sub>4</sub>- to <sup>1</sup>/<sub>2</sub>-inch in width and exhibited low to heavy spalling. The severity of fatigue cracking was characterized as "low to severe" in accordance with guidelines presented in the ODOT PDCM. Examples of fatigue cracking are shown on Photographs 2, 3, 4, 6, and 7 on the attached Figure A3.

#### C.3.3 Disintegration (Potholes)

We observed disintegration (shallow potholes) within the east portion of the subject street, resultant of fatigue cracking. The potholes are shown on Photograph 2 on the attached Figure A3. The potholes were generally less than 1 inch deep. The severity of potholes in these areas was characterized as "low" in accordance with guidelines presented in the ODOT PDCM.

#### C.3.4 Raveling

Raveling was observed within the subject street, most notably within the central and west portions of the pavement. Examples of raveling are shown on Photographs 6, 7, and 8 on the attached Figure A3. The severity of raveling was characterized as "low to severe" in accordance with guidelines presented in the ODOT PDCM.

## C.4 STRUCTURAL CAPACITY EVALUATION

#### C.4.1 Methodology

We evaluated the structural capacity of the existing pavement structure using the results of the pavement materials investigation and visual survey in general accordance with Section 5.4.5 of AASHTO. The purpose of this evaluation was to determine whether structural enhancement (such as an overlay) was required to help manage anticipated design vehicular traffic. The methodology presented by AASHTO incorporates the use of structural numbers (SN) as follows:

- SN<sub>eff</sub> = Effective structural number of the existing pavement structure, determined from the visual condition survey and investigation of the existing pavement.
- SN<sub>f</sub> = Required structural number for future traffic.
- SN<sub>ol</sub> = Required overlay structural number. This value is equal to SN<sub>f</sub> SN<sub>eff</sub>. The methodology indicates that, in the event that SN<sub>eff</sub> is greater than S<sub>f</sub>, and no functional deficiencies are observed in the existing pavement, an overlay is not required. Similarly, in the event that SN<sub>eff</sub> is less than SN<sub>f</sub>, an overlay is required to maintain the desired level of serviceability over the indicated design period.

#### C.4.2 Design Input Parameters

For the purposes of calculating the structural numbers, a number of parameters were estimated based on the results of the visual survey and pavement investigation. In addition, input parameters related to future traffic and level of serviceability were estimated based on guidelines presented in AASHTO and pavement design manuals presented by the ODOT Pavement Design Guide (ODOT PDG)<sup>3</sup> and Asphalt Pavement Association of Oregon (APAO) manual<sup>4</sup>. The parameters used in the evaluation are shown in the following table and are discussed in narrative thereafter.

<sup>&</sup>lt;sup>3</sup> Oregon Department of Transportation (ODOT) Pavement Design Guide, December 2011.

<sup>&</sup>lt;sup>4</sup> Asphalt Pavement Association of Oregon (APAO) Asphalt Pavement Design Guide, Revised October 2003.

	Described In sut Deservator	Value Used in	n Evaluation	
Structural Number	Required Input Parameter	West <sup>3</sup> / <sub>4</sub> of Road <sup>1</sup>	East ¼ of Road	
	a1 = Structural layer coefficient, AC layer	0.20	0.30	
	a <sub>2</sub> = Structural layer coefficient, base layer	0.10	N/A	
	a <sub>3</sub> = Structural layer coefficient, subbase layer	N/A (none e	ncountered)	
CN	D <sub>1</sub> = Thickness of existing pavement, surface layer <sup>1</sup>	3	81/2	
SN <sub>eff</sub>	D <sub>2</sub> = Thickness of existing pavement, base layer <sup>1</sup>	2	0	
	D <sub>3</sub> = Thickness of existing pavement, subbase layer	0	0	
	M <sub>2</sub> = Drainage coefficient for granular base	1.0	N/A	
	M <sub>3</sub> = Drainage coefficient for granular subbase	N/A	N/A	
	N <sub>f</sub> = Design period	20 ye	ears	
	ESAL <sub>f</sub> = Design 18-kip ESAL over design period	90,000		
CN	M <sub>R</sub> = Design resilient modulus <sup>2</sup>	8,000 psi		
SN <sub>f</sub>	Design Serviceability (PSI) Loss	1.7		
	R = Design Reliability	75 pe	rcent	
	S₀ = Design Standard Deviation	0.4	9	

<sup>1</sup> The western <sup>3</sup>/<sub>4</sub> of the roadway is defined as the westernmost 530 feet of Lakeview Avenue.

<sup>2</sup>Layer thickness selected based on results of site exploration and represents the location exhibiting the lowest structural number for pavement.

<sup>3</sup> Value selected based on tabular value for clayey gravel subgrade per APAO manual.

The following summarizes additional comments on the values presented in Table C3:

- Layer coefficients (a<sub>1</sub>, a<sub>2</sub>, and a<sub>3</sub>) were determined based on results of visual condition survey discussed in Section B.3 above and Table 5.2 of AASHTO.
- Layer thicknesses (D<sub>1</sub>, D<sub>2</sub>, and D<sub>3</sub>) were based on results of our pavement materials investigation.
- A 20-year design period was assigned for the street in accordance with current standard of practice.
- The design 18-kip ESAL for the street was assigned based on the ESAL presented for the upper limit (50,000) for Level II (Light) Traffic Classification per Table 3.1 of the APAO manual. This traffic classification lists typical ADTT of 2 to 7 per day over 20 years. Examples under this loading consist of residential streets, rural farm roads, and parking lots of less than 500 stalls. In addition, per input from the civil engineer, we understand the subject street will be subjected to school bus traffic. For the purposes of this evaluation, we modeled an ADT of 8 school busses for the subject street.
- The value used for drainage coefficients (m<sub>n</sub>) was selected in accordance with Table 2.4 of the referenced AASHTO manual, based on "good" drainage characteristics of the base and subgrade materials. This quality of drainage was selected based on the unsaturated nature of the pavement materials during our investigation in May 2018.
- The value used for design reliability (R) and standard deviation (S<sub>o</sub>) was selected in accordance with Table 2A and Section 5.3, respectively, of the referenced ODOT design manual.

## C.4.3 Results of Analyses

Using the above inputs and procedures presented by AASHTO, we determined the structural numbers for the pavement structure. The following table summarizes the results of our analyses:

	Table (	C4 Calcul	ated Structural Numbers				
Area of Interest <sup>1</sup>	Pavement	Existing Pa	Existing Pavement Section (inches)		Calculated Structural Number		
Area of interest	Exploration <sup>1</sup>	AC Thickness <sup>1</sup>	Aggregate Base Thickness <sup>1</sup>	SN <sub>eff</sub>	SNf	SNol	
West ¾ (approx.) of East Lakeview Avenue	Core C-1 & C-2	3	2	0.7	1.75	1.05	
East ¼ (approx.) of East Lakeview Avenue	Core C-3	81/2	0	2.4	1.75	0	

## C.5 REVIEW & DISCUSSION

As indicated above, we completed a structural capacity evaluation of the existing pavement structure within the subject portion of East Lakewood Avenue to determine whether structural enhancement was required to help manage anticipated future vehicular traffic. Our analyses indicated that, for the modeled design ESAL, the effective structural number ( $SN_{eff}$ ) for the existing pavement is less than the required future structural number ( $SN_{eff}$ ) in two of the three locations along this traffic lane. Accordingly, the procedures indicate there is structural deficiency in the majority of the existing pavement structure. Recommendations for mitigating the deficiency are presented in the geotechnical report.

Attachments: None



Rogue Valley Office 830 O'Hare Parkway, Ste. 102 Medford, OR 97504 541-326-4828 South Coast Office 486 'E' Street Coos Bay, OR 97420 541-266-8601

Willamette Valley Office 200 Ferry Street SW Albany, OR 97321 541-223-5130

North Coast Office 609 SW Hurbert Street Newport, OR 97365 541-264-7040

# PAVEMENT PRESERVATION PLAN COST UPDATES

Lowell, Oregon

Lane County

Date:	April 3, 2025
To:	Max Baker, Public Works Director
From:	Matt Wadlington, PE, Principal, Civil West Engineering Services, Inc. (CWES)
RE:	City of Lowell Pavement Preservation and Maintenance Plan
	Civil West Project Number: 2101-014

## **Executive Summary**

Civil West

Engineering Services, Inc

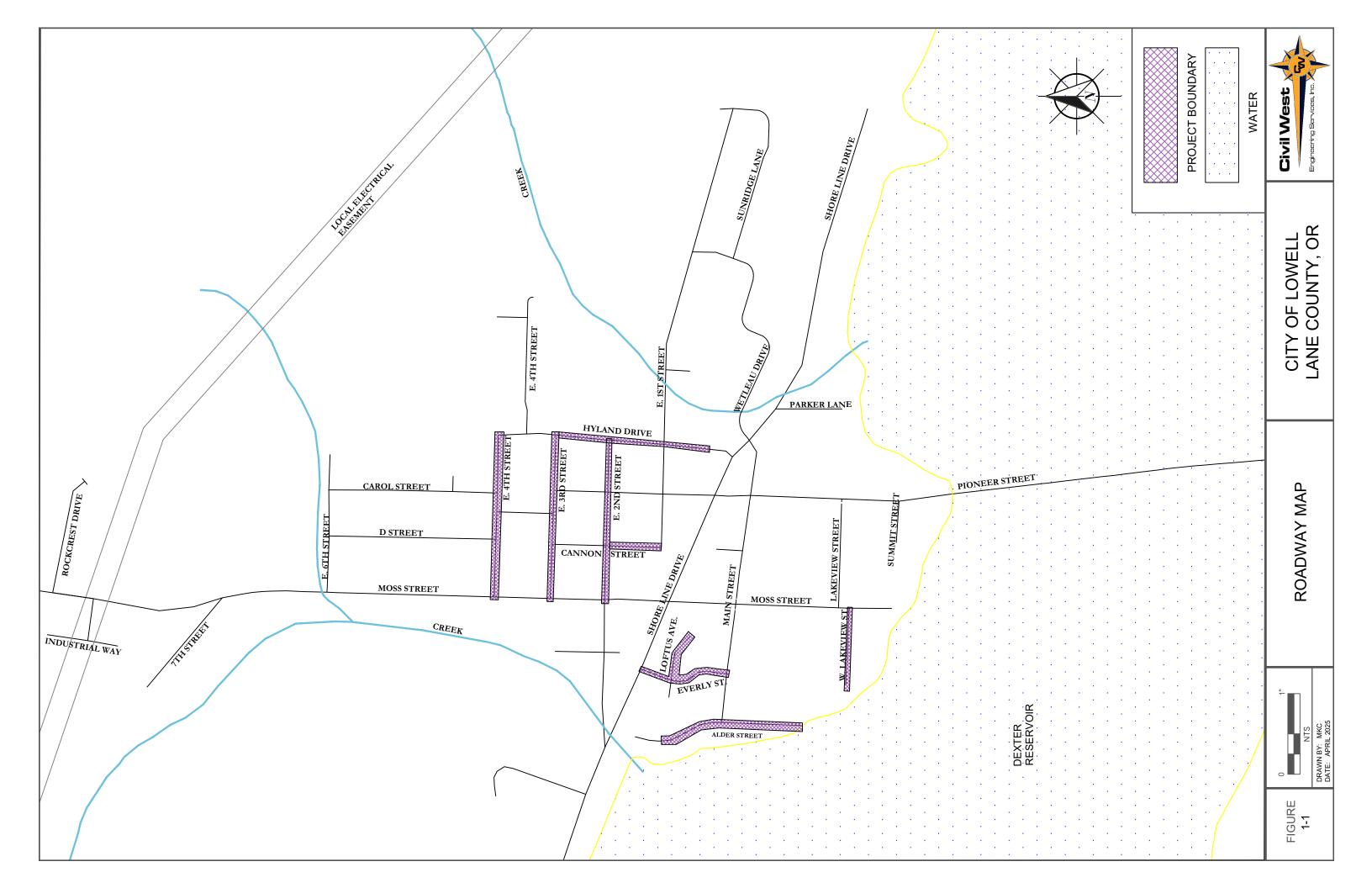
The City of Lowell's Pavement Preservation and Maintenance Plan, developed in January of 2019, has been updated to reflect current costs. This update incorporates revised cost estimates based on inflation, material availability, and labor expenses. The Engineering News-Record (ENR) construction cost index was utilized to update the previously determined construction costs.

## Introduction

The City of Lowell, located 19 miles southeast of Springfield and Interstate 5 in Lane County, Oregon, has maintained a network of roadways for residents and visitors since the mid-1900's. Today, the City of Lowell currently manages approximately five miles of paved roads, primarily consisting of local streets and minor collector roads that serve residential properties.

## **Project Overview**

The previous preservation plan identified 9 individual pavement preservation projects throughout the City of Lowell. These 9 projects included full or partial sections of 10 different streets. See Figure 1-1 for in overview of the project locations. Projects 1-8 include Crack sealing, slurry sealing, patching, grind and overlays, and pavement replacement. Project 9 outlines the annual maintenance budget required to preserve the roadways. A typical roadway has an expected lifespan of 20 to 30 years before full reconstruction is recommended. To maximize pavement longevity, the city must implement regular preventative maintenance.



## **Improvement Projects**

This section briefly discusses the 9 proposed improvement projects, the associated costs and breakdowns of the updated costs. The original estimated costs were calculated in July of 2018. The updated costs were obtained using ENR construction cost index values from July 2018 and the most current ENR index Value For 2025. Refer to the 2019 Pavement Prevention plan for more detail on these projects and the prior cost breakdowns.

Updated Cost = Cost X  $\frac{Current Index}{Base Year Index}$  (eq. 1)

Since 2019, projects 1 and 2 have been completed. Additionally, 2 new subdivisions have been constructed, Crestview Estates, And Sunset Hill subdivision. The construction of these 2 subdivisions increased the total square yardage of pavement in the City of Lowell from 87,991 SY to 93,649 SY

## Project 1

This project includes repairs for Lakeview Street and Main Street. Main Street requires deep patching for severe alligator cracking, followed by a 2-inch grind and asphalt overlay. Lakeview Street will receive a 2-inch grind and overlay on its eastern quarter, with full reconstruction for the rest. The original estimated cost for East Main Street improvements was \$119,174.88. Project 1 has been completed.

## Project 2

The East Lakeview Avenue project addresses pavement deficiencies on this high-traffic road adjacent to Lowell High School. A 2018 geotechnical study found issues like poor subbase and inadequate pavement thickness. Recommended repairs include a 2-inch grind and overlay on the eastern quarter and full reconstruction for the rest. The original estimated cost was \$142,100.82. Project 2 has been completed.

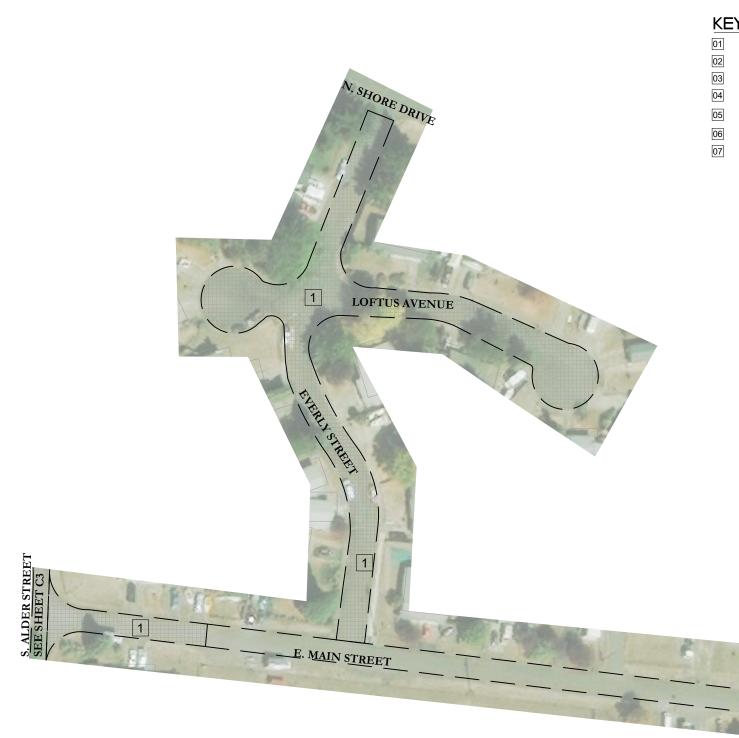


This project includes Everly Street, Loftus Avenue, and two sections of Main Street. Refer to Figure C2 for more information. Pavement issues include oxidation, aging, raveling, and cracking. Recommended repairs involve a 2-inch grind and overlay for Loftus, Everly, and the west section of Main, with full reconstruction of the area near the Moss St. intersection. Cracks should be sealed before overlaying. The original estimated cost was \$166,245.21, including geotechnical investigation. The updated cost is shown below in Table 1.

Item	Description	Unit	Est. Quantity	А	Unit Amount		Total
1	Mobilization - Bonds & Insurance	ls	1	\$1	1,287.85	\$	11,287.85
2	Construction Facilities & Temporary Controls	ls	1	\$	5,643.93	\$	5,643.93
3	Demolition & Site Preparation	ls	1	\$	7,901.50	\$	7,901.50
	Demolition						
4	Pavement removal and Over Excavate Deep Patch	sy	91	\$	30.96	\$	2,827.62
5	Saw Cut Existing Pavement for Deep Patch	lf	140	\$	2.35	\$	329.41
6	Cold Pane/Grind Pavement Removal (2 inches deep)	sy	3889	\$	3.72	\$	14,447.71
	Roadway Improvem	ents					
7	Surface Treatment Seal Cracks	sy	4400	\$	3.72	\$	16,346.55
8	2"AC Pavement Overlay - Level 3 (Everly and Loftus)	sy	4400	\$	17.34	\$	76,283.92
9	4" AC Pavement	sy	30	\$	34.67	\$	1,040.24
10	Aggregate Base	су	30	\$	7.43	\$	225.98
11	Landscape Restoration & Cleanup	ls	1	\$	619.19	\$	619.19
	Striping						
12	12" thermoplastic Stop Bar	lf	12	\$	13.62	\$	163.47
13	Crosswalk thermoplastic Bar	lf	24	\$	24.77	\$	594.42
Construct	ion Subtotal					\$	137,711.78
Geotechn	ical Investigation					\$	6,000.00
Continger	ncy		20%			\$	27,542.36
Engineeri	ing		20%			\$	27,542.36
Administ	rative		5%			\$	6,885.59
Total Proj	ect Cost					\$	205,682.08

Table 1: Everly Street, Loftus Ave., and Main Street Improvement Cost Estimate





## **KEYED NOTES**

GRIND AND OVERLAY, SEE SHEET NOTES 4-8 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12 SLURRY SEAL, SEE SHEET NOTE 10 GRID AND OVERLAY DEEP PATCH SEE SHEET NOTE 9 TYPE 2 SLURRY SEAL REMOVE AND REPLACE PAVEMENT EDGE, SEE SHEET NOTE 13 REMOVE TREE ROOTS. SEE SHEET NOTE 11 DEEP PATCH CRACK SEALING EXTENTS OF PAVEMENT TO BE REHABILLITATED

## **GENERAL NOTES**

- ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. 1. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH 952-001-0090. YOU MAY OBTAIN A COPY OF THE RULES BY CALLING THE CENTER.
- NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. 2 STAT. AUTH.: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- GRIND EXISTING PAVEMENT. 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY. 4.
- INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730. 5.
- SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT 6.
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, 1" DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED. CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS an AND LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS.
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES. MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES. REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT
- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA
- CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER. 16



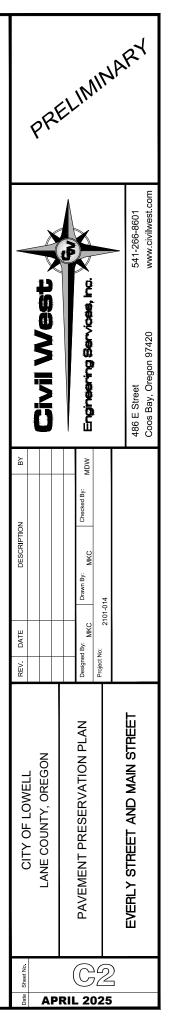
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02

## HATCH LEGEND

REMOVE AND REPLACE PAVEMENT



This project focuses on Alder Street. Refer to Figure C3 for more information. Pavement issues include longitudinal cracking, oxidation, aging, and raveling, with more severe distress in the northern section. A 2-inch grind and overlay is recommended, but a geotechnical evaluation should be conducted first to assess the subbase. If inadequate, reconstruction may be necessary. The original estimated cost was \$81,361.83. The updated cost is shown below in Table 2.

Item	Description	Unit	Est. Quantity		Unit mount		Total
1	Mobilization - Bonds & Insurance	ls	1	\$5	,345.65	\$	5,345.65
2	Construction Facilities & Temporary Controls	ls	1	\$2	,672.83	\$	2,672.83
3	Demolition & Site Preparation	ls	1	\$3	,741.96	\$	3,741.96
	Demolition						
4	Cold Pane/Grind Pavement Removal (2 inches deep)	sy	1000	\$	7.43	\$	7,430.25
Roadway Improvements							
5	Surface Treatment Seal Cracks	sy	1667	\$	3.72	\$	6,191.88
6	2" AC Pavement Overlay	sy	1667	\$	17.34	\$	28,895.42
7	Clean Pavement Surface and Apply Top Coat Per 00730 ODOT	sy	1667	\$	6.19	\$	10,319.79
8	8 Landscape Restoration & Cleanup Is 1 \$ 619.19						619.19
Construction Subtotal						\$	65,216.97
Geotechnical Investigation						\$	6,000.00
Contingency 20%						\$	13,043.39
Engineering 20%						\$	13,043.39
Administrative 5%						\$	3,260.85
Total Proj	ect Cost					\$	100,564.61

Table 2: Alder Street Improvement Cost Estimate





## **KEYED NOTES**

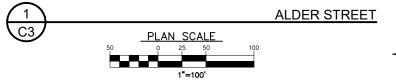
- 01 GRIND AND OVERLAY, SEE SHEET NOTES 4-8
- 02 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12
- 03 SLURRY SEAL. SEE SHEET NOTE 10
- 04 DEEP PATCH. SEE SHEET NOTE 9
- 05 REMOVE AND REPLACE PAVEMENT EDGE , SEE SHEET NOTE 13
- 06 REMOVE TREE ROOTS, SEE SHEET NOTE 11
- 07 CRACK SEALING

## HATCH LEGEND

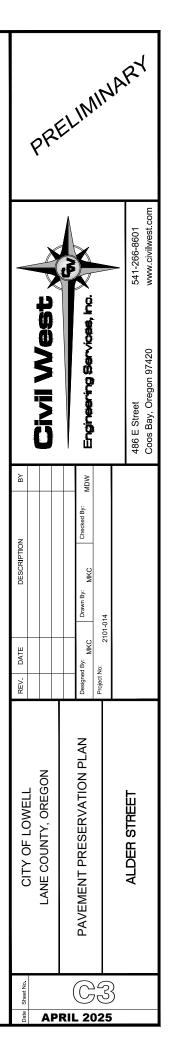
REMOVE AND REPLACE PAVEMENT	/
GRID AND OVERLAY	
TYPE 2 SLURRY SEAL	•
DEEP PATCH	
EXTENTS OF PAVEMENT TO BE REHABILLITATED	

#### GENERAL NOTES

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- 2. NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. STAT. AUTH .: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- 4. GRIND EXISTING PAVEMENT, 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY.
- 5. INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730.
- 6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, <sup>1</sup>/<sub>2</sub> DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH.
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED. CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS 1" AND LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS.
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING.
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES. MATCH TO EXISTING GRADES.
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- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA.
- 16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER.



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This project includes 2nd Street and Cannon Street. Refer to Figure C4 for more information. Pavement issues include cracking, oxidation, and aging. Recommended repairs include a 2-inch grind and overlay for Cannon Street and a Type 2 slurry seal for 2nd Street, with deep patching where needed. The original estimated cost was \$100,702.62. The updates cost is shown below in Table 3.

Item	Description	Unit	Est. Quantity	Unit Amount	Total
1	Mobilization - Bonds & Insurance	ls	1	\$ 7,049.61	\$ 7,049.61
2	Construction Facilities & Temporary Controls	ls	1	\$ 3,524.81	\$ 3,524.81
3	Demolition & Site Preparation	ls	1	\$ 4,934.73	\$ 4,934.73
	Demolition				
4	Edge Roadway Section Removal 1'-6" Width	sy	144	\$ 30.96	\$ 4,471.91
5	Sawcut existing Concrete, Sidewalks, & Pavement	lf	700	\$ 2.35	\$ 1,647.04
6	Pavement Removal Deep Patch Over Excavate	sy	7	\$ 30.96	\$ 227.04
7	Cold Pane/Grind Pavement Removal (2" deep)	sy	1000	\$ 3.72	\$ 3,715.13
Roadway Improvements					
8	Surface Treatments (Seal cracks)	sy	3822	\$ 3.72	\$ 14,200.04
9	2" AC Pavement Overlay	sy	1000	\$ 17.34	\$ 17,337.25
10	Type 2 Slurry Seal	sy	2822	\$ 6.19	\$ 17,474.85
11	4" AC - 2' wide edge reconstruction	sy	74	\$ 34.67	\$ 2,568.48
12	Clean Pavement Surface and Apply Top Coat Per 00730 ODOT	sy	1000	\$ 6.19	\$ 6,191.88
13	Reconstruct sub-base on the edge of roadway and deep patch 3/4-0" rock	су	50	\$ 3.72	\$ 185.76
14	Landscape Restoration & Cleanup	ls	1	\$ 619.19	\$ 619.19
Striping	Striping				
14	4" White Dotted Line Per ODOT TM500 WD	lf	1000	\$ 1.86	\$ 1,857.56
Construction Subtotal					\$ 86,005.27
Continger	ncy		20%		\$ 17,201.05
Engineeri	ng		20%		\$ 17,201.05
Administr	rative		5%		\$ 4,300.26
Total Proj	ect Cost				\$124,707.64

Table 3: Cannon and 2nd Street improvement Cost Estimate



#### **KEYED NOTES**

01

02

03

04

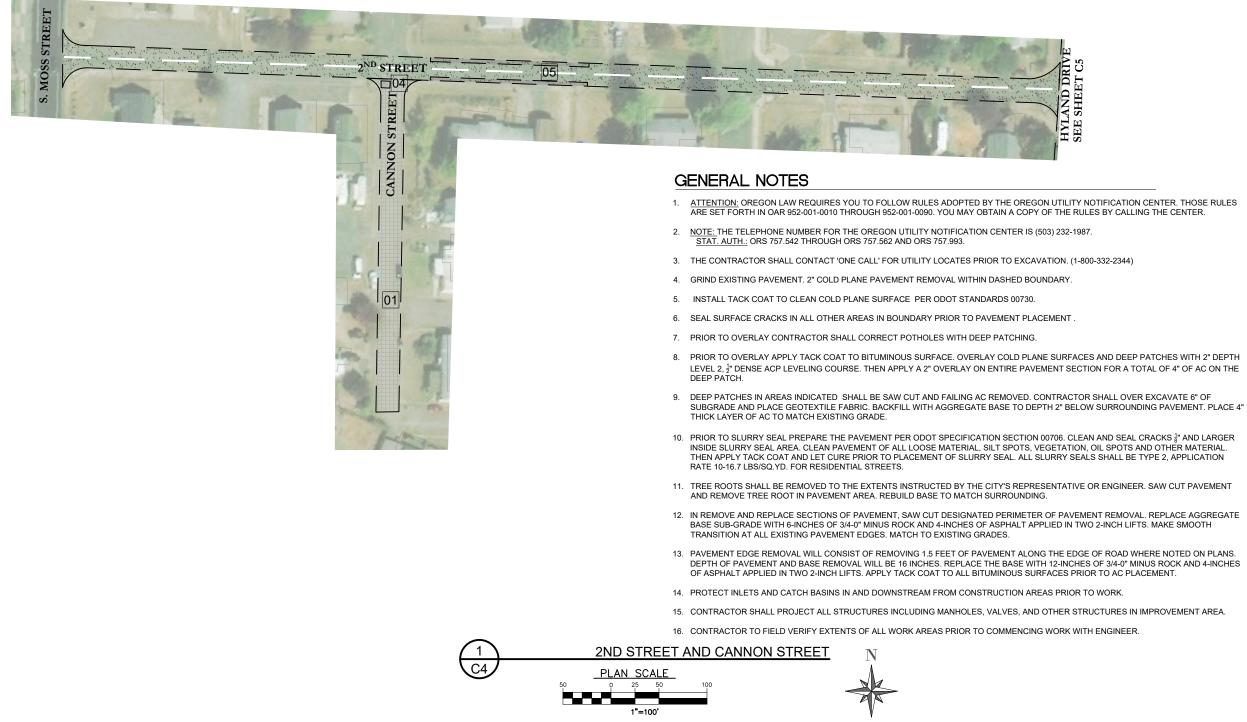
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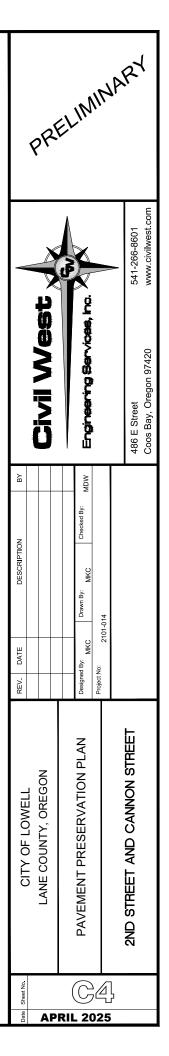
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07

## HATCH LEGEND

GRIND AND OVERLAY, SEE SHEET NOTES 4-8 REMOVE AND REPLACE PAVEMENT REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12 SLURRY SEAL, SEE SHEET NOTE 10 GRID AND OVERLAY DEEP PATCH, SEE SHEET NOTE 9 **TYPE 2 SLURRY SEAL** REMOVE AND REPLACE PAVEMENT EDGE, SEE SHEET NOTE 13 REMOVE TREE ROOTS, SEE SHEET NOTE 11 DEEP PATCH CRACK SEALING EXTENTS OF PAVEMENT TO BE REHABILLITATED





This project covers 3rd Street and Hyland Drive. Refer to Figure C5 for more information. Hyland Drive shows alligator and longitudinal cracking, while 3rd Street is in good condition with minimal cracking and flexibility loss. Recommended repairs include crack sealing and a Type 2 slurry seal for 3rd Street, with slurry sealing and deep patching for Hyland Drive. The original estimated cost was \$101,401.24. The updated cost is shown below in Table 4.

