



General Application

775 Summer St NE, Suite 200
Salem, OR 97301-1280

Applicant

City of Lowell
Name

93-6011170
Federal Tax ID Number

107 East Third Street
Street Address

PO Box 490
Mailing Address

Organization Type:

City County Special District under ORS _____ Port District under ORS _____ Tribe

Jared Cobb
Contact Name
(Person we should contact with project questions)

City Administrator
Title

541-937-2157
Phone Number

541-937-2936
Fax Number

jcobb@ci.lowell.or.us
Email Address

Representation (Information may be found at www.leg.state.or.us/findlegsltr)

04
Senate District Number

Floyd Prozanski
Senator's Name

07
House District Number

Cedric Hayden
Representative's Name

Project Information

Downtown Lowell Paving and Utility Improvements
Project Name: (e.g., Stayton Water System Improvements)

Opportunity/Problem

Briefly describe the opportunity or problem facing the applicant:

The City of Lowell had a Pavement Preservation Plan completed in March 2019. The plan identified the overlay and reconstruction of Main Street and Lakeview Avenue as the two highest priorities, due to severe to moderate alligator cracking, longitudinal cracking, oxidation, aging, and raveling. The replacement of two 6" water lines were added due to their age, history of breaks, and older materials (steel and asphaltic concrete).

Response to Opportunity/Problem

Briefly describe the major alternatives considered to address this opportunity or problem:

The only alternative for the streets is to continue to patch and slurry seal; however, due to their age and degradation, these methods will not significantly prolong the useful life of the streets. The only alternative for the water lines is to continue to make repairs as leaks emerge. The most efficient alternative is to rehab the streets and replace the water lines while the street is under construction.

Detailed Project Description

Clearly describe the proposed project work to be accomplished:

The proposed solution is to overlay and reconstruct (as necessary and noted on plans) Main Street and Lakeview Avenue. To address accessibility and safety concerns, the sidewalk on the north side of Lakeview Avenue is proposed to be replaced and upright curb installed. On the south side of Lakeview, flush curb will be installed to protect the structural integrity of the street. The water mains on Main Street and Lakeview Avenue will be replaced with new 6" PVC water lines. Conduit will also be run on both streets for future broadband upgrades.

Project Work Plan

List project activity milestones with estimated start and completion dates. Identify estimated date of first cash draw:

Activity	Estimated Date	
	Start	Completion
Notice to Proceed	Jun 16, 2020	Jun 16, 2020
Mobilization	Jul 6, 2020	Jul 7, 2020
Install water mains	Jul 8, 2020	Jul 17, 2020
Install electric conduit	Jul 20, 2020	Jul 21, 2020
Grind asphalt	Jul 22, 2020	Jul 23, 2020
Install sidewalk	Jul 27, 2020	Jul 29, 2020
Lay new asphalt	Jul 30, 2020	Jul 31, 2020
Striping	Aug 4, 2020	Aug 5, 2020

Estimated First Draw Date: Aug 1, 2020

Project Budget

IF THIS APPLICATION IS FOR COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG) OR SAFE DRINKING WATER REVOLVING LOAN FUND (SDWRLF) PROGRAM FUNDING, PLEASE SKIP THIS BUDGET TABLE AND COMPLETE THE PROJECT BUDGET INCLUDED IN THE PROGRAM-SPECIFIC APPLICATION SUPPLEMENT FORM.

List individual project budget line items with requested budgeted amounts by IFA and non-IFA funding sources. Change budget column labels to identify the specific requested IFA funding sources. Non-IFA sources are those funds other than those requested from IFA.

Budget Line Item (Adjust budget items to suit the project) <i>Below are general items most used</i>	IFA Funding		Non-IFA	Total
	Source 1	Source 2	Funds	
Engineering/Architecture	\$0	\$0	\$0	\$0
Construction	233,095		200,000	433,095
Construction Contingency	21,655			21,655
Land Acquisition	0	0	0	0
Legal	0	0	0	0
Construction Management	13,700			13,700
Other (Specify)				0
Other (Specify)				0
Other (Specify)				0
Other (Specify)				0
Totals	268,450	0	200,000	468,450

Details of Non-IFA Funds

Source of Non-IFA Funds	Amount	Status: C-Committed, A-Application S-Submitted, AI-Application Invited, PS-Potential Source	Dates Required Funds will be Committed and Available
ODOT Small City Allotment Grants	\$200,000	C	1-Jul-20
Totals	200,000		

If "Non-IFA funds" include USDA Rural Development funding that will require interim financing, please indicate the source of the interim financing.

Applicant: **City of Lowell**

Project Name: **Downtown Lowell Street and Utility Improvements**

Section I: Property Acquisition / Ownership / Operation

- A. Is the project a “Development Project” for the acquisition, improvement, construction, demolition or redevelopment of municipally owned utilities, buildings, land, transportation facilities, or other facilities that assist the economic and community development of the municipality? Yes No

If yes, answer questions B. through E. of this section. If no, please contact your Regional Development Officer.

- B. What is the physical location of the project?

Main Street from Pioneer Street to Moss Street and Lakeview Avenue from Pioneer Street to Moss Street.

- C. Will the applicant own the facility / improvements once constructed? Yes No

If no, explain:

- D. Will the applicant operate and maintain the facility / improvements once constructed? Yes No

If no, describe:

- E. Does the project include any acquisition of real property, including permanent easements and rights-of-way, which are directly related to or necessary for the project? Yes No

If yes, describe: **Permanent easement for sidewalk from Lowell School District on the north side of Lakeview Avenue from Pioneer Street to Moss Street.**

- F. Does the project include the purchase of motor vehicle(s)? Yes No

If yes, describe:

- G. Does the project include the purchase of any other equipment which is not directly related to or necessary for the project? Yes No

If yes, describe:

- H. Will a private entity or business have a special legal entitlement to the project? (e.g., through either a transfer of, or partnership in ownership, a lease, management contract, special user rates or development fees, or priority for use) Yes No

If yes, describe:

General Certification


I certify to the best of my knowledge all information, contained in this document and any attached supplements, is valid and accurate. I further certify that, to the best of my knowledge:

- 1. The application has been approved by the governing body or is otherwise being submitted using the governing body's lawful process, and
- 2. Signature authority is verified.

Check one:

- Yes, I am the highest elected official. (e.g., Mayor, Chair or President)
- No, I am not the highest elected official so I have attached documentation that verifies my authority to sign on behalf of the applicant. (Document such as charter, resolution, ordinance or governing body meeting minutes must be attached.)

The department will only accept applications with proper signature authority documentation.



Signature

Don Bennett

Printed Name

6-30-2020

Date

Mayor

Printed Title

FOR BUSINESS OREGON USE ONLY

Concept Number

Intake Approval Date

Project Type:

- Planning
- Construction
- Other:
- Design
- Design & Construction

Section II: Project Results

Please answer each of the following items and provide a brief explanation below for each item marked "Yes."

- A. Will the project result in direct job creation or retention of permanent industrial or commercial jobs within two years of completion of the project? Yes No
Skip to question B.
1. Is the project a "firm business commitment" project in response to a specific business development, expansion or retention proposal where assistance is necessary to enable the proposal to proceed? Yes No
If yes, describe:
2. Does the "firm business commitment" project include industrial or commercial jobs for traded sector businesses, e.g., those selling goods or services in markets for which national or international competition exists? Yes No
If yes, describe:
3. Will the identified business be relocating from another part of the state? Yes No
If yes, describe:
- B. Will the project result in business growth or expansion that would not occur in Oregon without an investment from the Special Public Works Fund? Yes No
If yes, describe:
- C. Will the project include improvement, expansion or new construction of **infrastructure** systems necessary to maintain usable industrial and commercial lands? Yes No
If yes, explain: The project replaces an aging water main on Main Street that has a history of breaks, and also replaces the degrading pavement. This section of the project provides services to lands in our Downtown Commercial zone. Conduit will also be placed across the street for underground extension of electric and other utilities.
- D. Will the project support future industrial growth and commercial enterprise to create or retain employment opportunities with **buildings, land or other facilities**? Yes No
If yes, explain:
- E. Is the project necessary to encourage **economic revitalization** in an urban or rural area where economic growth is prevented by existing conditions, such as an absence of community facilities, developable industrial or commercial land, or lack of capacity in infrastructure systems? Yes No
If yes, explain: The new water lines, repaved streets, and conduit will provide the essential, transportation, and telecommunications infrastructure to support our downtown commercial lands, school district, and residential neighborhoods.

- F. Will the project promote or contribute to the economic and community development goals of the municipality? Yes No

If yes, explain: **The City of Lowell adopted a Downtown Master Plan in 2019. This project was a top tier priority and will improve essential infrastructure, which is key to the revitalization of downtown. The project was also identified as the top priority in our 2019 Pavement Preservation Plan.**

- G. Will the project provide the local match for an emergency project receiving federal disaster relief? Yes No

If yes, briefly describe the emergency project activities:

Note: Attach copies of the FEMA approved "Project Worksheets" as Attachment Q.

- H. Will the project result in the restoration, rehabilitation or new construction of essential community facilities that provide support services to public health and safety, including but limited to police and fire protection, medical treatment, public utilities, transportation and auxiliary shelter facilities? Yes No

If yes, explain: **The project replaces two aging water lines, 6" steel line on Main Street and a 6" asbestos concrete line on Lakeview Avenue. The two blocks of street repaving also includes replacement of sidewalk on north side of Lakeview Avenue to reduce slopes and increase pedestrian safety, particularly the section of sidewalk that is currently below the street adjacent to the Lowell High School woodshop building.**

- I. Is the project one of the special types of development projects listed in OAR 123-042-0038 - land acquisition only; a privately owned railroad; telecommunication system; energy system; marine facility; or a utility system connected to another municipality's utility system? Yes No

If yes, explain:

Section III: Additional Project Information

- A. What is the estimated useful life of the improvements included in the project?

Street Improvements, 20 years; Water Line Replacements, 40 years.

- B. Is there documentation of substantial local commitment to the project's success? Yes No

If yes, describe (public hearings held; project is included entity's adopted budget, CIP, master plan; private partnership or foundations are involved in funding project, et cetera):

The project is listed in the Downtown Master Plan, Street Preservation Plan, and has been discussed at City Council meetings on January 7, January 21, February 4, April 29, and May 19. Funds are included in the FY 2021 Adopted Budget.

- C. Please list the permits and regulatory authorizations needed for the project to be ready to proceed with construction and indicate whether they have been obtained or not.

Permit Type	Review Agency	Status of Approval	If pending, anticipated approval date
None		<input type="checkbox"/> Obtained <input type="checkbox"/> Pending	
		<input type="checkbox"/> Obtained <input type="checkbox"/> Pending	
		<input type="checkbox"/> Obtained <input type="checkbox"/> Pending	
		<input type="checkbox"/> Obtained <input type="checkbox"/> Pending	

For Drinking Water System Improvement Projects Only

- D. Water system identification number: **Lowell, City of #4100492**
- E. Are all service connections to your drinking water system metered? Yes No
If yes, skip to question "F" below.
If no, has a plan been adopted to install the meters? Yes No
- F. If a plan has been adopted, describe:

Section IV: Financial Information

- A. Are user rates for the project-funded utility system(s) expected to change in the next five years? Yes No
*If yes, describe: **Utility rates are adjusted annually, typically 3% per year to keep pace with inflation.***
- B. What sources of revenue are being pledged to repay a loan?
Water Utility Fees and State Highway Tax Distributions
- C. Is other debt serviced or secured by those revenues? Yes No
If yes, is the other debt described in the applicant's audit reports? Yes No
If the other debt is not described in the audit report, refer to the specific authorization, such as an ordinance or resolution. List below and attach a copy as Attachment N.

Lender	Amount of Note	Year Incurred

D. Has the applicant ever defaulted on a debt? Yes No

If yes, provide a complete summary of the circumstances related to the default:

E. Is there actual/pending litigation that could impair the applicant's ability to repay debt? Yes No

If yes, describe:

Section V: Budget Information

A. Does the project budget (as included on the General Application) propose direct project management expenses? Yes No

(Direct project management is defined as expenses that will be incurred that are directly related to and necessary solely to support or manage project activities and are not routine or ongoing expenses of the municipality or expenses for current staff that are already included in the municipality's adopted budget.)

If yes, describe how the direct project management services will be provided:

Services will be provided by the City Engineer of Record, Matt Wadlington with Civil West Engineering, and billed specifically for the oversight and management of the project.

B. Who prepared the cost estimates for the project?

Name: **Matt Wadlington**

Title: **City Engineer of Record**

Company: **Civil West Engineering**

Phone Number: **541-982-4373**

Date of project cost estimate: **Bids closed on 05/21/20**

C. Will reimbursement be requested from the IFA for any directly related project expenses that have been, or will be, incurred **prior to an award**? Yes No

If yes, identify and describe the amount and type of pre-award expenses below:

Note: *Pre-award expenses must be included as a separate line-item in the project budget in the General Application Form.*

1. Preliminary design or engineering incurred within the past 12 months? Yes No

If yes, describe:

2. Construction activities, including land acquisition, site preparation, mobilization and similar costs incident to commencement of construction? Yes No

If yes, describe:

3. Other activities necessary to allow the project to proceed? Yes No

If yes, describe:

4. Are pre-award expenses **less than 20%** of the total cost of the project? Yes No

If no, describe:

Attachments

	Attachment Description	For IFA Use (X Attached?)
Required with all applications	A Documentation from the appropriate entity (city or county planning department) that indicates that the project is consistent with the acknowledged local comprehensive plan.	<input type="checkbox"/>
	B Map(s) showing the location of the project, including tax lots / parcels and road widths, etc.	<input type="checkbox"/>
	C The preliminary architectural / engineering / planning work or study conducted to determine the feasibility of the proposed building, utility system or other improvements. The documents must be certified by a professional architect / registered engineer licensed in Oregon.	<input type="checkbox"/>
	D Applicant's adopted budget.	<input type="checkbox"/>
	E Applicant's last three audit reports (if not available at the Secretary of State website: http://www.sos.state.or.us)	<input type="checkbox"/>
	F List the ten largest property tax payers in the applicant's jurisdiction, their type of business, local taxes and current assessed value. If net revenues from your drinking water and/or sewer system will be pledged to repay the loan, also complete the "Summary of Users, Consumption and Rates" and "System's Ten Largest Customers" tables for the applicable system(s) (see Attachment F).	<input type="checkbox"/>
	G A Schedule of Pro Forma Revenues and Expenditures for the applicable fund(s) that will be pledged to repay the loan for each of the next five years and any underlying assumptions used in the Applicant's adopted budget (see Attachment G).	<input type="checkbox"/>
Check If Applicable	Check box at left and include any of the following attachments that are applicable to the project proposal	
<input type="checkbox"/>	H If the project is for improvement or expansion of a drinking water and/or sewer system, submit a copy of the Water System Master Plan or Wastewater Facilities Plan for the system(s).	<input type="checkbox"/>
<input type="checkbox"/>	I If the project is for improvement or expansion of a drinking water system and/or sewer system, attach a copy of the current rate schedule, including rates for System Development Charges (SDCs).	<input type="checkbox"/>
<input type="checkbox"/>	J If the project is for improvement or expansion of a drinking water and/or sewer system, attach a copy of the most recent resolution or ordinance that adopts the current rate schedule.	<input type="checkbox"/>
<input type="checkbox"/>	K If the project overlaps municipal boundaries, attach an executed copy of an intergovernmental cooperation agreement that sets out the duties and obligations of each entity.	<input type="checkbox"/>

<input type="checkbox"/>	L	If project includes a firm business commitment where permanent jobs will be created or retained, submit the "Job Creation and Retention and Average Wages" form completed by the business (<i>see Attachment L</i>).	<input type="checkbox"/>
<input type="checkbox"/>	M	If available, the plans and specifications for the project.	<input type="checkbox"/>
<input type="checkbox"/>	N	Copies of all ordinances/resolutions that authorize debt that is supported by the source of repayment for this financing (<i>refer to the Section IV: Financial Information, Item B.</i>).	<input type="checkbox"/>
<input type="checkbox"/>	O	If the applicant will own the facility and another entity will operate the facility, attach an executed copy of the operating agreement between the parties.	<input type="checkbox"/>
<input type="checkbox"/>	P	If the project is for downtown revitalization, attach a copy of the downtown revitalization plan.	<input type="checkbox"/>
<input type="checkbox"/>	Q	If the project is an emergency project with the commitment of federal disaster relief assistance , attach a copy of the FEMA approved "Project Worksheet(s)" that are the basis for this funding request.	<input type="checkbox"/>
If a Telecommunications Project			
<input type="checkbox"/>	R	If the project is for telecommunications infrastructure, attach a resolution that includes findings and states that project is necessary and would not otherwise be provided by a for-profit entity within a reasonable time/for a reasonable cost.	<input type="checkbox"/>
<input type="checkbox"/>	S	If the project is for telecommunications infrastructure, attach a copy of the notice and minutes of the public hearing at which the above resolution was adopted.	<input type="checkbox"/>
If a grant is likely and it is possible the grant could exceed the property value			
<input type="checkbox"/>	T	One of the following: 1) real market value (obtained from the county tax assessor) of the property and improvements that will be put on the tax assessment roll, <u>after</u> the project improvements have been completed; or 2) an appraisal (conducted by an independent appraiser) of the future fair market value of the subject property <u>after</u> the project improvements have been completed.	<input type="checkbox"/>