Item	Description	Unit	Est. Quantity	U	Init Amount		Total
1	Mobilization - Bonds & Insurance	ls	1	\$	7,098.52	\$	7,098.52
2	Construction Facilities & Temporary Controls	ls	1	\$	3,549.26	\$	3,549.26
3	Demolition & Site Preparation	ls	1	\$	4,968.96	\$	4,968.96
Demolition							
4	Pavement Removal and Over Excavate Deep Patch	sy	122	\$	30.96	\$	3,783.92
5	Saw Cut Pavement	lf	210	\$	2.35	\$	494.11
Roadway Improvements							
6	Surface Treatments (Seal cracks)	sy	6044	\$	3.72	\$	22,455.87
7	Type 2 Slurry Seal	sy	6044	\$	6.19	\$	37,426.45
8	4" AC Pavement - Level 3	sy	122	\$	17.34	\$	2,119.00
9	Aggregate base rock	су	50	\$	7.43	\$	371.51
10	Landscape Restoration & Cleanup	ls	1	\$	619.19	\$	619.19
Striping							
11	4" White Dotted Line Per ODOT TM500 WD	lf	2000	\$	1.86	\$	3,715.13
Construction Subtotal					\$	86,601.93	
Contingency 20%			\$	17,320.39			
Engineeri	ng		20%			\$	17,320.39
Administ	rative		5%			\$	4,330.10
Total Proj	ect Cost					\$:	125,572.79

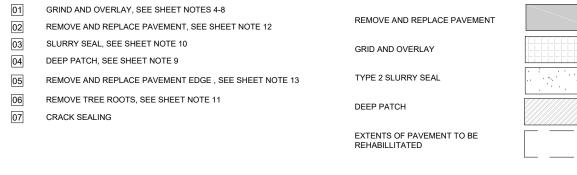
Table 4: 3rd Street and Hyland Drive Improvement Cost Estimate





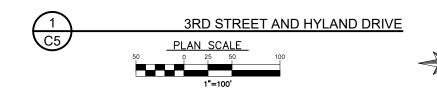
## **KEYED NOTES**

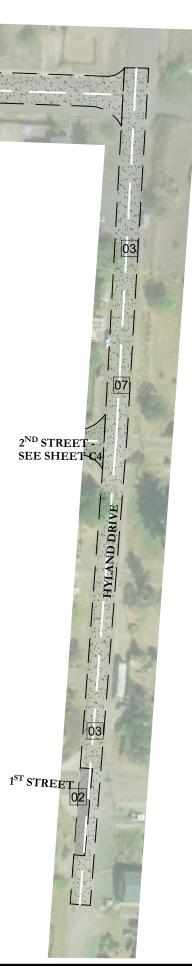
### HATCH LEGEND

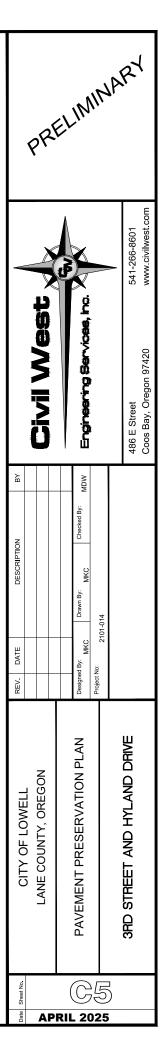


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- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- 4. GRIND EXISTING PAVEMENT. 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY.
- INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730. 5.
- 6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, <sup>1</sup>/<sub>2</sub> DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED. CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS and LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING.
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES. MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES. REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT
- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA.
- 16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER.







This project focuses on 4th Street. Refer to Figure C6 for more information. The roadway is mostly in good condition, but the eastern section has older pavement and tree root intrusion. Distress includes raveling, oxidation, alligator cracking, and root damage. Recommended repairs include crack sealing and a Type 2 slurry seal for the entire street, with deep patching on the eastern section to address subbase damage. The original estimated cost was \$52,931.62. The updated cost is shown below in Table 5.

Item	Description	Unit	Est. Quantity	ι	Jnit Amount		Total
1	Mobilization - Bonds & Insurance	ls	1	\$	3,705.44	\$	3,705.44
2	Construction Facilities & Temporary Controls	ls	1	\$	1,852.72	\$	1,852.72
3	Demolition & Site Preparation	ls	1	\$	2,593.81	\$	2,593.81
Demolition							
4	Pavement Removal and Over Excavate Deep Patch	sy	13	\$	30.96	\$	412.79
5	Saw Cut Pavement	lf	100	\$	2.35	\$	235.29
Roadway Improvements							
4	Surface Treatments (Seal cracks)	sy	3556	\$	3.72	\$1	3,209.34
5	Type 2 Slurry Seal	sy	3556	\$	6.19	\$2	2,015.56
6	4" AC Pavement- Level 3	sy	13	\$	34.67	\$	450.77
7	Aggregate Base	су	15	\$	7.43	\$	111.45
8	Landscape Restoration & Cleanup	ls	1	\$	619.19	\$	619.19
Construction Subtotal					\$4	5,206.36	
Contingency 20%					\$	9,041.27	
Engineering 20%				\$ 9,041.27			
Administr	rative		5%			\$	2,260.32
Total Proj	ect Cost					\$6	5,549.22

Table 5: 4th Street Improvement Cost Estimate



### **KEYED NOTES**

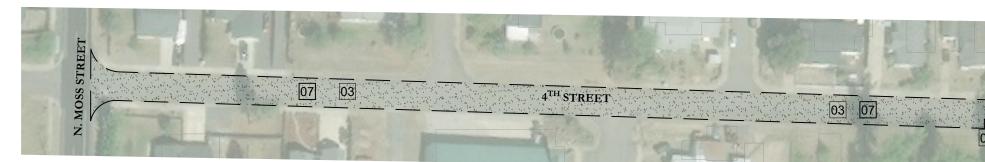
- 01 GRIND AND OVERLAY, SEE SHEET NOTES 4-8
- 02 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12
- 03 SLURRY SEAL SEE SHEET NOTE 10
- 04 DEEP PATCH. SEE SHEET NOTE 9
- 05 REMOVE AND REPLACE PAVEMENT EDGE , SEE SHEET NOTE 13
- 06 REMOVE TREE ROOTS, SEE SHEET NOTE 11
- 07 CRACK SEALING

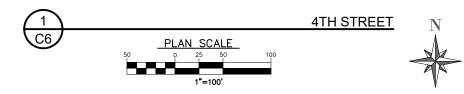
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REMOVE AND REPLACE PAVEMENT	
GRID AND OVERLAY	
TYPE 2 SLURRY SEAL	
DEEP PATCH	
EXTENTS OF PAVEMENT TO BE REHABILLITATED	

## **GENERAL NOTES**

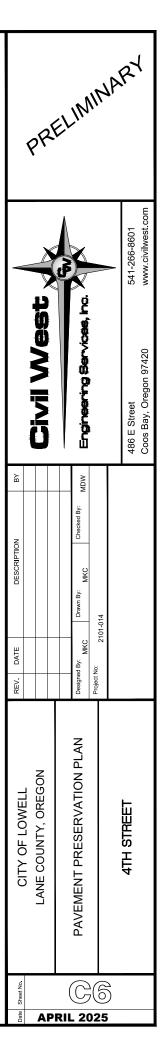
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- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- 4. GRIND EXISTING PAVEMENT. 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY.
- 5. INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730.
- 6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, 1" DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH.
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED, CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS 18" AND LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS.
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING.
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES, MATCH TO EXISTING GRADES.
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- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA.
- 16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER.











This project addresses West Lakeview Avenue. Refer to Figure C7 for more information. The pavement shows severe alligator cracking, raveling, oxidation, longitudinal cracking, and tree root intrusion. Due to its poor condition and uncertain base stability, core sampling is recommended before major repairs or full pavement and subbase replacement. The original estimated cost was \$132,136.06, including geotechnical investigation. The updated cost is shown below in Table 6.

Item	Description	Unit	Est. Quantity	U	Init Amount		Total
1	Mobilization - Bonds & Insurance	ls	1	\$	8,900.07	\$	8,900.07
2	Construction Facilities & Temporary Controls	ls	1	\$	4,450.03	\$	4,450.03
3	Demolition & Site Preparation	ls	1	\$	6,230.05	\$	6,230.05
	Demolitio	n					
4	Tree Root Removal	ls	1	\$	1,238.38	\$	1,238.38
5	Pavement Removal and Over Excavate Deep Patch	sy	1111	\$	30.96	\$	34,399.31
6	Saw Cut Existing Pavement	lf	200	\$	2.35	\$	470.58
	Roadway Improv	ements					
7	4" AC Pavement - Level 3 Deep patch	sy	1111	\$	34.67	\$	38,527.23
8	6" aggregate Base	су	1850	\$	7.43	\$	13,745.97
9	Landscape Restoration & Cleanup	ls	1	\$	619.19	\$	619.19
Construct	ion Subtotal					\$:	L08,580.80
Geotechr	ical Investigation					\$	6,000.00
Contingency			20%			\$	21,716.16
Engineeri	Engineering		20%			\$	21,716.16
Administ	rative		5%			\$	5,429.04
Total Pro	ect Cost					\$1	163,442.16

Table 6: Westlake Avenue Improvement Cost Estimate



#### **KEYED NOTES**

- 01 GRIND AND OVERLAY, SEE SHEET NOTES 4-8
- 02 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12
- 03 SLURRY SEAL, SEE SHEET NOTE 10
- 04 DEEP PATCH, SEE SHEET NOTE 9
- 05 REMOVE AND REPLACE PAVEMENT EDGE , SEE SHEET NOTE 13
- 06 REMOVE TREE ROOTS, SEE SHEET NOTE 11
- 07 CRACK SEALING

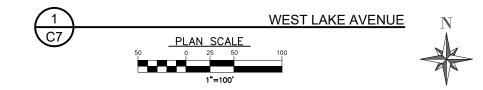
## HATCH LEGEND

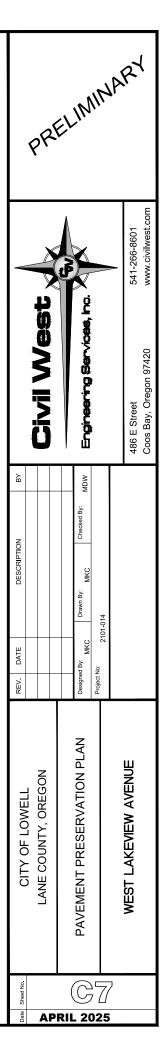
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- GRID AND OVERLAY
- TYPE 2 SLURRY SEAL
- DEEP PATCH
- EXTENTS OF PAVEMENT TO BE REHABILLITATED

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This project 9 is designed to determine the annual pavement maintenance cost based on roadway miles and a standard 30-foot width. With approximately 5 miles of paved streets in Lowell, maintenance is planned to extend pavement life by 7-10 years. A 30-year cycle was used for maintenance costs, while reconstruction assumed a 40-year lifespan with proper upkeep. The annual repair methods and their costs are broken down below. See Table 7 and 8 for a breakdown of annual pavement maintenance and reconstruction costs.

- **Crack sealing** costs \$3.72 per square yard. With 93,649 square yards of pavement, the total cost for full treatment is \$348,367.08, averaging \$11,612.24 per year over a 30-year cycle. Crack sealing should be done at least twice in a pavement's lifespan.
- **Slurry/chip** sealing costs \$11.15 per square yard, totaling \$1,044,172.35 for all roads, with an annual expense of \$34,805.74 over 30 years.
- **Grind and overlay** costs \$32.20 per square yard, totaling \$3,015,507.80, with an annual expense of \$100,516.59 over 30 years.
- Full removal and reconstruction costs \$81.73 per square yard, totaling \$7,653,092.77, with an annual expense of \$191,327.32 over a 40-year cycle.

Annual Maintenance Cost Estimates							
Repiar		Annual Cost					
Crack seal	\$	23,224.48					
Slurry Seal/Chip Seal	\$	34,805.74					
Grind and Overlay	\$	100,516.59					
Total Estimated Cost	\$	158,546.81					

Annual Reconstruction Cost Estimates				
Repiar	Annual Cost			
Reconstruction	\$	191,327.32		
Total Estimated Cost	\$	191,327.32		

Table 8: Annual Reconstruction Costs



## **CITY OF LOWELL, OREGON**

## **RESOLUTION 852**

## A RESOLUTION ADOPTING TTHE 2019 PAVEMENT PRESERVATION PLAN AND UPDATED COST MEMO

## BE IT RESOLVED, by the City Council of the City of Lowell, Oregon as follows:

**Section 1.** The "2019 Pavement Preservation Plan and Cost Memo" attached to this resolution are adopted.

Adopted by the City Council of the City of Lowell this 15th day of April, 2025.

AYES: \_\_\_\_\_

NOES: \_\_\_\_\_

APPROVED:

Maureen Weathers, Mayor

ATTEST:

Max Baker, City Recorder





























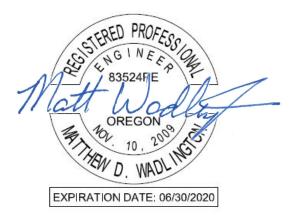




# **CITY OF LOWELL**

Pavement Preservation Plan

March 2019







Millamette Valley | South Coast | North Coast | Rogue Valley

2% MIN

# Pavement Preservation Plan



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# Pavement Preservation Plan



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Pric	prity 2	
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## **1** INTRODUCTION

## 1.1 INTRODUCTION

The City of Lowell is located 19 miles southeast of Springfield and Interstate 5, in Lane County, Oregon. The City has provided roadways to its residents and travelers since the mid-1900's when the Highway Commission and Forest Services worked together to survey and build the Lakeview Burns Highway No. 18, currently known as Highway 58, passing the southern edge of the City of Lowell. In 1907 the Lowell Covered Bridge was built connecting the community to the surrounding areas. This bridge was used to pass over the Middle Fork of the Willamette River.

Today, the City's transportation system has approximately 5 miles of paved roads, which the City maintains. Most of the roadway consists of local and minor-collector roads providing access to residential properties. Some elements of the road facilities include sidewalks, roadside ditches, storm drains, traffic control signage, and pavement markings.

The population in the City of Lowell is 1,115 people as of 2017.

## 1.2 STUDY DESCRIPTION

This study uses geotechnical investigative and observatory methods to determine the pavement condition and to develop a pavement preservation plan. This plan will identify where improvements are needed, provide cost estimates, and provide financial overview that will address the current pavement deficiencies and plan for future projects. These projects have been outlined in the capital improvement plan (CIP), in section 7 of this report. See figure 1-1 for an overview of the roadway system and project locations.

The City has hired Civil West Engineering Services, Inc. to complete this Pavement Preservation Plan. Civil West has worked alongside Carlson Testing, Inc. to complete limited geotechnical investigation to better asses the structural integrity of the pavement throughout the City of Lowell.

## 1.3 PROJECT OVERVIEW

This plan identifies 9 pavement preservation projects that include full or partial sections of 10 different streets throughout the City. Pavement projects consist of crack sealing, slurry seal, patching, grind and overlays, and pavement replacement. Project 9 specifically identifies the annual cost of maintenance that should be budgeted to maintain the roadways.

## 1.4 SUMMARY OF CAPITAL IMPROVEMENT PLAN

Recommendations in section 6 of this Plan have been prioritized in the CIP to help the City determine which projects should be completed each year to effectively maintain the transportation system of Lowell.



The total cost to complete all projects included in the CIP is estimated to be **\$896,054.29**. This estimate does not include the annual maintenance cost.

In addition to these projects the City should plan for the future. The annual cost determined to be able to maintain the roadways and pavement condition within the city is **\$265,439.52** per year.





# 2 HISTORY AND NEED

# 2.1 HISTORY AND NEED FOR THIS PROJECT

Most of the streets within the City of Lowell have very low traffic loads and there has been minimal maintenance completed to preserve the life of the pavement. This has left the City with roads that are starting to show signs of deterioration and failure. The standard road is expected to last 20-30 years before it is recommended to be rebuilt entirely. To extend the life of the pavement the City would need to complete preventative maintenance. Section 4 in this report outlines the maintenance methods most typically used and when.

The local streets surrounding the public schools are the most heavily used and some sections are not equipped to handle two-way traffic, pedestrians, and street parking. Some of the roads are suspected to have been constructed with limited base and subbase layers. Since there are no record drawings or asbuilt information on the City streets, some locations will require geotechnical investigations.



# **3** DISTRESS IN ASPHALT PAVEMENT

# 3.1 INTRODUCTION

This section will discuss the different types of pavement distress and failure. Since there are many types of pavement distress, this report will only discuss the most commonly observed throughout the City of Lowell or that are the most typically seen. This section will also define some common terms related to pavement.

**Oxidation** is a polar bonding molecular process that occurs when asphalt is exposed to oxygen. Over time molecular bonds harden and the pavement becomes brittle. Oxidized pavement will experience a loss of elasticity and increase the probability of failure. The pavement color will also change during this process, black to grey in color as oxidation becomes more apparent. Once the pavement is brittle, cracks begin to form causing base weakening, fatigue and failure.

**Base weakening** is caused when surface water leaks in to the cracks of the pavement. This allows water to enter the base and sub-base layers, reducing the pavement structural capacity. This will increase the load applied to the pavement and the result is fatigued pavement.

**Fatigue** occurs when water has entered the pavement sub-base layers through open cracks in the pavement surface or sub-surface layers. Fatigue is accelerated when the water present and the pavement is forced to take on more loading then designed for due to the base weakening. This is also referred to as alligator cracking as described more in section 3.2.1.

**Failure** occurs after fatigue and is caused by continuous weather conditions, traffic loading and movement in the pavement. After time the base layers will begin to show. This is called pavement failure.



# 3.2 CRACKING

#### 3.2.1 ALLIGATOR CRACKING

Alligator or "fatigue" cracking is a series of interconnected cracks caused by repeated traffic loading to the pavement surface. The cracks begin at the bottom layer of the pavement and eventually make their way to the surface. This allows for water to penetrate the base and sub-base layers of the pavement,

causing more distress. The cracks reach the pavement surface, initially as parallel longitudinal cracks. After repeated loading, the cracks make connections to form a pattern resembling alligator skin. The cracked pieces of pavement are usually less than 1.5 feet on the longest side.

Alligator cracking is caused by traffic loading, poor sub-base or base structure, and aging pavement.

Typical treatment methods include: patching, 2" hot mix overlay, and chip seal. In low severity cases slurry seal or fog sealing may be recommended.



Figure 3-1 Alligator Cracking on Main St.

#### 3.2.2 EDGE CRACKING

Edge cracking is a section of parallel cracks to the pavement edge. Typically seen within 1 to 1.5 feet of the outer edge of the pavement. This pavement distress is associated with traffic loading, weakened base or subgrade caused by frost heave or thaw weakening. Edge cracking at a high-severity can be classified as raveling (see section 3.2 below for more information on raveling). These cracks usually range from 1/8-inch to greater than ¼-inch.

Edge cracking is caused by traffic loading, environment, poor



Figure 3-2 Edge Cracking on 2<sup>nd</sup> St.

construction methods, and pavement shoulder deficiencies.



Typical treatment methods include: crack sealing, cold mix overlay, and shoulder maintenance/reconstruction.

#### 3.2.3 LONGITUDINAL AND TRANSVERSE CRACKING

Longitudinal cracking is parallel to the pavement's centerline. Cracking may be seen anywhere along the pavement in the parallel direction. Severe longitudinal cracking can be classified as alligator cracking. Longitudinal cracks can be anywhere from 3/8-inch to 3-inches in width.

Transverse cracking are cracks that are formed in right angles or perpendicular from the pavement centerline. These cracks vary in size, ranging from ¼-inch to 2-inches in width. Transverse cracking is not caused by traffic loading.



Longitudinal and Transverse cracks are usually caused by environmental impacts (freeze and thaw), swelling or shrinkage of the subgrade, poor construction methods,

Figure 3-3 Longitudinal Cracking on Main St.

settlement, poor drainage and reflections cracks (cracks that occur on an overlay over an exciting crack).

Typical treatment methods include crack sealing, chip seal, or patching.

#### 3.2.4 BLOCK CRACKING

Block cracking is connected cracks creating rectangular or square cracked sections. These cracks range from an area of the size 1 by 1-foot to 10 by 10-foot sections. Block cracking is caused by the shrinkage of the asphalt and temperature change.

Block cracking is not caused by traffic loading. Block cracking is caused by environmental conditions and aging pavement.

Typical treatment methods include crack sealing, fog sealing, slurry seal, chip seal, or overlay.



Figure 3-4 Block Cracking (not in Lowell)



# 3.3 RAVELING

Raveling also is known as "weathering", is the wearing of the pavement binder on the surface. Climate conditions can accelerate the loss of binder and aggregates. New pavement can see raveling start to occur

in as little as 6 months after pavement construction due to poor construction methods (inadequate compaction) or oxidation and erosion (water on the pavement surface). The aggregate may be exposed in the sizes of 0.05inch in low severity cases to greater than ¼-inch in more severe cases.

Raveling is caused by the loss of asphalt binder due to weather, erosion, aging and daily use.

Typical treatment methods include fog sealing, slurry seal, chip seal, or overlay.



Figure 3-5 Pavement Raveling on Loftus Ave.

### 3.4 RUTTING

Rutting of the pavement is observed surface depression along the wheel path. This pavement and subgrade deformation are caused by repeated traffic loading and construction method deficiencies. Rutting is more noticeable in rainy weather when standing water can occur. The levels of depression in the wheel path are usually between ½-inch in less severe cases to 2-inches for more severe cases.

Rutting is caused by repeated traffic loading.

Typical treatment methods include milling and overlay.



Figure 3-6 Pavement Rutting (not in Lowell)



# 4 PAVEMENT PRESERVATION METHODS

# 4.1 INTRODUCTION

There are a variety of rehabilitation methods depending on the severity of the pavement conditions. This section will discuss pavement preservation methods, how the process is completed when to use each method and the cost effectiveness for each option.

# 4.2 CRACK SEALING

This treatment involves cleaning cracks (over  $1/8^{"}$  wide) using a "hot air lance" to blow out debris, burn grass and weeds, and dry the crack. Cracks should be  $1/8^{"} - 1^{"}$  in size for crack sealing to be recommended. Immediately after cleaning, the crack is filled with a specialized elastomeric sealing compound. The elastomeric sealant has a low modulus of elasticity and will stretch easily. The compound has a high durability and can last up to 4 years. Regular traffic can be allowed 5 minutes after the application. This method is recommended for pavement with longitudinal, transverse, and block cracking. Benefits of crack sealing include: preventing water from entering the base and subgrade, preventing debris from entering the cracks, and preparing the road for overlay or other maintenance treatments. Crack sealing is a cost-effective way to treat roads with minimal deterioration.

# 4.3 SLURRY SEAL

This is a treatment using a mixture of water, asphalt emulsion, and aggregate to the existing pavement. The combined mixture represents a slurry. Additives like latex polymer are commonly added to the asphalt emulsion. Placing the mixture over existing pavement is called a seal. Typically, applications are on residential streets and can last up to 7 years. A slurry truck designed with multiple compartments to hold and mix the water, asphalt emulsion, aggregate, and additives. The slurry mixture is dispersed out of the back of the truck. The slurry is then smoothed out on the surfaces with a squeegee. The slurry seal sets within 4 to 6 hours and is ready for regular traffic. This pavement preservation method seals cracks, restores flexibility to pavement surface and helps to preserve the underlying pavement structure. It also has an appealing uniform dark black color. This method is recommended for pavement with moderate distress, no rutting, and narrow crack widths and is usually completed on an intermittent or recurrent basis.

# 4.4 CHIP SEAL

This treatment method requires a two-step process, first applying a layer of asphalt emulsion and then a layer of crushed rock to the existing surface. The asphalt emulsion usually contains additives like latex polymer and a rejuvenating agent. A distributor truck applies a layer of the asphalt emulsion to seal the existing pavement surface. This is followed by a chip spreader that applies the crushed rock. As the chip spreader travels, a dump truck dumps rock into the spreader. After the chips are spread, a steel drum



roller and rubber-tired rollers follow behind for compaction of the application. Chip sealing is usually cycled every 7 to 10 years. This method is recommended for pavement with moderate alligator cracking with no spalling (excess deterioration of cracks) or rutting and where feasible to extend the life of pavement until resurfacing can be performed.

# 4.5 ASPHALT OVERLAY

This treatment method involves a mix design of hot liquid asphalt and aggregates. This mixture is applied directly to the top of a deteriorating pavement surface. Sometimes asphalt milling may be required prior to the application but is not always necessary. Milling involves removing the top layer of the pavement surface with cracks and raveling damage. A truck is used to apply the asphalt overlay, usually, the overlay is 1.5 to 2 inches in thickness. After the application, compaction is achieved using mechanical rollers with vibration. Usually, traffic can continue 4-6 hours after completion of the application. An asphalt overlay is expected to last 10 to 20 years. This method is recommended for pavement with cracks, raveling, no rutting, or root damage or when a need for regrading is observed.

# 4.6 REMOVE AND REPLACE

Remove and replace pavement can be very expensive and is only recommended when there is extensive structural damage and severe deterioration of the pavement surface or the street carries more load then designed for. This will require geotechnical investigative sampling to help determine the best recommendation for the new pavement design. The new pavement design will also consider the traffic loading of the area chosen to remove and replace. This method is expected to last 20 years or more.

# 4.7 DEEP PATCH

A deep patch is typically recommended on small sections of pavement that exhibit signs of base weakening and fatigue. These areas can be easily corrected by removing the pavement and base layers, then over excavating to provide a decent subbase layer (usually 6-8" of rock) and applying 4-inches of asphalt. This repair method is usually coupled with a slurry seal or grind and overly.



# 5 ENGINEERING FIELD ANALYSIS & RESULTS

# 5.1 FIELD DATA AND OBSERVATIONS

Field data was collected by onsite inspection, observation, and core sampling. The City streets were walked, and areas showing pavement distress and deterioration were recorded. The City also identified areas of concern for traffic congestion, off street parking and pavement condition. From observation, many streets were in moderately good condition. Pavement distress most commonly visible throughout the City was raveling, alligator cracking, oxidation, and edge cracking.

# 5.2 GEOTECHNICAL INVESTIGATIVE METHODS AND RESULTS

Core samples are taken to allow for a visual inspection of the asphalt layer, base and subbase layers. Pavement thickness, drainage and soil type all can be determined to allow for the best improvements or repair method.

The City completed core samples on East Main Street and East Lakeview Street. The results were used to define the structural integrity of the pavement and to make recommendations for rehabilitation. The recommendations provided by the geotechnical engineer have been outlined in project 1, and section 6 of this report. For a full geotechnical report see Appendix A.



# 6 IMPROVEMENT PROJECTS

## 6.1 INTRODUCTION

This section discusses in detail, the recommended pavement preservation projects from the combined results of core sampling and observed pavement distress. A cost estimate has been provided along with a drawing showing the location and extents of each project.

# 6.2 DISCUSSION OF COST ESTIMATES

Once a preferred repair method was chosen, the associated improvements and local area conditions were assessed when developing cost estimates for each repair. The restoration of any existing facility, structure, or landscape was also included in the cost estimates. In addition to individual project costs, estimates include mobilization and temporary control, demo and site prep, contingency, legal/administration fees, and engineering. See below for a brief explanation.