Information for the following tables should be the most current available and may be found from these sources:

Ten largest taxpayers: Comprehensive Annual Financial Report (CAFR), County Assessor, Financial Audit Report

Summary of users: billing records

Populations served: your system’s service area information; 2010 Census, [Portland State University](#)

System’s ten largest customers: billing records

Ten Largest Property Taxpayers (in applicant’s jurisdiction)

Taxpayer	Type of Business	Total Taxes	Current Assessed Value
TUMAC Inc	Machine Shop	30,490	2,343,050
Lowell Industrial Development	Industrial Space	18,925	1,454,425
Jerry and Julie Valencia	Residential Property	15,083	1,089,348
George Living Trust	Residential Property	12,685	914,108
Centurylink	Telecommunications	12,609	969,000
Robin and Cheryl Neet	Residential Property	7,201	508,843
Caroline Viola Moxley	Residential Property	6,603	105,948
Richard and Allison Walker	Residential Property	6,322	455,138
C & S Development	Residential Property	6,253	459,735
Mali and Ian Howell	Residential Property	6,223	447,883

If Water or Sewer Project, also Complete These Tables

Summary of Users, Consumption and Populations Served

User	Connections		Equivalent Dwelling Units**		Annual Water Consumption (in gallons)
	Current	Future*	Current	Future	Current
Residential	421	421	422	422	24,404,965
Commercial	20	20	42	42	6,343,442
Industrial	2	2	2	2	80,820
Other					
Totals	443	443	466	466	30,829,227

*20-year project life

**1 EDU = 7,500 gallons of water consumption per month per residential user

Populations Served

	All Residents	Permanent Residents*
Number served by system	1,090	
Number served by this project	1,090	

*Excludes transient and part-time residents

System’s 10 Largest Customers

Customer	Annual Water Consumption (in gallons)	% Total Water Consumption for System	Annual Revenue Received by System	% Total Annual Revenue Received by System
Lowell Sewer Plant	3,062,816	10%	21,401	7%
Covered Bridge Estates	832,560	3%	8,080	3%
Lowell School District - HS	365,300	1%	4,476	1%
Valencia, Jerry	256,244	1%	1,868	1%
Winder, Tim	220,270	1%	1,868	1%
Mountain View Estates	220,100	1%	2,370	1%
Bridge Town Market	205,280	1%	2,015	1%
Ellickson, Steve	190,660	1%	1,444	0%
Sutton, Irene	179,570	1%	1,374	0%
Schneider	170,020	1%	1,313	0%

Job Creation / Retention and Average Wages

Attachment L

Business Name & Address of Project Business Site:
(street address, city, zip code):

Contact Person:

Name: _____
Title: _____
Phone Number: _____

Federal Tax Identification Number (EIN): _____

Oregon Business Identification Number (BIN): _____

Product(s) produced: _____

A. Current number of Full-Time Equivalent (FTE) jobs:

1. Total number of Hours Worked* to Employees** during the previous 12 months:

Divided by 1,820 hours per year = **Current FTE =** 0.00

2. Of the current FTE, how many do you estimate would no longer exist if the proposed project is not completed? _____

3. By what date do you estimate the FTE jobs in 2. (above) would no longer exist if the proposed project is not completed? _____

4. What 12-month period was used for 1. (above)? _____ to _____

* "Hours worked" for an hourly Employee means all hours the Employee performed work on the job. It does not include sick leave, vacation time or other paid time where no work is performed. This definition was developed to be consistent with the data collected by the Oregon Employment Department for the Oregon Quarterly Reports and Form 132 (for Unemployment Insurance Tax). The 1820 figure represents 35 hours per week and was developed in coordination with the Oregon Employment Department. The 1820 figure assumes 6.5 weeks (260 hours) of paid and unpaid leave each year out of a total 2080 hours (40 hours x 52 weeks) per year. The 6.5 weeks of paid and unpaid leave consists of: 2.5 weeks of vacation, 1.5 weeks of sick leave, 1.5 weeks of holidays and 1 week of other leave (such as family leave). All jobs that are covered under unemployment compensation shall be counted. Contract labor also may be included if the jobs are expected to be permanent, but hired through a third party contract agency.

** "Employee" means:

- A. A person who is paid through a business's normal payroll system;
- B. A person for whom FICA and state and federal income taxes are deducted from gross wages, which are then forwarded to the appropriate agencies by the business on behalf of the person;
- C. A person for whom the business pays state and federal unemployment insurance; and
- D. A person for whom the business contributes to FICA.

An exception to the above is allowed if the business uses a leasing agent for its Employees and the terms of the leasing agreement are such that hiring decisions are made by the business and for all intents and purposes the "Employees" are working for the business. The fees paid by the business to the leasing agent should not be considered as part of the Employees' salary / wages.

An "Employee" is not:

- A. A person hired through a temporary agency; or
- B. A person acting as an independent contractor.

B. Average annual wage of current FTE jobs:

- 1. Total wages / salaries paid to Employee during previous 12 months: _____
- Total number of Hours Worked* to Employees** during the previous 12 months: _____
- Divided by 1,820 hours per year = **Current FTE** = _____ **0.00**
- Wage divided by current FTE** = _____

C. Estimated number of new FTE job that will be created as a result of this project by the end of the *second year* after beginning operations:

- (These jobs must then be maintained for a minimum of four consecutive calendar quarters.)
- 1. Estimated date operations resulting from the proposed project will begin: _____
 - 2. Estimated annual average wage of these new FTE jobs: _____
 - 3. How many new FTE jobs do you estimate will be created as a result of this project by the end of the *fifth year* after beginning operations? _____

D. First Source Hiring Agreement

- 1. I acknowledge that execution of a First Source Hiring Agreement between Yes No this business and a publicly funded job training provider will be a condition of the potential funding award the municipality is applying for.

I certify and affirm that all statements and information contained herein are true and complete to the best of my knowledge.

Business Representative / Preparer's Signature

Typed Name and Title

Date

For IFA Use Only

Does this business already exist in Oregon? Yes No

If yes, has program staff requested a report from the Employment Department for the previous four quarters to establish the business's Base FTE Jobs? Yes No

If no, list other documentation that will be used to establish Base FTE Jobs, or provide the date when a report from the Employment Department will be requested.

Signature of Project Coordinator

Date

Schedule of Pro Forma Revenues and Expenditures

Attachment G

	Pro Forma	Current FY					
1	Year (ending June 30)	2021	2022	2023	2024	2025	2026
2	Beginning Fund Balance	140,328	116,964	128,704	149,892	181,369	224,039
Operating Revenues							
3	Primary Revenue Source	358,537	376,463	395,287	415,051	435,803	457,594
4	Other Revenue Source 1	5,250	5,522	5,798	6,087	6,392	6,711
5	Other Revenue Source 2	2,806	2,339	2,574	2,997	3,627	4,480
	Total Operating Revenues	366,593	384,324	403,659	424,135	445,822	468,785
Operation, Maintenance & Replacement (OM&R) Expenses							
6	Personal Services	193,421	199,223	205,200	211,356	217,697	224,227
7	Materials & Services	133,938	137,956	142,094	146,357	150,748	155,270
8	Other Operating Expenses						
	Total Operating Expenses	327,359	337,179	347,294	357,713	368,445	379,497
Debt Services							
	Funds Avail for Debt Service	39,234	47,145	56,365	66,422	77,377	89,288
9	Existing Debt 1	64,084	46,803	46,803	46,803	46,803	46,803
10	Existing Debt 2						
11	Other Proposed Debt						
	Total Debt Service	64,084	46,803	46,803	46,803	46,803	46,803
Other Activities							
	Cash Avail After Debt Service	(24,850)	342	9,562	19,619	30,574	42,485
12	Loan Proceeds / Drawdowns	0	0	0	0	0	0
13	Capital Outlay	0	0	0	0	0	0
14	System Replacement Reserves	0	0	0	0	0	0
15	Other Non-Operating Activity	11,175	11,398	11,626	11,858	12,096	12,338
	Net Other Activity	11,175	11,398	11,626	11,858	12,096	12,338
16	Net Transfers IN (OUT)	(9,689)	0	0	0	0	0
17	Adjustments	0	0	0	0	0	0
	Net Transfers & Adjustment	(9,689)	0	0	0	0	0
	Ending Fund Balance	116,964	128,704	149,892	181,369	224,039	278,862
18	Connections	453	463	473	483	493	503
19	EDUs	476	486	496	506	516	526
20	Monthly Rate per EDU	72.01	74.17	76.39	78.68	81.04	83.47

Please contact your RDO if you have questions completing this form.

Primary revenue source (e.g., user charges). Include, on lines 4 or 5, revenues such as taxes, hook-up fees and rent/lease income. Do not include interest, SDCs, etc., in this section; rather, enter these revenues on line 15.

Include short-lived asset replacement with a useful life of 15 years or less. Do not include capital outlay, transfers, depreciation, etc; rather, enter these revenues to lines 12–17.

Enter and specify annual debt service amounts for existing and proposed debt support by this fund, including any proposed non-IFA debt for this project, e.g., USDA, DEQ, etc.

Anticipated drawdown schedule for requested loans. Include capital outlay **in brackets (negative amount)** for this project. Anticipated contributions for system replacement. Asset sales, SDCs, interest income (specify†).

Include transfers to reserve accounts (specify†). Explain any adjustments

†Describe any assumptions used in calculating above figures, such as changes in user rates, EDU/connection growth, loan repayments, operating expenses, transfers, adjustments: Line 3 - Water Sales and Penalties: 3% rate increase & 2% growth increase; Line 4 - Connection Fees: 3% rate increase & 2% growth increase; Line 5 -

Interest and Miscellaneous Revenue: 2% on Beginning Fund Balance; Line 6/7 : Inflation 3%/year; Line 15 - SDC Reimbursement Fees: Constant rate & 2% growth. Water meter replacement and GIS mapping projects deferred and excluded (\$240,000).

INVITATION FOR BIDS

City of Lowell

Bids for construction of the **Main Street Pavement and Utility Improvements (Schedule 1)** and **Lakeview Street Pavement and Utility Improvements (Schedule 2)** for the City of Lowell (Owner) will be received by Jared Cobb, City Administrator, until **2:00 p.m. (PST), May 21st, 2019**. Bids received after this time will not be accepted.

Due to Covid-19, bids must be submitted electronically by emailing scanned documents to jcobb@ci.lowell.or.us. The body of the email shall plainly identify (1) the project name; (2) the Bidders name; and (3) the Bidders contractor's license number. To ensure your bid is accepted in its entirety, please combine all documents into a single pdf file attached to your email.

Bidders shall be responsible for calling 541-937-2157 to confirm the City has received the bid.

Scanned documents attached to the email shall include the Bid Form (C-410) and all forms identified in Article 6.01 of the Bid Form. A scanned copy of the bid bond is acceptable for the bid opening. Original Bid Bond must be received by the City by Thursday, May 28th. Addressed to Jared Cobb, City Administrator, PO Box 490, Lowell, OR 97452.

Bids will be opened publicly and read aloud immediately following the specified closing time. Bidders and public can call (605) 313-5111, PIN# 455493 to hear bid results at the time of opening. Subcontractor declarations must be emailed to the above-mentioned City representative no later than **4:00 p.m. (PST), May 21st, 2019**.

The work on this project is for public work. A brief description of the scope of work is provided below:

Schedule 1 - Main Street Pavement and Utility Improvements

Furnish all labor, equipment and materials necessary to remove a 2-inch thick layer of existing asphalt and replace with a 2-inch-thick HMAC overlay, replacement of 4-inches of HMAC and 6-inches subbase material for deep patching sections, as required and shown on plans, per the Contract Documents. Improvements shall include, but not be limited to: cold milling or grind out of the existing roadway asphalt surface in designated areas, saw-cutting at transition areas, including side streets and at deep patch sections, crack sealing and tack coating application for road surface preparation in improvement area, and replacement of all existing pavement markings. Additive alternate to furnish all labor, equipment, and materials necessary for the abandonment of the existing 6-inch steel waterline and installation of the new 6-inch PVC waterline and valves as required and shown on the plans, per the Contract Documents. Contractor shall provide all traffic control, including flaggers and all other work as may be required for a complete installation and placement of the new asphalt concrete pavement overlay.

Schedule 2 - Lakeview Street Pavement and Utility Improvements

Furnish all Labor, equipment and material necessary to remove a 2-inch thick layer of existing asphalt and replace with a 2-inch thick HMAC overlay, full replacement of existing pavement and base material, 4-inch of HMAC and 6-inches subbase, as required and shown on plans, per the Contract Documents. Improvements shall include, but not limited to: cold milling or grind out of the existing roadway asphalt surface in designated areas, saw-cutting at transition areas, including side streets and at full-replacement of pavement and subbase sections, crack sealing and tack coating application for road surface preparation in improvement area, and replacement of all existing pavement markings. Additive alternate #1 to furnish all labor, equipment, and materials necessary for the abandonment of the existing 6-inch ac waterline and installation of the new 6-inch PVC waterline and valves as required and shown on the plans, per the Contract Documents. Additive Alternate #2 to furnish all labor, equipment, and materials necessary for the installation of new curb. Additive Alternate #3 to furnish all labor, equipment and materials necessary for the replacement of the existing sidewalk. Contractor shall provide all traffic control, including flaggers and all other work as may be required for a complete installation and placement of the new asphalt concrete pavement overlay.

Bids will be received for a single prime Contract. Bids shall be on a unit price basis as indicated in the Bid Form. Bids will also contain Bid Alternates for additional work.

To be eligible to Bid and be listed on plan holders' list, bidders must download Bidding Documents and/or purchase them from Engineer. Complete digital project bidding documents are available for this project at www.civilwest.com under the Current Bidding tab. You may download the digital plan documents for \$20.00 from QuestCDN (Ebid# xxxxxx). Please contact QuestCDN at 952-233-1632 or info@questcdn.com for assistance in free-membership registration, downloading, and working with this digital project information.

An optional paper set of project documents is available for a nonrefundable price of **\$140.00** per set which includes applicable sales tax and shipping. Please make your check payable to Civil West Engineering Services and send it to 486 E Street, Coos Bay, OR 97420. Please contact us at 541-266-8601 if you have any questions.

Bidding Documents may be also examined or purchased at the following locations:

Civil West Engineering Services, Inc.
213 Water Ave. NW, Suite 100
Albany, OR 97321
Ph: 541-223-5130

A pre-bid conference will **NOT** be held for this project. Bidders must be qualified to perform the work properly and to comply with applicable laws and bonding requirements. This contract is for public work and is subject to ORS 279C.800 to 279C.870. Prevailing wage rates for public works' contracts in Oregon are required for this project. No bid will be received or considered by the Owner unless the bid contains: 1) a statement that bidder will comply with the provisions of ORS 279C.840; 2) a statement as to whether the bidder is a resident bidder as defined in ORS 279A.120.

Dated this 1st day of May, 2020

By order of: Jared Cobb

Title: City Administrator – City of Lowell

Published May 1st, 8th
Daily Journal of Commerce
Portland, OR

Published May 1st, 8th
Register Guard
Eugene, OR

Schedule 2 Alternative a.