**Mobilization** and temporary facilities costs are based upon a percentage of the overall project cost. Mobilization usually includes the cost to move and rent equipment along with any one-time costs associated with starting and ending construction. Temporary facilities include items such as fencing, traffic control, restrooms, markers, and erosion control. Some adjustments of these prices have been made to the estimates provided in the next section of the report for associated projects that have specialized equipment cost. This report, otherwise, utilizes a mobilization and temporary control costs of 10% and 5%, respectively.

**Contingency** costs are intended to account for any unknowns or unforeseen events that may arise. Improvement projects have not included subsurface geotechnical surveys, sewer lateral locations, or easement locations. As the projects continues through the design phase, the number of unknowns will decrease, as will the contingency allowance. This report utilizes a contingency of 20% of the overall construction cost for each project.

**Administration** costs are a small portion of the overall project cost and include legal fees, City staff costs, cost associated with permitting, internal planning, and any miscellaneous non-construction related work. This report utilizes an administration cost of 5% of the overall construction cost for each project.

**Engineering** fees are estimated as a percentage of the overall cost of construction. With projects varying in scope and uncertainties, the engineering costs can vary as well. This project utilizes an engineering cost of 20% of the overall cost of construction.

**Construction** cost estimates in this report are based on recent and similar projects, material costs from suppliers, and special construction costs.



## 6.3 PAVEMENT PRESERVATION PROJECTS AND RECOMMENDATIONS

To address existing deficiencies in the City of Lowell, the following projects have been identified. Please note that some projects include improvements to more than one street, which should be bundled within small geographic locations.

In addition to the specific projects recommended herein, it is recommended that the city develop a budget for annual street improvements to treat or replace pavement as it deteriorates. As described in section 2.2, pavement is expected to last 20 years, if some maintenance is completed during that time period pavement is expected to last 30-40 years. Project 8, at the end of this section is included to develop the annual cost for pavement maintenance.

# 6.3.1 Project 1

This project is on Main Street. Main Street runs parallel on the northside to the property of the Lowell High School. Main Street was identified by the City as priority projects due to the amount of traffic the street encounter's daily. Observed pavement distress on Main Street includes; severe to moderate alligator cracking, longitudinal cracking, oxidation, aging, and raveling.

Geotechnical investigation, completed July 2018, recommends Main Street be repaired with deep patching in areas of severe alligator cracking combined with a 2-inch grind and overlay of new asphalt pavement. See the project sheet C1 for more information. Below is the overall construction cost estimate for East Main Street improvements totaling **\$119,174.88**.

Item	Description	Unit	Est. Quantity	Unit Amount		Total
1	Mobilization - Bonds & Insurance (10%)	ls	1	\$ 6,736.85	\$	6,736.85
2	Construction Facilities & Temporary Controls (5%)	ls	1	\$ 3,368.43	\$	3,368.43
3	Demolition & Site Preparation (7%)	ls	1	\$ 4,715.80	\$	4,715.80
	Demolition					
4	Cold Pane/Grind Pavement Removal (2 inches deep)	sy	2331	\$ 3.00	\$	6,992.00
5	Over Excavate Deep Patches 6"	sy	123	\$ 25.00	\$	3,066.67
	Roadway Improvements					
7	Surface Treatments (seal cracks)	sy	2331	\$ 3.00	\$	6,992.00
8	Deep Patching at Driveways (5% of street) includes saw cutting, geo fabric, backfill and AC	ls	1	\$ 3,373.33	\$	3,373.33
9	2" AC Pavement Overlay- Level 3	sy	2331	\$ 14.00	\$ 3	32,629.33
10	Clean Pavement Surface and Apply Top Coat Per 00730 ODOT	sy	2453	\$ 5.00	\$ 1	12,266.67
Striping						
11	12" Thermoplastic 12' Stop Bar and 34' Crosswalk	lf	46	\$ 11.00	\$	506.00
12	4" White Dotted Line Per ODOT TM500 WD	lf	695	\$ 1.50	\$	1,042.50
13	Landscape Restoration & Cleanup	ls	1	\$ 500.00	\$	500.00
Construct	ion Subtotal				\$ 8	32,189.57
Continger	ncy		20%		\$ 1	16,437.91
Engineering 20%					\$ 1	16,437.91
Administrative 5%						4,109.48
Total Proj	ect Cost				\$11	9,174.88

### Table 6-1 East Main Street Improvements Cost Estimate



# 6.3.2 Project 2

This project is on Lakeview Avenue. Lakeview runs parallel on the southside to the property of the Lowell High School. Lakeview was identified by the City as priority projects due to the amount of traffic the street encounter's daily. Observed pavement distress and deficiencies on Lakeview includes; longitudinal cracking, the width of the roadway, and no off-street parking.

Geotechnical investigation, completed July 2018, identified pavement deficiencies including poor subbase and lack of required pavement thickness for traffic loading. It is recommended Lakeview be repaired with a 2-inch grind and overlay for the ¼ most eastern section of the street and full removal and replacement of the remainder. See the project sheet C1 for more information. Below is the overall construction cost estimate for East Lakeview Avenue improvements totaling **\$142,100.82**.

Item	Description	Unit	Est. Quantity	Unit Amount	Total
1	Mobilization - Bonds & Insurance	ls	1	\$ 8,032.83	\$ 8,032.83
2	Construction Facilities & Temporary Controls	ls	1	\$ 4,016.42	\$ 4,016.42
3	Demolition & Site Preparation	ls	1	\$ 5,622.98	\$ 5,622.98
	Demolition				
4	Cold Pane/Grind Pavement Removal (2 inches deep) (1/4 most eastern section)	sy	383	\$ 3.00	\$ 1,150.00
5	Roadway Section Removal (3/4 most western section)	sy	1150	\$ 25.00	\$ 28,750.00
6	Sawcut existing Concrete, Sidewalks, & Pavement	lf	100	\$ 1.90	\$ 190.00
	Roadway Improvements				
7	Standard Curb	lf	650	\$ 12.00	\$ 7,800.00
8	Surface Treatments (Seal cracks)	sy	1533	\$ 3.00	\$ 4,600.00
9	2" AC Pavement Overlay- Level 3	sy	383	\$ 14.00	\$ 5,366.67
10	4" AC Pavement - Level 3	sy	1150	\$ 14.00	\$ 16,100.00
11	6" Aggregate Base	sy	1150	\$ 6.00	\$ 6,900.00
12	Clean Pavement Surface and Apply Top Coat Per 00730 ODOT	sy	1533	\$ 5.00	\$ 7,666.67
	Striping		_		
13	12" Thermoplastic 10' Stop Bar and 18' Crosswalk	lf	30	\$ 11.00	\$ 330.00
14	4" White Dotted Line Per ODOT TM500 WD	lf	650	\$ 1.50	\$ 975.00
15	Landscape Restoration & Cleanup	ls	1	\$ 500.00	\$ 500.00
Construction Subtotal					
Contingency 20%			\$ 19,600.11		
Engineering 20%				\$ 19,600.11	
Administrative 5%					\$ 4,900.03
Total Proj	ect Cost				\$142,100.82

#### Table 6-2 East Lakeview Avenue Improvements Cost Estimate



- 01 GRIND AND OVERLAY, SEE SHEET NOTES 4-8
- 02 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12

REMOVE TREE ROOTS, SEE SHEET NOTE 11

- 03 SLURRY SEAL, SEE SHEET NOTE 10
- 04 DEEP PATCH, SEE SHEET NOTE 9
- 05 REMOVE AND REPLACE PAVEMENT EDGE , SEE SHEET NOTE 13

07 CRACK SEALING

06

EXTENTS OF PAVEMENT TO BE REHABILLITATED

HATCH LEGEND

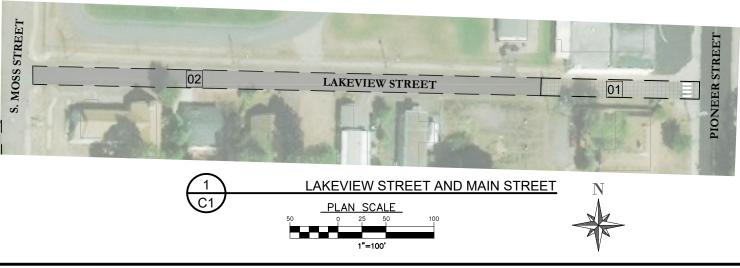
GRID AND OVERLAY

**TYPE 2 SLURRY SEAL** 

REMOVE AND REPLACE PAVEMENT

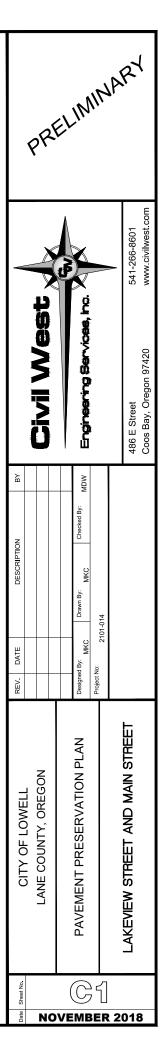
# GENERAL NOTES

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- 2. NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. STAT. AUTH.: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- 4. GRIND EXISTING PAVEMENT, 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY
- 5. INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730.
- 6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, <sup>1</sup>/<sub>2</sub> DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH.
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED. CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS 1" AND LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS.
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING.
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES. MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES. REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT.
- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA.
- 16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER.



DEEP PATCH

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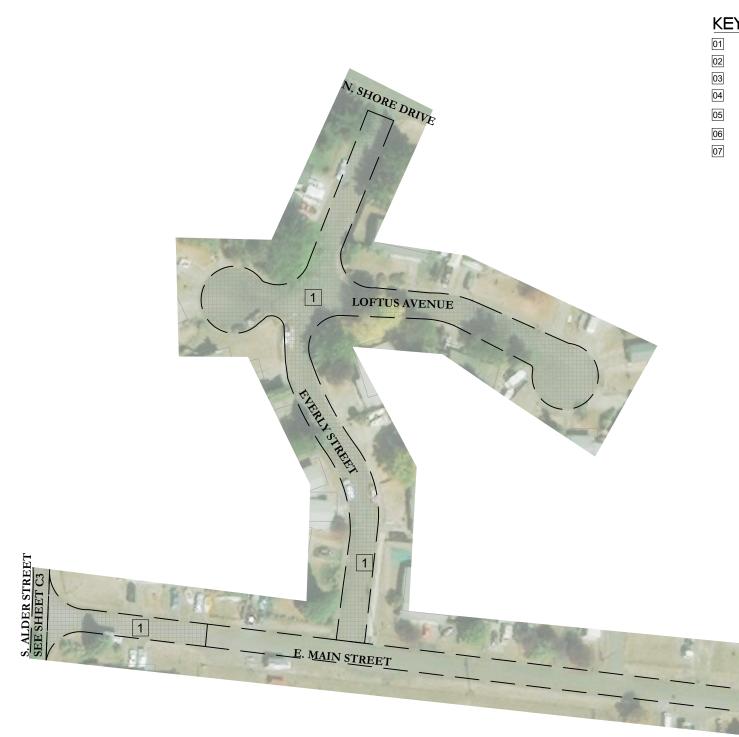
# 6.3.3 Project 3

This project consists of three streets, Everly Street, Loftus Avenue, and two small sections of Main Street. Everly runs north and south and connects Main Street to N. Shore Drive. Loftus consists of two cul-de-sacs off Everly. Observed pavement distress on Main Street includes; oxidation, aging, and raveling. Observed pavement distress and deficiencies on Everly and Loftus include; longitudinal cracking, oxidation, aging and severe raveling.

It is recommended to complete a 2-inch grind and overlay of new asphalt pavement on the entire section of Loftus and Everly and on the most western portion of Main with a remove and replace on the eastern section. Before the overlay, it is recommended to seal all existing cracks in the pavement. See the project sheet C2 for more information. Below is the overall construction cost estimate for Everly, Loftus and West Main Street improvements totaling **\$166,245.21**, including geotechnical investigation.

Item	Description	Unit	Est. Quantity	Unit Amount	Total
1	Mobilization - Bonds & Insurance	ls	1	\$9,115.05	\$ 9,115.05
2	Construction Facilities & Temporary Controls	ls	1	\$4,557.52	\$ 4,557.52
3	Demolition & Site Preparation	ls	1	\$6,380.53	\$ 6,380.53
	Demolition		·		
4	Pavement removal and Over Excavate Deep Patch	sy	91	\$ 25.00	\$ 2,283.33
5	Saw Cut Existing Pavement for Deep Patch	lf	140	\$ 1.90	\$ 266.00
6	Cold Pane/Grind Pavement Removal (2 inches deep)	sy	3889	\$ 3.00	\$ 11,666.67
	Roadway Improvement	S			
7	Surface Treatment Seal Cracks	sy	4400	\$ 3.00	\$ 13,200.00
8	2"AC Pavement Overlay - Level 3 (Everly and Loftus)	sy	4400	\$ 14.00	\$ 61,600.00
9	4" AC Pavement	sy	30	\$ 28.00	\$ 840.00
10	Aggregate Base	су	30	\$ 6.00	\$ 182.48
11	Landscape Restoration & Cleanup	ls	1	\$ 500.00	\$ 500.00
	Striping				
12	12" thermoplastic Stop Bar	lf	12	\$ 11.00	\$ 132.00
13	Crosswalk thermoplastic Bar	lf	24	\$ 20.00	\$ 480.00
Construct	ion Subtotal				\$ 111,203.59
Geotechn	ical Investigation				\$ 5,000.00
Continge	псу		20%		\$ 22,240.72
Engineering			20%		\$ 22,240.72
Administ	Administrative 5%				\$ 5,560.18
Total Proj	ect Cost				\$ 166,245.21

#### Table 6-3 Everly and Main Street Improvements Cost Estimate



GRIND AND OVERLAY, SEE SHEET NOTES 4-8 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12 SLURRY SEAL, SEE SHEET NOTE 10 GRID AND OVERLAY DEEP PATCH SEE SHEET NOTE 9 TYPE 2 SLURRY SEAL REMOVE AND REPLACE PAVEMENT EDGE, SEE SHEET NOTE 13 REMOVE TREE ROOTS. SEE SHEET NOTE 11 DEEP PATCH CRACK SEALING EXTENTS OF PAVEMENT TO BE REHABILLITATED

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- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- GRIND EXISTING PAVEMENT. 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY. 4.
- INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730. 5.
- SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT 6.
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, 1" DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED. CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS an AND LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS.
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES. MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES. REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT
- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA
- CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER. 16





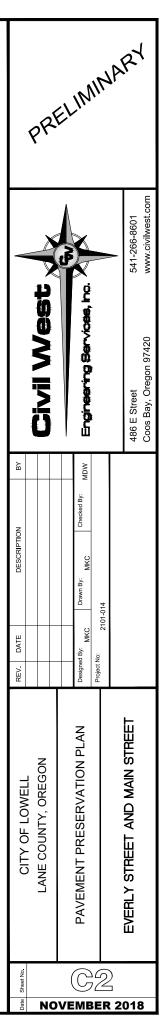
STREET

MOSe

02

# HATCH LEGEND

REMOVE AND REPLACE PAVEMENT





## 6.3.4 Project 4

This project is on Alder Street. Alder Street runs north and south from West Main Street. Observed pavement distress on Alder includes; longitudinal cracking, oxidation, again and raveling. The most southern portion of Alder Street is identified as less severe than the northern portion.

It is recommended to complete a 2-inch grind and overlay of new asphalt on Alder Street. Prior to completing this project, it is recommended the city compete geotechnical evaluation of the pavement layers to confirm there is a supportive base and subbase layers. If it is found the subbase layers of the pavement are inadequate the city will need to re-evaluate the maintenance method and reconstruction may be required. See the project sheet C3 for more information. Provided below is the overall construction cost estimate for Alder Street improvements totaling **\$81,361.83**.

Item	Description	Unit	Est. Quantity	A	Unit mount	Total
1	Mobilization - Bonds & Insurance	ls	1	\$4	,316.67	\$ 4,316.67
2	Construction Facilities & Temporary Controls	ls	1	\$2	2,158.33	\$ 2,158.33
3	Demolition & Site Preparation	ls	1	\$3	3,021.67	\$ 3,021.67
	Demolition					
4	Cold Pane/Grind Pavement Removal (2 inches deep)	sy	1000	\$	6.00	\$ 6,000.00
	Roadway Improvemen	ts				
5	Surface Treatment Seal Cracks	sy	1667	\$	3.00	\$ 5,000.00
6	2" AC Pavement Overlay	sy	1667	\$	14.00	\$ 23,333.33
7	Clean Pavement Surface and Apply Top Coat Per 00730 ODOT	sy	1667	\$	5.00	\$ 8,333.33
8	Landscape Restoration & Cleanup	ls	1	\$	500.00	\$ 500.00
Construct	ion Subtotal					\$ 52,663.33
Geotechn	Geotechnical Investigation			\$ 5,000.00		
Contingency 20%				\$ 10,532.67		
Engineeri	Engineering 20%			\$ 10,532.67		
Administrative 5%				\$ \$ 2,633.17		
Total Proj	ect Cost					\$ 81,361.83

#### Table 6-4 Alder Street Improvements Cost Estimate



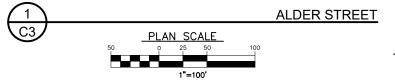
- 01 GRIND AND OVERLAY, SEE SHEET NOTES 4-8
- 02 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12
- 03 SLURRY SEAL. SEE SHEET NOTE 10
- 04 DEEP PATCH. SEE SHEET NOTE 9
- 05 REMOVE AND REPLACE PAVEMENT EDGE , SEE SHEET NOTE 13
- 06 REMOVE TREE ROOTS, SEE SHEET NOTE 11
- 07 CRACK SEALING

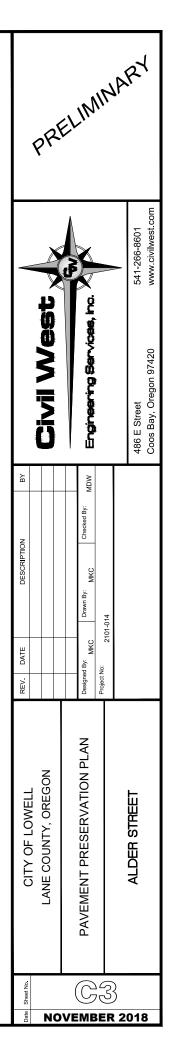
# HATCH LEGEND

REMOVE AND REPLACE PAVEMENT	
GRID AND OVERLAY	
TYPE 2 SLURRY SEAL	
DEEP PATCH	
EXTENTS OF PAVEMENT TO BE REHABILLITATED	

### GENERAL NOTES

- 1. <u>ATTENTION:</u> OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH 952-001-0090. YOU MAY OBTAIN A COPY OF THE RULES BY CALLING THE CENTER.
- 2. NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. STAT. AUTH .: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- 4. GRIND EXISTING PAVEMENT, 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY.
- 5. INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730.
- 6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, <sup>1</sup>/<sub>2</sub> DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH.
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED. CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS 1" AND LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS.
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING.
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES. MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES. REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT.
- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA.
- 16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER.







# 6.3.5 Project 5

This project consists of two streets, 2<sup>nd</sup> Street and Cannon Street. 2<sup>nd</sup> Street runs west to east between Moss Street and Hyland Drive. Cannon Street runs south from 2<sup>nd</sup> Street. Observed pavement distress on 2<sup>nd</sup> Street includes; pavement edge cracking/longitudinal cracking, and an aging chip seal. Observed pavement distress on Cannon includes; alligator cracking, longitudinal cracking, oxidation, aging, and severe raveling.

It is recommended to complete a 2-inch grind and overlay of new asphalt pavement on the identified section of Cannon Street and a type two slurry seal on 2<sup>nd</sup> Street with pavement edge removal/deep patching in identified locations. See the project sheet C4 for more information. Below is the overall construction cost estimate for 2<sup>nd</sup> Street and Cannon Street improvements totaling **\$100,702.62**.

ltem	Description	Unit	Est. Quantity	Unit Amount	Total
1	Mobilization - Bonds & Insurance	ls	1	\$ 5,692.63	\$ 5,692.63
2	Construction Facilities & Temporary Controls	ls	1	\$ 2,846.31	\$ 2,846.31
3	Demolition & Site Preparation	ls	1	\$ 3,984.84	\$ 3,984.84
	Demolition				
4	Edge Roadway Section Removal 1'-6" Width	sy	144	\$ 25.00	\$ 3,611.11
5	Sawcut existing Concrete, Sidewalks, & Pavement	lf	700	\$ 1.90	\$ 1,330.00
6	Pavement Removal Deep Patch Over Excavate	sy	7	\$ 25.00	\$ 183.33
7	Cold Pane/Grind Pavement Removal (2" deep)	sy	1000	\$ 3.00	\$ 3,000.00
	Roadway Improvements				
8	Surface Treatments (Seal cracks)	sy	3822	\$ 3.00	\$ 11,466.67
9	2" AC Pavement Overlay	sy	1000	\$ 14.00	\$ 14,000.00
10	Type 2 Slurry Seal	sy	2822	\$ 5.00	\$ 14,111.11
11	4" AC - 2' wide edge reconstruction	sy	74	\$ 28.00	\$ 2,074.07
12	Clean Pavement Surface and Apply Top Coat Per 00730 ODOT	sy	1000	\$ 5.00	\$ 5,000.00
13	Reconstruct sub-base on the edge of roadway and deep patch 3/4-0" rock	су	50	\$ 3.00	\$ 150.00
14	Landscape Restoration & Cleanup	ls	1	\$ 500.00	\$ 500.00
Striping					
14	4" White Dotted Line Per ODOT TM500 WD	lf	1000	\$ 1.50	\$ 1,500.00
Construction Subtotal					
Continger	ncy		20%		\$ 13,890.02
Engineeri	Engineering		20%		\$ 13,890.02
Administrative 55			5%		\$ 3,472.50
Total Proj	ect Cost				\$100,702.62

#### Table 6-5 Cannon And 2nd Street Improvements Cost Estimate

01

02

03

04

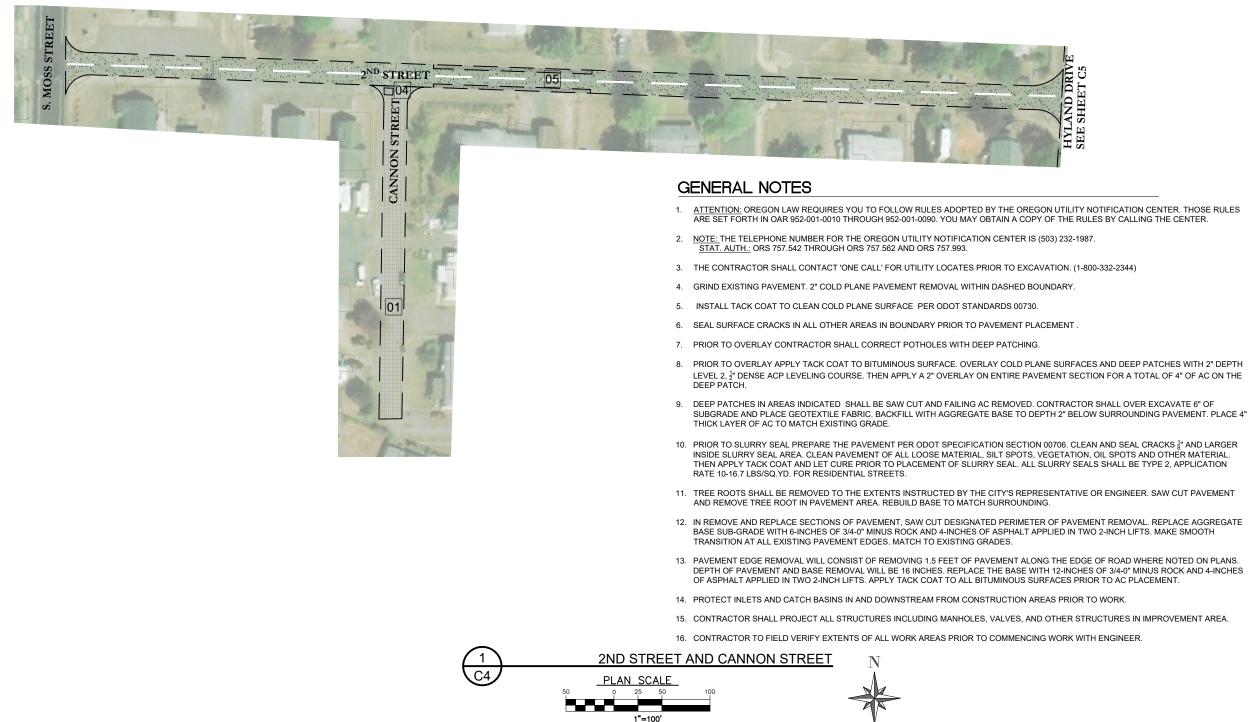
05

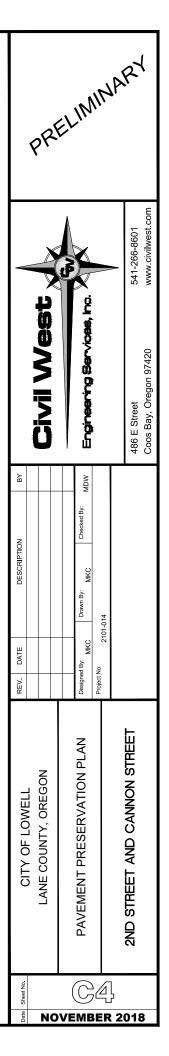
06

07

# HATCH LEGEND

GRIND AND OVERLAY, SEE SHEET NOTES 4-8 REMOVE AND REPLACE PAVEMENT REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12 SLURRY SEAL, SEE SHEET NOTE 10 GRID AND OVERLAY DEEP PATCH, SEE SHEET NOTE 9 **TYPE 2 SLURRY SEAL** REMOVE AND REPLACE PAVEMENT EDGE, SEE SHEET NOTE 13 REMOVE TREE ROOTS, SEE SHEET NOTE 11 DEEP PATCH CRACK SEALING EXTENTS OF PAVEMENT TO BE REHABILLITATED







# 6.3.6 Project 6

This project consists of two streets, 3<sup>rd</sup> Street and Hyland Drive. Hyland Drive runs north and south on the most eastern side of 3<sup>rd</sup> Street. 3<sup>rd</sup> street runs west from Hyland Drive. Observed pavement distress on Hyland Drive includes; alligator cracking, longitudinal cracking, minimal raveling. 3<sup>rd</sup> street is in good condition and observed pavement distress include minimal cracking and pavement flexibility loss.

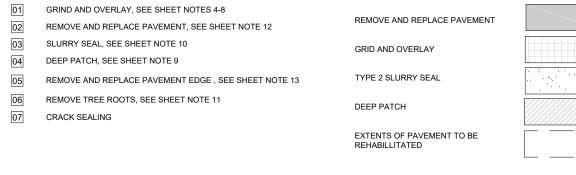
Due to the good condition of the pavement and no major visible distress on 3<sup>rd</sup> Street, it is recommended to complete crack sealing prior to completing a type 2 slurry seal. This will give back some pavement flexibility and prolong the life of the pavement structure. Also, It is recommended to complete a type 2 slurry seal and deep patching on Hyland Drive. See sheet C5 for more information. Below is the overall construction cost estimate for 3<sup>rd</sup> Street and Hyland Drive improvements totaling **\$101,401.24**.

ltem	Description	Unit	Est. Quantity	Unit Amount			Total
1	Mobilization - Bonds & Insurance	ls	1	\$	5,732.12	\$	5,732.12
2	Construction Facilities & Temporary Controls	ls	1	\$	2,866.06	\$	2,866.06
3	Demolition & Site Preparation	ls	1	\$	4,012.49	\$	4,012.49
	Demolition						
4	Pavement Removal and Over Excavate Deep Patch	sy	122	\$	25.00	\$	3,055.56
5	Saw Cut Pavement	lf	210	\$	1.90	\$	399.00
	Roadway Improve	ements					
6	Surface Treatments (Seal cracks)	sy	6044	\$	3.00	\$	18,133.33
7	Type 2 Slurry Seal	sy	6044	\$	5.00	\$	30,222.22
8	4" AC Pavement - Level 3	sy	122	\$	14.00	\$	1,711.11
9	Aggregate base rock	су	50	\$	6.00	\$	300.00
10	Landscape Restoration & Cleanup	ls	1	\$	500.00	\$	500.00
Striping							
11	4" White Dotted Line Per ODOT TM500 WD	lf	2000	\$	1.50	\$	3,000.00
Construct	ion Subtotal					\$	69,931.89
Contingency			20%			\$	13,986.38
Engineering			20%			\$	13,986.38
Administ	rative		5%			\$	3,496.59
Total Proj	ect Cost					\$:	101,401.24

#### Table 6-6 3rd Street and Hyland Drive Improvement Cost Estimate

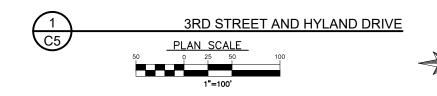


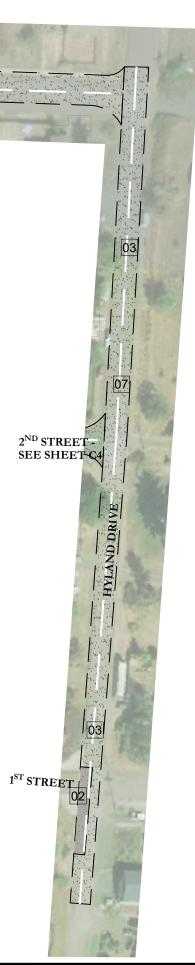
## HATCH LEGEND

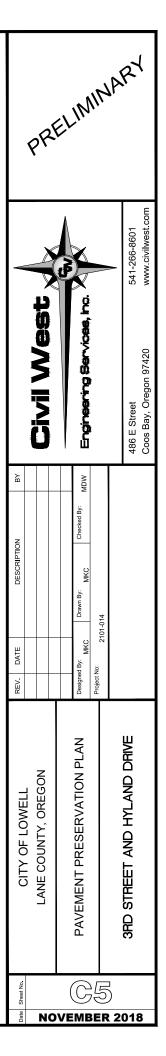


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- 2. NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. STAT. AUTH.: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- 4. GRIND EXISTING PAVEMENT. 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY.
- INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730. 5.
- 6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, <sup>1</sup>/<sub>2</sub> DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED. CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS and LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING.
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES. MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES. REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT
- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA.
- 16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER.