BID FORM				Eugene Sand Construction			Wildish Construction			DJ Miller		
	Description	Est. Quantity	Unit	Unit Amount	CALCULATED TOTAL	REPORTED Total	Unit Amount	CALCULATED TOTAL	REPORTED Total	Unit Amount	CALCULATED TOTAL	REPORTED Total
1	Mobilization, Bonds and Insurance	1	LS	\$ 42,000.00	\$ 42,000.00	\$ 42,000.00	\$ 7,000.00	\$ 7,000.00	\$ 7,000.00	\$ 13,000.00	\$ 13,000.00	\$ 13,000.00
2	Construction Facilities and Temporary Controls	1	LS	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 1,100.00	\$ 1,100.00	\$ 1,100.00	\$ 32,000.00	\$ 32,000.00	\$ 32,000.00
3	Demolition and Site Preparation	1	LS	\$ 16,500.00	\$ 16,500.00	\$ 16,500.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00
4	Saw Cutting	1740	LF	\$ 1.50	\$ 2,610.00	\$ 2,610.00	\$ 1.50	\$ 2,610.00	\$ 2,610.00	\$ 2.70	\$ 4,698.00	\$ 4,698.00
5	Cold Plane Removal	185	SY	\$ 19.00	\$ 3,515.00	\$ 3,515.00	\$ 8.20	\$ 1,517.00	\$ 1,517.00	\$ 15.00	\$ 2,775.00	\$ 2,775.00
6	Deep Patching Areas. Includes excavation, geo fabric, backfill and compaction	1300	SY	\$ 30.00	\$ 39,000.00	\$ 39,000.00	\$ 26.66	\$ 34,658.00	\$ 34,658.00	\$ 32.75	\$ 42,575.00	\$ 42,575.00
7	2- inch AC Overlay Level 2 and 4-inch AC for Deep Patches	305	TONS	\$ 95.00	\$ 28,975.00	\$ 28,975.00	\$ 94.00	\$ 28,670.00	\$ 28,670.00	\$ 134.00	\$ 40,870.00	\$ 40,870.00
8	Clean Pavement Surface and Apply Tack Coat	1485	SY	\$ 1.50	\$ 2,227.50	\$ 2,227.50	\$ 0.37	\$ 549.45	\$ 549.45	\$ 1.50	\$ 2,227.50	\$ 2,227.50
9	Thermoplastic Pavement Markings	1	LS	\$ 2,900.00	\$ 2,900.00	\$ 2,900.00	\$ 2,100.00	\$ 2,100.00	\$ 2,100.00	\$ 2,600.00	\$ 2,600.00	\$ 2,600.00
10	Landscape Restoration & Cleanup	1	LS	\$ 3,400.00	\$ 3,400.00	\$ 3,400.00	\$ 230.00	\$ 230.00	\$ 230.00	\$ 4,000.00	\$ 4,000.00	\$ 4,000.00
Construction Subtotal				Total	161,127.50	161,127.50	Total	78,634.45	78,634.45	Total	146,745.50	146,745.50

Schedule 2 Alternative b.

D FORM				Eugene Sand Construction			Wildish Construction			DJ Miller		
	Description	Est. Quantity	Unit	Unit Amount	CALCULATED TOTAL	REPORTED Total	Unit Amount	CALCULATED TOTAL	REPORTED Total	Unit Amount	CALCULATED TOTAL	REPORTED Total
1	Mobilization, Bonds and Insurance	1	LS	\$ 43,000.00	\$ 43,000.00	\$ 43,000.00	\$ 14,500.00	\$ 14,500.00	\$ 14,500.00	\$ 18,000.00	\$ 18,000.00	\$ 18,000.00
2	Construction Facilities and Temporary Controls	1	LS	\$ 22,000.00	\$ 22,000.00	\$ 22,000.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 32,000.00	\$ 32,000.00	\$ 32,000.00
3	Demolition and Site Preparation, Includes abandonment of the existing	1	LS	\$ 18,000.00	\$ 18,000.00	\$ 18,000.00	\$ 2,600.00	\$ 2,600.00	\$ 2,600.00	\$ 6,500.00	\$ 6,500.00	\$ 6,500.00
4	Saw Cutting	1760	LF	\$ 1.50	\$ 2,640.00	\$ 2,640.00	\$ 1.50	\$ 2,640.00	\$ 2,640.00	\$ 2.70	\$ 4,752.00	\$ 4,752.00
5	Cold Plane Removal	110	SY	\$ 19.00	\$ 2,090.00	\$ 2,090.00	\$ 8.20	\$ 902.00	\$ 902.00	\$ 23.00	\$ 2,530.00	\$ 2,530.00
6	Deep Patching Areas. Includes excavation, geo fabric, backfill and compaction	1380	SY	\$ 30.00	\$ 41,400.00	\$ 41,400.00	\$ 26.70	\$ 36,846.00	\$ 36,846.00	\$ 34.00	\$ 46,920.00	\$ 46,920.00
7	2- inch AC Overlay Level 2 and 4-inch AC for Deep Patches	315	TONS	\$ 95.00	\$ 29,925.00	\$ 29,925.00	\$ 94.00	\$ 29,610.00	\$ 29,610.00	\$ 134.00	\$ 42,210.00	\$ 42,210.00
8	Clean Pavement Surface and Apply Tack Coat	1485	SY	\$ 1.50	\$ 2,227.50	\$ 2,227.50	\$ 0.37	\$ 549.45	\$ 549.45	\$ 1.50	\$ 2,227.50	\$ 2,227.50
9	Thermoplastic Pavement Markings	1	LS	\$ 2,900.00	\$ 2,900.00	\$ 2,900.00	\$ 2,100.00	\$ 2,100.00	\$ 2,100.00	\$ 2,600.00	\$ 2,600.00	\$ 2,600.00
10	New 6-inch Waterline installed	720	LF	\$ 57.00	\$ 41,040.00	\$ 41,040.00	\$ 45.00	\$ 32,400.00	\$ 32,400.00	\$ 75.00	\$ 54,000.00	\$ 54,000.00
11	New 6-inch Valves installed	6	EA	\$ 1,500.00	\$ 9,000.00	\$ 9,000.00	\$ 1,500.00	\$ 9,000.00	\$ 9,000.00	\$ 1,100.00	\$ 6,600.00	\$ 6,600.00
12	New Water Meters and service connections	5	EA	\$ 2,500.00	\$ 12,500.00	\$ 12,500.00	\$ 1,800.00	\$ 9,000.00	\$ 9,000.00	\$ 2,000.00	\$ 10,000.00	\$ 10,000.00
13	New Back-flow preventer installed	4	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14	Connect to Existing	3	EA	\$ 2,300.00	\$ 6,900.00	\$ 6,900.00	\$ 3,600.00	\$ 10,800.00	\$ 10,800.00	\$ 5,000.00	\$ 15,000.00	\$ 15,000.00
15	Fire hydrant assembly including piping and valve	1	EA	\$ 6,000.00	\$ 6,000.00	\$ 6,000.00	\$ 5,500.00	\$ 5,500.00	\$ 5,500.00	\$ 6,200.00	\$ 6,200.00	\$ 6,200.00
16	Landscape and Site Restoration	1	LS	\$ 3,500.00	\$ 3,500.00	\$ 3,500.00	\$ 230.00	\$ 230.00	\$ 230.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00
17	New 4" PVC Electrical Conduit	120	LF	\$ 40.00	\$ 4,800.00	\$ 4,800.00	\$ 25.00	\$ 3,000.00	\$ 3,000.00	\$ 24.00	\$ 2,880.00	\$ 2,880.00
Construction Subtotal				Total	247,922.50	247,922.50	Total	162,177.45	162,177.45	Total	257,419.50	257,419.50

BID FORM				Eugene Sand Construction			Wildish Construction			DJ Miller		
	Description	Est. Quantity	Unit	Unit Amount	CALCULATED TOTAL	REPORTED Total	Unit Amount	CALCULATED TOTAL	REPORTED Total	Unit Amount	CALCULATED TOTAL	REPORTED Total
1	Mobilization, Bonds and Insurance	1	LS	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 3,600.00	\$ 3,600.00	\$ 3,600.00	\$ 4,300.00	\$ 4,300.00	\$ 4,300.00
2	Construction Facilities and Temporary Controls	1	LS	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 850.00	\$ 850.00	\$ 850.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00
3	Demolition and Site Preparation	1	LS	\$ 17,000.00	\$ 17,000.00	\$ 17,000.00	\$ 4,500.00	\$ 4,500.00	\$ 4,500.00	\$ 6,400.00	\$ 6,400.00	\$ 6,400.00
4	Curb, includes the flush and extruded curbs as designated on plan set and min 6" aggregate base.	1400	LF	\$ 36.00	\$ 50,400.00	\$ 50,400.00	\$ 17.55	\$ 24,570.00	\$ 24,570.00	\$ 48.00	\$ 67,200.00	\$ 67,200.00
5	Curb Inlet Storm Drain Grate installed	1	EA	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 1,100.00	\$ 1,100.00	\$ 1,100.00	\$ 3,700.00	\$ 3,700.00	\$ 3,700.00
6	Safety Railing	30	LF	\$ 230.00	\$ 6,900.00	\$ 6,900.00	\$ 112.00	\$ 3,360.00	\$ 3,360.00	\$ 170.00	\$ 5,100.00	\$ 5,100.00
7	Landscape and Site Restoration	1	LS	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 3,300.00	\$ 3,300.00	\$ 3,300.00	\$ 9,500.00	\$ 9,500.00	\$ 9,500.00
Construction Subtotal				Total	\$ 94,800.00	\$ 94,800.00	Total	\$ 41,280.00	\$ 41,280.00	Total	\$ 98,000.00	\$ 98,000.00

BID FORM				Eugene Sand Construction			Wildish Construction			DJ Miller		
	Description	Est. Quantity	Unit	Unit Amount	Description	Total	Unit Amount	Description	Total	Unit Amount	Description	Total
1	Mobilization, Bonds and Insurance	1	LS	\$ 4,000.00		\$ 4,000.00	\$ 2,400.00		\$ 2,400.00	\$ 3,300.00		\$ 3,300.00
2	Construction Facilities and Temporary Controls	1	LS	\$ 8,500.00		\$ 8,500.00	\$ 21,000.00		\$ 21,000.00	\$ 1,800.00		\$ 1,800.00
3	Demolition and Site Preparation	1	LS	\$ 36,000.00		\$ 36,000.00	\$ 2,500.00		\$ 2,500.00	\$ 24,000.00		\$ 24,000.00
4	Sidewalk, includes aggregate base (6"-18")	2740	SF	\$ 14.00		\$ 38,360.00	\$ 9.50		\$ 26,030.00	\$ 13.00		\$ 35,620.00
5	Landscape and Site Restoration	1	LS	\$ 20,000.00		\$ 20,000.00	\$ 5,800.00		\$ 5,800.00	\$ 12,000.00		\$ 12,000.00
Construction Subtotal				Total		\$ 106,860.00	Total		\$ 57,730.00	Total		\$ 76,720.00

BID FORM

	Description	Est. Quantity	Unit	Eugene Sand Construction			Wildish Construction			DJ Miller Construction		
				Unit Amount	CALCULATED TOTAL	REPORTED Total	Unit Amount	CALCULATED TOTAL	REPORTED Total	Unit Amount	CALCULATED TOTAL	REPORTED Total
1	Mobilization, Bonds and Insurance	1	LS	\$ 42,000.00	\$ 42,000.00	\$ 42,000.00	\$ 8,500.00	\$ 8,500.00	\$ 8,500.00	\$ 12,000.00	\$ 12,000.00	\$ 12,000.00
2	Construction Facilities and Temporary Controls	1	LS	\$ 19,000.00	\$ 19,000.00	\$ 19,000.00	\$ 1,200.00	\$ 1,200.00	\$ 1,200.00	\$ 30,000.00	\$ 30,000.00	\$ 30,000.00
3	Demolition and Site Preparation	1	LS	\$ 13,000.00	\$ 13,000.00	\$ 13,000.00	\$ 232.00	\$ 232.00	\$ 232.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00
4	Saw Cutting	2055	LF	\$ 1.50	\$ 3,082.50	\$ 3,082.50	\$ 1.50	\$ 3,082.50	\$ 3,082.50	\$ 2.30	\$ 4,726.50	\$ 4,726.50
5	Cold Plane Removal	2635	SY	\$ 4.00	\$ 10,540.00	\$ 10,540.00	\$ 3.80	\$ 10,013.00	\$ 10,013.00	\$ 5.00	\$ 13,175.00	\$ 13,175.00
6	Deep Patching Areas. Includes excavation, geo fabric, backfill and compaction	135	SY	\$ 48.00	\$ 6,480.00	\$ 6,480.00	\$ 36.40	\$ 4,914.00	\$ 4,914.00	\$ 72.00	\$ 9,720.00	\$ 9,720.00
7	2-inch AC Overlay Level 2 and 4-inch AC for Deep Patches	305	TONS	\$ 93.00	\$ 28,365.00	\$ 28,365.00	\$ 87.70	\$ 26,748.50	\$ 26,748.50	\$ 134.00	\$ 40,870.00	\$ 40,870.00
8	Clean Pavement Surface and Apply Tack Coat	2635	SY	\$ 1.50	\$ 3,952.50	\$ 3,952.50	\$ 0.38	\$ 1,001.30	\$ 1,001.30	\$ 1.50	\$ 3,952.50	\$ 3,952.50
9	Thermoplastic Stop Bar and Cross Walk	1	LS	\$ 2,800.00	\$ 2,800.00	\$ 2,800.00	\$ 1,700.00	\$ 1,700.00	\$ 1,700.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00
10	4-inch Yellow Dotted Line	1	LS	\$ 1,200.00	\$ 1,200.00	\$ 1,200.00	\$ 900.00	\$ 900.00	\$ 900.00	\$ 1,500.00	\$ 1,500.00	\$ 1,500.00
11	Landscape Restoration & Cleanup	1	LS	\$ 3,400.00	\$ 3,400.00	\$ 3,400.00	\$ 230.00	\$ 230.00	\$ 230.00	\$ 4,000.00	\$ 4,000.00	\$ 4,000.00
	Construction Subtotal			Total	\$ 133,820.00	\$ 133,820.00	Total	\$ 58,521.30	\$ 58,521.30	Total	\$ 124,444.00	\$ 124,444.00

BID FORM

	Description	Est. Quantity	Unit	Eugene Sand Construction			Wildish Construction			DJ Miller Construction		
				Unit Amount	CALCULATED TOTAL	REPORTED Total	Unit Amount	CALCULATED TOTAL	REPORTED Total	Unit Amount	CALCULATED TOTAL	REPORTED Total
1	Mobilization, Bonds and Insurance	1	LS	\$ 42,000.00	\$ 42,000.00	\$ 42,000.00	\$ 18,000.00	\$ 18,000.00	\$ 18,000.00	\$ 19,000.00	\$ 19,000.00	\$ 19,000.00
2	Construction Facilities and Temporary Controls	1	LS	\$ 22,000.00	\$ 22,000.00	\$ 22,000.00	\$ 3,250.00	\$ 3,250.00	\$ 3,250.00	\$ 30,000.00	\$ 30,000.00	\$ 30,000.00
3	Demolition and Site Preparation, Includes abandonment of the existing waterline	1	LS	\$ 19,000.00	\$ 19,000.00	\$ 19,000.00	\$ 7,200.00	\$ 7,200.00	\$ 7,200.00	\$ 6,500.00	\$ 6,500.00	\$ 6,500.00
4	Saw Cutting	3700	LF	\$ 1.50	\$ 5,550.00	\$ 5,437.50	\$ 1.50	\$ 5,550.00	\$ 5,550.00	\$ 2.30	\$ 8,510.00	\$ 8,510.00
5	Cold Plane Removal	2635	SY	\$ 4.00	\$ 10,540.00	\$ 10,540.00	\$ 3.80	\$ 10,013.00	\$ 10,013.00	\$ 5.00	\$ 13,175.00	\$ 13,175.00
6	Deep Patching Areas. Includes excavation, geo fabric, backfill and compaction	790	SY	\$ 40.00	\$ 31,600.00	\$ 31,000.00	\$ 25.00	\$ 19,750.00	\$ 19,750.00	\$ 59.00	\$ 46,610.00	\$ 46,610.00
7	2-inch AC Overlay Level 2 and 4-inch AC for Deep Patches	390	TONS	\$ 89.00	\$ 34,710.00	\$ 34,710.00	\$ 87.70	\$ 34,203.00	\$ 34,203.00	\$ 134.00	\$ 52,260.00	\$ 52,260.00
8	Clean Pavement Surface and Apply Tack Coat	2635	SY	\$ 1.50	\$ 3,952.50	\$ 3,952.50	\$ 0.38	\$ 1,001.30	\$ 1,001.30	\$ 1.50	\$ 3,952.50	\$ 3,952.50
9	Thermoplastic Stop Bar and Cross Walk	1	LS	\$ 2,900.00	\$ 2,900.00	\$ 2,900.00	\$ 1,700.00	\$ 1,700.00	\$ 1,700.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00
10	4-inch Yellow Dotted Line	1	LS	\$ 1,200.00	\$ 1,200.00	\$ 1,200.00	\$ 900.00	\$ 900.00	\$ 900.00	\$ 1,500.00	\$ 1,500.00	\$ 1,500.00
11	Landscape Restoration & Cleanup	1	LS	\$ 3,400.00	\$ 3,400.00	\$ 3,400.00	\$ 1,400.00	\$ 1,400.00	\$ 1,400.00	\$ 4,000.00	\$ 4,000.00	\$ 4,000.00
12	New 6-inch Waterline installed	740	LF	\$ 57.00	\$ 42,180.00	\$ 42,180.00	\$ 45.00	\$ 33,300.00	\$ 33,300.00	\$ 72.00	\$ 53,280.00	\$ 53,280.00
13	Lateral Reconnect	8	EA	\$ 2,000.00	\$ 16,000.00	\$ 16,000.00	\$ 1,800.00	\$ 14,400.00	\$ 14,400.00	\$ 1,600.00	\$ 12,800.00	\$ 12,800.00
14	New 6-inch Valves installed	5	EA	\$ 1,500.00	\$ 7,500.00	\$ 7,500.00	\$ 1,500.00	\$ 7,500.00	\$ 7,500.00	\$ 1,100.00	\$ 5,500.00	\$ 5,500.00
15	New Blowoff Assembly	1	EA	\$ 3,500.00	\$ 3,500.00	\$ 3,500.00	\$ 1,500.00	\$ 1,500.00	\$ 1,500.00	\$ 1,900.00	\$ 1,900.00	\$ 1,900.00
16	Connect to Existing	2	EA	\$ 4,800.00	\$ 9,600.00	\$ 9,600.00	\$ 4,000.00	\$ 8,000.00	\$ 8,000.00	\$ 5,200.00	\$ 10,400.00	\$ 10,400.00
17	New 4" PVC Electrical Conduit	265	LF	\$ 44.00	\$ 11,660.00	\$ 9,900.00	\$ 16.00	\$ 4,240.00	\$ 4,240.00	\$ 24.00	\$ 6,360.00	\$ 6,360.00
	Construction Subtotal			Total	\$ 267,292.50	\$ 264,820.00	Total	\$ 171,907.30	\$ 171,907.30	Total	\$ 278,247.50	\$ 278,247.50

SECTION 9.969 PUBLIC FACILITIES & SERVICES GOALS & POLICIIES

(a) Statewide Planning Goals: Statewide Planning Goal 11, Public Facilities and Services, reads: "To plan and develop a timely, orderly, and efficient arrangement of public facilities and services, to serve as a framework for urban and rural development".

(b) Lowell Public Facilities & Services Goals

- GOAL 1.** To improve the quality of life in Lowell through improved public services and facilities.
- GOAL 2.** To provide public facility plans as a guide for the efficient development of future community facilities, utilities, and services consistent with long range community needs.
- GOAL 3.** To provide for the timely, orderly, and efficient provision of public facilities and services to serve as a framework for future community growth and development.
- GOAL 4.** To coordinate with other public agencies to maximize the efficiency and effectiveness of all public facilities and services.

(c) Policies**City Government**

1. The City shall insure that public facilities, utilities, and services contribute to an orderly and efficient framework for incremental community growth and development.
2. The City shall consider the impacts on community facilities and services as part of the City's review and approval process.
3. The City shall require public facilities and services to be available in advance or concurrent with development.
4. The cost of providing public facilities and services for any development or proposed land division shall be the financial responsibility of the developer unless provided by other means approved by the City.
5. The City shall prepare and implement Master Plans for needed urban facilities and services.
6. The City shall prepare a short and long range Capital Improvement Program to guide financial implementation of needed facilities and services.
7. The City shall coordinate with Local Service Providers to ensure that community needs are addressed.

8. The City shall continue to support regional efforts to provide recreational, cultural and other services not available in the City of Lowell.

Parks and Recreation

9. The City shall design park and recreation programs to address the needs of all age groups within the community.
10. The City shall prepare and maintain a Park & Open Space Master Plan that provides the City with a unifying park, open space, bike and pedestrian system.
11. The City shall provide additional parks to accommodate the growing needs of the community.
12. The City shall integrate State and Federal park and open space planning into City planning.
13. The City shall require developers to deed park land as a condition of development approval or provide an in-lieu-of fee for park acquisition or improvement.

Water System

14. New development shall adhere to adopted City standards in all new extensions and replacement of water mains.
15. The City shall maintain and implement a Water System Master Plan that will be reviewed and updated at least every 5 years.
16. Except under approved circumstances, all development shall connect to the City water system.

Sanitary Sewer System

17. The City shall maintain and implement a Sewer System Master Plan that will be reviewed and updated at least every 5 years.
18. Existing development utilizing on-site disposal systems with identified health or pollution hazards shall be required to connect to the municipal sewer system.
19. Except under approved circumstances, all development shall connect to the City sewer system.

Storm Drainage

20. The City shall complete and implement a Drainage System Master Plan that will be reviewed and updated at least every 5 years.
21. Future developed areas shall be provided with an adequate storm drainage system with full the costs being borne by the developer unless approved otherwise by the City.

22. Storm drainage shall be a consideration in the City's review and approval procedures to determine potential impacts on existing and future land uses and the natural environment.
23. No development shall obstruct the natural drainage channels in Lowell, as identified on the Drainage System Master Plan.

Police Protection

24. The City shall strive to expand the level of police and emergency service.

Fire Protection

25. The City shall closely coordinate with the Fire District for the protection of life and property and reduction of fire insurance ratings.
26. As municipal water service is extended, fire hydrants shall be provided with the extended system.
27. Lands divisions and commercial and industrial development proposals shall be submitted to the Fire District for review and recommendation.

Emergency Response

28. The City of Lowell shall coordinate disaster planning efforts with other Emergency Response Agencies in the local area.

Schools

29. The City shall closely coordinate with the Lowell School District as part of its ongoing planning effort.
30. The City shall partner with the School District to improve facilities that benefit the entire community.

Post Office

31. The City shall coordinate addressing and street names for new subdivisions and new developments with the Post Office.

Health and Social Services

32. The City shall cooperate with federal, state and county agencies providing health and social services to residents of Lowell.

Energy & Communication Systems

33. All new and replacement utilities including electric power and communication lines shall be located underground.

34. The City shall encourage serving utilities to convert existing overhead utilities to underground service.
35. Multiple use of single utility easement corridors shall be encouraged wherever possible.
36. Energy conservation shall be encouraged in the development and use of public facilities.
37. The City shall seek to up-grade the City's communication services.

Solid Waste

38. The City shall encourage recycling efforts within the community.
39. Hazardous wastes shall not be imported, stored for unreasonable periods of time or disposed of within the City of Lowell.

SECTION 9.979 TRANSPORTATION GOALS & POLICIES

(a) Statewide Planning Goals: Statewide Planning Goal 12, Transportation reads:
"To provide and encourage a safe, convenient and economical transportation system."

(b) Lowell Transportation Goals

- GOAL 1.** **To develop a street network that is safe, accessible and efficient for motorists, pedestrians, bicyclists and transportation disadvantaged in Lowell.**
- GOAL 2.** **To encourage continuance and expansion of public transportation services to major activity centers for the residents of Lowell.**
- GOAL 3.** **To encourage alternatives to the use of private automobiles.**
- GOAL 4.** **To prepare a Transportation System Plan for the City of Lowell.**

(c) Policies**Transportation Planning**

1. The City shall seek funding to prepare and implement a Lowell Transportation System Plan to expand on and replace its Master Road Plan which will be maintained in the interim as the plan for future transportation facilities.
2. All development proposals, plan amendments, or zone changes shall conform to the Lowell Master Road Plan or Transportation System Plan.
3. The City shall include consideration of impacts on existing or planned transportation facilities in all land use decisions.
4. The City shall develop a Capital Improvement Program to identify, prioritize and construct transportation projects.

Street System

5. The City of Lowell shall protect the function of existing and planned roadways identified in the Lowell Master Road Plan or Transportation System Plan through the application of appropriate land use regulations, exactions, voluntary dedication, or setbacks.
6. Access to lots shall be provided before they are developed.
7. Planning or improvements to any transportation shall include a workable drainage plan to reduce drainage problems and prevent ponding and flooding.
8. New developments shall comply with the Lowell Design Standards and Public Works Construction Standards for all street right-of-ways and parking areas,

- except when site specific conditions require a flexible interpretation or enforcement of the adopted standards.
9. Off-street parking shall be provided by all land uses to improve traffic flow, promote safety, and lessen sight obstruction along the streets.
 10. Street and pedestrian lighting that utilize proper lighting levels, low energy fixtures, and do not cause nuisance conditions to adjacent areas shall be provided in all new developments.

Pedestrian & Bicycle Ways

11. The City of Lowell supports the development of the Eugene to Pacific Crest Trail and will work with all appropriate agencies to ensure its realization.
12. The City shall require developers of property adjacent to open space and park land to construct bike paths and pedestrian trails to access these areas.
13. The City shall encourage agencies having jurisdiction over open space and park lands adjacent to the City to provide trails and bike paths connecting to any City trail and bike system.
14. The City shall continue a program of providing sidewalks and paths to encourage and increase safety for pedestrian traffic.
15. City shall include requirements for pedestrian ways and bikeways when approving development proposals and street improvements.

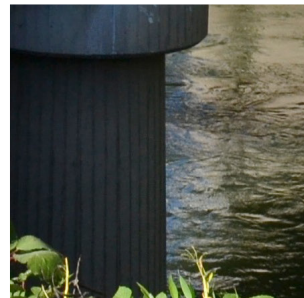
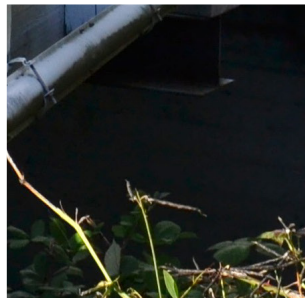
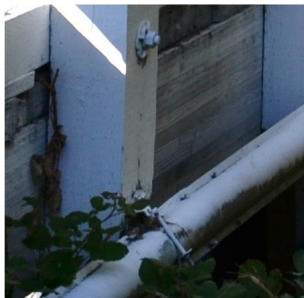
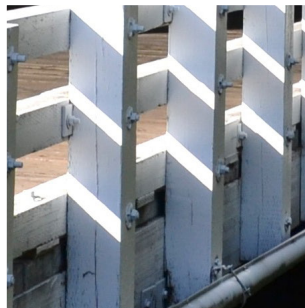
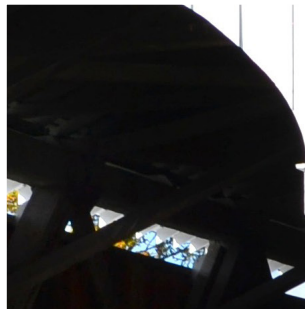
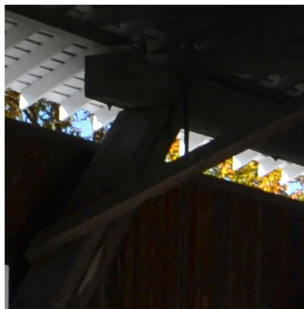
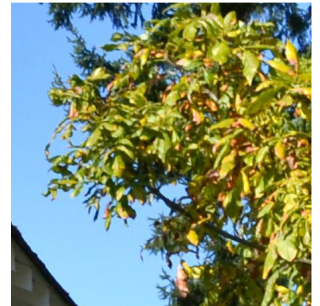
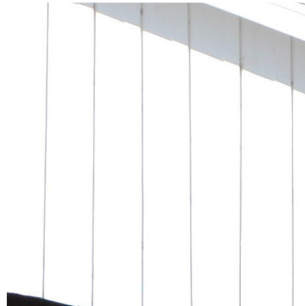
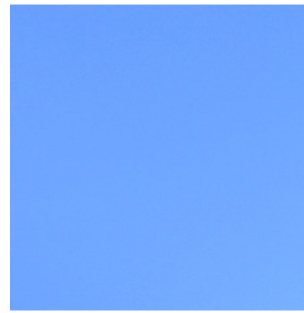
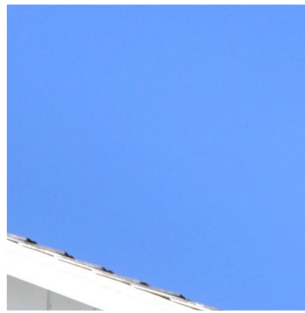
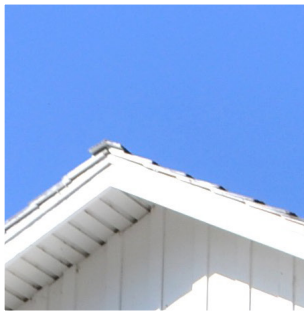
Public Transportation

16. The City, County and Lane Transit District shall address the needs of the transportationally disadvantaged in Lowell and shall make recommendations for possible solutions to identified problems.
17. The City shall encourage greater use of public transportation systems and shall work with regional transportation officials in the siting of public transportation stops and commuter transfer points in Lowell.
18. The City shall encourage the use of carpools and park-and-ride lots in the area and other strategies to reduce the number of single occupant vehicles.
19. The City of Lowell shall participate with other agencies to maintain and expand a regional transportation system..

Rail Transportation

20. The City shall cooperate in regional planning to assist the railroad in providing safe convenient rail service to the region.

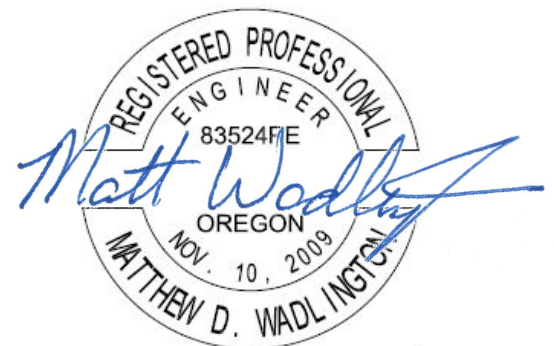
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 NEW GRAVE
 19'



CITY OF LOWELL

Pavement Preservation Plan

March 2019



EXPIRATION DATE: 06/30/2020

Pavement Preservation Plan



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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 assess 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

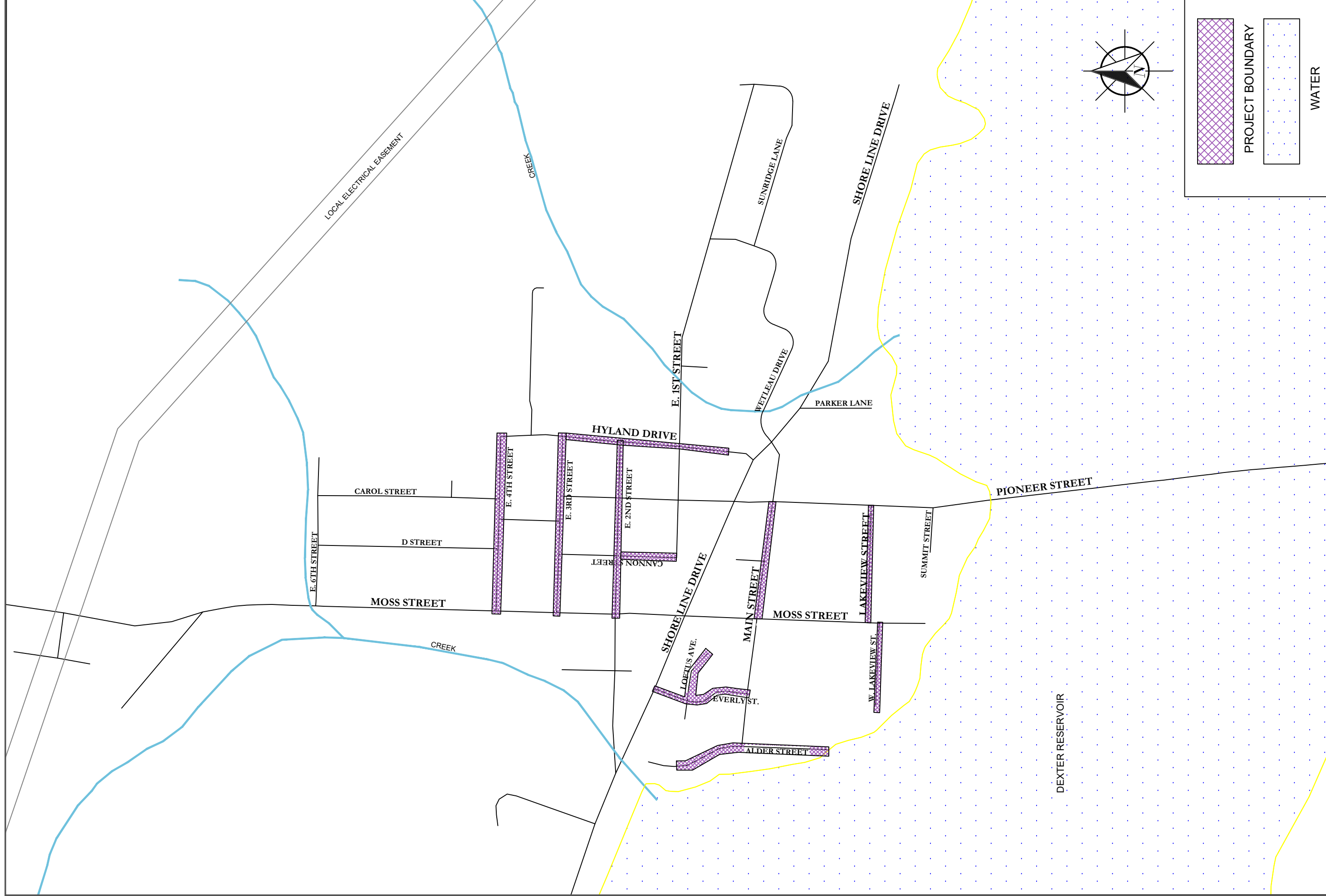
Recommendations in section 6 of this Plan have been prioritized in the CIP to help the City determine which projects should be completed each year to effectively maintain the transportation system of Lowell.

Pavement Preservation Plan



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.