# 6.3.7 Project 7

This project is on 4<sup>th</sup> Street. 4<sup>th</sup> Street runs west and east one block north of 3<sup>rd</sup> Street. This street is mostly in good condition. The most eastern section of 4<sup>th</sup> Street has a partial section with older pavement and tree root intrusion. Observed types of distress include; raveling, oxidation, alligator cracking, and tree root intrusion.

It is recommended to complete crack sealing and a type 2 slurry seal on the entire section of 4<sup>th</sup> street to maintain the road. It is assumed the road was constructed 10 or more years ago. A slurry seal will create one continuous surface to the somewhat patchy road on the eastern portion and extend the life of the pavement. The section identified on sheet C6 should be corrected with deep patch prior to the slurry seal. This will correct subbase damage due to the tree root intrusion. See Sheet C6 for more information. Below is the overall construction cost estimate for 4<sup>th</sup> Street improvements totaling **\$52,931.62**.

Item	Description	Unit	Est. Quantity	l	Unit Amount		Total	
1	Mobilization - Bonds & Insurance	ls	1	\$	2,992.18	\$	\$ 2,992.18	
2	Construction Facilities & Temporary Controls	ls	1	\$	1,496.09	\$	1,496.09	
3	Demolition & Site Preparation	ls	1	\$	2,094.52	\$	2,094.52	
	Demolition							
4	Pavement Removal and Over Excavate Deep Patch	sy	13	\$	25.00	\$	333.33	
5	Saw Cut Pavement	lf	100	\$	1.90	\$	190.00	
	Roadway Improve	ments						
4	Surface Treatments (Seal cracks)	sy	3556	\$	3.00	\$1	0,666.67	
5	Type 2 Slurry Seal	sy	3556	\$	5.00	\$1	7,777.78	
6	4" AC Pavement- Level 3	sy	13	\$	28.00	\$	364.00	
7	Aggregate Base	су	15	\$	6.00	\$	90.00	
8	Landscape Restoration & Cleanup	ls	1	\$	500.00	\$	500.00	
Construct	ion Subtotal					\$3	6,504.57	
Contingency			20%			\$	7,300.91	
Engineeri	Engineering		20%			\$	7,300.91	
Administ	rative		5%			\$	1,825.23	
Total Proj	Total Project Cost					\$5	2,931.62	

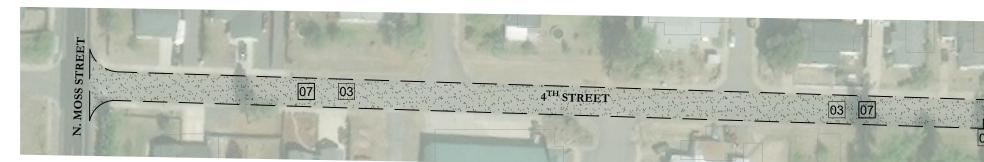
#### Table 6-7 4th Street Improvement Cost Estimate

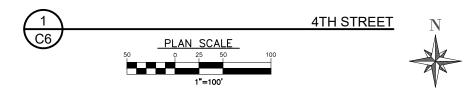
- 01 GRIND AND OVERLAY, SEE SHEET NOTES 4-8
- 02 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12
- 03 SLURRY SEAL SEE SHEET NOTE 10
- 04 DEEP PATCH. SEE SHEET NOTE 9
- 05 REMOVE AND REPLACE PAVEMENT EDGE , SEE SHEET NOTE 13
- 06 REMOVE TREE ROOTS, SEE SHEET NOTE 11
- 07 CRACK SEALING

REMOVE AND REPLACE PAVEMENT	
GRID AND OVERLAY	
TYPE 2 SLURRY SEAL	
DEEP PATCH	
EXTENTS OF PAVEMENT TO BE REHABILLITATED	

# **GENERAL NOTES**

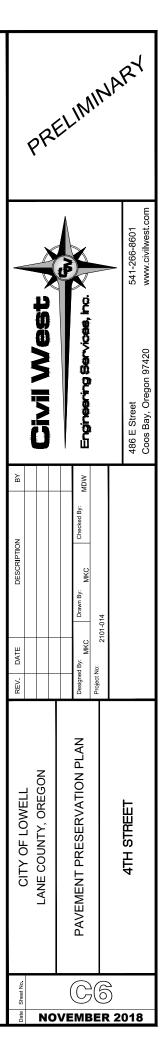
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- 2. NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. STAT. AUTH.: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- 4. GRIND EXISTING PAVEMENT. 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY.
- 5. INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730.
- 6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, 1" DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH.
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED, CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS 18" AND LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL, ALL SLURRY SEALS SHALL BE TYPE 2. APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS.
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING.
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES, MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES, REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS, APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT.
- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA.
- 16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER.













# 6.3.8 Project 8

This project is on West Lakeview Avenue. West Lakeview Avenue is a dead-end residential road that runs west off S. Moss Street. Observed pavement distress on W. Lakeview includes; severe alligator cracking, severe raveling, oxidation, longitudinal cracking, and tree root intrusion.

Due to the severity of the pavement condition and unknown structural capacity of the base and subbase, it is recommended to either complete core samples on this street prior to any major improvements or remove and replace the entire pavement and subbase section. See sheet C7 for more project information. Below is the overall construction cost estimate for W. Lakeview Avenue, including geotechnical investigation totaling **\$132,136.06**.

Item	Description	Unit	Est. Quantity	U	nit Amount		Total
1	Mobilization - Bonds & Insurance	ls	1	\$	7,186.89	\$	7,186.89
2	<b>Construction Facilities &amp; Temporary Controls</b>	ls	1	\$	3,593.44	\$	3,593.44
3	Demolition & Site Preparation	ls	1	\$	5,030.82	\$	5,030.82
	Demolition	n					
4	Tree Root Removal	ls	1	\$	1,000.00	\$	1,000.00
5	Pavement Removal and Over Excavate Deep Patch sy 1111 \$ 25.00		25.00	\$	27,777.78		
6	Saw Cut Existing Pavement If 200 \$ 1.90		\$	380.00			
	Roadway Improv	ements					
7	4" AC Pavement - Level 3 Deep patch	sy	1111	\$	28.00	\$	31,111.11
8	6" aggregate Base	су	1850	\$	6.00	\$	11,100.00
9	Landscape Restoration & Cleanup		1	\$	500.00	\$	500.00
Construct	ion Subtotal					\$	87,680.04
Geotechn	ical Investigation					\$	5,000.00
Continger	Contingency		20%			\$	17,536.01
Engineeri	Engineering		20%			\$	17,536.01
Administ	rative		5%			\$	4,384.00
Total Proj	ect Cost					\$1	132,136.06

#### Table 6-8 West Lakeview Improvement Cost Estimate

- 01 GRIND AND OVERLAY, SEE SHEET NOTES 4-8
- 02 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12
- 03 SLURRY SEAL, SEE SHEET NOTE 10
- 04 DEEP PATCH, SEE SHEET NOTE 9
- 05 REMOVE AND REPLACE PAVEMENT EDGE, SEE SHEET NOTE 13
- 06 REMOVE TREE ROOTS, SEE SHEET NOTE 11
- 07 CRACK SEALING

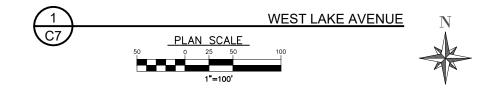
## HATCH LEGEND

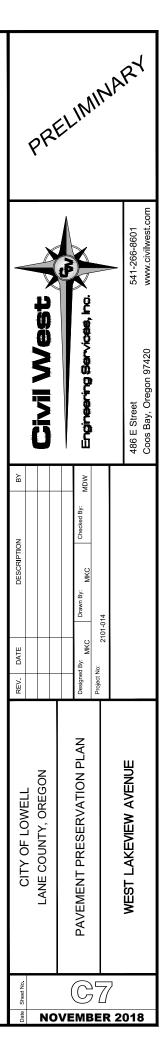
- REMOVE AND REPLACE PAVEMENT
- GRID AND OVERLAY
- TYPE 2 SLURRY SEAL
- DEEP PATCH
- EXTENTS OF PAVEMENT TO BE REHABILLITATED

## GENERAL NOTES

- ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH 952-001-0090. YOU MAY OBTAIN A COPY OF THE RULES BY CALLING THE CENTER.
- NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. STAT. AUTH .: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- 4. GRIND EXISTING PAVEMENT, 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY
- INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730. 5.
- 6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH 8. LEVEL 2, 2" DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH.
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED. CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS <sup>1</sup>/<sub>8</sub> AND LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS.
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING.
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES. MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES. REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT.
- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
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- 16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER









## 6.3.9 Project 9

This project will identify the annual pavement maintenance cost. These costs are based on miles of roadway for each maintenance repair type, and the assumed width of roadway is 30-feet. There is a total of 5 miles of streets paved in the City of Lowell.

Since it is recommended to complete some form of maintenance and the maintenance is intended to extend the life of the pavement 7-10 years, we will utilize the recommended time frame to assess the overall cost per specified distance. Thus, a 30-year time and life cycle will be used to evaluate the cost of maintenance. For reconstruction a 40- year life cycle will be sued assuming the pavement has had proper maintenance to extend the pavement life.

## 6.3.9.1 Annual Cost for Each Repair Method

## • Crack Sealing:

Crack sealing costs \$3.00 per square yard of pavement and the city has 87,991 square yards total of pavement, then the overall cost to treat all roads is \$263,973.00. If the planning period before a road needs to be reconstructed fully is now 30 years, then this leaves the annual expense for crack sealing to be \$8,799.10 per year. Crack sealing should be completed at minimum two times during a pavement life. See table 6-9 at the end of this section for an annual cost of all recommend pavement maintenance.

### • Slurry Seal/Chip Seal:

Slurry seal/Chip sealing costs \$9.00 per square yard of pavement and the city has total 87,991 square yards total of pavement, then the overall cost to treat all roads is \$791,919.00. If the planning period before a road needs to be reconstructed fully is now 30 years, then this leaves the annual expense for slurry/chip seal to be \$26,397.30 per year. See table 6-9 at the end of this section for an annual cost of all recommend pavement maintenance.

### • Grind and Overlay:

Grind and overlay costs \$26.00 per square yard of pavement and the city has total 87,991 square yards total of pavement, then the overall cost to treat all roads is \$2,287,766.00. If the planning period before a road needs to be reconstructed fully is now 30 years, then this leaves the annual expense for overlays to be \$76,258.87 per year. See table 6-9 at the end of this section for an annual cost of all recommend pavement maintenance.

### • Full Removal and Reconstruction:

Remove and replace costs \$66.00 per square yard of pavement and the city has total 87,991 square yards total of pavement, then the overall cost to treat all roads is \$5,807,406.00. If the planning period before a road needs to be reconstructed fully is now 40 years, then this leaves the annual expense for reconstruction to be \$145,185.15 per year. See table 6-9 at the end of this section for an annual cost of all recommend pavement maintenance.



Annual Maintenance Cost Estimates					
Repiar		Annual Cost			
Crack seal	\$	17,598.20			
Slurry Seal/Chip Seal	\$	26,397.30			
Grind and Overlay	\$	76,258.87			
Total Estimated Cost	\$	120,254.37			

#### Table 6-9 Annual Maintenance Cost

Table 6-10 Annual Reconstruction Cost

Annual Reconstruction Cost Estimates					
Repiar		Annual Cost			
Reconstruction	\$	145,185.15			
Total Estimated Cost	\$	145,185.15			

From table 6-9 above, the annual cost for maintenance is estimated to be **\$120,254.37** and the annual reconstruction cost is estimated to be **\$145,185.15**. This is a total estimate of **\$265,439.52** that should be allocated to pavement preservation per year. The next section of this report will go over a yearly break down of all costs identified herein for the proceeding years.



# 7 CAPITAL IMPROVEMENT PLAN AND FINANCING OPTIONS

# 7.1 INTRODUCTION

This section summarizes the prioritization of the pavement preservation projects developed in section 6. These projects will help preserve the transportation system in the City of Lowell and have provided a basis for future planning.

# 7.2 CIP PROJECT RECOMMENDATIONS

Projects developed in section 6 of this Plan have been prioritized for the CIP to help the City determine which projects are of higher importance. Streets with more severe pavement condition are a higher priority than those in less severe condition. Input from the City also helped to classify priority. All projects should be completed in order to maintain the roadways and add to the life of the existing pavement structures.

## Priority 1

Priority 1 projects address sections of the roadway with severe alligator cracking, severe raveling severe oxidation and areas with poor subbase. Priority 1 includes project numbers 1, 2, 3 and 8 outlined in section 6. This includes the improvements on Main Street, Lakeview Street, Everly and Loftus, and W. Lakeview Avenue. These projects should be completed in the next 1- 3 years. It is estimated the total cost to complete these projects is **\$559,656.97**. The recommended list of projects is below in Table 7-1.

Project No.	Project Location	Total Cost	
1	Main Street	\$	119,174.88
2	Lakeview Avenue	\$	166,245.21
3	Everly and Main Street	\$	142,100.82
8	West Lakeview Avenue	\$	132,136.06
Total Estimated Cost for Priority 1 Projects			559,656.97

### Table 7-1 Priority 1 CIP Projects

### Priority 2

Priority 2 addresses sections of the roadway with moderate alligator cracking, moderate raveling, and aging. Priority 2 includes project numbers 5 and 6 outlined in section 6. This includes improvements on 2<sup>nd</sup> Street, Cannon Street, 3<sup>rd</sup> Street, and Hyland Drive. These projects should be completed by year 4. It is estimated the total cost to complete these projects is **\$202,103.86**. The recommended list of projects is below in Table 7-2.



### Table 7-2 Priority 2 CIP Projects

Project No.	Project Location	Total Cost	
5	2nd Street and Cannon Street	\$	100,702.62
6	3rd Street and Hyland Drive	\$	101,401.24
Total Estin	nated Cost for Priority 2 Projects	\$	202,103.86

## Priority 3

Priority 3 addresses sections of roadway with less than moderately severe cracking and aging. Priority 3 includes project numbers 4 and 7 outlined in section 6. This includes improvements on Alder Street and 4<sup>th</sup> Street. These projects should be completed by year 5. It is estimated the total cost to complete these projects is **\$134,293.46**. The recommended list of projects is below in Table 7-3.

#### Table 7-3 Priority 3 CIP Projects

Project No.	Project Location	Total Cost	
4	Alder Street	\$	81,361.83
7	4th Street	\$	52,931.62
Total Estin	nated Cost for Priority 2 Projects	\$	134,293.46

The total cost to complete all projects included in the CIP is **\$896,054.29**. It is recommended to complete these projects within the next 5 years.

### 7.3 PLANNING FOR THE FUTURE

Planning for the future is an essential part of maintaining civil infrastructure. This section will outline the costs associated with future planning for pavement preservation projects and pavement reconstruction.

#### Table 7-4 Future Planning and Costs

		Futu	ire Planning			
Year	2019	2020	2021	2022	2023	2023-2043
Total Cost	\$ 285,420.08	\$142,100.82	\$132,136.06	\$202,103.86	\$134,293.46	\$265,439.52
Project No.	1&2	3	8	5&6	4,7	9

It is not reasonable for a small community to be able to pay for nearly \$300,000 for pavement improvements in one year. It is recommended the City pursue any grant opportunities and start a fund in the City's budget solely for future pavement preservations projects.

# **APPENDIX A**

**GEOTECHINAL REPORT** 

arlson Geotechnical

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November 21, 2018

Civil West Engineering Services, Inc. Attn: Ms. Manda Catterlin, E.I.T. 213 Water Ave. NW, Suite 100 Albany, Oregon 97321

Report of **Geotechnical Investigation & Pavement Assessment** City of Lowell Pavement Preservation East Main Avenue & East Lakeview Avenue Lowell, Oregon

CGT Project Number G1804905

#### INTRODUCTION 1.0

Carlson Geotechnical (CGT), a division of Carlson Testing, Inc. (CTI), is pleased to submit this report summarizing the results of our geotechnical investigation for the City of Lowell Pavement Preservation project. The project site includes the portions of East Main Avenue and East Lakeview Avenue between South Moss Street and Pioneer Street, as shown on the attached Site Plan, Figure 1. We performed our work in general accordance with CGT Authorization to Proceed & Work Order, dated July 19, 2018. Written authorization for our services was provided on July 24, 2018. Geotechnical findings, conclusions and recommendations for the project were conveyed to our client via e-mail transmittal in late July 2018. This report was prepared to formally present the recommendations for the project.

#### 2.0 **PROJECT INFORMATION**

CGT developed an understanding of the proposed public street improvements to East Main Avenue (Main) and East Lakeview Avenue (Lakeview) based on our correspondence with our client. The project is in the preliminary stages of planning, but is anticipated to include:

- Rehabilitation of the subject portion of Main, and rehabilitation and widening of the subject portion of • Lakeview. We anticipate grades within the existing roadway alignments will be maintained at or very near their existing grades. New pavements will be surfaced with asphalt concrete (AC).
- Installation of appurtenant utilities within each of the roadways.
- Although no stormwater plans have been provided, we anticipate stormwater from new impervious surfaces will be collected and routed to stormwater infiltration facilities near the subject roadways.

#### 3.0 SCOPE OF SERVICES

Our scope of work included the following:

- Contact the Oregon Utilities Notification Center to mark the locations of public utilities at the site within a 20-foot radius of our explorations.
- Explore subsurface conditions within the subject roadways by advancing a total of six pavement cores and six hand auger borings.
- Perform visual condition surveys of the existing pavements within the subject portion of Main and Lakeview.

- Prepare a site plan to include the approximate locations of the explorations performed at the site.
- Perform a structural capacity evaluation of the existing pavement structures within the subject portion of Main and Lakeview in general accordance with Sections 5.3 and 5.4 of the 1993 AASHTO Pavement Design Manual.
- Provide geotechnical recommendations for rehabilitation of existing pavement structures within Main and Lakeview, including surface treatments, grind and inlays, and new pavement sections.
- Provide this written report summarizing the results of the geotechnical investigation.

# 4.0 SITE DESCRIPTION

The subject portion of East Main Avenue is a two-lane, asphalt-paved roadway that generally runs east to west and is classified as a Minor Collector. The north side of the street is developed with residential and commercial development. The south side of the street is developed with a public school (Lowell High School) and residential properties. The street is relatively level to very gently descending to the west.

The subject portion of East Lakeview Avenue is a narrow asphalt-paved roadway that generally runs east to west and is classified as a Residential Street. The north side of the street is flanked by Lowell High School, while the south side is flanked with residential properties. This street is also relatively level to very gently descending to the west.

Photographs of the two streets taken during our investigation are shown in the attached Appendix A.

# 5.0 FIELD INVESTIGATION

# 5.1 Pavement Investigation

A total of six pavement cores (C-1 through C-6) were advanced within the subject roadways on July 26, 2018. The approximate core locations are shown on the Site Plan, attached as Figure 2. The pavement core locations were determined based on measurements from existing site features (e.g. street intersection, driveways, etc.) and should be considered approximate. The cores were advanced using a portable coring machine provided and operated by CTI personnel.

Following the coring, we advanced a hand auger boring within each cored hole to penetrate base rock (where present) and characterize the subgrade soil. The borings (HA-1 through HA-6) were advanced using a manual, 3-inch-diameter, hand auger provided and operated by CGT. Practical refusal was met on coarsegrained clayey gravel (GC) subgrade soil directly below the pavement materials. Upon completion, the borings were loosely backfilled with the cuttings and the core holes were patched with cold patch asphalt.

A qualified member of CGT's geological staff logged the soils observed within the explorations in general accordance with the Visual-Manual Procedure (ASTM D2488). An explanation of this classification system is attached as Figure 3.

### 5.2 Visual Condition Surveys

CGT engineering staff performed visual condition surveys of the existing pavements within the subject portions of Main and Lakeview in late July 2018. The purpose of the visit was to identify the type, frequency,

severity, and location of surface distress (deficiencies) in the existing pavement in accordance with procedures outlined in the 1993 AASHTO Guide for Design of Pavement Structures, (AASHTO) and the 2018 Oregon Department of Transportation Pavement Data Collection Manual (ODOT PDCM). The results of the survey for Main are presented in the attached Appendix B, and the results of the survey for Lakeview are presented in Appendix C.

# 6.0 SUBSURFACE CONDITIONS

Ta

# 6.1 Pavement Materials

The following table presents an overview of the pavement materials at each sampling location.

Exploration <sup>1</sup>	Location	Pavement	Material Thickness (ind	ches)	Subarada Saila (USCS)
	Location	Asphalt Concrete	Aggregate Base	Sub-Base	Subgrade Soils (USCS) <sup>1</sup>
C-1	See Figure 2	3	2	0	Clayey Gravel (GC)
C-2	See Figure 2	3	2	0	Clayey Gravel (GC)
C-3	See Figure 2	81/2	0	0	Clayey Gravel (GC)
C-4	See Figure 2	71⁄2	0	0	Clayey Gravel (GC)
C-5	See Figure 2	8	0	0	Clayey Gravel (GC)
C-6	See Figure 2	91/2	0	0	Clayey Gravel (GC)

able 1	Pavement Material Thicknesses at Core Locations
--------	---

### 6.2 Groundwater

Groundwater was not encountered within the depths explored on July 26, 2018. Groundwater levels are reported at significant depths in the area of the site and not anticipated to be of significance for this project.

# 7.0 PAVEMENT STRUCTURAL CAPACITY EVALUATION

CGT performed a structural capacity evaluation of the pavement structures within the subject portions of Main and Lakeview using the results of the visual condition surveys and pavement investigation in general accordance with Section 5.3 of the referenced AASHTO manual. The complete results of our evaluation for Main are presented in the attached Appendix B. The complete results of our evaluation for Lakeview are presented in the attached Appendix C.

# 8.0 GEOTECHNICAL REVIEW & DISCUSSION

# 8.1 East Main Avenue

As indicated in the attached Appendix B, our analyses indicate the existing pavement structure does not exhibit a structural deficiency for the modeled vehicular traffic<sup>1</sup> over a 20-year design period. Although no structural deficiency was indicated, the pavement exhibits surface deficiencies that, if not mitigated, will inherently become more pronounced from vehicular traffic over time. Further deterioration will reduce the serviceability of the pavement structure to a level that is typically considered unacceptable for users and

<sup>&</sup>lt;sup>1</sup> Average daily traffic (ADT) for Main and Lakeview was estimated based on tabular values for the respective functional street classification. Methodologies for estimating ESAL values are presented in Appendices B and C.

require a more frequent maintenance cycle than typically expected. Accordingly, we recommend the surface deficiencies be mitigated by conventional "grind-and-inlay", with provision for addressing localized areas exhibiting moderate to severe fatigue cracking by installing deep patches. Geotechnical recommendations for enhancing the existing pavement structure are presented in Section 10.0 of this report.

### 8.2 East Lakeview Avenue

## 8.2.1 Eastern 1/4 of Roadway (Approximate)

As indicated in the attached Appendix C, our analyses indicate the existing pavement structure within this portion of Lakeview does not exhibit a structural deficiency for the modeled vehicular traffic<sup>1</sup> over a 20-year design period. Although no structural deficiency was determined, the pavement exhibits surface deficiencies that, if not mitigated, will inherently become more pronounced from vehicular traffic over time. Further deterioration will reduce the serviceability of the pavement structure to a level that is typically considered unacceptable for users and require a more frequent maintenance cycle than typically expected. Accordingly, we recommend the surface deficiencies be mitigated by a conventional "grind-and-inlay". Geotechnical recommendations for enhancing the existing pavement structure are presented in Section 11.1 of this report.

## 8.2.2 <u>Western 3/4 of Roadway (Approximate)</u>

As indicated in the attached Appendix C, our analyses indicate the existing pavement structure within this portion of Lakeview exhibits a structural deficiency when considering expected vehicular traffic<sup>1</sup> over a 20-year design period. Recognizing the magnitude of the structural deficiency, the prevalence of surface deficiencies (e.g. fatigue cracking, raveling), and relatively minimal thicknesses of existing pavement materials, we recommend the structural deficiency be mitigated by full removal and replacement with a new pavement section. Geotechnical recommendations for new asphalt pavements are presented in Section 11.2 of this report.

# 9.0 RECOMMENDATIONS: SITE WORK

The following paragraphs present specific geotechnical recommendations for design and construction of pavements associated with the public street improvements described above. The recommendations presented in this report are based on the information provided to us, results of the field investigation, laboratory data, and professional judgment. CGT has observed only a small portion of the pertinent subsurface conditions. The recommendations are based on the assumptions that the subsurface conditions do not deviate appreciably from those found during the field investigation. CGT should be consulted for further recommendations if variations and/or undesirable geotechnical conditions are encountered during construction.

# 9.1 Site Preparation & Earthwork

### 9.1.1 <u>Site Stripping</u>

Where present, existing vegetation and rooted soils should be removed from within, and for a 5-foot-margin around, the proposed new roadway and hardscaping areas. Although no explorations were conducted along roadway shoulders, stripping of rooted soils (where present) is anticipated to extend to depths of about ½-foot bgs. The geotechnical engineer or his representative should provide recommendations for actual

stripping depths based on observations during site stripping. Stripped vegetation and rooted soils should be transported off-site for disposal, or stockpiled for later use in landscaped areas.

### 9.1.2 Grubbing

Grubbing of trees and shrubs should include the removal of the root mass and roots greater than 1-inch in diameter. Grubbed materials should be transported off-site for disposal or stockpiled for later use in landscaped areas. Where root masses are removed, the resulting excavation should be properly backfilled with imported granular structural fill in conformance with Section 9.4.2.1 of this report.

### 9.1.3 Existing Utilities & Below-Grade Structures

All existing utilities at the site should be identified prior to excavation. Abandoned utility lines beneath new pavement and hardscaping features should be completely removed or grouted full. Soft, loose, or otherwise unsuitable soils encountered in utility trench excavations should be removed and replaced with structural fill as described in Section 9.4 of this report. No below-grade structures were encountered in our explorations. If encountered during site preparation, buried structures (i.e. footings, foundation walls, slabs-on-grade, tanks, etc.) should be completely removed and disposed of off-site. Excavations resulting from demolition of existing structures should be backfilled with structural fill as described in Section 9.4 of this report, as needed to achieve design grades.

### 9.1.4 Erosion Control

Erosion and sedimentation control measures should be employed in accordance with applicable City, County and State regulations regarding erosion control.

### 9.2 Wet Weather Considerations

For planning purposes, the wet season should be considered to extend from late September to late June. It is our experience that dry weather working conditions should prevail between early July and mid-September. Notwithstanding the above, soil conditions should be evaluated in the field by the geotechnical engineer or his representative at the initial stage of site preparation to determine whether the recommendations within this section should be incorporated into construction.

### 9.2.1 General

Trafficability of the near-surface clayey gravel (GC) may be difficult, and significant damage to subgrade soils could occur, if earthwork is undertaken without proper precautions at times when the exposed soils are more than a few percentage points above optimum moisture content. Site preparation activities may need to be accomplished using track-mounted equipment, loading removed material onto trucks supported on granular haul roads, or other methods to limit soil disturbance. The geotechnical engineer or their representative should evaluate the subgrade during excavation by probing rather than proof rolling. Soils that have been disturbed during site preparation activities, or soft or loose areas identified during probing, should be over-excavated to firm, stable subgrade, and replaced with imported granular structural fill in conformance with Section 9.4.2.1 of this report.

# 9.2.2 <u>Geotextile Separation Fabric</u>

We recommend a geotextile separation fabric be placed to serve as a barrier between the prepared finegrained subgrade and granular fill/base rock in areas of repeated or heavy construction traffic. The geotextile fabric should be in conformance with Section 02320 of the current Oregon Department of Transportation (ODOT) Standard Specification for Construction.