CITY OF LOWELL
LANE COUNTY, OR

ROADWAY MAP

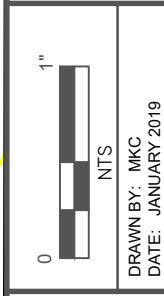


FIGURE
1-1

DRAWN BY: MKC
DATE: JANUARY 2019



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 as-built 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 than 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.

Pavement Preservation Plan



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 construction methods, and pavement shoulder deficiencies.



Figure 3-2 Edge Cracking on 2nd St.

Pavement Preservation Plan



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 1/4-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, settlement, poor drainage and reflections cracks (cracks that occur on an overlay over an existing crack).



Figure 3-3 Longitudinal Cracking on Main St.

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)

Pavement Preservation Plan



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 0.05-inch 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

Pavement Preservation Plan



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 than 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.

Pavement Preservation Plan



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**.

Table 6-1 East Main Street Improvements Cost Estimate

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	\$ 32,629.33
10	Clean Pavement Surface and Apply Top Coat Per 00730 ODOT	sy	2453	\$ 5.00	\$ 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
Construction Subtotal					\$ 82,189.57
Contingency			20%		\$ 16,437.91
Engineering			20%		\$ 16,437.91
Administrative			5%		\$ 4,109.48
Total Project Cost					\$119,174.88

Pavement Preservation Plan



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 sub-base 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**.

Table 6-2 East Lakeview Avenue Improvements Cost Estimate

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					\$ 98,000.57
Contingency			20%		\$ 19,600.11
Engineering			20%		\$ 19,600.11
Administrative			5%		\$ 4,900.03
Total Project Cost					\$142,100.82

DATE: 1/22/19 FILE: O:\CVL_P\Projects\2101-Lowell\2101-014 Pavement Preservation and Maintenance Plan\Drawings\DWG\PAVEMENT PLAN.dwg



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

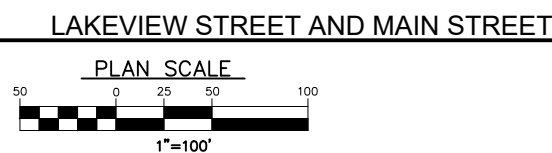
- REMOVE AND REPLACE PAVEMENT
- GRID AND OVERLAY
- TYPE 2 SLURRY SEAL
- DEEP PATCH
- EXTENTS OF PAVEMENT TO BE REHABILITATED

GENERAL NOTES

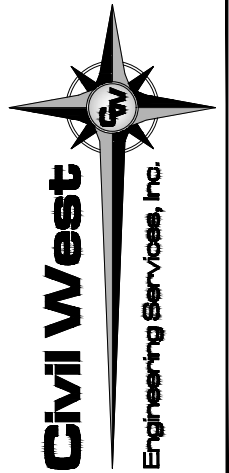
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STAT. AUTH.: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
4. GRIND EXISTING PAVEMENT. 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY.
5. 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, 3/4" 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 1/8" 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.



1
C1



PRELIMINARY



541-266-8601
www.civilwest.com

486 E Street
Coos Bay, Oregon 97420

REV.	DATE	DESCRIPTION	BY

Designed By: MKC	Drawn By: MKC	Checked By: MDW	Project No: 2101-014
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CITY OF LOWELL
LANE COUNTY, OREGON

PAVEMENT PRESERVATION PLAN

LAKEVIEW STREET AND MAIN STREET

Date Sheet No. **G1**
NOVEMBER 2018

Pavement Preservation Plan



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.

Table 6-3 Everly and Main Street Improvements Cost Estimate

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 Improvements					
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	cy	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
Construction Subtotal					\$ 111,203.59
Geotechnical Investigation					\$ 5,000.00
Contingency					20% \$ 22,240.72
Engineering					20% \$ 22,240.72
Administrative					5% \$ 5,560.18
Total Project Cost					\$ 166,245.21

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KEYED NOTES

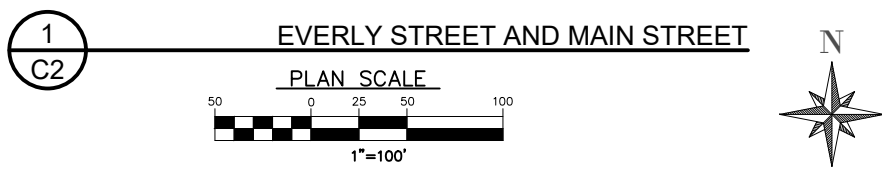
- 01 GRIND AND OVERLAY, SEE SHEET NOTES 4-8
- 02 REMOVE AND REPLACE PAVEMENT, SEE SHEET NOTE 12
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- 06 REMOVE TREE ROOTS, SEE SHEET NOTE 11
- 07 CRACK SEALING

HATCH LEGEND

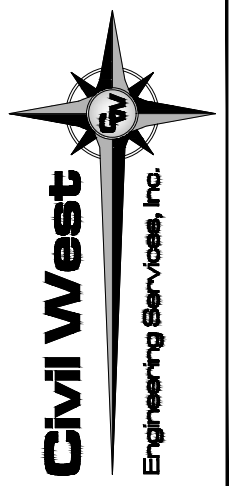
- REMOVE AND REPLACE PAVEMENT
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GENERAL NOTES

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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 1/2" 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 1/8" 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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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.



PRELIMINARY



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486 E Street
Coos Bay, Oregon 97420

REV.	DATE	DESCRIPTION	BY

Designed By: MKC	Drawn By: MKC	Checked By: MDW
Project No: 2101-014		

CITY OF LOWELL
LANE COUNTY, OREGON

PAVEMENT PRESERVATION PLAN

EVERLY STREET AND MAIN STREET

Pavement Preservation Plan



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**.

Table 6-4 Alder Street Improvements Cost Estimate

Item	Description	Unit	Est. Quantity	Unit Amount	Total
1	Mobilization - Bonds & Insurance	ls	1	\$4,316.67	\$ 4,316.67
2	Construction Facilities & Temporary Controls	ls	1	\$2,158.33	\$ 2,158.33
3	Demolition & Site Preparation	ls	1	\$3,021.67	\$ 3,021.67
Demolition					
4	Cold Pane/Grind Pavement Removal (2 inches deep)	sy	1000	\$ 6.00	\$ 6,000.00
Roadway Improvements					
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
Construction Subtotal					\$ 52,663.33
Geotechnical Investigation					\$ 5,000.00
Contingency					20% \$ 10,532.67
Engineering					20% \$ 10,532.67
Administrative					5% \$ 2,633.17
Total Project Cost					\$ 81,361.83


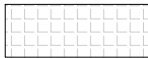



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KEYED NOTES

- 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
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- 07 CRACK SEALING

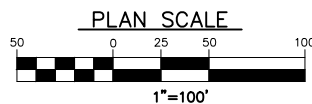
HATCH LEGEND

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

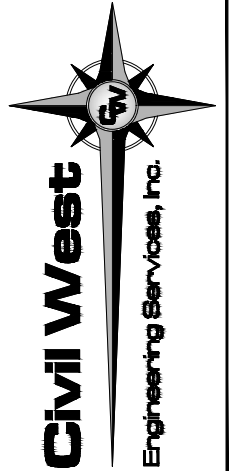
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STAT. AUTH.: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
4. GRIND EXISTING PAVEMENT. 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY.
5. 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, 1/2" 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 1/8" 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.

1
C3



PRELIMINARY



541-266-8601
www.civilwest.com
486 E Street
Coos Bay, Oregon 97420

REV.	DATE	DESCRIPTION	BY

Designed By: MKC	Drawn By: MKC	Checked By: MDW
Project No: 2101-014		

CITY OF LOWELL
LANE COUNTY, OREGON

PAVEMENT PRESERVATION PLAN

ALDER STREET

Date Sheet No. **C3**
NOVEMBER 2018

Pavement Preservation Plan



6.3.5 Project 5

This project consists of two streets, 2nd Street and Cannon Street. 2nd Street runs west to east between Moss Street and Hyland Drive. Cannon Street runs south from 2nd Street. Observed pavement distress on 2nd 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 2nd 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 2nd Street and Cannon Street improvements totaling **\$100,702.62**.

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

Item	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	cy	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					\$ 69,450.08
Contingency			20%		\$ 13,890.02
Engineering			20%		\$ 13,890.02
Administrative			5%		\$ 3,472.50
Total Project Cost					\$100,702.62

PRELIMINARY



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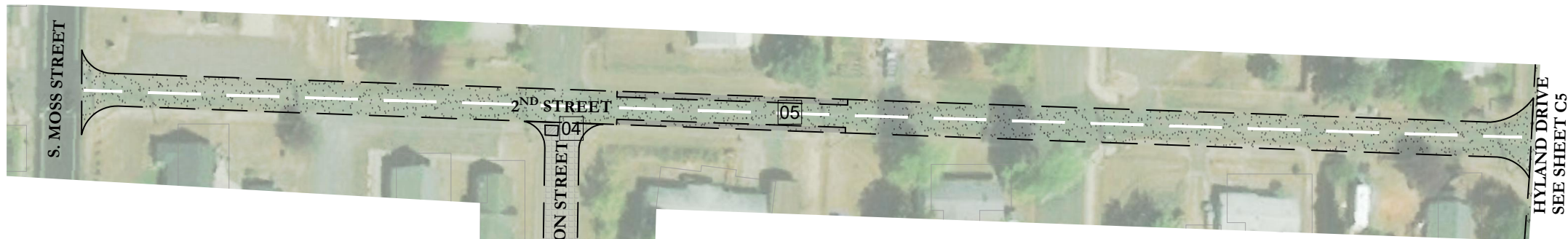
486 E Street
Coos Bay, Oregon 97420

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- 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
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HATCH LEGEND

- REMOVE AND REPLACE PAVEMENT
- GRID AND OVERLAY
- TYPE 2 SLURRY SEAL
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- EXTENTS OF PAVEMENT TO BE REHABILITATED

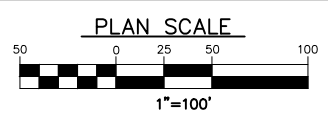


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6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT.
7. PRIOR TO OVERLAY CONTRACTOR SHALL CORRECT POTHOLES WITH DEEP PATCHING.
8. PRIOR TO OVERLAY APPLY TACK COAT TO BITUMINOUS SURFACE. OVERLAY COLD PLANE SURFACES AND DEEP PATCHES WITH 2" DEPTH LEVEL 2, 1/2" DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH.
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10. PRIOR TO SLURRY SEAL PREPARE THE PAVEMENT PER ODOT SPECIFICATION SECTION 00706. CLEAN AND SEAL CRACKS 1/8" 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.



2ND STREET AND CANNON STREET



REV.	DATE	DESCRIPTION	BY

Designed By: MKC	Drawn By: MKC	Checked By: MDW
Project No: 2101-014		

CITY OF LOWELL
LANE COUNTY, OREGON

PAVEMENT PRESERVATION PLAN

2ND STREET AND CANNON STREET

Date Sheet No. **G4**
NOVEMBER 2018

Pavement Preservation Plan



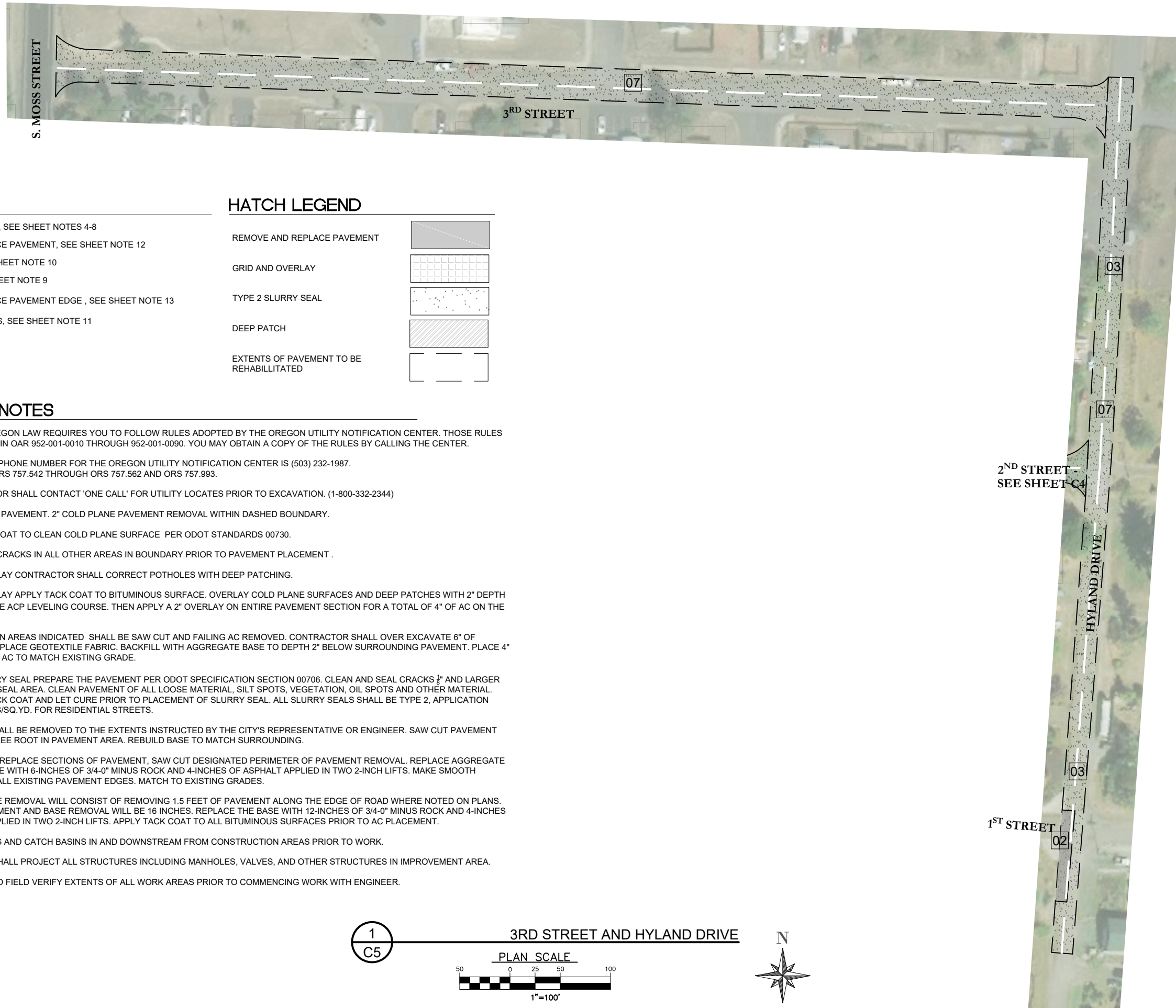
6.3.6 Project 6

This project consists of two streets, 3rd Street and Hyland Drive. Hyland Drive runs north and south on the most eastern side of 3rd Street. 3rd street runs west from Hyland Drive. Observed pavement distress on Hyland Drive includes; alligator cracking, longitudinal cracking, minimal raveling. 3rd 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 3rd 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 3rd Street and Hyland Drive improvements totaling **\$101,401.24**.

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

Item	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 Improvements					
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	cy	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
Construction Subtotal					\$ 69,931.89
Contingency			20%		\$ 13,986.38
Engineering			20%		\$ 13,986.38
Administrative			5%		\$ 3,496.59
Total Project Cost					\$101,401.24



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

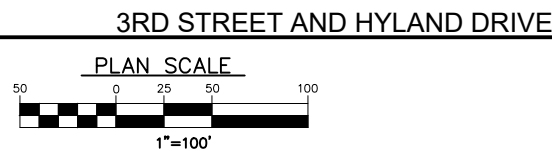
HATCH LEGEND

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

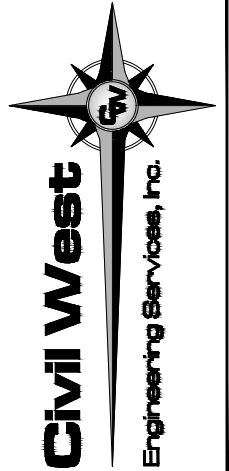
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2. NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. STAT. AUTH.: ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993.
3. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
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, 3/4" DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH.
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16. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER.

1
C5



PRELIMINARY



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REV.	DATE	DESCRIPTION	BY

Designed By: MKC	Drawn By: MKC	Checked By: MDW
Project No: 2101-014		

CITY OF LOWELL
LANE COUNTY, OREGON

PAVEMENT PRESERVATION PLAN

3RD STREET AND HYLAND DRIVE

Date Sheet No. **C5**
NOVEMBER 2018

DATE: 1/22/19 FILE: O:\CW_Proj\2101-014 Pavement Preservation and Maintenance Plan\Drawings\DWG\PAVEMENT PLAN.dwg

Pavement Preservation Plan



6.3.7 Project 7

This project is on 4th Street. 4th Street runs west and east one block north of 3rd Street. This street is mostly in good condition. The most eastern section of 4th 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 4th 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 4th Street improvements totaling **\$52,931.62**.

Table 6-7 4th Street Improvement Cost Estimate

Item	Description	Unit	Est. Quantity	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 Improvements					
4	Surface Treatments (Seal cracks)	sy	3556	\$ 3.00	\$10,666.67
5	Type 2 Slurry Seal	sy	3556	\$ 5.00	\$17,777.78
6	4" AC Pavement- Level 3	sy	13	\$ 28.00	\$ 364.00
7	Aggregate Base	cy	15	\$ 6.00	\$ 90.00
8	Landscape Restoration & Cleanup	ls	1	\$ 500.00	\$ 500.00
Construction Subtotal					\$36,504.57
Contingency			20%		\$ 7,300.91
Engineering			20%		\$ 7,300.91
Administrative			5%		\$ 1,825.23
Total Project Cost					\$52,931.62

PRELIMINARY



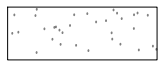




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KEYED NOTES

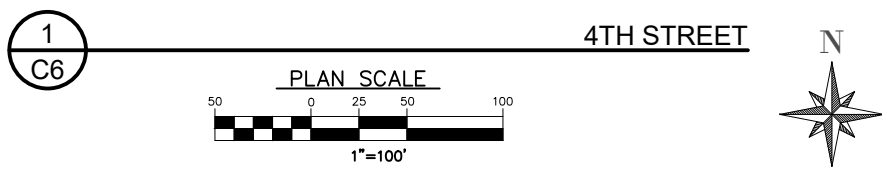
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- 03 SLURRY SEAL, SEE SHEET NOTE 10
- 04 DEEP PATCH, SEE SHEET NOTE 9
- 05 REMOVE AND REPLACE PAVEMENT EDGE, SEE SHEET NOTE 13
- 06 REMOVE TREE ROOTS, SEE SHEET NOTE 11
- 07 CRACK SEALING

HATCH LEGEND

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

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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, 3/4" DENSE ACP LEVELING COURSE. THEN APPLY A 2" OVERLAY ON ENTIRE PAVEMENT SECTION FOR A TOTAL OF 4" OF AC ON THE DEEP PATCH.
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REV.	DATE	DESCRIPTION	BY

Designed By: MKC	Drawn By: MKC	Checked By: MDW
Project No: 2101-014		

CITY OF LOWELL
LANE COUNTY, OREGON

PAVEMENT PRESERVATION PLAN

4TH STREET

Date Sheet No.  NOVEMBER 2018

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**.

Table 6-8 West Lakeview Improvement Cost Estimate

Item	Description	Unit	Est. Quantity	Unit Amount	Total
1	Mobilization - Bonds & Insurance	ls	1	\$ 7,186.89	\$ 7,186.89
2	Construction Facilities & Temporary Controls	ls	1	\$ 3,593.44	\$ 3,593.44
3	Demolition & Site Preparation	ls	1	\$ 5,030.82	\$ 5,030.82
Demolition					
4	Tree Root Removal	ls	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 Improvements					
7	4" AC Pavement - Level 3 Deep patch	sy	1111	\$ 28.00	\$ 31,111.11
8	6" aggregate Base	cy	1850	\$ 6.00	\$ 11,100.00
9	Landscape Restoration & Cleanup	ls	1	\$ 500.00	\$ 500.00
Construction Subtotal					\$ 87,680.04
Geotechnical Investigation					\$ 5,000.00
Contingency					\$ 17,536.01
Engineering					\$ 17,536.01
Administrative					\$ 4,384.00
Total Project Cost					\$132,136.06

PRELIMINARY



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REV.	DATE	DESCRIPTION	BY

Designed By: MKC	Drawn By: MKC	Checked By: MDW
Project No: 2101-014		

CITY OF LOWELL
LANE COUNTY, OREGON

PAVEMENT PRESERVATION PLAN

WEST LAKEVIEW AVENUE

Date Sheet No: **C7**
NOVEMBER 2018

KEYED NOTES

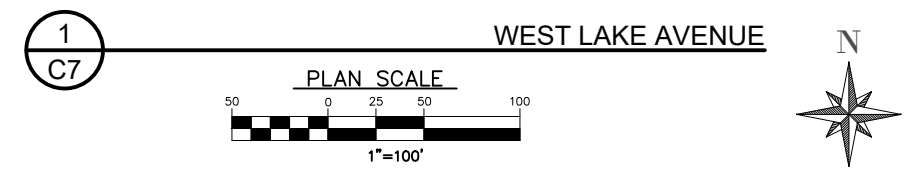
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- 04 DEEP PATCH, SEE SHEET NOTE 9
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- 06 REMOVE TREE ROOTS, SEE SHEET NOTE 11
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HATCH LEGEND

- REMOVE AND REPLACE PAVEMENT
- GRID AND OVERLAY
- TYPE 2 SLURRY SEAL
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DATE: 1/22/19 FILE: O:\CW_Projects\2101-014 Pavement Preservation and Maintenance Plan\Drawings\DWG\PAVEMENT PLAN.dwg

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 used 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.

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Table 6-9 Annual Maintenance Cost

Annual Maintenance Cost Estimates	
Repair	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 6-10 Annual Reconstruction Cost

Annual Reconstruction Cost Estimates	
Repair	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.

Table 7-1 Priority 1 CIP Projects

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

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 2nd Street, Cannon Street, 3rd 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.

Pavement Preservation Plan



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 4th 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

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November 21, 2018

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**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 coarse-grained 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

6.1 Pavement Materials

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

Table 1 Pavement Material Thicknesses at Core Locations

Exploration ¹	Location	Pavement Material Thickness (inches)			Subgrade Soils (USCS) ¹
		Asphalt Concrete	Aggregate Base	Sub-Base	
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	8½	0	0	Clayey Gravel (GC)
C-4	See Figure 2	7½	0	0	Clayey Gravel (GC)
C-5	See Figure 2	8	0	0	Clayey Gravel (GC)
C-6	See Figure 2	9½	0	0	Clayey Gravel (GC)

¹ Practical refusal of the manual hand augering equipment was met on the surface of coarse-grained clayey gravel.

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 traffic¹ 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

¹ 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 traffic¹ 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 Western 3/4 of Roadway (Approximate)

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 traffic¹ 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 Site Stripping

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 Geotextile Separation Fabric

We recommend a geotextile separation fabric be placed to serve as a barrier between the prepared fine-grained 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 minimum 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 not be placed over frozen ground.
- Frozen soil should not be placed as structural fill.
- Fine-grained (i.e. silty or clayey) soils should not 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.

Table 2 Guidelines for Frequency of Density Testing of Structural Fill Materials

Fill Designation	Recommended Frequency of Density Tests ¹	
	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

¹Or as required by the City of Lowell, where applicable.

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
¾-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 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 1½ 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 ¾ 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 <u>Minimum</u> Relative Compaction ¹	
	Structural Areas ²	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

¹ Or as specified by the City of Lowell (where in the public right-of-way).
² Includes proposed pavement areas, structural 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 HMA in conformance with the most recent ODOT SSC, or as specified by the City of Lowell. Minimum lift thickness of HMA pavement should be 2 inches, or as specified by City of Lowell. Maximum lift thickness of HMA 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 presented 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 Overlay

The recommendations presented 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.

Table 5 Input Parameters Used in HMAC Pavement Design

Input Parameter	Design Value ¹	Input Parameter	Design Value ¹
Pavement Design Life	20 years	Resilient Modulus	Subgrade (Native Soils) ⁴
Annual Percent Growth	0 percent		Crushed Aggregate Base ²
Serviceability ²	4.2 initial, 2.5 terminal	Structural	Crushed Aggregate Base
Reliability ²	75 percent	Coefficient ²	Asphalt
Standard Deviation ²	0.49	Vehicle Traffic ⁵	Residential Street
Drainage Factor ³	1.0	---	---

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

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

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

⁴ Value selected based on tabular value for clayey gravel subgrade per APAO manual.

⁵ 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)	
	Dry Weather Construction ¹	Wet Weather Construction ¹
HMAC Pavement	4	4
Aggregate Base	6	6
Granular Sub-Base ²	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	

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

² Please note this layer does not 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 prior 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.

City of Lowell Pavement Preservation
Lowell, Oregon
CGT Project Number G1804905
November 21, 2018

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



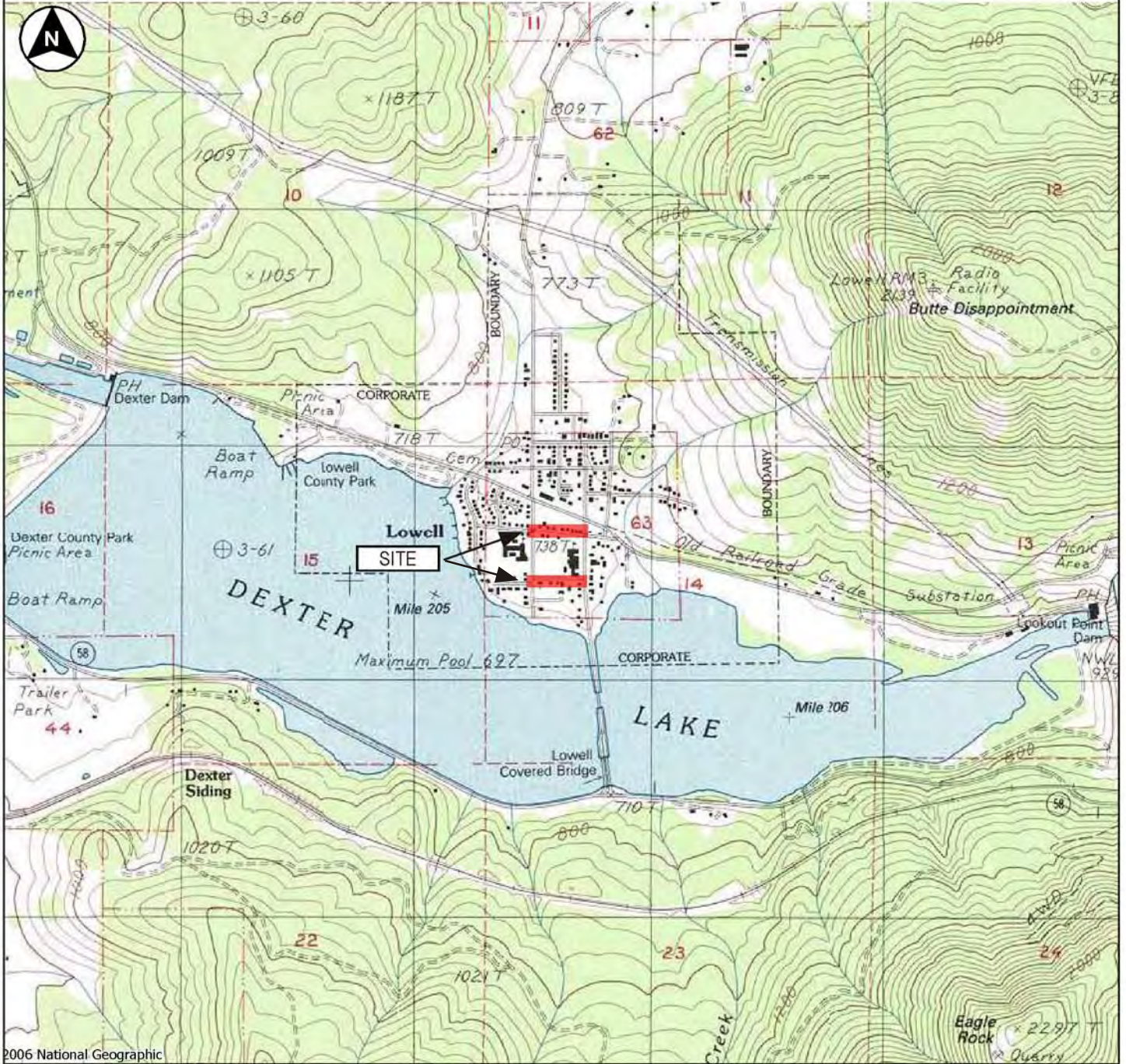
Brad M. Wilcox, P.E., G.E.
Principal Geotechnical Engineer
bwilcox@carlsonesting.com

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 1
Site Location



© 2006 National Geographic

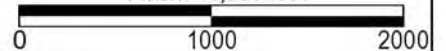


Drafted by: MMS

Map created with TOPO!™, © 2006 National Geographic Holdings
 USGS 7.5 Minute Topographic Map Series, Lowell, Oregon Quadrangle.
 Township 19 South, Range 1 West, Section 14 Willamette Meridian

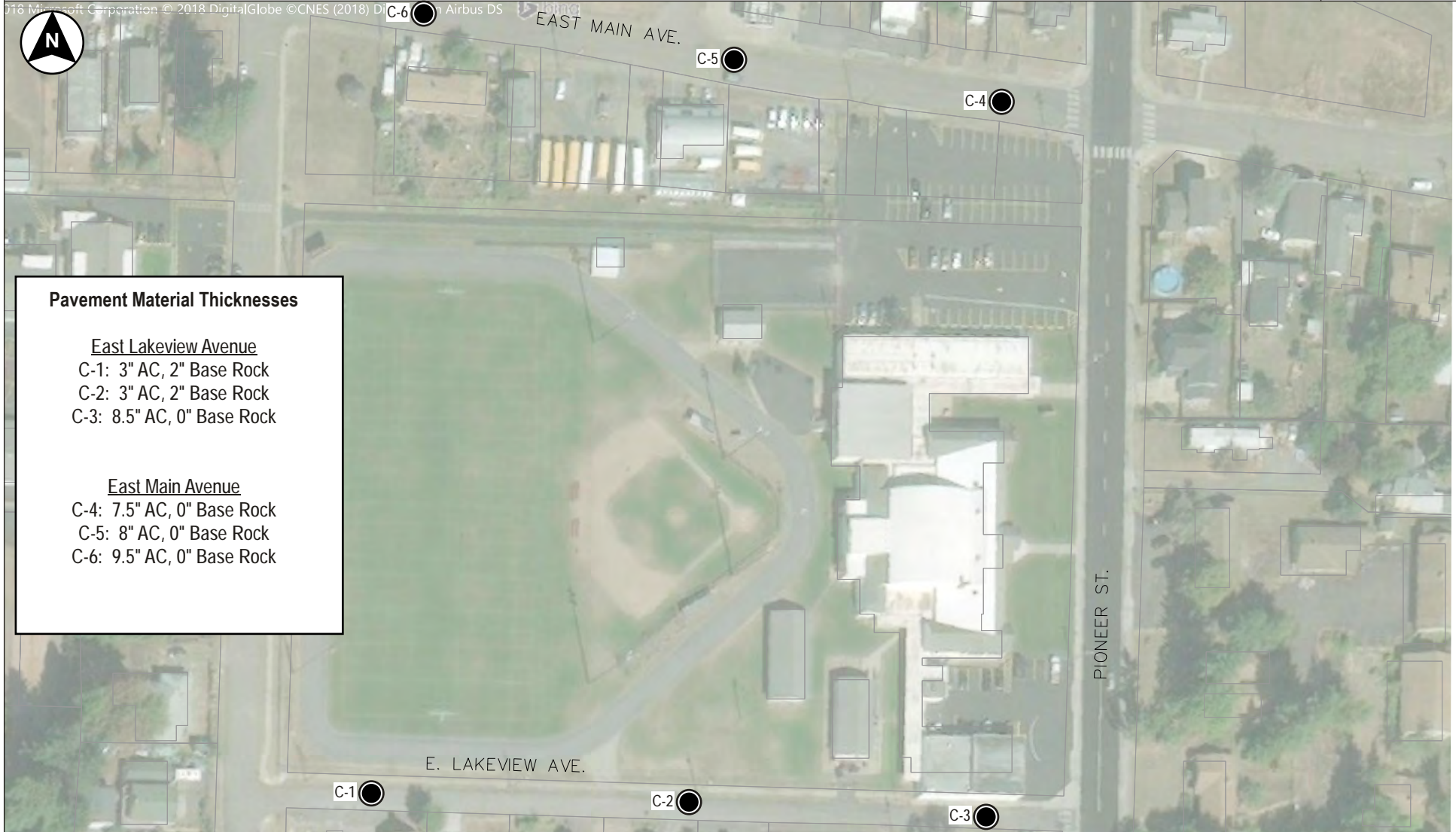
Latitude: 43.917277° North
 Longitude: 122.781408° West

1 Inch = 1,000 feet



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

FIGURE 2
Site Plan



Pavement Material Thicknesses

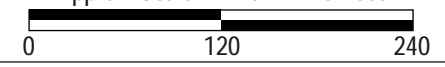
East Lakeview Avenue
 C-1: 3" AC, 2" Base Rock
 C-2: 3" AC, 2" Base Rock
 C-3: 8.5" AC, 0" Base Rock

East Main Avenue
 C-4: 7.5" AC, 0" Base Rock
 C-5: 8" AC, 0" Base Rock
 C-6: 9.5" AC, 0" Base Rock

LEGEND

C-1 ● Pavement core

Approx. Scale: 1 Inch = 120 Feet



NOTES: Drawing based on observations made while on site and site plans provided by Civil West. All exploration locations are approximate.