# 9.2.3 Granular Working Surfaces (Haul Roads & Staging Areas)

Haul roads subjected to repeated heavy, tire-mounted, construction traffic (e.g. dump trucks, concrete trucks, etc.) will require a <u>minimum</u> of 18 inches of imported granular material. For light staging areas, 12 inches of imported granular material is typically sufficient. Additional granular material, geo-grid reinforcement, or cement amendment may be recommended based on site conditions and/or loading at the time of construction. The imported granular material should be in conformance with Section 9.4.2.1 of this report and have less than 5 percent material passing the U.S. Standard No. 200 Sieve. The prepared subgrade should be covered with geotextile fabric prior to placement of the imported granular material. The imported granular material should be placed in a single lift (up to 24-inches deep) and compacted using a smooth-drum, non-vibratory roller until well-keyed.

# 9.3 Frozen Weather Considerations

For construction that occurs during extended periods of sub-freezing temperatures, the following special provisions are recommended:

- Structural fill should <u>not</u> be placed over frozen ground.
- Frozen soil should <u>not</u> be placed as structural fill.
- Fine-grained (i.e. silty or clayey) soils should <u>not</u> be placed as structural fill during sub-freezing temperatures.

Identification of frozen soils at the site should be in accordance with ASTM D4083-01 "Standard Practice for Description of Frozen Soils (Visual-Manual Procedure)". The geotechnical engineer can aid the contractor with supplemental recommendations for earthwork that will take place during extended periods of sub-freezing weather, as required.

# 9.4 Structural Fill

The geotechnical engineer should be provided the opportunity to review all materials considered for use as structural fill (prior to placement). The geotechnical engineer or his representative should be contacted to evaluate compaction of structural fill as the material is being placed. Evaluation of compaction may take the form of in-place density tests and/or proof roll tests with suitable equipment. Structural fill should be evaluated at intervals not exceeding every 2 vertical feet as the fill is being placed. The following table presents recommended guidelines for frequency of density testing (where practical) of various fill designations.

	Recommended Frequency of Density Tests <sup>1</sup>		
Fill Designation	Maximum Depth Interval	Area-Wide	
General Structural Fill (Mass Grading)	Test every 1 vertical foot	At least one density test per every 200 feet of roadway	
Utility Trench Backfill	Test every 2 vertical feet	At least one density test per 200 feet of trench line	
Pavement Base Rock	Test at surface of section	At least one density test per every 200 feet of roadway	

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#### 9.4.1 On-Site Materials - General Use

# 9.4.1.1 Asphalt Debris

Asphalt debris resulting from the demolition of existing pavements (where slated for removal) can be re-used as structural fill if processed/crushed into material that is fairly well graded between coarse and fine. The processed/crushed asphalt should contain no organic matter, debris, or particles larger than 4 inches in diameter. Moisture conditioning (wetting) should be expected in order to achieve adequate compaction. When used as structural fill, this material should be placed and compacted in general accordance with Section 9.4.2.1 of this report.

# 9.4.1.2 Poorly Graded Gravel Fill (GP Fill)

Re-use of the on-site, existing gravel fill (base rock) as structural fill is feasible, provided the material is kept clean of organics, debris, and particles larger than 4 inches in diameter. If reused as structural fill, this material should be prepared in general accordance with Section 9.4.2.1 of this report.

## 9.4.1.3 Clayey Gravel (GC)

Re-use of this soil as structural fill may be difficult because this soil is sensitive to small changes in moisture content and are difficult, if not impossible, to adequately compact during wet weather. We anticipate the moisture content of this soil will be higher than the optimum moisture content for satisfactory compaction. Therefore, moisture conditioning (drying) should be expected in order to achieve adequate compaction. If used as structural fill, this soil should be free of organic matter, debris, and particles larger than 1½ inches. When used as structural fill, this soil should be placed in lifts with a maximum thickness of about 8 inches at moisture contents within -1 and +3 percent of optimum, and compacted to not less than 92 percent of the material's maximum dry density, as determined in general accordance with ASTM D1557 (Modified Proctor).

If the on-site soils cannot be properly moisture-conditioned and/or processed, we recommend using imported granular material for structural fill.

#### 9.4.2 Imported Fill Materials

# 9.4.2.1 Imported Granular Structural Fill (General Use)

Imported granular fill should consist of angular pit or quarry run rock, crushed rock, or crushed gravel that is fairly well graded between coarse and fine particle sizes. The granular fill should contain no organic matter, debris, or particles larger than 4 inches, and have less than 5 percent material passing the U.S. Standard No. 200 Sieve. The percentage of fines can be increased to 12 percent of the material passing the U.S. Standard No. 200 Sieve if placed during dry weather, and provided the fill material is moisture-conditioned,

as necessary, for proper compaction. As a guideline, grading of this material with particles up to about 4 inches in diameter may follow that presented in the following table.

Table 3	Guideline Gradation for Imported Coarse-Grained Granular Fill			
	Sieve Size	% Passing		
	4 inches	100		
	3 inches	88 – 100		
	³⁄₄-inch	70 – 90		
	U.S. Standard No. 4	40 - 60		
	U.S. Standard No. 40	20 - 40		
	U.S. Standard No. 200	Dry Weather: Less than 12		
	0.5. Standard No. 200	Wet Weather: Less than 5		

Imported granular fill material should be compacted to not less than 95 percent of the material's maximum dry density as determined in general accordance with ASTM D1557 (Modified Proctor). Granular fill materials with high percentages of particle sizes in excess of 11/2 inches are considered non-moisture-density testable materials. As an alternative to conventional density testing, compaction of these materials should be evaluated by periodic deflection (proof roll) testing in accordance with ODOT Test Method 158. Proof roll tests should be performed at maximum intervals of every 1 vertical foot as the fill is being placed.

# 9.4.2.2 Trench Base Stabilization Material

If groundwater is present at the base of utility excavations, trench base stabilization material should be placed. Trench base stabilization material should consist of a minimum of 1 foot of well-graded granular material with a maximum particle size of 4 inches and less than 5 percent material passing the U.S. Standard No. 4 Sieve. The material should be free of organic matter and other deleterious material, placed in one lift, and compacted until well-keyed.

# 9.4.2.3 Trench Backfill Material

Trench backfill for the utility pipe base and pipe zone should consist of granular material as recommended by the utility pipe manufacturer. Trench backfill above the pipe zone should consist of well-graded granular material containing no organic matter or debris, have a maximum particle size of 34 inch, and have less than 8 percent material passing the U.S. Standard No. 200 Sieve. As a guideline, trench backfill should be placed in maximum 12-inch-thick lifts. The earthwork contractor may elect to use alternative lift thicknesses based on their experience with specific equipment and fill material conditions during construction in order to achieve the required compaction. The following table presents recommended relative compaction percentages for utility trench backfill.

Table 4	Utility Trench Backfill C	ompaction		
Backfill Zone	Recommended Minimum Relative Compaction <sup>1</sup>			
Backilli Zolle	Structural Areas <sup>2</sup>	Landscaping Areas		
Pipe Base and Within Pipe Zone	90% ASTM D1557 or pipe manufacturer's recommendation	88% ASTM D1557 or pipe manufacturer's recommendation		
Above Pipe Zone	92% ASTM D1557	90% ASTM D1557		
Within 3 Feet of Design Subgrade	95% ASTM D1557	90% ASTM D1557		
Or as specified by the City of Lowell (v	where in the public right-of-way).			
<sup>2</sup> Includes proposed pavement areas, st	ructural fill areas, exterior hardscaping,	etc.		

# 9.4.2.4 Controlled Low-Strength Material (CLSM)

CLSM is a self-compacting, cementitious material that is typically considered when backfilling localized areas. CLSM is sometimes referred to as "controlled density fill" or CDF. Due to its flowable characteristics, CLSM typically can be placed in restricted-access excavations where placing and compacting fill is difficult. If chosen for use at this site, we recommend the CLSM be in conformance with Section 00442 of the most recent, State of Oregon, Standard Specifications for Highway Construction. The geotechnical engineer's representative should observe placement of the CLSM and obtain samples for compression testing in accordance with ASTM D4832. As a guideline, for each day's placement, two compressive strength specimens from the same CLSM sample should be tested. The results of the two individual compressive strength tests should be averaged to obtain the reported 28-day compressive strength. If CLSM is considered for use on this site, the geotechnical engineer should be consulted for site-specific and application-specific recommendations.

# 10.0 RECOMMENDATIONS: MAIN AVENUE PAVEMENTS

# 10.1 Pavement Removal

In accordance with Section 9.1 above, we recommend the upper 2 inches (minimum) of the existing, distressed pavement be removed to prepare for placement of a pavement overlay. Pavement removal should be in conformance with Section 00620 of the most recent, ODOT SSC. Asphalt debris should be transferred and disposed off-site.

# **10.2** Treatment of Surface Deficiencies

## 10.2.1 Overview

The long-term performance of repairs to surface deficiencies in asphalt pavement is highly dependent on the quality of workmanship. Accordingly, we recommend an experienced, qualified asphalt contractor be retained to repair deficiencies. The contractor is encouraged to follow repair guidelines and procedures presented in the most recent, ODOT Standard Specifications for Construction (ODOT SSC) and the most recent, "Asphalt in Pavement Maintenance" manual developed by the Asphalt Institute (AI). Other resources may be utilized for review of repair procedures. Subject to review of the pavement engineer, the contractor retained for the repair work may present alternative methods than those indicated below.

# 10.2.2 Fatigue (Alligator) Cracking

We recommend areas exhibiting severe fatigue cracking be repaired as a "deep patch." Sawcutting and removal of existing pavement should extend at least 1-foot into good pavement outside the cracked area. We recommend this form of pavement repair be in conformance with Section 00748 of the most recent, ODOT SSC. If encountered, soft, loose, or otherwise unsuitable subgrade materials should be removed to expose suitably firm subgrade, and brought back to grade with imported granular fill in conformance with Section 9.4.2.1 of this report. We recommend geotextile separation fabric be placed between the prepared subgrade and new base rock. The fabric should be in conformance with Section 9.2.2 of this report.

# 10.2.3 Longitudinal & Transverse Cracking

For areas exhibiting cracking, we recommend that all cracks exceeding ¼ inch in width be cleaned and sealed with rubber or other elastomeric modified asphalt in conformance with Section 00746 of the most recent, ODOT SSC. As an alternative, to help mitigate the potential for reflective cracking through the asphalt overlay, a pavement overlay geotextile may be considered, in accordance with Table 02320-6 of the most recent, ODOT SSC.

# 10.3 Overlay

The following is recommended for overlay surface preparation and construction:

- Once repair of surface deficiencies is complete, the surface that is to be overlaid should be thoroughly cleaned. Compressed air should be used for cleaning to remove all loose matter.
- A tack coat should be applied to the cleaned pavement surface in conformance with Section 00730 of ODOT SSC.
- The recommended minimum 2-inch thick overlay section should be placed on the tack coated surface in conformance with the project civil plans. We recommend asphalt pavement consist of Level 2, ½-inch, dense-graded HMAC in conformance with the most recent ODOT SSC, or as specified by the City of Lowell. Minimum lift thickness of HMAC pavement should be 2 inches, or as specified by City of Lowell. Maximum lift thickness of HMAC pavement should be in conformance with Section 00748 of the most recent ODOT SSC, or as specified by City of Lowell. Maximum lift thickness of HMAC pavement should be in conformance with Section 00748 of the most recent ODOT SSC, or as specified by City of Lowell. Asphalt pavement should be compacted to at least 91 percent of the material's theoretical maximum density as determined in general accordance with ASTM D2041 (Rice Specific Gravity), or as specified by the City of Lowell.

# 11.0 RECOMMENDATIONS: LAKEVIEW AVENUE PAVEMENTS

# 11.1 Eastern 1/4 of Roadway (Approximate)

## 11.1.1 Pavement Removal

In accordance with Section 8.2.1 above, we recommend the upper 2 inches (minimum) of the existing, distressed pavement be removed to prepare for placement of a pavement overlay. Pavement removal should be in conformance with Section 00620 of the most recent, ODOT SSC. Asphalt debris should be transferred and disposed off-site.

# 11.1.2 Treatment of Surface Deficiencies

The recommendations presneted in Section 10.2 of this report are appropriate for treatment of deficiencies in East Lakeview Avenue, where present following removal of the upper 2 inches of pavement.

## 11.1.3 <u>Overlay</u>

The recommendations presneted in Section 10.3 of this report are appropriate for placement of a new asphalt layer in East Lakeview Avenue.

# 11.2 Western 3/4 of Roadway & Pavement Widening Areas

## 11.2.1 Subgrade Preparation

After site preparation as recommended above, but prior to placement of structural fill and/or aggregate base, the geotechnical engineer or his representative should observe a proof roll test of the exposed subgrade soils in order to identify areas of excessive yielding. Proof rolling of subgrade soils is typically conducted during dry weather conditions using a fully-loaded, 10- to 12-cubic-yard, tandem-axle, tire-mounted, dump truck or equivalent weighted water truck. Areas that appear too soft and wet to support proof rolling equipment should be prepared in general accordance with the recommendations for wet weather construction presented in Section 9.2 of this report. If areas of soft soil or excessive yielding are identified, the affected material should be over-excavated to firm, stable subgrade, and replaced with imported granular structural fill in conformance with Section 9.4.2.1 of this report.

Pavement subgrade surfaces should be crowned (or sloped) for proper drainage in accordance with specifications provided by the project civil engineer.

## 11.2.2 Input Parameters

Design of the HMAC pavement sections presented below were based on the parameters presented in the following table, the AASHTO 1993 "Design of Pavement Structures" manual, and pavement design manuals presented by APAO and ODOT. If any of the items listed need revision, please contact us and we will reassess the provided design sections.

Tuble of input Furthered occum finisher Every					
Input Parameter	Design Value <sup>1</sup>		Input Parameter		Design Value <sup>1</sup>
Pavement Design Life	20 years		Resilient Modulus	Subgrade (Native Soils) <sup>4</sup>	8,000 psi
Annual Percent Growth	0 percent		Resilient Modulus	Crushed Aggregate Base <sup>2</sup>	20,000 psi
Serviceability <sup>2</sup>	4.2 initial, 2.5 terminal		Structural	Crushed Aggregate Base	0.10
Reliability <sup>2</sup>	75 percent		Coefficient <sup>2</sup>	Asphalt	0.42
Standard Deviation <sup>2</sup>	0.49		Vehicle Traffic <sup>5</sup>	Residential Street	90,000 ESAL
Drainage Factor <sup>3</sup>	1.0				

 Table 5
 Input Parameters Used in HMAC Pavement Design

<sup>1</sup> If any of the above parameters are incorrect, please contact us so that we may revise our recommendations, if warranted.

<sup>2</sup> Value based on guidelines presented in the ODOT Pavement Design Guide for flexible pavements.

<sup>3</sup> Assumes good drainage away from pavement, base, and subgrade is achieved by proper crowning of subgrades.

<sup>4</sup> Value selected based on tabular value for clayey gravel subgrade per APAO manual.

<sup>5</sup> ESAL = Total 18-Kip equivalent single axle load. Refer to Appendix C for additional discussion.

# 11.2.3 Recommended Minimum Section

The following table presents the minimum HMAC pavement sections for the traffic load and design life indicated in the preceding table, based on the referenced AASHTO procedures.

# Table 6 Recommended Minimum HMAC Pavement Sections (East Lakeview Avenue)

Material	Material T	hickness (inches)
Material	Dry Weather Construction <sup>1</sup>	Wet Weather Construction <sup>1</sup>
HMAC Pavement	4	4
Aggregate Base	6	6
Granular Sub-Base <sup>2</sup>	Not required	12
Geotextile Separation Fabric	Optional	Placed per Section 9.2.2 of this report
Subgrade Soils	Prepared in conformance	e with Section 11.2.1 of this report

<sup>1</sup> Refer to Section 9.2 of this report about the traditional dry and wet seasons in this region.

<sup>2</sup> Please note this layer does <u>not</u> represent a structural layer for the pavement section. Placement of a granular sub-base is recommended to help protect the moisture sensitive subgrade soils from disturbance in wet weather conditions.

## 11.2.4 HMAC Pavement Materials

We recommend pavement aggregate sub-base consist of durable, relatively well-graded, granular fill in conformance with Section 00641.10.b of the most recent State of Oregon, Standard Specifications for Highway Construction (ODOT SSC), with the following considerations. We recommend the material have a maximum particle size of 4 inches and have less than 5 percent material passing the U.S. Standard No. 200 Sieve. Aggregate sub-base should be compacted to not less than 95 percent of the material's maximum dry density as determined in general accordance with ASTM D1557 (Modified Proctor), or visual equivalent as identified by deflection (proof roll) testing.

We recommend pavement aggregate base consist of dense-graded aggregate in conformance with Section 02630.10 of the most recent ODOT SSC, with the following additional considerations. We recommend the material consist of crushed rock or gravel, have a maximum particle size of 1½ inches, and have less than 5 percent material passing the U.S. Standard No. 200 Sieve. Aggregate base should be compacted to not less than 95 percent of the material's maximum dry density as determined in general accordance with ASTM D1557 (Modified Proctor).

We recommend asphalt pavement consist of Level 2, ½-inch, dense-graded HMAC in conformance with the most recent ODOT SSC. Asphalt pavement should be compacted to at least 91 percent of the material's theoretical maximum density as determined in general accordance with ASTM D2041 (Rice Specific Gravity), or as specified by the City of Lowell.

# 12.0 RECOMMENDED ADDITIONAL SERVICES

# 12.1 Design Review

Geotechnical design review is of paramount importance. We recommend the geotechnical design review take place <u>prior</u> to releasing bid packets to contractors.

# 12.2 Observation of Construction

Satisfactory earthwork and pavement performance depends to a large degree on the quality of construction. Sufficient observation of the contractor's activities is a key part of determining that the work is completed in accordance with the construction drawings and specifications. Subsurface conditions observed during construction should be compared with those encountered during our subsurface explorations, and recognition of changed conditions often requires experience. We recommend qualified personnel visit the site with sufficient frequency to detect whether subsurface conditions change significantly from those observed to date and anticipated in this report.

We recommend the geotechnical engineer or their representative attend a pre-construction meeting coordinated by the contractor and/or owner. The project geotechnical engineer or their representative should provide observations and/or testing of at least the following earthwork elements during construction:

- Site Stripping
- Subgrade Preparation for Structural Fills & Pavements
- Compaction of Structural Fill & Utility Trench Backfill
- Compaction of Base Rock for New Pavements
- Placement and Compaction of Asphalt Concrete for New Pavements

It is imperative that the owner and/or contractor request earthwork observations and testing at a frequency sufficient to allow the geotechnical engineer to provide a final letter of compliance for the earthwork activities.

# 13.0 LIMITATIONS & CLOSURE

We have prepared this report for use by the owner and other members of the design and construction team for the proposed development. The opinions and recommendations contained within this report are not intended to be, nor should they be construed as a warranty of subsurface conditions, but are forwarded to assist in the planning and design process.

We have made observations based on our explorations that indicate the soil conditions at only those specific locations and only to the depths penetrated. These observations do not necessarily reflect soil types, strata thickness, or water level variations that may exist between or away from our explorations. If subsurface conditions vary from those encountered in our site explorations, CGT should be alerted to the change in conditions so that we may provide additional geotechnical recommendations, if necessary. Observation by experienced geotechnical personnel should be considered an integral part of the construction process.

The owner/developer is responsible for ensuring that the project designers and contractors implement our recommendations. When the design has been finalized, prior to releasing bid packets to contractors, we recommend that the design drawings and specifications be reviewed by our firm to see that our recommendations have been interpreted and implemented as intended. If design changes are made, we request that we be retained to review our conclusions and recommendations and to provide a written modification or verification. Design review and construction phase testing and observation services are beyond the scope of our current assignment, but will be provided for an additional fee.

The scope of our services does not include services related to construction safety precautions, and our recommendations are not intended to direct the contractor's methods, techniques, sequences, or procedures, except as specifically described in our report for consideration in design.

Geotechnical engineering and the geologic sciences are characterized by a degree of uncertainty. Professional judgments presented in this report are based on our understanding of the proposed construction, familiarity with similar projects in the area, and on general experience. Within the limitations of scope, schedule, and budget, our services have been executed in accordance with the generally accepted practices in this area at the time this report was prepared; no warranty, expressed or implied, is made. This report is subject to review and should not be relied upon after a period of 3 years.

We appreciate the opportunity to work with you on this project. Please contact us at 541.345.0289 if you have any questions regarding this report.

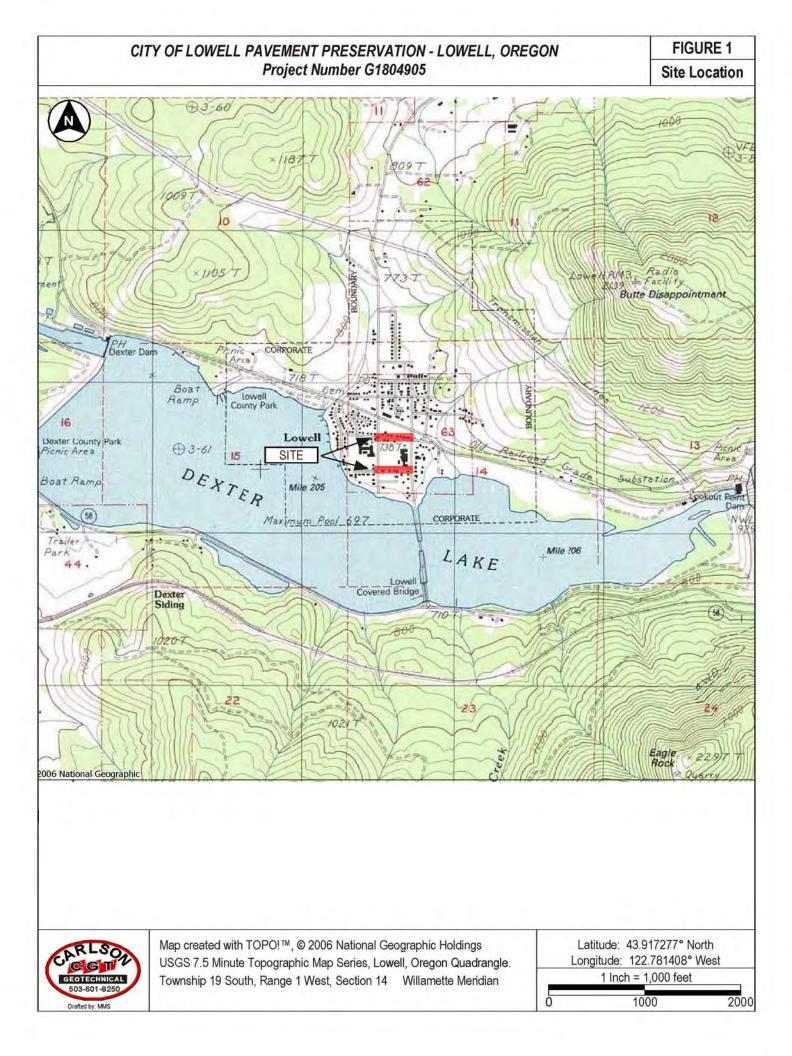
Respectfully Submitted, CARLSON GEOTECHNICAL



Brad M. Wilcox, P.E., G.E. Principal Geotechnical Engineer <u>bwilcox@carlsontesting.com</u>

Attachments: Site Location, Figure 1 Site Plan, Figure 2 Soil Classification & Terminology, Figure 3 Appendix A: Site Photographs Appendix B: Pavement Structural Capacity Evaluation (East Main Avenue) Appendix C: Pavement Structural Capacity Evaluation (East Lakeview Avenue)

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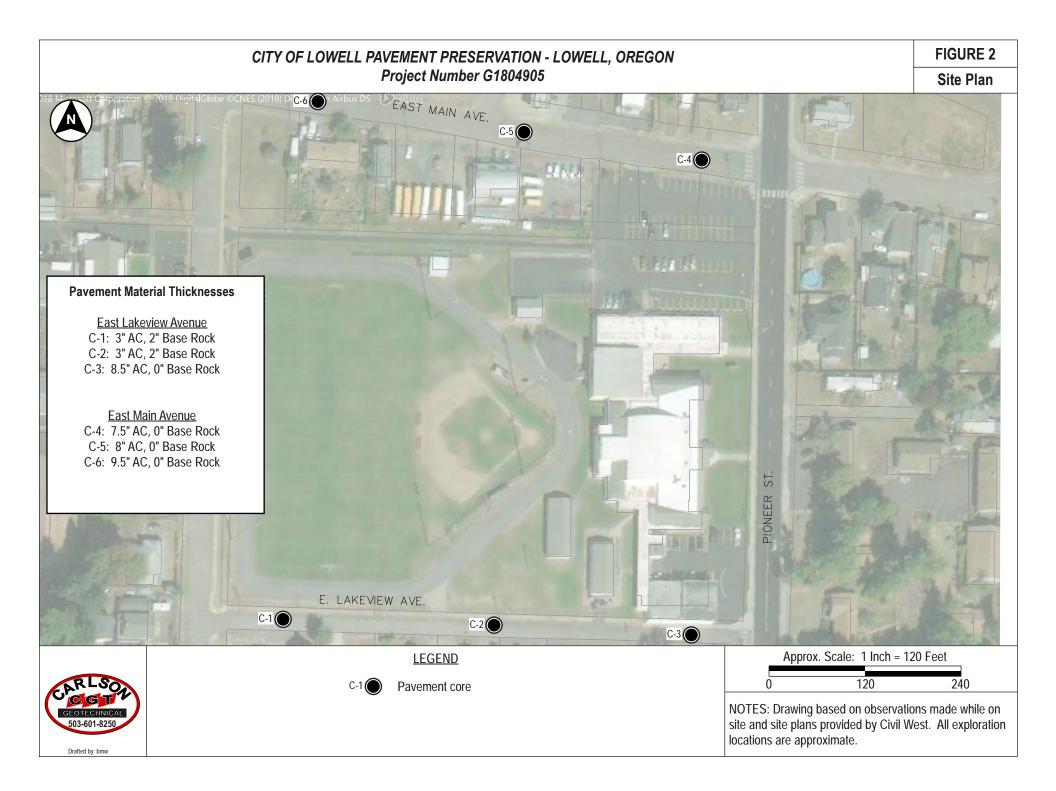