Drafted by: bmw

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

FIGURE 3
Soil Classification

Classification of Terms and Content	Grain Size		U.S. Standard Sieve
NAME: Group Name and Symbol Relative Density or Consistency Color Moisture Content Plasticity Other Constituents Other: Grain Shape, Approximate Gradation Organics, Cement, Structure, Odor, etc. Geologic Name or Formation	Fines		<#200 (0.075 mm)
	Sand	Fine	#200 - #40 (0.425 mm)
		Medium	#40 - #10 (2 mm)
		Coarse	#10 - #4 (4.75)
	Gravel	Fine	#4 - 0.75 inch
		Coarse	0.75 inch - 3 inches
Cobbles		3 to 12 inches	
Boulders		> 12 inches	

Coarse-Grained (Granular) Soils

Relative Density		Minor Constituents		
SPT N ₆₀ -Value	Density	Percent by Volume	Descriptor	Example
0 - 4	Very Loose	0 - 5%	"Trace" as part of soil description	"trace silt"
4 - 10	Loose	5 - 15%	"With" as part of group name	"POORLY GRADED SAND WITH SILT"
10 - 30	Medium Dense	15 - 49%	Modifier to group name	"SILTY SAND"
30 - 50	Dense			
>50	Very Dense			

Fine-Grained (Cohesive) Soils

SPT N ₆₀ -Value	Torvane tsf Shear Strength	Pocket Pen tsf Unconfined	Consistency	Manual Penetration Test	Minor Constituents		
					Percent by Volume	Descriptor	Example
<2	<0.13	<0.25	Very Soft	Thumb penetrates more than 1 inch			
2 - 4	0.13 - 0.25	0.25 - 0.50	Soft	Thumb penetrates about 1 inch			
4 - 8	0.25 - 0.50	0.50 - 1.00	Medium Stiff	Thumb penetrates about ¼ inch	0 - 5%	"Trace" as part of soil description	"trace fine-grained sand"
8 - 15	0.50 - 1.00	1.00 - 2.00	Stiff	Thumb penetrates less than ¼ inch	5 - 15%	"Some" as part of soil description	"some fine-grained sand"
15 - 30	1.00 - 2.00	2.00 - 4.00	Very Stiff	Readily indented by thumbnail	15 - 30%	"With" as part of group name	"SILT WITH SAND"
>30	>2.00	>4.00	Hard	Difficult to indent by thumbnail	30 - 49%	Modifier to group name	"SANDY SILT"

Moisture Content

Dry: Absence of moisture, dusty, dry to the touch
 Moist: Leaves moisture on hand
 Wet: Visible free water, likely from below water table

	Plasticity	Dry Strength	Dilatancy	Toughness
ML	Non to Low	Non to Low	Slow to Rapid	Low, can't roll
CL	Low to Medium	Medium to High	None to Slow	Medium
MH	Medium to High	Low to Medium	None to Slow	Low to Medium
CH	Medium to High	High to Very High	None	High

Structure

Stratified: Alternating layers of material or color >6 mm thick
 Laminated: Alternating layers < 6 mm thick
 Fissured: Breaks along definite fracture planes
 Slickensided: Striated, polished, or glossy fracture planes
 Blocky: Cohesive soil that can be broken down into small angular lumps which resist further breakdown
 Lenses: Has small pockets of different soils, note thickness
 Homogeneous: Same color and appearance throughout

Visual-Manual Classification

Major Divisions		Group Symbols	Typical Names
Coarse Grained Soils: More than 50% retained on No. 200 sieve	Gravels: 50% or more retained on the No. 4 sieve	Clean Gravels	GW Well-graded gravels and gravel/sand mixtures, little or no fines
			GP Poorly-graded gravels and gravel/sand mixtures, little or no fines
		Gravels with Fines	GM Silty gravels, gravel/sand/silt mixtures
			GC Clayey gravels, gravel/sand/clay mixtures
	Sands: More than 50% passing the No. 4 sieve	Clean Sands	SW Well-graded sands and gravelly sands, little or no fines
			SP Poorly-graded sands and gravelly sands, little or no fines
		Sands with Fines	SM Silty sands, sand/silt mixtures
			SC Clayey sands, sand/clay mixtures
			ML Inorganic silts, rock flour, clayey silts
			CL Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, lean clays
Silt and Clays Low Plasticity Fines	OL Organic soil of low plasticity		
	Silt and Clays High Plasticity Fines	MH Inorganic silts, clayey silts	
		CH Inorganic clays of high plasticity, fat clays	
Highly Organic Soils		OH Organic soil of medium to high plasticity	
	PT Peat, muck, and other highly organic soils		



References:
 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.

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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 A3

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

FIGURE A1
Site Plan



LEGEND

-  Orientation of site photographs shown on Figure A2
-  Orientation of site photographs shown on Figure A3

Approx. Scale: 1 Inch = 120 Feet



NOTES: Drawing based on observations made while on site and site plans provided by Civil West. All exploration locations are approximate.





Drafted by: BMW

Photographs were taken at the time of our fieldwork.



Drafted by: BMW

Photographs were taken at the time of our fieldwork.



Drafted by: BMW

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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 portion¹ of East Main Avenue². 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.

Table B1 Pavement Material Thicknesses at Core Locations

Pavement Material	Material Thickness (inches) ¹		
	Core C-4	Core C-5	Core C-6
Asphaltic Concrete	7½	8	9½
Gravel Fill (Aggregate Base Rock)	0	0	0

¹Thicknesses were determined using a measuring tape and rounded to the nearest ¼ inch.

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.

¹ This evaluation covers both traffic lanes of East Main Avenue, spanning between South Moss Street and Pioneer Street.

² 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 observed
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 ¼- to ½-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_{eff} = Effective structural number of the existing pavement structure, determined from the visual condition survey and investigation of the existing pavement.
- SN_f = Required structural number for future traffic.
- SN_{ol} = Required overlay structural number. This value is equal to $SN_f - SN_{eff}$. The methodology indicates that, in the event that SN_{eff} is greater than S_f , and no functional deficiencies are observed in the existing pavement, an overlay is not required. Similarly, in the event that SN_{eff} is less than SN_f , 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)³ and Asphalt Pavement Association of Oregon (APAO) manual⁴. The parameters used in the evaluation are shown in the following table and are discussed in narrative thereafter.

³ Oregon Department of Transportation (ODOT) Pavement Design Guide, December 2011.

⁴ 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
SN _{eff}	a ₁ = Structural layer coefficient, AC layer	0.30
	a ₂ = Structural layer coefficient, base layer	N/A (none encountered)
	a ₃ = Structural layer coefficient, subbase layer	N/A (none encountered)
	D ₁ = Thickness of existing pavement, surface layer ¹	8
	D ₂ = Thickness of existing pavement, base layer ¹	0
	D ₃ = Thickness of existing pavement, subbase layer	0
	M ₂ = Drainage coefficient for granular base	N/A
	M ₃ = Drainage coefficient for granular subbase	N/A
SN _f	N _f = Design period	20 years
	ESAL _f = Design 18-kip ESAL over design period	100,000
	M _R = Design resilient modulus ²	8,000 psi
	Design Serviceability (PSI) Loss	1.7
	R = Design Reliability	85 percent
	S _o = Design Standard Deviation	0.49

¹Layer thickness selected based on results of site exploration and represents the location exhibiting the lowest structural number for pavement.
²Value 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 (a₁, a₂, and a₃) were determined based on results of visual condition survey discussed in Section B.3 above and Table 5.2 of AASHTO.
- Layer thicknesses (D₁, D₂, and D₃) 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_o) 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:

Table B4 Calculated Structural Numbers

Area of Interest ¹	Pavement Exploration ¹	Existing Pavement Section (inches)		Calculated Structural Number		
		AC Thickness ¹	Aggregate Base Thickness ¹	SN _{eff}	SN _f	SN _{ol}
East Main Avenue	Core C-5	8	0	2.4	2.4	0

¹ Consistent with Table B3 above.

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_f) 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 portion¹ of East Lakewood Avenue². 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.

Table C1 Pavement Material Thicknesses at Core Locations

Pavement Material	Material Thickness (inches) ¹		
	Core C-1	Core C-2	Core C-3
Asphalt Concrete	3	3	8½
Gravel Fill (Aggregate Base Rock)	2	2	0

¹Thicknesses were determined using a measuring tape and rounded to the nearest ¼ inch.

C.3 VISUAL CONDITION SURVEY

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.

¹ This evaluation covers both traffic lanes of East Lakewood Avenue, spanning between South Moss Street and Pioneer Street.

² 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 ¼- to ½-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_{eff} = Effective structural number of the existing pavement structure, determined from the visual condition survey and investigation of the existing pavement.
- SN_f = Required structural number for future traffic.
- SN_{ol} = Required overlay structural number. This value is equal to $SN_f - SN_{eff}$. The methodology indicates that, in the event that SN_{eff} is greater than S_f , and no functional deficiencies are observed in the existing pavement, an overlay is not required. Similarly, in the event that SN_{eff} is less than SN_f , 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)³ and Asphalt Pavement Association of Oregon (APAO) manual⁴. The parameters used in the evaluation are shown in the following table and are discussed in narrative thereafter.

³ Oregon Department of Transportation (ODOT) Pavement Design Guide, December 2011.

⁴ Asphalt Pavement Association of Oregon (APAO) Asphalt Pavement Design Guide, Revised October 2003.

Table C3 Design Input Parameters

Structural Number	Required Input Parameter	Value Used in Evaluation	
		West ¾ of Road ¹	East ¼ of Road
SN _{eff}	a ₁ = Structural layer coefficient, AC layer	0.20	0.30
	a ₂ = Structural layer coefficient, base layer	0.10	N/A
	a ₃ = Structural layer coefficient, subbase layer	N/A (none encountered)	
	D ₁ = Thickness of existing pavement, surface layer ¹	3	8½
	D ₂ = Thickness of existing pavement, base layer ¹	2	0
	D ₃ = Thickness of existing pavement, subbase layer	0	0
	M ₂ = Drainage coefficient for granular base	1.0	N/A
	M ₃ = Drainage coefficient for granular subbase	N/A	N/A
SN _f	N _f = Design period	20 years	
	ESAL _f = Design 18-kip ESAL over design period	90,000	
	M _R = Design resilient modulus ²	8,000 psi	
	Design Serviceability (PSI) Loss	1.7	
	R = Design Reliability	75 percent	
	S _o = Design Standard Deviation	0.49	

¹ The western ¾ of the roadway is defined as the westernmost 530 feet of Lakeview Avenue.

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

³ 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 (a₁, a₂, and a₃) were determined based on results of visual condition survey discussed in Section B.3 above and Table 5.2 of AASHTO.
- Layer thicknesses (D₁, D₂, and D₃) 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_n) 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_o) 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 Calculated Structural Numbers

Area of Interest ¹	Pavement Exploration ¹	Existing Pavement Section (inches)		Calculated Structural Number		
		AC Thickness ¹	Aggregate Base Thickness ¹	SN _{eff}	SN _f	SN _{ol}
West ¼ (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	8½	0	2.4	1.75	0

¹ Consistent with Table C3 above.

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_f) 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

CITY OF LOWELL
GENERAL FUND RESOURCES
JULY 1, 2020 - JUNE 30, 2021

		2017-18	2018-19	2019-20	2019-20	2020-21	2020-21	2020-21
	DESCRIPTION	ACTUAL	ACTUAL	BUDGET	PROJECTED	PROPOSED	APPROVED	ADOPTED
	Fund Balance							
110-3100	Beginning Fund Balance	184,077	225,395	231,767	297,503	209,615	209,615	209,615
	Total Beginning Balance	184,077	225,395	231,767	297,503	209,615	209,615	209,615
	Revenues							
110-310-4112	Property Taxes - Current	137,867	142,083	142,768	142,768	147,051	147,051	147,051
110-310-4114	Property Taxes - Prior	2,440	5,486	5,293	3,129	3,223	3,223	3,223
110-315-4125	Interest Earned	6,398	9,438	6,130	5,657	5,826	5,826	5,826
110-320-4132	State Revenue Sharing	9,221	9,511	10,421	10,599	10,917	10,917	10,917
110-320-4134	Cigarette Tax	1,342	1,231	1,000	1,302	1,341	1,341	1,341
110-320-4136	Liquor Tax	17,188	17,359	20,564	19,701	20,292	20,292	20,292
110-320-4145	Transient Room Tax	260	-	300	5	-	-	-
110-320-4148	Marijuana Tax Distribution	7,407	5,589	5,200	4,259	4,386	4,386	4,386
110-325-4151	Grant Revenue	-	5,000	1,050,000	65,750	214,243	214,243	214,243
110-325-4152	Tourism Grant	8,761	9,639	9,832	10,137	7,603	7,603	7,603
110-325-4154	Summer Reading Grant	1,000	2,000	1,000	-	1,000	1,000	1,000
110-325-4155	Library Grant	-	-	-	-	200,000	200,000	200,000
110-325-4158	DLCD Grant	1,000	-	1,000	-	1,000	1,000	1,000
110-330-4310	Cable Franchise Fees	2,188	4,391	4,388	5,765	5,938	5,938	5,938
110-330-4312	Electric Franchise Fees	47,775	45,920	47,298	47,619	49,048	49,048	49,048
110-330-4314	Garbage Franchise Fees	300	-	4,000	300	4,000	4,000	4,000
110-330-4316	Telecom Franchise Fees	2,458	1,895	1,706	9,455	1,650	1,650	1,650
110-330-4318	Water Franchise Fees	-	-	-	-	17,776	17,776	17,776
110-330-4320	Sewer Franchise Fees	-	-	-	-	19,344	19,344	19,344
110-335-4352	Land Use & Development	1,044	5,354	13,500	6,502	15,000	15,000	15,000
110-335-4354	Misc Permits & Licenses	750	440	250	480	275	275	275
110-335-4356	Building Permit Fees	32,081	151,940	50,634	41,621	-	-	-
110-335-4358	Electrical Permit Fees	3,886	17,893	8,345	6,897	-	-	-
110-335-4360	Dog Licenses	652	806	700	850	876	876	876
110-340-4410	Copy, Fax, Notary & Research	-	332	100	1,000	1,030	1,030	1,030
110-340-4413	Library Memberships	-	-	1,250	-	1,250	1,250	1,250
110-340-4415	Library Business Services	1,094	339	500	-	250	250	250
110-340-4417	Lien Searches	500	740	350	500	515	515	515
110-340-4419	Election Filing Fees	25	50	50	-	50	50	50
110-340-4421	SDC/CET Admin Fee	2,756	4,790	2,200	3,000	4,005	4,005	4,005
110-340-4423	Pay Station Revenue	82	-	100	216	125	125	125
110-345-4511	Parks Reimbursement SDC	425	376	387	423	735	735	735
110-350-4625	Municipal Court Revenue	3,726	1,940	2,942	2,316	2,500	2,500	2,500
110-360-4225	Loan Proceeds	-	530,000	-	-	240,743	240,743	240,743
110-365-4752	Reimbursement Revenue	1,293	-	5,000	-	-	-	-
110-365-4790	SVDP Project Reimbursement	-	-	-	-	-	-	-
110-370-4822	BBJ Admin Fee	500	-	-	-	-	-	-
110-370-4824	Donations	-	-	-	85	-	-	-
110-370-4825	Library Donations	-	-	1,000	-	1,000	1,000	1,000
110-370-4849	Capital Asset Disposal	-	-	-	800	75,000	75,000	75,000
110-380-4865	Library Capital Campaign	-	-	-	-	10,000	10,000	10,000
110-385-4895	Miscellaneous Revenue	2,629	227,437	2,500	2,262	2,250	2,250	2,250
	Total Revenues	297,048	1,201,979	1,400,708	393,397	1,070,242	1,070,242	1,070,242
	Transfers In							
110-390-4912	Transfer from Street Fund	-	-	-	-	-	-	-
110-390-4914	Transfer from BBJ Fund	-	-	-	-	-	-	-
110-390-4917	Transfer from SDC Fund	-	-	-	-	-	-	-
110-390-4950	Transfer from Equipment Fund	-	-	-	-	6,051	6,051	6,051
	Total Transfers In	-	-	-	-	6,051	6,051	6,051
	Total Resources General Fund	481,125	1,427,374	1,632,475	690,900	1,285,908	1,285,908	1,285,908