FIGURE 3

Soil Classification

Project Number G1804905			er G1804905		5	Soil Classification		
Classification of Terms and Content						Grain Size	U.S. Standard Sieve	
	ip Name and Sy				Fines			<#200 (0.075 mm)
Color	tive Density or C r ture Content	Consistency			Sand	Fine Mediu Coars	ım #	#200 - #40 (0.425 mm) #40 - #10 (2 mm) #10 - #4 (4.75)
	r Constituents			-	Gravel	Fine	ŧ	#4 - 0.75 inch 0.75 inch - 3 inches
	r: Grain Shape, inics, Cement, S			-	Cobbles	Codia		3 to 12 inches
	logic Name or Fo		elc.		Boulders			> 12 inches
	-				e-Grained (Granula	ar) Soils		
Rela	ative Density					or Constituen	ts	
SPT N <sub>60</sub> -Value	Densi	ity	Percer by Volu		Des	criptor	Example	
0 - 4 4 - 10	Very Lo Loos		0 - 5%	)	"Trace" a	as part of soil des	cription "trace silt"	
10 - 30			"With" as	s part of group na	me "POORLY GRADE	D SAND WITH SILT"		
30 - 50         Dense         15 - 49%           >50         Very Dense		%	Modifier	to group name	"SILTY SAND"			
		I		Fine	-Grained (Cohesive	) Soils		
	orvane tsf ear Strength	Pocket Pen ts Unconfined	Consistenc	:y N	Ianual Penetration Test		Minor Constituent	ts
<2 2 - 4 0	<0.13 ).13 - 0.25	<0.25 0.25 - 0.50	Very Soft Soft		penetrates more than 1 in penetrates about 1 inc		Descriptor	Example
	).25 - 0.50	0.50 - 1.00	Medium Sti	ff Thum	b penetrates about 1/4 inc	h 0 - 5%	"Trace" as part of soil description	"trace fine-grained sa
	).50 - 1.00	1.00 - 2.00	Stiff		penetrates less than ¼ in	15 200/	"Some" as part of soil description "With" as part of group name	"some fine-grained sa "SILT WITH SAND"
5 - 30 1. >30	.00 - 2.00 >2.00	2.00 - 4.00 >4.00	Very Stiff Hard		dily indented by thumbnai cult to indent by thumbnai	30 10%	Modifier to group name	"SANDY SILT"
/ 50	72.00		ture Content	Diiii			Structure	
rv Absence	of moisture, du							
ny. noschoc	or moisture, uu	Sty, dry to the t	Juch			Stratified, Alter	nating layers of material or color >6	mm thick
loist∙ Leaves	s moisture on ha	and				Sulduneu. Allei	nating ayers of material of color >0	
	s moisture on ha ree water, likelv		er table				ternating layers < 6 mm thick	
Vet: Visible fr	ree water, likely	from below wat		- 4	Tauahaaaa	Laminated: Ali Fissured: Brea	ternating layers < 6 mm thick aks along definite fracture planes	
Vet: Visible fr				atancy	Toughness	Laminated: Ali Fissured: Brea Slickensided:	ternating layers < 6 mm thick aks along definite fracture planes Striated, polished, or glossy fracture	e planes
Vet: Visible fr PI ML N	ree water, likely <b>lasticity</b> Ion to Low	from below wat Dry Strer Non to Lo	ngth Dila	/ to Rapid	Low, can't roll	Laminated: Al Fissured: Brea Slickensided: Blocky: Cohes	ternating layers < 6 mm thick aks along definite fracture planes	e planes
Vet: Visible fr Pl ML N CL Low	ree water, likely lasticity lon to Low v to Medium	from below wat Dry Strer Non to Lo Medium to	n <b>gth Dil</b> ow Slow High Non	<i>i</i> to Rapid e to Slow	Low, can't roll Medium	Laminated: Ali Fissured: Brea Slickensided: Blocky: Cohes which	ternating layers < 6 mm thick aks along definite fracture planes Striated, polished, or glossy fracture ive soil that can be broken down inf	e planes to small angular lumps
Vet: Visible fr PI ML N CL Low MH Med	ree water, likely <b>lasticity</b> Ion to Low	from below wat Dry Strer Non to Lo	n <b>gth Dil</b> ow Slow High Non dium Non	/ to Rapid	Low, can't roll	Laminated: Al Fissured: Brea Slickensided: Blocky: Cohes which Lenses: Has s	ternating layers < 6 mm thick aks along definite fracture planes Striated, polished, or glossy fracture sive soil that can be broken down int resist further breakdown	e planes to small angular lumps thickness
Vet: Visible fr PI ML N CL Low MH Med	ree water, likely lasticity lon to Low v to Medium dium to High	from below wat Dry Strer Non to Lo Medium to Low to Med	n <b>gth Dil</b> ow Slow High Non dium Non	v to Rapid e to Slow e to Slow None	Low, can't roll Medium Low to Medium	Laminated: All Fissured: Brea Slickensided: Blocky: Cohes which Lenses: Has s Homogeneous	ternating layers < 6 mm thick aks along definite fracture planes Striated, polished, or glossy fracture soil that can be broken down int resist further breakdown mall pockets of different soils, note	e planes to small angular lumps thickness
Vet: Visible fr PI ML N CL Low MH Med	ree water, likely lasticity lon to Low w to Medium dium to High dium to High	from below wat Dry Strer Non to Lo Medium to Low to Med	n <b>gth Dil</b> ow Slow High Non dium Non	v to Rapid e to Slow e to Slow None Visu Group	Low, can't roll Medium Low to Medium High	Laminated: All Fissured: Brea Slickensided: Blocky: Cohes which Lenses: Has s Homogeneous	ternating layers < 6 mm thick aks along definite fracture planes Striated, polished, or glossy fracture soil that can be broken down int resist further breakdown mall pockets of different soils, note	e planes to small angular lumps thickness
Vet: Visible fr PI ML N CL Low MH Med	ree water, likely lasticity lon to Low v to Medium dium to High dium to High Major	from below wat Dry Strer Non to Lo Medium to Low to Med High to Very Divisions	n <b>gth Dil</b> ow Slow High Non dium Non	v to Rapid e to Slow e to Slow None <b>Vis</b> t	Low, can't roll Medium Low to Medium High	Laminated: All Fissured: Brea Slickensided: Blocky: Cohes which Lenses: Has s Homogeneous cation	ternating layers < 6 mm thick aks along definite fracture planes Striated, polished, or glossy fracture sive soil that can be broken down int resist further breakdown mall pockets of different soils, note : Same color and appearance throu	e planes to small angular lumps thickness
Vet: Visible fr PI AL N CL Low AH Med CH Med Coarse	ree water, likely lasticity lon to Low v to Medium dium to High dium to High Major Gravels	from below wat Dry Strer Non to Lo Medium to Low to Med High to Very Divisions :: 50% or more	ngth Dil ow Slow High Non dium Non / High	/ to Rapid e to Slow e to Slow None Visu Group Symbols GW GP	Low, can't roll Medium Low to Medium High ual-Manual Classifi Well-graded gravels Poorly-graded grave	Laminated: All Fissured: Brea Slickensided: Blocky: Cohes which Lenses: Has s Homogeneous cation Typi and gravel/sand s and gravel/sand	ternating layers < 6 mm thick aks along definite fracture planes Striated, polished, or glossy fracture ive soil that can be broken down inf resist further breakdown mall pockets of different soils, note : Same color and appearance throu cal Names mixtures, little or no fines d mixtures, little or no fines	e planes to small angular lumps thickness
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ASTM D2487 Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System) ASTM D2488 Standard Practice for Description and Identification of Soils (Visual-Manual Procedure) Terzaghi, K., and Peck, R.B., 1948, Soil Mechanics in Engineering Practice, John Wiley & Sons. **Carlson Geotechnical** 

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# Appendix A: Site Photographs

# City of Lowell Pavement Preservation East Main Avenue & East Lakeview Avenue Lowell, Oregon

# CGT Project Number G1804905

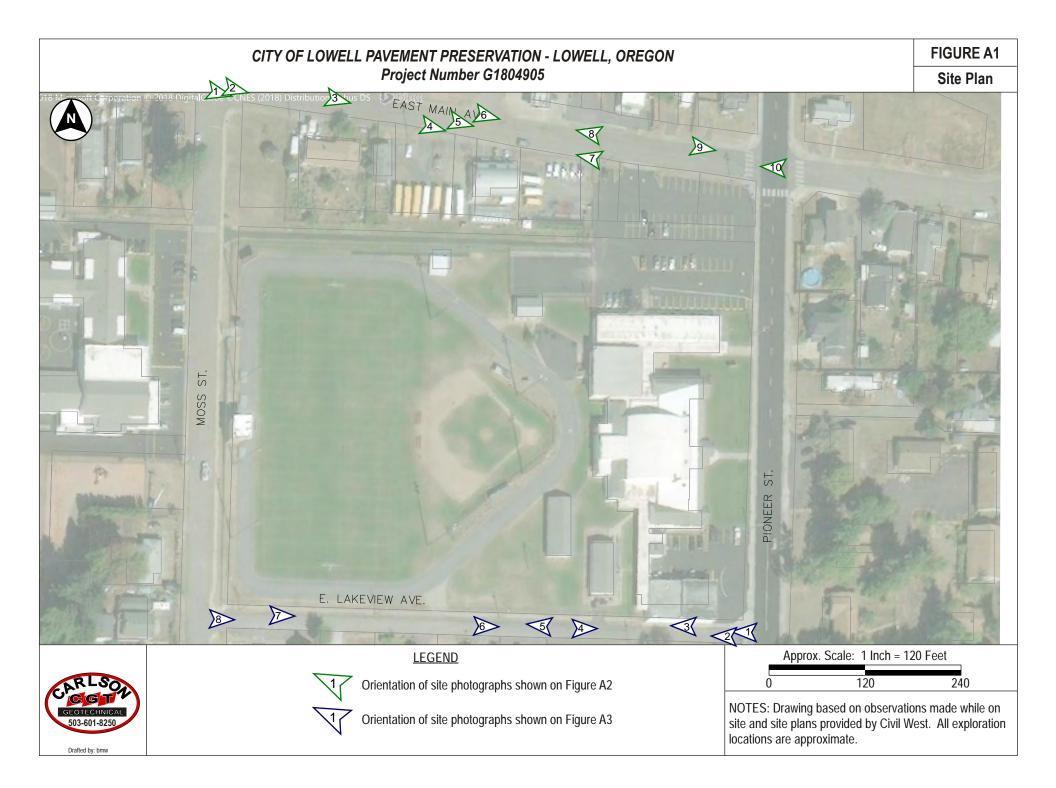
November 21, 2018

Prepared For:

Civil West Engineering Services, Inc. Attn: Ms. Manda Catterlin, E.I.T. 213 Water Ave. NW, Suite 100 Albany, Oregon 97321

> Prepared by Carlson Geotechnical

Site Plan	Figure A1
Main Avenue Photographs	Figure A2
East Lakeview Avenue Photographs	



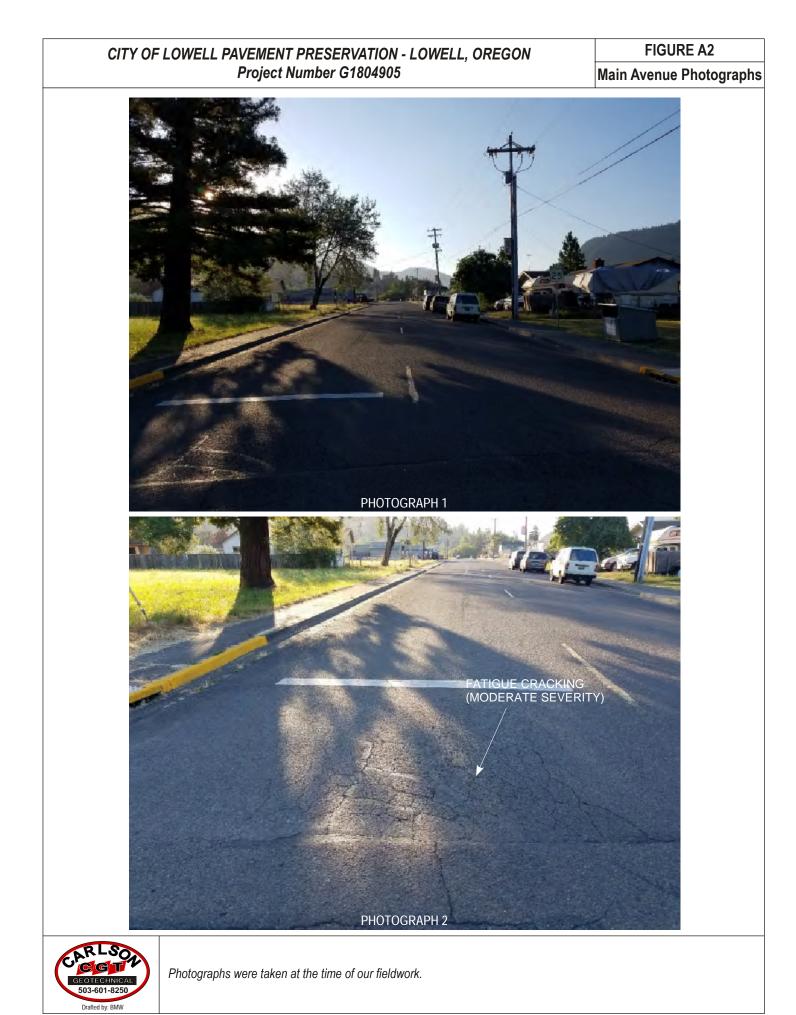




FIGURE A2

Main Avenue Photographs







Photographs were taken at the time of our fieldwork.

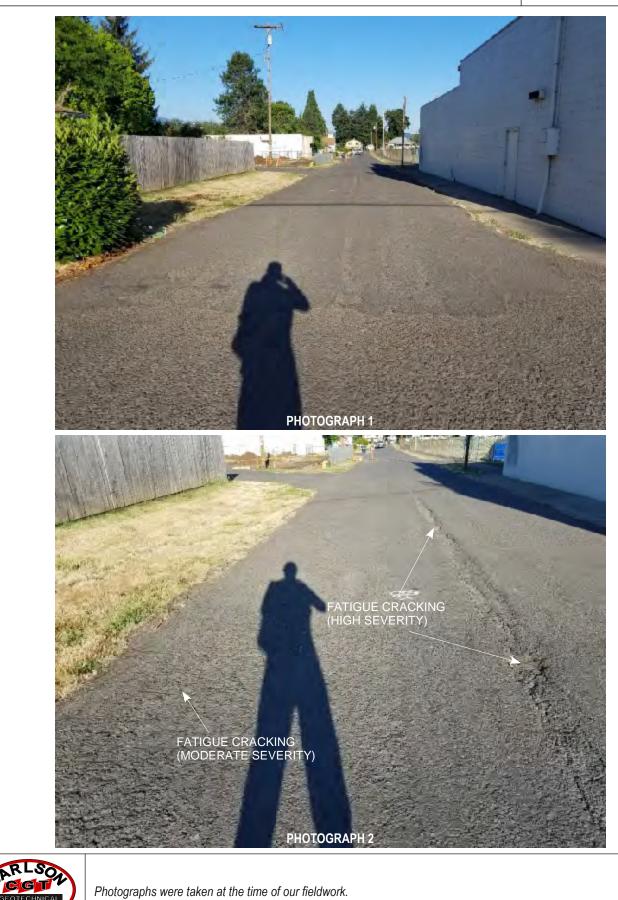




Photographs were taken at the time of our fieldwork.

# **FIGURE A3**

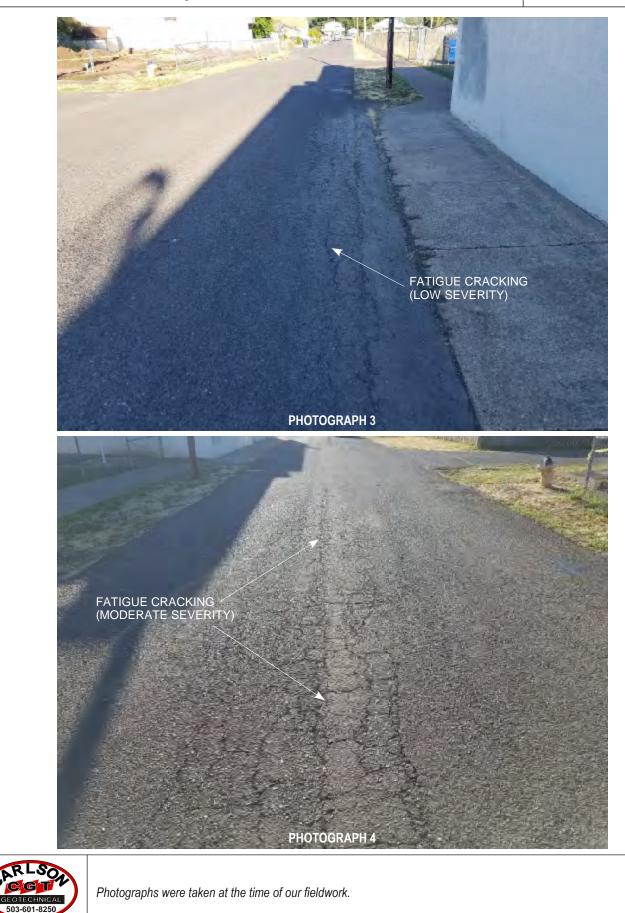
Lakeview Avenue Photographs



503-601-8250 Drafted by: BMW

FIGURE A3

Lakeview Avenue Photographs



Drafted by: BMW



FIGURE A3

Lakeview Avenue Photographs





Photographs were taken at the time of our fieldwork.

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# Appendix B: Pavement Structural Capacity Evaluation East Main Avenue

# City of Lowell Pavement Preservation East Main Avenue & East Lakeview Avenue Lowell, Oregon

CGT Project Number G1804905

November 21, 2018

Prepared For:

Civil West Engineering Services, Inc. Attn: Ms. Manda Catterlin, E.I.T. 213 Water Ave. NW, Suite 100 Albany, Oregon 97321

Prepared By:

**Carlson Geotechnical** 

#### **B.1** BACKGROUND

Based on information provided by Civil West Engineering, we understand public street improvements are planned for the subject portion<sup>1</sup> of East Main Avenue<sup>2</sup>. In order to estimate the remaining service life of the existing pavement within the subject roadway, and determine if structural enhancements were required to help maintain serviceability, a quantitative evaluation of its structural capacity was performed. We performed the structural capacity evaluation based on visual survey and materials investigation/testing in general accordance with Sections 5.3 and 5.4 of the AASHTO Guide for Design of Pavement Structures, 1993 (AASHTO). The following sections summarize the results of the visual condition survey, the results of our structural capacity analyses, and conclusions for the pavement structure.

#### **B.2 PAVEMENT MATERIALS INVESTIGATION**

As indicated in the geotechnical report, CGT advanced three shallow subsurface explorations, including pavement cores and hand auger borings within the existing roadway on July 26, 2018, in order to help refine existing conditions. The results of our completed field investigation were detailed in Section 6.0 of the report, and are briefly summarized below.

Devement Material	Material Thickness (inches) <sup>1</sup>		
Pavement Material	Core C-4	Core C-5	Core C-6
Asphaltic Concrete	71⁄2	8	91⁄2
Gravel Fill (Aggregate Base Rock)	0	0	0

le B1	Pavement Material Thicknesses at Core Locations

#### **B.3 VISUAL CONDITION SURVEY**

#### B.3.1 **Overview**

CGT engineering staff observed surface conditions within the subject street in late July 2018. The Site Plan, Figure A1, presented in Appendix A shows the approximate locations and orientations of the photographs taken during our survey. Photographs taken during our site visit are presented therein on Figure A2. The purpose of the visit was to identify the type, amount, severity, and location of any observed surface distress (deficiencies) in the existing pavement in accordance with AASHTO procedures and the 2018 Oregon Department of Transportation Pavement Data Collection Manual (ODOT PDCM). The following table presents a checklist of typical surface deficiencies in flexible (asphalt) pavement. This table also includes our observations of the presence (lack thereof) of the surface deficiencies within the street.

This evaluation covers both traffic lanes of East Main Avenue, spanning between South Moss Street and Pioneer Street.

<sup>2</sup> Roadway is designated as a Minor Collector per input from Civil West Engineering Services.

Tabl	e B2 Pavement Distress Type & Those Observed at S	Site
Distress Type	Typical Cause(s)	Observed at Site?
Rutting in the wheel paths	Ruts typically develop from consolidation or lateral movement under traffic.	None of significance observed
Fatigue cracking	Typically caused by excessive deflection of the surface over unstable subgrade or lower courses of pavement. The unstable support usually is the result of saturated granular base or subgrade.	Yes, see Section B.3.2 for discussion
Longitudinal/transverse cracking	Typically due to poorly constructed paving joints, shrinkage of asphalt layer, daily temperature cycling, etc.	Yes, see Section B.3.3 for discussion
Patching	Typically used where the original pavement surface is removed and replaced, or additional material is applied to the pavement surface after original construction.	Yes, see Section B.3.4 for discussion
Disintegration (potholes)	Typically caused by weakness in the pavement resulting from insufficient asphalt, failure of base, and/or poor drainage.	Yes, see Section B.3.5 for discussion
Disintegration (raveling)	Typically caused by lack of compaction and/or improper mix proportions.	None of significance observe
Localized Subsidence	Typically caused by poor quality subgrade materials susceptible to consolidation	None observed
Edge cracking	Typically due to lack of lateral (shoulder) support. Another cause of edge cracking can be settlement or yielding of subgrade or granular base.	None observed
Edge joint (seam) "cracking"	Typically due to poor drainage due to a shoulder being higher than the main pavement.	None observed
Corrugations (washboarding)	This form of distress typically occurs in asphalt layers that lack stability due to less than favorable mix proportions.	None observed
Upheaval	Typically caused by expansive soils and/or tree roots.	None observed

# B.3.2 Fatigue Cracking

We observed fatigue (alligator) cracking within several areas within the subject street. The cracks were generally <sup>1</sup>/<sub>4</sub>- to <sup>1</sup>/<sub>2</sub>-inch in width and exhibited low to heavy spalling. The severity of fatigue cracking was characterized as "low to severe" in accordance with guidelines presented in the ODOT PDCM. Examples of fatigue cracking are shown on Photographs 2, 4, 6, 8, and 9 on the attached Figure A2.

## **B.3.3 Longitudinal Cracking**

We observed longitudinal cracking within one location within the western portion of the subject street. The crack was generally up to ½ inch in width and is interpreted to be attributed to asphalt shrinkage along a paving joint. The severity of longitudinal cracking was characterized as "low" in accordance with guidelines presented in the ODOT PDCM. A photograph of the longitudinal crack is shown on Photograph 3 on the attached Figure A2.

## B.3.4 Patching

We observed two patches within the subject street. The patches were variable in terms of size and footprint, and relatively free of distress within their respective footprints. The severity of patching was characterized as "low severity" in accordance with guidelines presented in the ODOT PDCM. Photographs of the patches are shown on Photographs 6 and 7 on the attached Figure A2.

## **B.3.5** Disintegration (Potholes)

We observed disintegration (shallow potholes) along the localized edges of the subject street. The potholes are shown on Photographs 4 and 8 on the attached Figure A2. The potholes were generally less than 1 inch

deep. The severity of potholes in these areas was characterized as "low" in accordance with guidelines presented in the ODOT PDCM.

# B.4 STRUCTURAL CAPACITY EVALUATION

# B.4.1 Methodology

We evaluated the structural capacity of the existing pavement structure using the results of the pavement materials investigation and visual survey in general accordance with Section 5.4.5 of AASHTO. The purpose of this evaluation was to determine whether structural enhancement (such as an overlay) was required to help manage anticipated design vehicular traffic. The methodology presented by AASHTO incorporates the use of structural numbers (SN) as follows:

- SN<sub>eff</sub> = Effective structural number of the existing pavement structure, determined from the visual condition survey and investigation of the existing pavement.
- SN<sub>f</sub> = Required structural number for future traffic.
- SN<sub>ol</sub> = Required overlay structural number. This value is equal to SN<sub>f</sub> SN<sub>eff</sub>. The methodology indicates that, in the event that SN<sub>eff</sub> is greater than S<sub>f</sub>, and no functional deficiencies are observed in the existing pavement, an overlay is not required. Similarly, in the event that SN<sub>eff</sub> is less than SN<sub>f</sub>, an overlay is required to maintain the desired level of serviceability over the indicated design period.

# **B.4.2 Design Input Parameters**

For the purposes of calculating the structural numbers, a number of parameters were estimated based on the results of the visual survey and pavement investigation. In addition, input parameters related to future traffic and level of serviceability were estimated based on guidelines presented in AASHTO and pavement design manuals presented by the ODOT Pavement Design Guide (ODOT PDG)<sup>3</sup> and Asphalt Pavement Association of Oregon (APAO) manual<sup>4</sup>. The parameters used in the evaluation are shown in the following table and are discussed in narrative thereafter.

<sup>&</sup>lt;sup>3</sup> Oregon Department of Transportation (ODOT) Pavement Design Guide, December 2011.

<sup>&</sup>lt;sup>4</sup> Asphalt Pavement Association of Oregon (APAO) Asphalt Pavement Design Guide, Revised October 2003.

	Table B3   Design Input Parameters	
Structural Number	Required Input Parameter	Value Used in Evaluation
	a1 = Structural layer coefficient, AC layer	0.30
	a <sub>2</sub> = Structural layer coefficient, base layer	N/A (none encountered)
	a <sub>3</sub> = Structural layer coefficient, subbase layer	N/A (none encountered)
SN <sub>eff</sub>	D <sub>1</sub> = Thickness of existing pavement, surface layer <sup>1</sup>	8
SINeff	D <sub>2</sub> = Thickness of existing pavement, base layer <sup>1</sup>	0
	D <sub>3</sub> = Thickness of existing pavement, subbase layer	0
	M <sub>2</sub> = Drainage coefficient for granular base	N/A
	M <sub>3</sub> = Drainage coefficient for granular subbase	N/A
	N <sub>f</sub> = Design period	20 years
	ESAL <sub>f</sub> = Design 18-kip ESAL over design period	100,000
CN	M <sub>R</sub> = Design resilient modulus <sup>2</sup>	8,000 psi
SNf	Design Serviceability (PSI) Loss	1.7
	R = Design Reliability	85 percent
	S <sub>o</sub> = Design Standard Deviation	0.49

<sup>1</sup>Layer thickness selected based on results of site exploration and represents the location exhibiting the lowest structural number for pavement. <sup>2</sup>Value selected based on tabular value for clayey gravel subgrade per APAO manual.

The following summarizes additional comments on the values presented in Table B3:

- Layer coefficients (a<sub>1</sub>, a<sub>2</sub>, and a<sub>3</sub>) were determined based on results of visual condition survey discussed in Section B.3 above and Table 5.2 of AASHTO.
- Layer thicknesses (D<sub>1</sub>, D<sub>2</sub>, and D<sub>3</sub>) were based on results of our pavement materials investigation.
- A 20-year design period was assigned for the street in accordance with current standard of practice.
- The design 18-kip ESAL for the street was assigned based on the ESAL presented for the "middle of the road" value for Level III (Low Moderate) Traffic Classification per Table 3.1 of the APAO manual. This traffic classification lists typical ADTT of 7 to 14 per day over 20 years. Examples under this loading consist of urban minor collector streets, rural minor collector streets, and parking lots with more than 500 stalls.
- The value used for design reliability (R) and standard deviation (S<sub>o</sub>) was selected in accordance with Table 2A and Section 5.3, respectively, of the referenced ODOT design manual.

# B.4.2.1 Results of Analyses

Using the above inputs and procedures presented by AASHTO, we determined the structural numbers for the pavement structure. The following table summarizes the results of our analyses:

	B4 Calcul	ated Structural Numbers			
Pavement	Existing Pavement Section (inches)		Calculate	d Structura	al Number
Exploration <sup>1</sup>	AC Thickness <sup>1</sup>	Aggregate Base Thickness <sup>1</sup>	SN <sub>eff</sub>	SNf	<b>SN</b> ol
Core C-5	8	0	2.4	2.4	0
_	Exploration <sup>1</sup>	Exploration <sup>1</sup> AC Thickness <sup>1</sup>	Exploration <sup>1</sup> AC Thickness <sup>1</sup> Aggregate Base Thickness <sup>1</sup>	Exploration <sup>1</sup> AC Thickness <sup>1</sup> Aggregate Base Thickness <sup>1</sup> SN <sub>eff</sub>	Exploration <sup>1</sup> AC Thickness <sup>1</sup> Aggregate Base Thickness <sup>1</sup> SN <sub>eff</sub> SN <sub>f</sub>

# B.5 REVIEW & DISCUSSION

As indicated above, we completed a structural capacity evaluation of the existing pavement structure within the subject portion of East Main Avenue to determine whether structural enhancement was required to help manage anticipated future vehicular traffic. Our analyses indicated that, for the modeled design ESAL, the effective structural number ( $SN_{eff}$ ) for the existing pavement is equal to the required future structural number ( $SN_{eff}$ ) for this street.

Although no structural deficiency was determined, as indicated in Section B.3.1 above, the pavement surface exhibits surface deficiencies that, if not mitigated, will inherently lead to reduced serviceability and require maintenance/repairs at a frequency more common than typically expected. We recommend improvements to the pavement surface be performed to help maintain serviceability over the indicated design period. Recommendations for mitigation of the surface deficiencies are presented in the geotechnical report.

Attachments: None

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# Appendix C: Pavement Structural Capacity Evaluation East Lakeview Avenue

# City of Lowell Pavement Preservation East Main Avenue & East Lakeview Avenue Lowell, Oregon

CGT Project Number G1804905

November 21, 2018

Prepared For:

Civil West Engineering Services, Inc. Attn: Ms. Manda Catterlin, E.I.T. 213 Water Ave. NW, Suite 100 Albany, Oregon 97321

> Prepared By: Carlson Geotechnical

#### C.1 BACKGROUND

Based on information provided by Civil West Engineering, we understand public street improvements are planned for the subject portion<sup>1</sup> of East Lakewood Avenue<sup>2</sup>. In order to estimate the remaining service life of the existing pavement within the subject roadway, and determine if structural enhancements were required to help maintain serviceability, a quantitative evaluation of its structural capacity was performed. We performed the structural capacity evaluation based on visual survey and materials investigation/testing in general accordance with Sections 5.3 and 5.4 of the AASHTO Guide for Design of Pavement Structures, 1993 (AASHTO). The following sections summarize the results of the visual condition survey, the results of our structural capacity analyses, and conclusions for the pavement structure.

#### C.2 **PAVEMENT MATERIALS INVESTIGATION**

As indicated in the geotechnical report, CGT advanced three shallow subsurface explorations, including pavement cores and hand auger borings, within the existing roadway on July 26, 2018, in order to help refine existing conditions. The results of our completed field investigation were detailed in Section 6.0 of the report, and are briefly summarized below.

Bovement Material	Material Thickness (inches) <sup>1</sup>			
Pavement Material	Core C-1	Core C-2	Core C-3	
Asphalt Concrete	3	3	81/2	
Gravel Fill (Aggregate Base Rock)	2	2	0	

le C1	Pavement Material Thicknesses at Core Locations

#### C.3 **VISUAL CONDITION SURVEY**

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#### C.3.1 **Overview**

CGT engineering staff observed surface conditions within the subject street in late July 2018. The Site Plan, Figure A1, presented in Appendix A shows the approximate locations and orientations of the photographs taken during our survey. Photographs taken during our site visit are presented therein on Figure A3. The purpose of the visit was to identify the type, amount, severity, and location of any observed surface distress (deficiencies) in the existing pavement in accordance with AASHTO procedures and the 2018 Oregon Department of Transportation Pavement Data Collection Manual (ODOT PDCM). The following table presents a checklist of typical surface deficiencies in flexible (asphalt) pavement. This table also includes our observations of the presence (lack thereof) of the surface deficiencies within the street.

This evaluation covers both traffic lanes of East Lakewood Avenue, spanning between South Moss Street and Pioneer Street.

<sup>2</sup> Roadway is designated as a Residential Street per input from Civil West Engineering Services.

Table C2         Pavement Distress Type & Those Observed at Site				
Distress Type	Typical Cause(s)	Observed at Site?		
Rutting in the wheel paths	Ruts typically develop from consolidation or lateral movement under traffic.	None of significance observed		
Fatigue cracking	Typically caused by excessive deflection of the surface over unstable subgrade or lower courses of pavement. The unstable support usually is the result of saturated granular base or subgrade.	Yes, see Section C.3.2 for discussion		
Longitudinal/transverse cracking	Typically due to poorly constructed paving joints, shrinkage of asphalt layer, daily temperature cycling, etc.	None observed		
Patching	Typically used where the original pavement surface is removed and replaced, or additional material is applied to the pavement surface after original construction.	None observed (utility patch only)		
Disintegration (potholes)	Typically caused by weakness in the pavement resulting from insufficient asphalt, failure of base, and/or poor drainage.	Yes, see Section C.3.3 for discussion		
Disintegration (raveling)	Typically caused by lack of compaction and/or improper mix proportions.	Yes, see Section C.3.4 for discussion		
Localized Subsidence	Typically caused by poor quality subgrade materials susceptible to consolidation	None observed		
Edge cracking Typically due to lack of lateral (shoulder) support. Another cause of edge cracking can be settlement or yielding of subgrade or granular base.		None observed		
Edge joint (seam) "cracking"	(seam) "cracking" Typically due to poor drainage due to a shoulder being higher than the main pavement.			
Corrugations (washboarding)	ons (washboarding) This form of distress typically occurs in asphalt layers that lack stability due to less than favorable mix proportions.			
Upheaval	Typically caused by expansive soils and/or tree roots.	None observed		

## C.3.2 Fatigue Cracking

We observed fatigue (alligator) cracking within several areas within the subject street. The cracks were generally <sup>1</sup>/<sub>4</sub>- to <sup>1</sup>/<sub>2</sub>-inch in width and exhibited low to heavy spalling. The severity of fatigue cracking was characterized as "low to severe" in accordance with guidelines presented in the ODOT PDCM. Examples of fatigue cracking are shown on Photographs 2, 3, 4, 6, and 7 on the attached Figure A3.

## C.3.3 Disintegration (Potholes)

We observed disintegration (shallow potholes) within the east portion of the subject street, resultant of fatigue cracking. The potholes are shown on Photograph 2 on the attached Figure A3. The potholes were generally less than 1 inch deep. The severity of potholes in these areas was characterized as "low" in accordance with guidelines presented in the ODOT PDCM.

## C.3.4 Raveling

Raveling was observed within the subject street, most notably within the central and west portions of the pavement. Examples of raveling are shown on Photographs 6, 7, and 8 on the attached Figure A3. The severity of raveling was characterized as "low to severe" in accordance with guidelines presented in the ODOT PDCM.

# C.4 STRUCTURAL CAPACITY EVALUATION

# C.4.1 Methodology

We evaluated the structural capacity of the existing pavement structure using the results of the pavement materials investigation and visual survey in general accordance with Section 5.4.5 of AASHTO. The purpose of this evaluation was to determine whether structural enhancement (such as an overlay) was required to help manage anticipated design vehicular traffic. The methodology presented by AASHTO incorporates the use of structural numbers (SN) as follows:

- SN<sub>eff</sub> = Effective structural number of the existing pavement structure, determined from the visual condition survey and investigation of the existing pavement.
- SN<sub>f</sub> = Required structural number for future traffic.
- SN<sub>ol</sub> = Required overlay structural number. This value is equal to SN<sub>f</sub> SN<sub>eff</sub>. The methodology indicates that, in the event that SN<sub>eff</sub> is greater than S<sub>f</sub>, and no functional deficiencies are observed in the existing pavement, an overlay is not required. Similarly, in the event that SN<sub>eff</sub> is less than SN<sub>f</sub>, an overlay is required to maintain the desired level of serviceability over the indicated design period.

# C.4.2 Design Input Parameters

For the purposes of calculating the structural numbers, a number of parameters were estimated based on the results of the visual survey and pavement investigation. In addition, input parameters related to future traffic and level of serviceability were estimated based on guidelines presented in AASHTO and pavement design manuals presented by the ODOT Pavement Design Guide (ODOT PDG)<sup>3</sup> and Asphalt Pavement Association of Oregon (APAO) manual<sup>4</sup>. The parameters used in the evaluation are shown in the following table and are discussed in narrative thereafter.

<sup>&</sup>lt;sup>3</sup> Oregon Department of Transportation (ODOT) Pavement Design Guide, December 2011.

<sup>&</sup>lt;sup>4</sup> Asphalt Pavement Association of Oregon (APAO) Asphalt Pavement Design Guide, Revised October 2003.

	Described In sut Deservator	Value Used in	Value Used in Evaluation		
Structural Number	Required Input Parameter	West <sup>3</sup> / <sub>4</sub> of Road <sup>1</sup>	East ¼ of Road		
SNeff	a1 = Structural layer coefficient, AC layer	0.20	0.30		
	a <sub>2</sub> = Structural layer coefficient, base layer	0.10	N/A		
	a <sub>3</sub> = Structural layer coefficient, subbase layer	N/A (none encountered			
	D <sub>1</sub> = Thickness of existing pavement, surface layer <sup>1</sup>	3	81/2		
	D <sub>2</sub> = Thickness of existing pavement, base layer <sup>1</sup>	2	0		
	D <sub>3</sub> = Thickness of existing pavement, subbase layer	0	0		
	M <sub>2</sub> = Drainage coefficient for granular base	1.0	N/A		
	M <sub>3</sub> = Drainage coefficient for granular subbase	N/A	N/A		
SNf	N <sub>f</sub> = Design period	20 years			
	ESAL <sub>f</sub> = Design 18-kip ESAL over design period	90,000			
	M <sub>R</sub> = Design resilient modulus <sup>2</sup>	8,000 psi			
	Design Serviceability (PSI) Loss	1.7			
	R = Design Reliability	75 percent			
	S₀ = Design Standard Deviation	0.4	0.49		

<sup>1</sup> The western <sup>3</sup>/<sub>4</sub> of the roadway is defined as the westernmost 530 feet of Lakeview Avenue.

<sup>2</sup>Layer thickness selected based on results of site exploration and represents the location exhibiting the lowest structural number for pavement.

<sup>3</sup> Value selected based on tabular value for clayey gravel subgrade per APAO manual.

The following summarizes additional comments on the values presented in Table C3:

- Layer coefficients (a<sub>1</sub>, a<sub>2</sub>, and a<sub>3</sub>) were determined based on results of visual condition survey discussed in Section B.3 above and Table 5.2 of AASHTO.
- Layer thicknesses (D<sub>1</sub>, D<sub>2</sub>, and D<sub>3</sub>) were based on results of our pavement materials investigation.
- A 20-year design period was assigned for the street in accordance with current standard of practice.
- The design 18-kip ESAL for the street was assigned based on the ESAL presented for the upper limit (50,000) for Level II (Light) Traffic Classification per Table 3.1 of the APAO manual. This traffic classification lists typical ADTT of 2 to 7 per day over 20 years. Examples under this loading consist of residential streets, rural farm roads, and parking lots of less than 500 stalls. In addition, per input from the civil engineer, we understand the subject street will be subjected to school bus traffic. For the purposes of this evaluation, we modeled an ADT of 8 school busses for the subject street.
- The value used for drainage coefficients (m<sub>n</sub>) was selected in accordance with Table 2.4 of the referenced AASHTO manual, based on "good" drainage characteristics of the base and subgrade materials. This quality of drainage was selected based on the unsaturated nature of the pavement materials during our investigation in May 2018.
- The value used for design reliability (R) and standard deviation (S<sub>o</sub>) was selected in accordance with Table 2A and Section 5.3, respectively, of the referenced ODOT design manual.

# C.4.3 Results of Analyses

Using the above inputs and procedures presented by AASHTO, we determined the structural numbers for the pavement structure. The following table summarizes the results of our analyses:

	Table (	C4 Calcul	ated Structural Numbers			
Area of Interest <sup>1</sup>	Pavement	ent Existing Pavement Section (inches)		Calculated Structural Numb		
	Exploration <sup>1</sup>	AC Thickness <sup>1</sup>	Aggregate Base Thickness <sup>1</sup>	SN <sub>eff</sub>	SNf	SNol
West ¾ (approx.) of East Lakeview Avenue	Core C-1 & C-2	3	2	0.7	1.75	1.05
East ¼ (approx.) of East Lakeview Avenue	Core C-3	81/2	0	2.4	1.75	0

# C.5 REVIEW & DISCUSSION

As indicated above, we completed a structural capacity evaluation of the existing pavement structure within the subject portion of East Lakewood Avenue to determine whether structural enhancement was required to help manage anticipated future vehicular traffic. Our analyses indicated that, for the modeled design ESAL, the effective structural number ( $SN_{eff}$ ) for the existing pavement is less than the required future structural number ( $SN_{eff}$ ) in two of the three locations along this traffic lane. Accordingly, the procedures indicate there is structural deficiency in the majority of the existing pavement structure. Recommendations for mitigating the deficiency are presented in the geotechnical report.

Attachments: None



Rogue Valley Office 830 O'Hare Parkway, Ste. 102 Medford, OR 97504 541-326-4828 South Coast Office 486 'E' Street Coos Bay, OR 97420 541-266-8601

Willamette Valley Office 200 Ferry Street SW Albany, OR 97321 541-223-5130

North Coast Office 609 SW Hurbert Street Newport, OR 97365 541-264-7040

# PAVEMENT PRESERVATION PLAN COST UPDATES

Lowell, Oregon

Lane County

Date:	April 3, 2025
To:	Max Baker, Public Works Director
From:	Matt Wadlington, PE, Principal, Civil West Engineering Services, Inc. (CWES)
RE:	City of Lowell Pavement Preservation and Maintenance Plan
	Civil West Project Number: 2101-014

# **Executive Summary**

Civil West

Engineering Services, Inc

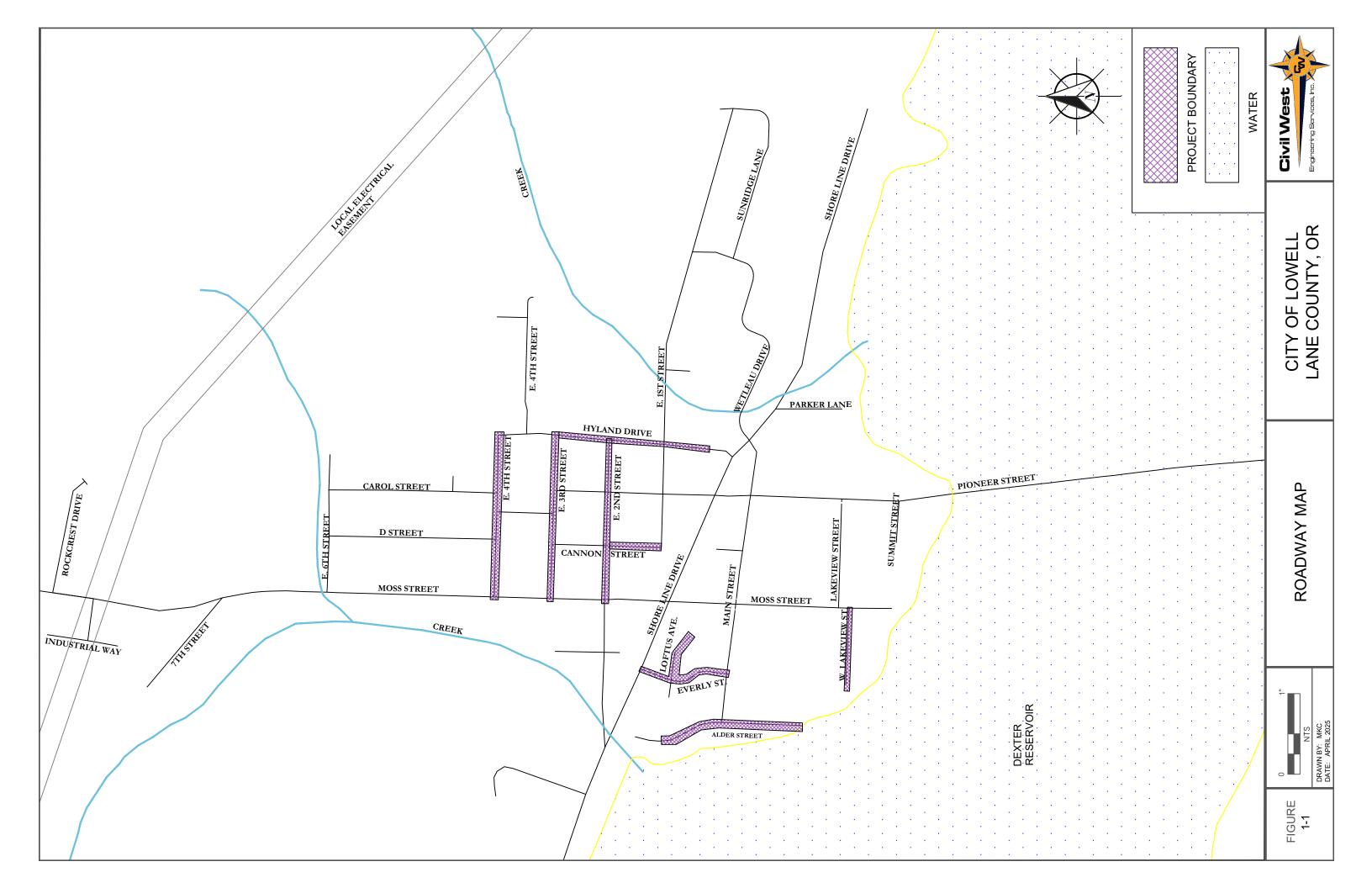
The City of Lowell's Pavement Preservation and Maintenance Plan, developed in January of 2019, has been updated to reflect current costs. This update incorporates revised cost estimates based on inflation, material availability, and labor expenses. The Engineering News-Record (ENR) construction cost index was utilized to update the previously determined construction costs.

# Introduction

The City of Lowell, located 19 miles southeast of Springfield and Interstate 5 in Lane County, Oregon, has maintained a network of roadways for residents and visitors since the mid-1900's. Today, the City of Lowell currently manages approximately five miles of paved roads, primarily consisting of local streets and minor collector roads that serve residential properties.

# **Project Overview**

The previous preservation plan identified 9 individual pavement preservation projects throughout the City of Lowell. These 9 projects included full or partial sections of 10 different streets. See Figure 1-1 for in overview of the project locations. Projects 1-8 include Crack sealing, slurry sealing, patching, grind and overlays, and pavement replacement. Project 9 outlines the annual maintenance budget required to preserve the roadways. A typical roadway has an expected lifespan of 20 to 30 years before full reconstruction is recommended. To maximize pavement longevity, the city must implement regular preventative maintenance.



## **Improvement Projects**

This section briefly discusses the 9 proposed improvement projects, the associated costs and breakdowns of the updated costs. The original estimated costs were calculated in July of 2018. The updated costs were obtained using ENR construction cost index values from July 2018 and the most current ENR index Value For 2025. Refer to the 2019 Pavement Prevention plan for more detail on these projects and the prior cost breakdowns.

Updated Cost = Cost X  $\frac{Current Index}{Base Year Index}$  (eq. 1)

Since 2019, projects 1 and 2 have been completed. Additionally, 2 new subdivisions have been constructed, Crestview Estates, And Sunset Hill subdivision. The construction of these 2 subdivisions increased the total square yardage of pavement in the City of Lowell from 87,991 SY to 93,649 SY

## Project 1

This project includes repairs for Lakeview Street and Main Street. Main Street requires deep patching for severe alligator cracking, followed by a 2-inch grind and asphalt overlay. Lakeview Street will receive a 2-inch grind and overlay on its eastern quarter, with full reconstruction for the rest. The original estimated cost for East Main Street improvements was \$119,174.88. Project 1 has been completed.

## Project 2

The East Lakeview Avenue project addresses pavement deficiencies on this high-traffic road adjacent to Lowell High School. A 2018 geotechnical study found issues like poor subbase and inadequate pavement thickness. Recommended repairs include a 2-inch grind and overlay on the eastern quarter and full reconstruction for the rest. The original estimated cost was \$142,100.82. Project 2 has been completed.

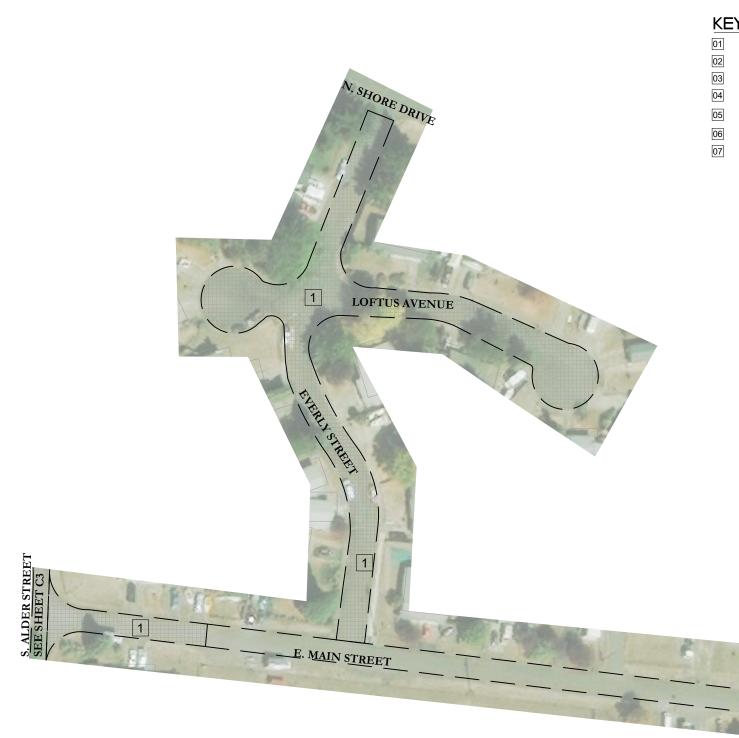


This project includes Everly Street, Loftus Avenue, and two sections of Main Street. Refer to Figure C2 for more information. Pavement issues include oxidation, aging, raveling, and cracking. Recommended repairs involve a 2-inch grind and overlay for Loftus, Everly, and the west section of Main, with full reconstruction of the area near the Moss St. intersection. Cracks should be sealed before overlaying. The original estimated cost was \$166,245.21, including geotechnical investigation. The updated cost is shown below in Table 1.

Item	Description	Unit	Est. Quantity	А	Unit mount	Total
1	Mobilization - Bonds & Insurance	ls	1	\$1	1,287.85	\$ 11,287.85
2	Construction Facilities & Temporary Controls	ls	1	\$	5,643.93	\$ 5,643.93
3	Demolition & Site Preparation	ls	1	\$	7,901.50	\$ 7,901.50
	Demolition					
4	Pavement removal and Over Excavate Deep Patch	sy	91	\$	30.96	\$ 2,827.62
5	Saw Cut Existing Pavement for Deep Patch	lf	140	\$	2.35	\$ 329.41
6	Cold Pane/Grind Pavement Removal (2 inches deep)	sy	3889	\$	3.72	\$ 14,447.71
	Roadway Improvem	ents				
7	Surface Treatment Seal Cracks	sy	4400	\$	3.72	\$ 16,346.55
8	2"AC Pavement Overlay - Level 3 (Everly and Loftus)	sy	4400	\$	17.34	\$ 76,283.92
9	4" AC Pavement	sy	30	\$	34.67	\$ 1,040.24
10	Aggregate Base	су	30	\$	7.43	\$ 225.98
11	Landscape Restoration & Cleanup	ls	1	\$	619.19	\$ 619.19
	Striping					
12	12" thermoplastic Stop Bar	lf	12	\$	13.62	\$ 163.47
13	Crosswalk thermoplastic Bar	lf	24	\$	24.77	\$ 594.42
Construct	ion Subtotal					\$ 137,711.78
Geotechn	ical Investigation					\$ 6,000.00
Continger	ncy		20%			\$ 27,542.36
Engineeri	ing		20%			\$ 27,542.36
Administ	rative		5%			\$ 6,885.59
Total Proj	ect Cost					\$ 205,682.08

Table 1: Everly Street, Loftus Ave., and Main Street Improvement Cost Estimate





GRIND AND OVERLAY, SEE SHEET NOTES 4-8 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12 SLURRY SEAL, SEE SHEET NOTE 10 GRID AND OVERLAY DEEP PATCH SEE SHEET NOTE 9 TYPE 2 SLURRY SEAL REMOVE AND REPLACE PAVEMENT EDGE, SEE SHEET NOTE 13 REMOVE TREE ROOTS. SEE SHEET NOTE 11 DEEP PATCH CRACK SEALING EXTENTS OF PAVEMENT TO BE REHABILLITATED

## **GENERAL NOTES**

- ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. 1. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH 952-001-0090. YOU MAY OBTAIN A COPY OF THE RULES BY CALLING THE CENTER.
- NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. 2 STAT. AUTH.: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- GRIND EXISTING PAVEMENT. 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY. 4.
- INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730. 5.
- SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT 6.
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, 1" DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED. CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS an AND LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS.
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES. MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES. REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT
- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA
- CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER. 16



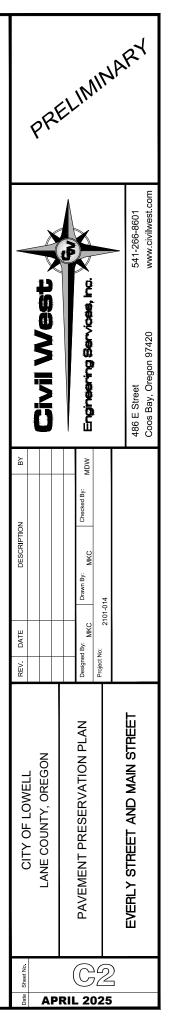
STREET

MOSe

02

# HATCH LEGEND

REMOVE AND REPLACE PAVEMENT



This project focuses on Alder Street. Refer to Figure C3 for more information. Pavement issues include longitudinal cracking, oxidation, aging, and raveling, with more severe distress in the northern section. A 2-inch grind and overlay is recommended, but a geotechnical evaluation should be conducted first to assess the subbase. If inadequate, reconstruction may be necessary. The original estimated cost was \$81,361.83. The updated cost is shown below in Table 2.

Item Description Unit Est. Unit Quantity Amount							Total
1	Mobilization - Bonds & Insurance	ls	1	\$5	,345.65	\$	5,345.65
2	Construction Facilities & Temporary Controls	ls	1	\$2	,672.83	\$	2,672.83
3	Demolition & Site Preparation	ls	1	\$3	,741.96	\$	3,741.96
	Demolition						
4	Cold Pane/Grind Pavement Removal (2 inches deep)	sy	1000	\$	7.43	\$	7,430.25
	Roadway Improvemen	ts					
5	Surface Treatment Seal Cracks	sy	1667	\$	3.72	\$	6,191.88
6	2" AC Pavement Overlay	sy	1667	\$	17.34	\$	28,895.42
7	Clean Pavement Surface and Apply Top Coat Per 00730 ODOT	sy	1667	\$	6.19	\$	10,319.79
8	8 Landscape Restoration & Cleanup Is 1 \$ 619.19						619.19
Construction Subtotal						\$	65,216.97
Geotechn	ical Investigation					\$	6,000.00
Continger	ncy		20%			\$	13,043.39
Engineering 20%						\$	13,043.39
Administrative 5%						\$	3,260.85
Total Proj	ect Cost					\$	100,564.61

Table 2: Alder Street Improvement Cost Estimate





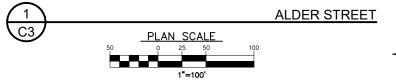
- 01 GRIND AND OVERLAY, SEE SHEET NOTES 4-8
- 02 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12
- 03 SLURRY SEAL. SEE SHEET NOTE 10
- 04 DEEP PATCH. SEE SHEET NOTE 9
- 05 REMOVE AND REPLACE PAVEMENT EDGE , SEE SHEET NOTE 13
- 06 REMOVE TREE ROOTS, SEE SHEET NOTE 11
- 07 CRACK SEALING

## HATCH LEGEND

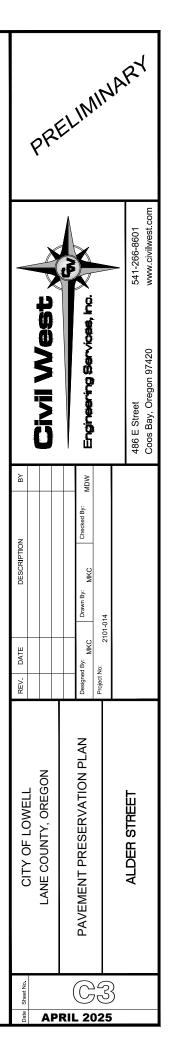
REMOVE AND REPLACE PAVEMENT	/
GRID AND OVERLAY	
TYPE 2 SLURRY SEAL	•
DEEP PATCH	
EXTENTS OF PAVEMENT TO BE REHABILLITATED	

#### GENERAL NOTES

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- 4. GRIND EXISTING PAVEMENT, 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY.
- 5. INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730.
- 6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, <sup>1</sup>/<sub>2</sub> DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH.
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED. CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS 1" AND LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS.
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING.
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- 16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER.



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This project includes 2nd Street and Cannon Street. Refer to Figure C4 for more information. Pavement issues include cracking, oxidation, and aging. Recommended repairs include a 2-inch grind and overlay for Cannon Street and a Type 2 slurry seal for 2nd Street, with deep patching where needed. The original estimated cost was \$100,702.62. The updates cost is shown below in Table 3.

Item	Description	Unit	Est. Quantity	Unit Amount	Total
1	Mobilization - Bonds & Insurance	ls	1	\$ 7,049.61	\$ 7,049.61
2	Construction Facilities & Temporary Controls	ls	1	\$ 3,524.81	\$ 3,524.81
3	Demolition & Site Preparation	ls	1	\$ 4,934.73	\$ 4,934.73
Demolition					
4	Edge Roadway Section Removal 1'-6" Width	sy	144	\$ 30.96	\$ 4,471.91
5	Sawcut existing Concrete, Sidewalks, & Pavement	lf	700	\$ 2.35	\$ 1,647.04
6	Pavement Removal Deep Patch Over Excavate	sy	7	\$ 30.96	\$ 227.04
7	Cold Pane/Grind Pavement Removal (2" deep)	sy	1000	\$ 3.72	\$ 3,715.13
Roadway Improvements					
8	Surface Treatments (Seal cracks)	sy	3822	\$ 3.72	\$ 14,200.04
9	2" AC Pavement Overlay	sy	1000	\$ 17.34	\$ 17,337.25
10	Type 2 Slurry Seal	sy	2822	\$ 6.19	\$ 17,474.85
11	4" AC - 2' wide edge reconstruction	sy	74	\$ 34.67	\$ 2,568.48
12	Clean Pavement Surface and Apply Top Coat Per 00730 ODOT	sy	1000	\$ 6.19	\$ 6,191.88
13	Reconstruct sub-base on the edge of roadway and deep patch 3/4-0" rock	су	50	\$ 3.72	\$ 185.76
14	Landscape Restoration & Cleanup	ls	1	\$ 619.19	\$ 619.19
Striping					
14	4" White Dotted Line Per ODOT TM500 WD	lf	1000	\$ 1.86	\$ 1,857.56
Construction Subtotal					
Continger	ncy		20%		\$ 17,201.05
Engineeri	ng		20%		\$ 17,201.05
Administr	rative		5%		\$ 4,300.26
Total Proj	ect Cost				\$124,707.64

Table 3: Cannon and 2nd Street improvement Cost Estimate



01

02

03

04

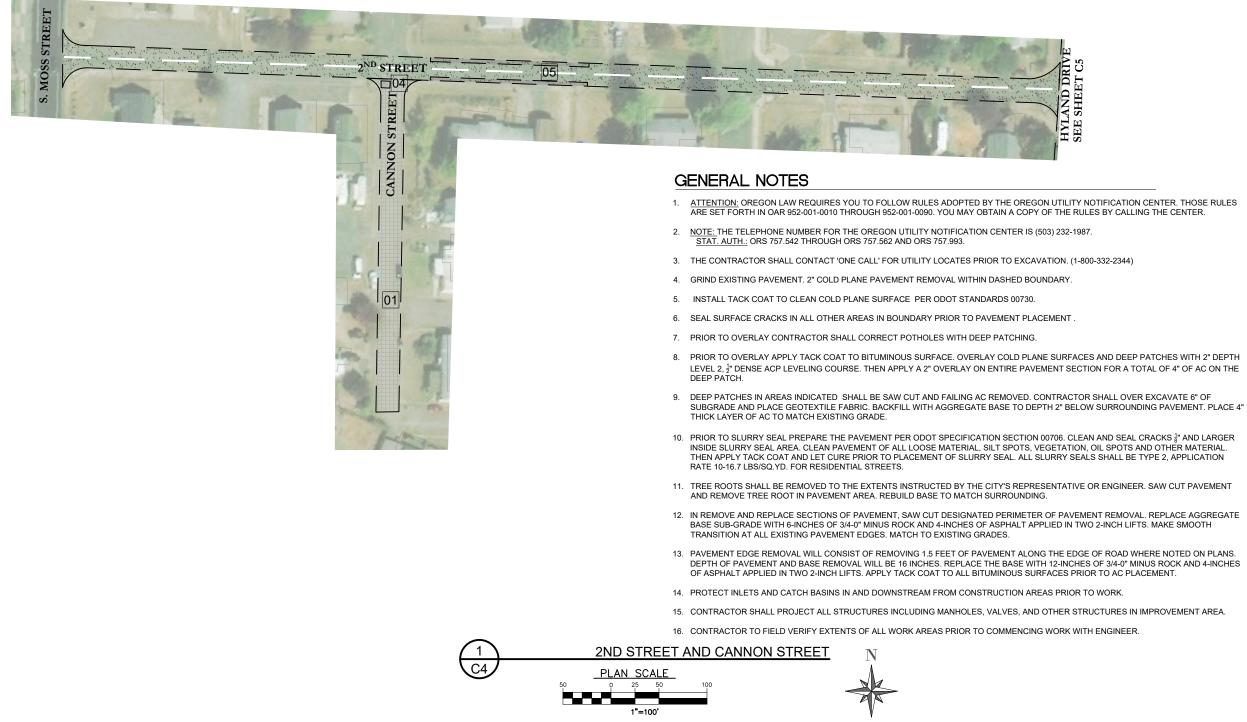
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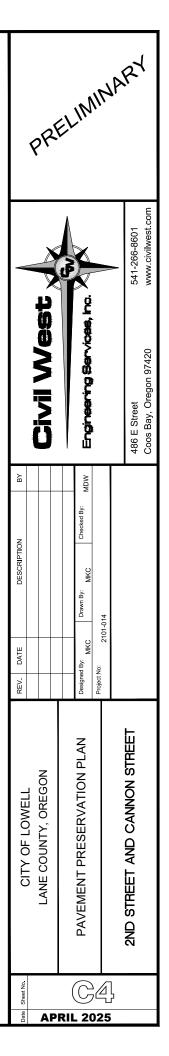
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07

## HATCH LEGEND

GRIND AND OVERLAY, SEE SHEET NOTES 4-8 REMOVE AND REPLACE PAVEMENT REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12 SLURRY SEAL, SEE SHEET NOTE 10 GRID AND OVERLAY DEEP PATCH, SEE SHEET NOTE 9 **TYPE 2 SLURRY SEAL** REMOVE AND REPLACE PAVEMENT EDGE, SEE SHEET NOTE 13 REMOVE TREE ROOTS, SEE SHEET NOTE 11 DEEP PATCH CRACK SEALING EXTENTS OF PAVEMENT TO BE REHABILLITATED





This project covers 3rd Street and Hyland Drive. Refer to Figure C5 for more information. Hyland Drive shows alligator and longitudinal cracking, while 3rd Street is in good condition with minimal cracking and flexibility loss. Recommended repairs include crack sealing and a Type 2 slurry seal for 3rd Street, with slurry sealing and deep patching for Hyland Drive. The original estimated cost was \$101,401.24. The updated cost is shown below in Table 4.

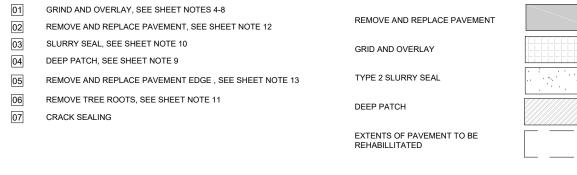
Item	Description	Unit	Est. Quantity	U	Init Amount		Total
1	Mobilization - Bonds & Insurance	ls	1	\$	7,098.52	\$	7,098.52
2	Construction Facilities & Temporary Controls	ls	1	\$	3,549.26	\$	3,549.26
3	Demolition & Site Preparation	ls	1	\$	4,968.96	\$	4,968.96
Demolition							
4	Pavement Removal and Over Excavate Deep Patch	sy	122	\$	30.96	\$	3,783.92
5	Saw Cut Pavement	lf	210	\$	2.35	\$	494.11
Roadway Improvements							
6	Surface Treatments (Seal cracks)	sy	6044	\$	3.72	\$	22,455.87
7	Type 2 Slurry Seal	sy	6044	\$	6.19	\$	37,426.45
8	4" AC Pavement - Level 3	sy	122	\$	17.34	\$	2,119.00
9	Aggregate base rock	су	50	\$	7.43	\$	371.51
10	Landscape Restoration & Cleanup	ls	1	\$	619.19	\$	619.19
Striping							
11	4" White Dotted Line Per ODOT TM500 WD	lf	2000	\$	1.86	\$	3,715.13
Construct	ion Subtotal					\$	86,601.93
Continge	ncy		20%			\$	17,320.39
Engineeri	Engineering 20%				\$	17,320.39	
Administ	rative		5%			\$	4,330.10
Total Proj	ect Cost					\$:	125,572.79

Table 4: 3rd Street and Hyland Drive Improvement Cost Estimate



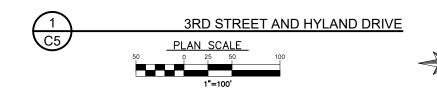


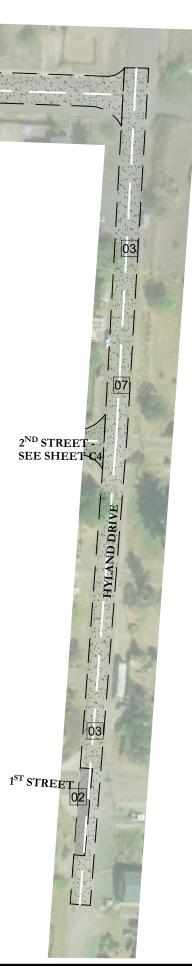
#### HATCH LEGEND

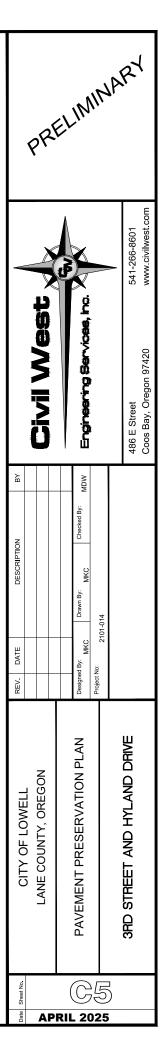


# GENERAL NOTES

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- 2. NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. STAT. AUTH.: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- 4. GRIND EXISTING PAVEMENT. 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY.
- INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730. 5.
- 6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, <sup>1</sup>/<sub>2</sub> DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED. CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS and LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING.
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES. MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES. REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT
- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA.
- 16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER.







This project focuses on 4th Street. Refer to Figure C6 for more information. The roadway is mostly in good condition, but the eastern section has older pavement and tree root intrusion. Distress includes raveling, oxidation, alligator cracking, and root damage. Recommended repairs include crack sealing and a Type 2 slurry seal for the entire street, with deep patching on the eastern section to address subbase damage. The original estimated cost was \$52,931.62. The updated cost is shown below in Table 5.

Item	Description	Unit	Est. Quantity	ι	Jnit Amount		Total	
1	Mobilization - Bonds & Insurance	ls	1	\$	3,705.44	\$	3,705.44	
2	Construction Facilities & Temporary Controls	ls	1	\$	1,852.72	\$	1,852.72	
3	Demolition & Site Preparation	ls	1	\$	2,593.81	\$	2,593.81	
	Demolition							
4	Pavement Removal and Over Excavate Deep Patch	sy	13	\$	30.96	\$	412.79	
5	Saw Cut Pavement	lf	100	\$	2.35	\$	235.29	
	Roadway Improve	ments						
4	Surface Treatments (Seal cracks)	sy	3556	\$	3.72	\$1	3,209.34	
5	Type 2 Slurry Seal	sy	3556	\$	6.19	\$2	2,015.56	
6	4" AC Pavement- Level 3	sy	13	\$	34.67	\$	450.77	
7	Aggregate Base	су	15	\$	7.43	\$	111.45	
8	Landscape Restoration & Cleanup	ls	1	\$	619.19	\$	619.19	
Construct	ion Subtotal					\$4	5,206.36	
Continger	псу		20%			\$	9,041.27	
Engineeri	Engineering 20%				\$ 9,041.27			
Administr	rative		5%			\$ 2,260.32		
Total Proj	ect Cost					\$6	5,549.22	

Table 5: 4th Street Improvement Cost Estimate



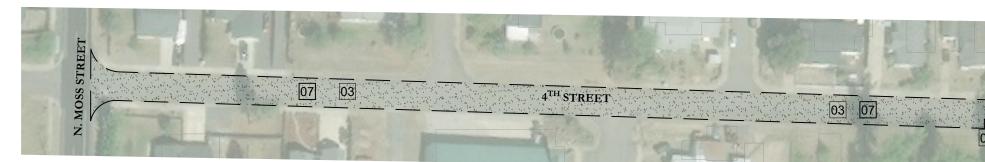
- 01 GRIND AND OVERLAY, SEE SHEET NOTES 4-8
- 02 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12
- 03 SLURRY SEAL SEE SHEET NOTE 10
- 04 DEEP PATCH. SEE SHEET NOTE 9
- 05 REMOVE AND REPLACE PAVEMENT EDGE , SEE SHEET NOTE 13
- 06 REMOVE TREE ROOTS, SEE SHEET NOTE 11
- 07 CRACK SEALING

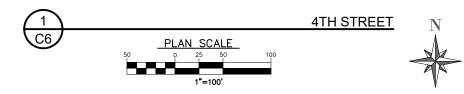
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REMOVE AND REPLACE PAVEMENT	
GRID AND OVERLAY	
TYPE 2 SLURRY SEAL	
DEEP PATCH	
EXTENTS OF PAVEMENT TO BE REHABILLITATED	

## **GENERAL NOTES**

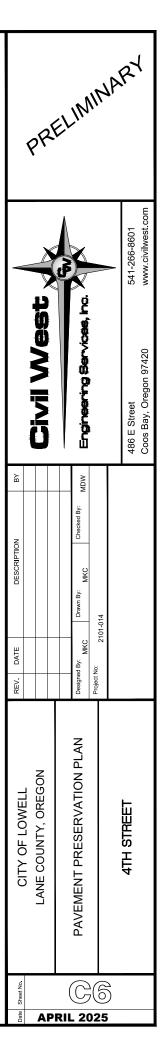
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- 2. NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. STAT. AUTH.: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
- 3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- 4. GRIND EXISTING PAVEMENT. 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY.
- 5. INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730.
- 6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- 8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, 1" DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH.
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED, CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS 18" AND LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS.
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING.
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES, MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES, REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS, APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT.
- 14. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO WORK.
- 15. CONTRACTOR SHALL PROJECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA.
- 16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER.











This project addresses West Lakeview Avenue. Refer to Figure C7 for more information. The pavement shows severe alligator cracking, raveling, oxidation, longitudinal cracking, and tree root intrusion. Due to its poor condition and uncertain base stability, core sampling is recommended before major repairs or full pavement and subbase replacement. The original estimated cost was \$132,136.06, including geotechnical investigation. The updated cost is shown below in Table 6.

Item	Description	Unit	Est. Quantity	U	Init Amount		Total
1	Mobilization - Bonds & Insurance	ls	1	\$	8,900.07	\$	8,900.07
2	Construction Facilities & Temporary Controls	ls	1	\$	4,450.03	\$	4,450.03
3	Demolition & Site Preparation	ls	1	\$	6,230.05	\$	6,230.05
	Demolition						
4	Tree Root Removal	ls	1	\$	1,238.38	\$	1,238.38
5	Pavement Removal and Over Excavate Deep Patch	sy	1111	\$	30.96	\$	34,399.31
6	Saw Cut Existing Pavement	lf	200	\$	2.35	\$	470.58
	Roadway Improv	ements					
7	4" AC Pavement - Level 3 Deep patch	sy	1111	\$	34.67	\$	38,527.23
8	6" aggregate Base	су	1850	\$	7.43	\$	13,745.97
9	Landscape Restoration & Cleanup	ls	1	\$	619.19	\$	619.19
Construct	ion Subtotal					\$:	L08,580.80
Geotechr	ical Investigation					\$	6,000.00
Continge	ncy		20%			\$	21,716.16
Engineeri	ing		20%			\$	21,716.16
Administrative 5%					\$	5,429.04	
Total Pro	ect Cost					\$1	163,442.16

Table 6: Westlake Avenue Improvement Cost Estimate



- 01 GRIND AND OVERLAY, SEE SHEET NOTES 4-8
- 02 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12
- 03 SLURRY SEAL, SEE SHEET NOTE 10
- 04 DEEP PATCH, SEE SHEET NOTE 9
- 05 REMOVE AND REPLACE PAVEMENT EDGE , SEE SHEET NOTE 13
- 06 REMOVE TREE ROOTS, SEE SHEET NOTE 11
- 07 CRACK SEALING

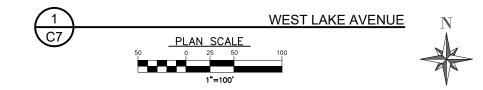
#### HATCH LEGEND

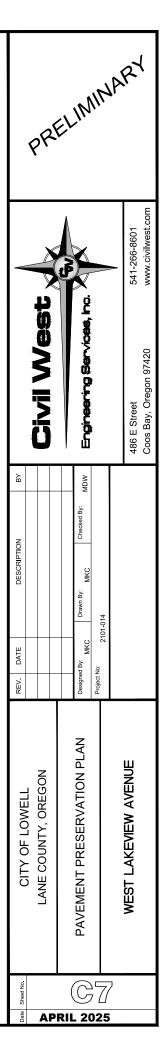
- REMOVE AND REPLACE PAVEMENT
- GRID AND OVERLAY
- TYPE 2 SLURRY SEAL
- DEEP PATCH
- EXTENTS OF PAVEMENT TO BE REHABILLITATED

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- 4. GRIND EXISTING PAVEMENT, 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY
- INSTALL TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730. 5.
- 6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT
- 7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
- PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH 8. LEVEL 2, 2" DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH.
- 9. DEEP PATCHES IN AREAS INDICATED SHALL BE SAW CUT AND FAILING AC REMOVED. CONTRACTOR SHALL OVER EXCAVATE 6" OF SUBGRADE AND PLACE GEOTEXTILE FABRIC. BACKFILL WITH AGGREGATE BASE TO DEPTH 2" BELOW SURROUNDING PAVEMENT. PLACE 4" THICK LAYER OF AC TO MATCH EXISTING GRADE.
- 10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS <sup>1</sup>/<sub>8</sub> AND LARGER INSIDE SLURRY SEAL AREA. CLEAN PAVEMENT OF ALL LOOSE MATERIAL, SILT SPOTS, VEGETATION, OIL SPOTS AND OTHER MATERIAL. THEN APPLY TACK COAT AND LET CURE PRIOR TO PLACEMENT OF SLURRY SEAL. ALL SLURRY SEALS SHALL BE TYPE 2, APPLICATION RATE 10-16.7 LBS/SQ.YD. FOR RESIDENTIAL STREETS.
- 11. TREE ROOTS SHALL BE REMOVED TO THE EXTENTS INSTRUCTED BY THE CITY'S REPRESENTATIVE OR ENGINEER. SAW CUT PAVEMENT AND REMOVE TREE ROOT IN PAVEMENT AREA. REBUILD BASE TO MATCH SURROUNDING.
- 12. IN REMOVE AND REPLACE SECTIONS OF PAVEMENT, SAW CUT DESIGNATED PERIMETER OF PAVEMENT REMOVAL. REPLACE AGGREGATE BASE SUB-GRADE WITH 6-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. MAKE SMOOTH TRANSITION AT ALL EXISTING PAVEMENT EDGES. MATCH TO EXISTING GRADES.
- 13. PAVEMENT EDGE REMOVAL WILL CONSIST OF REMOVING 1.5 FEET OF PAVEMENT ALONG THE EDGE OF ROAD WHERE NOTED ON PLANS. DEPTH OF PAVEMENT AND BASE REMOVAL WILL BE 16 INCHES. REPLACE THE BASE WITH 12-INCHES OF 3/4-0" MINUS ROCK AND 4-INCHES OF ASPHALT APPLIED IN TWO 2-INCH LIFTS. APPLY TACK COAT TO ALL BITUMINOUS SURFACES PRIOR TO AC PLACEMENT.
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- 16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER







This project 9 is designed to determine the annual pavement maintenance cost based on roadway miles and a standard 30-foot width. With approximately 5 miles of paved streets in Lowell, maintenance is planned to extend pavement life by 7-10 years. A 30-year cycle was used for maintenance costs, while reconstruction assumed a 40-year lifespan with proper upkeep. The annual repair methods and their costs are broken down below. See Table 7 and 8 for a breakdown of annual pavement maintenance and reconstruction costs.

- **Crack sealing** costs \$3.72 per square yard. With 93,649 square yards of pavement, the total cost for full treatment is \$348,367.08, averaging \$11,612.24 per year over a 30-year cycle. Crack sealing should be done at least twice in a pavement's lifespan.
- **Slurry/chip** sealing costs \$11.15 per square yard, totaling \$1,044,172.35 for all roads, with an annual expense of \$34,805.74 over 30 years.
- **Grind and overlay** costs \$32.20 per square yard, totaling \$3,015,507.80, with an annual expense of \$100,516.59 over 30 years.
- Full removal and reconstruction costs \$81.73 per square yard, totaling \$7,653,092.77, with an annual expense of \$191,327.32 over a 40-year cycle.

Annual Maintenance Cost Estimates							
Repiar	Repiar Annual Cost						
Crack seal	\$	23,224.48					
Slurry Seal/Chip Seal	\$	34,805.74					
Grind and Overlay	\$	100,516.59					
Total Estimated Cost	\$	158,546.81					

Annual Reconstruction Cost Estimates		
Repiar	Annual Cost	
Reconstruction	\$	191,327.32
Total Estimated Cost	\$	191,327.32

Table 8: Annual Reconstruction Costs





Hall O'Regan 1948-2024



This plaque is dedicated to the memory of Hall O'Regan, a valued member of our community for over 25 years, many of which he devoted to the Park & Recreation Committee. Always ready to lend a helping hand, he kept a watchful eye over Paul Fisher Park from his home across the street. A proud Vietnam veteran of the 101<sup>st</sup> Infantry, Hall was a kind soul with a heart of gold. His Presence is genuinely missed.

"His joy was in improving Paul Fisher Park. He was a Strong advocate for a better Lowell"



475 West 5th Ave. Eugene, OR 97401 (541) 844-7746

fastsigns.com/2133



Created	Date: 4/8/2025				
DESCR	IPTION: Memorial Plaque for Lowell Parks & Rec				
Bill To:	Tina Moricei 46372 Hwy 58 #28 West Fir, OR 97492 US	Pickup At:	FASTSIGNS #20050 475 West 5th Ave. Eugene, OR 97401 US	11	
Email: trs19696@gmail.com		Salesperson: Chev Email: Chevy.Reigl Entered By: Chevy	es@fastsigns.com		
PRODU	JCTS	QTY		UNIT PRICE	TOTALS
1	Precision Tooled Plaque Aluminum 3/8" Depth 24"x24 * No installation included * Precision tooled plaque with etched portrait. Lead time 4-5 weeks	<b>!</b> " 1		\$3,190.77	\$3,190.77
1.1	Hardware - Tradeshow - <b>Part Qty:</b> 1 <b>Graphic Design and Layout</b> - Graphic Design TOTAL Hours: 1.00 - Design Services (REQUIRED): Graphic				
2	Design Alternative: UV Ink Printed Brushed ACM Plaque 3mr 24"x24" * No installation included * Printed UV raised ink on brushed ACM	n 1		\$362.97	\$362.97
	* No installation included *				

#### 2.1 ACM 3mm BRUSHED SILVER -

Part Qty: 1 Width: 24.00" Height: 24.00"

#### **Print Type**

- Speed (REQUIRED): Standard
- Ink Coverage (REQUIRED): Full Coverage
- Print Type (REQUIRED): UV Direct Print -
- Texture

#### **Rounded Corners**

Rounded Corners, Size: 1/2" (Standard)
Graphic Design and Layout
Graphic Design TOTAL Hours: 1.00
Design Services (REQUIRED): Graphic

Design

*** CREDIT CARD PAYMENT NOTICE *** Please be advised that all payments made with credit cards will incur a 3% surcharge, which is assessed by the credit card processor at the time of payment. FASTSIGNS is unable to refund or waive this charge, as it is	Base Subtotal:	\$3,553.74
	Subtotal:	\$3,553.74
	OR Corp. Activity Tax	\$20.26
	Total Taxes:	\$20.26
collected directly by the processor.	Grand Total:	\$3,574.00
	Deposit Required:	\$1,787.00

\*\*\*\*\* ESTIMATE IS ONLY VALID FOR 14 DAYS \*\*\*\*\*

To proceed a 50% deposit or full payment is required.

\*\*\* Print-ready graphics\*\*\* must be CMYK, to size, without bleed, with all fonts outlined and images embedded. Print-ready files will be printed as is. The client assumes all responsibility for the quality of print-ready files.

NOMINAL SIZING - Please note that quoted sizes can vary up to 1/4" to accommodate router bit sizes and to minimize waste. IF an exact size is required, please make sure it states it on the product above.

#### \*\*\*\*\*due to fluctuating costs, this ESTIMATE IS ONLY VALID FOR 14 DAYS \*\*\*\*\*

Signature:

Date:

# **Agenda Item Sheet**

City of Lowell City Council

Type of item:	Other

## Item title/recommended action:

Review "Renewal notification process" letter from the Oregon Liquor and Cannabis Commission for liquor license renewals. – Discussion/ Possible action

## Justification or background:

The Oregon Liquor and Cannabis Commission (OLCC) sends us a "Renewal Notification" each year regarding liquor license renewals. The only licensee in the city is Armandos 3. This is presented for City Council's consideration. The OLCC lists several options, with a recommendation for denial having to meet certain criteria. If the city does nothing regarding this notification, then that is the same as recommending renewal.

## Budget impact:

N/A

## Department or Council sponsor:

Administration

## Attachments:

"Renewal Notification" from OLCC

Meeting date: 04/15/2025

## Sam Dragt

From:	RENEWALS olcc * OLCC <olcc.renewals@olcc.oregon.gov></olcc.renewals@olcc.oregon.gov>
Sent:	Thursday, February 13, 2025 11:14 AM
То:	RENEWALS olcc * OLCC
Subject:	OLCC Pre-Renewal Notice - District 3

You don't often get email from olcc.renewals@olcc.oregon.gov. Learn why this is important Hello,

This notification is to inform you of upcoming liquor license renewals that will be renewing **June 30<sup>th</sup>**, which may include licenses under your jurisdiction. This notice provides below the instructions of how to electronically generate the list of liquor licenses relevant to you for this license renewal period, as well as instructions on how to recommend approval or denial.

This notice is being sent out 135 days before expiration of annual licenses. Renewals are available for customers in our new CAMP portal 75 days prior to expiration. ORS 471.166 dictates that local governments have 60 days to respond to this recommendation request, so we can properly flag any renewing licenses that we receive negative recommendations for prior to processing their renewal application.

#### **INSTRUCTIONS:**

Use the below hyperlink to access the license database and use the appropriate filters on top of the page to generate the list of your area specific licenses that expire **June 30**<sup>th</sup>. Instructions for filtering that list to generate the specific licenses in your area are as follows:

- 1. Access the webpage found here: Direct Link
- 2. Locate the Local Government dropdown menu and expand the dropdown by clicking on it



Trade Name	Licensee Name
1 AM MARKET	3.A.M. MARKET INC
2 BROKE BARTENDERS	2 BROKE BARTENDERS L
2 MILE BISTRO	G&L COASTAL FOOD GRO

3. Uncheck the "All" checkbox on the list.

- 4. Check the box next to your local government name on the list.
- 5. This will update the license list to all active licenses that have a yearly expiration date of **June 30<sup>th</sup>** for your jurisdiction

**\*\*NOTE\*\* This notification is not dependent on your local government having renewing licenses for this upcoming renewal period.** Several local governments have renewals for multiple renewal periods throughout the year. Please use this time to check if you have upcoming renewals with the expiration date of **June 30<sup>th</sup>**. Please look at the year of each license, as you may see licenses that are up for renewal on a later license year and will not need to seek endorsement until closer to a renewal. This happens if they apply close to the expiration date and pay for both the current and next license years. If you have no renewing licenses for this date, you can ignore this notification.

## HOW TO MAKE A RECOMMENDATION

You have until to make your recommendation. Below are your options for renewals:

## **RECOMMEND APPROVAL**

**1. DO NOTHING.** If you do not submit a recommendation by **April 14**<sup>th</sup>, the OLCC will process the renewal application as a favorable recommendation.

#### **RECOMMEND DENIAL (see additional information attached as a PDF)**

1. File an unfavorable recommendation, stating the grounds for the unfavorable

(must meet denial criteria on attached PDF); OR

2. Make a written request for additional time to complete an investigation. The request must state:

A) You are considering making an unfavorable recommendation;

B) The specific grounds being considered.

**The grounds must be one referenced in Oregon Administrative Rule 845-005-0308(3).** If your request is granted you will be given a 45-day extension to file your unfavorable recommendation. Unfavorable means recommending denial of a license or requesting restrictions be placed on a license.

## **RECORDS UPDATE REQUEST**

If your address for liquor license renewals, contact email address, or renewal fees have changed, please notify us via email to olcc.generalinfo@oregon.gov

## **CONTACT INFORMATION:**

If you need assistance or would like to discuss a specific application, please contact your local OLCC office, or our general line at 503.872.5000 so we can best rout your inquiry. Please send renewal recommendation correspondence to <u>OLCC.Renewals@oregon.gov</u> or OLCC License Renewals, P.O. Box 22297, Portland, OR 97269-2297. If you have questions, contact our license renewal section at 503.872.5138.

Thank you,

## Jessica Buzikowski

License Renewal Coordinator Call 503-872-5138 Oregon Liquor and Cannabis Commission (OLCC) Schedule: 8am – 5pm Monday through Friday

Alcohol Licensing Contacts:

- Questions about obtaining a liquor license: <u>olcc.alcohollicensing@oregon.gov</u>
- Renewing your current alcohol license: <u>olcc.renewals@oregon.gov</u>
- Planning a special event or needing a temporary sales license: olcc.specialevents@oregon.gov

- Looking for your service permit: <u>olcc.servicepermits@oregon.gov</u>
- Other questions or concerns: <u>olcc.generalinfo@oregon.gov</u>



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Expiration Date	06/30/2025	
Effective Date	07/01/2024	
lssue Date	06/20/2024	
Local Governing Body	LOWELL	
Licensee Name Body Body	GERARDO DE LA CRUZIJJOSE L GUITRON RODRIGUEZ	
License Type	FULL ON- PREMISES SALES - COMMERC IAL	Phone Number 541-937- 2300
License Licen Number Type	387552	Renewal District 3
License Expired	No	Governing Body LOWELL
District	Renewal District 3 (6/30)	County
License Type	GERARDO DE LA CRUZIJJOS PREMISES E L GUITRON RODRIGU EZ EZ	Physical Address 243 N MOSS ST LOWELL OR 97452- 9633
Licensee Name	GERARDO DE LA CRUZ JJOS E L GUITRON RODRIGU EZ	Fremises Physical Key Address 243 N MOSS ST 50590 LOWELL OR 97452 9633
Trade Name	m	Address Address 404 KAY AVE APT D, BROWNSVILL E OR 97327- 2269



**City Council** P.O. Box 490 Lowell, OR 97452 Phone: 541-937-2157 Email: mbaker@lowelloregon.com

Overall Assessment of the Interim City Administrator's Performance During the Interim Period

Area 1 - Evaluation of the Interim CA's performance achieving progress toward goals previously established by the City Council.

Area 2 – <u>Assessment of the Interim CA's successes/failures in directing staff to maintain and/or</u> <u>improve organizational effectiveness during the interim period.</u>

Area 3 – <u>Evaluation of the Interim CA's performance, in conjunction with the council, to develop</u> goals, priorities, and strategies for the coming year.

Area 4 – How well/poorly the Interim CA worked with individual councilors, relevant local and regional leadership, the council as a whole, and/or other key stakeholders to address challenges facing the city that previously existed and ones that arose during the interim period.

Area 5 – <u>Occurrences (and their outcomes) when the Interim CA worked with individual and</u> <u>collective staff to address responsibilities and deadlines new to them during the interim period.</u>

Area 6 – <u>Areas of strengths and competencies that may help the Interim CA achieve success in</u> the CA/PWD role going forward.

Area 7 – <u>Areas of concern or needed growth that should/could be addressed in order for the</u> Interim CA to be successful in the CA/PWD role going forward.