CITY OF LOWELL
GENERAL FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

	2017-18	2018-19	2019-20	2019-20	2020-21	2020-21	2020-21
DESCRIPTION	ACTUAL	ACTUAL	BUDGET	PROJECTED	PROPOSED	APPROVED	ADOPTED
Administration							
Personal Services							
110-410-5110 City Administrator	11,355	12,826	17,305	17,263	18,000	18,000	18,000
110-410-5114 City Clerk	4,794	5,027	5,153	5,272	5,550	5,550	5,550
110-410-5150 Public Works Director	3,125	5,053	-	-	-	-	-
110-410-5152 Utility Worker I	1,552	-	-	-	-	-	-
110-410-5154 Utility Worker II	1,811	1,968	-	-	-	-	-
110-410-5156 Temporary/Seasonal	-	-	-	-	-	-	-
110-410-5158 Maintenance Worker I	800	938	1,824	1,611	1,991	1,991	1,991
110-410-5220 Overtime	671	1,169	193	41	80	80	80
110-410-5315 Social Security/Medicare	1,844	1,901	2,195	1,827	1,960	1,960	1,960
110-410-5320 Worker's Comp	567	491	179	171	455	455	455
110-410-5350 Unemployment	-	-	1,733	-	1,750	1,750	1,750
110-410-5410 Health Insurance	5,271	4,181	3,582	3,968	3,646	3,646	3,646
110-410-5450 Public Employees Retirement	2,767	2,814	4,220	4,117	4,417	4,417	4,417
110-410-5910 Wage Adjustment	-	3	-	-	-	-	-
Total Personal Services	34,556	36,372	36,384	34,269	37,849	37,849	37,849
Materials and Services							
110-410-6110 Auditing	3,900	4,150	4,419	4,225	3,919	3,919	3,919
110-410-6112 Legal Services	2,170	5,997	5,000	2,484	2,500	2,500	2,500
110-410-6114 Financial Services	2,256	3,543	3,749	4,964	5,215	5,215	5,215
110-410-6122 IT Services	2,895	10,406	5,753	7,960	6,304	6,304	6,304
110-410-6124 Copier Contract	1,872	2,446	2,000	1,880	2,250	2,250	2,250
110-410-6128 Other Contract Services	99	6,587	2,371	38,982	2,500	2,500	2,500
110-410-6190 Computer Serv/Warr/Contracts	17,452	-	-	-	-	-	-
110-410-6210 Insurance & Bonds	5,731	5,643	6,115	5,968	6,426	6,426	6,426
110-410-6220 Publications, Printing & Dues	3,822	4,432	6,900	2,679	2,600	2,600	2,600
110-410-6222 Newsletter Expenditure	-	-	1,200	-	1,200	1,200	1,200
110-410-6226 Postage	261	623	750	422	725	725	725
110-410-6228 Public Notices	423	-	1,000	500	1,000	1,000	1,000
110-410-6230 Office Supplies/Equipment	991	1,485	1,000	1,802	1,375	1,375	1,375
110-410-6234 General Supplies	243	719	1,000	177	1,000	1,000	1,000
110-410-6238 Bank Service Charges	2,565	827	1,000	882	1,000	1,000	1,000
110-410-6240 Travel & Training	1,483	2,685	1,500	1,973	2,100	2,100	2,100
110-410-6290 Miscellaneous	479	165	500	500	500	500	500
110-410-6320 Building Repair & Maintenance	230	1,662	1,000	250	1,000	1,000	1,000
110-410-6324 Equipment Repair & Maintenance	-	57	100	100	100	100	100
110-410-6334 Non-Capitalized Assets	3,998	1,968	2,000	2,265	2,000	2,000	2,000
110-410-6420 Water Services	385	373	200	2,078	1,325	1,325	1,325
110-410-6425 Sewer Services	509	569	150	1,082	825	825	825
110-410-6430 Electricity Services	1,734	2,176	550	2,810	2,100	2,100	2,100
110-410-6435 Internet Services	930	930	315	1,077	685	685	685
110-410-6440 Telephone Services	2,508	2,580	342	2,463	1,875	1,875	1,875
110-410-6445 Refuse Services	86	119	90	111	120	120	120
110-410-6510 Council Expenditure	780	2,226	2,000	-	2,000	2,000	2,000
110-410-6512 State Ethics Commission	475	475	600	600	650	650	650
110-410-6514 League of Oregon Cities(LOC)	-	-	-	-	-	-	-
110-410-6792 Reimbursable Expenditure	70	-	5,000	250	-	-	-
Total Materials and Services	58,344	62,844	56,604	88,481	53,294	53,294	53,294
Capital Outlay							
110-410-8225 Buildings & Facilities	-	297,073	90,000	-	-	-	-
110-410-8320 Software	-	6,825	-	5,925	-	-	-
110-410-8425 Vehicles & Rolling Stock	-	-	-	-	-	-	-
110-410-8335 Equipment & Furnishings	-	-	-	-	-	-	-
Total Capital Outlay	-	303,897	90,000	5,925	-	-	-
Total Administration	92,901	403,113	182,988	128,675	91,143	91,143	91,143

CITY OF LOWELL
GENERAL FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

		2017-18	2018-19	2019-20	2019-20	2020-21	2020-21	2020-21
	DESCRIPTION	ACTUAL	ACTUAL	BUDGET	PROJECTED	PROPOSED	APPROVED	ADOPTED
	Parks							
	Personal Services							
110-420-5110	City Administrator	3,785	4,636	4,328	4,316	4,500	4,500	4,500
110-420-5150	Public Works Director	3,125	3,482	3,374	3,442	3,617	3,617	3,617
110-420-5152	Utility Worker I	1,552	-	3,276	7,285	8,256	8,256	8,256
110-420-5154	Utility Worker II	1,811	1,968	3,276	-	-	-	-
110-420-5156	Temporary/Seasonal	-	-	-	-	2,883	2,883	2,883
110-420-5158	Maintenance Worker I	7,198	7,273	9,118	8,054	9,955	9,955	9,955
110-420-5220	Overtime	611	824	1,351	326	1,027	1,027	1,027
110-420-5315	Social Security/Medicare	1,384	1,316	2,217	1,786	2,320	2,320	2,320
110-420-5320	Worker's Comp	1,113	856	1,709	672	660	660	660
110-420-5350	Unemployment	-	-	1,861	-	2,000	2,000	2,000
110-420-5410	Health Insurance	2,613	1,934	4,316	4,337	7,770	7,770	7,770
110-420-5450	Public Employees Retirement	2,074	1,920	4,262	3,789	5,214	5,214	5,214
110-420-5910	Wage Adjustment	-	-	-	-	-	-	-
	Total Personal Services	25,265	24,210	39,088	34,007	48,202	48,202	48,202
	Materials and Services							
110-420-6128	Other Contract Services	2,000	37,202	1,000	3,000	1,000	1,000	1,000
110-420-6234	General Supplies	590	1,499	2,000	6,705	2,000	2,000	2,000
110-420-6290	Miscellaneous	420	240	500	500	500	500	500
110-420-6320	Building Repair & Maintenance	395	1,513	2,500	2,500	2,500	2,500	2,500
110-420-6324	Equipment Repair & Maintenance	541	1,279	1,000	1,000	1,000	1,000	1,000
110-420-6328	Property Maintenance	-	-	-	-	1,000	1,000	1,000
110-420-6330	Other Repair & Maintenance	1,743	1,314	5,000	6,000	2,000	2,000	2,000
110-420-6334	Non-Capitalized Assets	2,007	1,597	2,000	1,500	1,000	1,000	1,000
110-420-6339	Maintenance - Nelson Land Dona	-	-	500	2,500	2,500	2,500	2,500
110-420-6420	Water Services	705	746	5,150	3,056	3,500	3,500	3,500
110-420-6425	Sewer Services	1,358	1,401	1,439	1,442	1,500	1,500	1,500
110-420-6430	Electricity Services	503	675	614	597	675	675	675
110-420-6445	Refuse Services	257	269	288	285	365	365	365
110-420-6710	Gas & Oil	1,269	1,685	812	1,896	1,500	1,500	1,500
	Total Materials and Services	11,789	49,419	22,803	30,980	21,040	21,040	21,040
	Capital Outlay							
110-420-8225	Buildings & Facilities	-	-	-	-	-	-	-
110-420-8335	Equipment & Furnishings	-	-	-	-	-	-	-
110-420-8425	Vehicles & Rolling Stock	-	-	-	6,777	-	-	-
110-420-8520	Parks Improvements	-	420,870	790,000	45,958	554,986	554,986	554,986
	Total Capital Outlay	-	420,870	790,000	52,735	554,986	554,986	554,986
	Total Parks	37,053	494,500	851,891	117,722	624,228	624,228	624,228

CITY OF LOWELL
GENERAL FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION		2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Police								
Materials and Services								
110-430-6118	Police Services	30,200	27,300	30,561	28,124	29,530	29,530	29,530
110-430-6334	Non-Capitalized Assets	-	-	5,000	5,000	-	-	-
	Total Materials and Services	30,200	27,300	35,561	33,124	29,530	29,530	29,530

Total Police	30,200	27,300	35,561	33,124	29,530	29,530	29,530
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CITY OF LOWELL
GENERAL FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION	2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Community Development							
Personal Services							
110-440-5110 City Administrator	7,570	8,374	4,325	4,316	4,500	4,500	4,500
110-440-5114 City Clerk	2,397	2,514	2,577	2,636	-	-	-
110-440-5220 Overtime	30	48	97	20	-	-	-
110-440-5315 Social Security/Medicare	765	785	628	528	350	350	350
110-440-5320 Worker's Comp	44	17	14	57	75	75	75
110-440-5350 Unemployment	-	-	508	-	250	250	250
110-440-5410 Health Insurance	2,095	1,816	1,314	1,501	495	495	495
110-440-5450 Public Employees Retirement	1,150	1,180	1,207	1,189	795	795	795
Total Personal Services	14,051	14,734	10,670	10,246	6,465	6,465	6,465
Materials and Services							
110-440-6116 Engineering Services	206	145	7,500	11,174	1,000	1,000	1,000
110-440-6128 Other Contract Services	33	23,936	20,500	19,000	7,500	7,500	7,500
110-440-6220 Publications, Printing & Dues	-	-	100	-	100	100	100
110-440-6226 Postage	-	-	250	-	175	175	175
110-440-6240 Travel & Training	-	414	500	-	500	500	500
110-440-6290 Miscellaneous	-	-	250	-	250	250	250
110-440-6522 Land Use & Development Costs	2,147	8,534	20,625	24,930	15,000	15,000	15,000
110-440-6524 Building Permit Costs	23,553	107,637	33,282	37,838	-	-	-
110-440-6525 Electrical Permit Costs	2,740	13,034	4,650	6,270	-	-	-
Total Materials and Services	28,679	153,699	87,657	99,212	24,525	24,525	24,525
Total Community Development	42,730	168,433	98,327	109,457	30,990	30,990	30,990

CITY OF LOWELL
GENERAL FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION	2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Library							
Personal Services							
110-450-5130 Librarian/Special Events	-	-	11,700	-	12,480	12,480	12,480
110-450-5156 Temporary/ Seasonal	-	35	50	-	577	577	577
110-450-5158 Maintenance Worker I	-	-	-	1,611	1,991	1,991	1,991
110-450-5315 Social Security/Medicare	-	-	1,049	123	1,155	1,155	1,155
110-450-5320 Worker's Comp	105	35	50	84	230	230	230
110-450-5350 Unemployment	-	-	741	-	1,000	1,000	1,000
110-450-5410 Health Insurance	-	-	-	-	750	750	750
110-450-5450 Public Employees Retirement	-	-	2,017	278	2,595	2,595	2,595
Total Personal Services	105	70	15,607	2,096	20,778	20,778	20,778
Materials and Services							
110-450-6122 IT Services	1,049	600	7,440	973	1,460	1,460	1,460
110-450-6226 Postage	-	-	50	-	50	50	50
110-450-6230 Office Supplies/Equipment	380	156	500	-	500	500	500
110-450-6234 General Supplies	360	329	1,500	-	1,500	1,500	1,500
110-450-6290 Miscellaneous	282	-	250	-	250	250	250
110-450-6320 Building Repair & Maintenance	-	-	100	1,350	500	500	500
110-450-6334 Non-Capitalized Assets	2,672	-	1,000	-	-	-	-
110-450-6420 Water Services	128	106	1,200	693	950	950	950
110-450-6425 Sewer Services	170	190	732	360	750	750	750
110-450-6430 Electricity Services	578	725	3,600	938	2,400	2,400	2,400
110-450-6435 Internet Services	930	930	2,100	1,406	780	780	780
110-450-6445 Refuse Services	86	97	600	111	525	525	525
110-450-6530 Summer Reading Program	1,050	740	1,000	-	1,000	1,000	1,000
110-450-6128 Other Contract Services	-	-	2,000	250	500	500	500
110-450-6440 Telephone Services	-	-	300	-	350	350	350
Total Materials and Services	7,684	3,873	22,372	6,080	11,515	11,515	11,515
Capital Outlay							
110-450-8225 Buildings & Facilities	-	-	302,000	-	301,470	301,470	301,470
110-450-8335 Equipment & Furnishings	-	-	-	-	-	-	-
Total Capital Outlay	-	-	302,000	-	301,470	301,470	301,470
Total Library	7,789	3,943	339,979	8,176	333,763	333,763	333,763

CITY OF LOWELL
GENERAL FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION	2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Code Enforcement							
Personal Services							
110-460-5110 City Administrator	3,785	4,311	4,326	4,316	4,500	4,500	4,500
110-460-5150 Public Works Director	3,125	3,482	3,374	3,442	3,617	3,617	3,617
110-460-5220 Overtime	67	505	-	127	313	313	313
110-460-5315 Social Security/Medicare	534	596	691	597	650	650	650
110-460-5320 Worker's Comp	204	174	307	57	135	135	135
110-460-5350 Unemployment	-	-	573	-	500	500	500
110-460-5410 Health Insurance	1,318	1,236	1,439	1,445	1,355	1,355	1,355
110-460-5450 Public Employees Retirement	802	896	1,328	1,347	1,460	1,460	1,460
Total Personal Services	9,834	11,200	12,038	11,330	12,530	12,530	12,530
Materials and Services							
110-460-6128 Other Contract Services	150	420	2,500	500	1,000	1,000	1,000
110-460-6234 General Supplies	-	-	100	100	100	100	100
110-460-6290 Miscellaneous	189	243	100	-	100	100	100
110-460-6445 Refuse Services	-	-	-	-	350	350	350
110-460-6540 Dog/Cat Control	-	-	-	-	-	-	-
Total Materials and Services	339	663	2,700	600	1,550	1,550	1,550
Total Code Enforcement	10,173	11,863	14,738	11,930	14,080	14,080	14,080

CITY OF LOWELL
GENERAL FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION	2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Tourism							
Materials and Services							
110-470-6128 Other Contract Services	6,500	-	1,000	-	1,000	1,000	1,000
110-470-6224 Marketing	340	421	2,000	120	4,000	4,000	4,000
110-470-6226 Postage	-	-	100	-	100	100	100
110-470-6290 Miscellaneous	-	2,615	250	-	250	250	250
110-470-6326 Covered Bridge Maintenance	1,837	2,971	5,000	1,992	2,466	2,466	2,466
110-470-6327 Community Grant Program	1,018	1,559	3,000	6,472	3,000	3,000	3,000
110-470-6328 Matching Grant Funds	-	-	-	-	-	-	-
110-470-6550 Tourism Funded Projects	-	-	-	-	-	-	-
Total Materials and Services	9,695	7,566	11,350	8,584	10,816	10,816	10,816

Total Tourism	9,695	7,566	11,350	8,584	10,816	10,816	10,816
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CITY OF LOWELL
GENERAL FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION	2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Court							
Personal Services							
110-480-5110 City Administrator	3,785	4,239	4,325	4,316	4,500	4,500	4,500
110-480-5114 City Clerk	2,397	2,514	2,577	2,636	2,775	2,775	2,775
110-480-5220 Overtime	30	48	97	20	40	40	40
110-480-5315 Social Security/Medicare	475	486	628	528	560	560	560
110-480-5320 Worker's Comp	28	11	14	57	120	120	120
110-480-5350 Unemployment	-	-	508	-	500	500	500
110-480-5410 Health Insurance	1,623	1,405	1,314	1,501	1,236	1,236	1,236
110-480-5450 Public Employees Retirement	714	731	1,207	1,189	1,265	1,265	1,265
110-480-5112 Finance Clerk	-	-	-	-	-	-	-
Total Personal Services	9,053	9,434	10,670	10,246	10,996	10,996	10,996
Materials and Services							
110-480-6120 Judge Contract	750	450	1,250	625	1,250	1,250	1,250
110-480-6121 Bailiff Contract	-	-	-	-	-	-	-
110-480-6128 Other Contract Services	362	882	1,500	944	1,000	1,000	1,000
110-480-6220 Publications, Printing & Dues	-	-	-	-	-	-	-
110-480-6226 Postage	-	-	50	50	50	50	50
110-480-6238 Bank Service Charges	84	196	200	-	200	200	200
110-480-6290 Miscellaneous	-	-	-	-	-	-	-
110-480-6560 State Assessments	45	225	500	405	500	500	500
Total Materials and Services	1,242	1,753	3,500	2,024	3,000	3,000	3,000
Total Court	10,294	11,186	14,170	12,269	13,996	13,996	13,996

CITY OF LOWELL
GENERAL FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION	2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Non Departmental Debt Service							
110-800-7111 Loan Principal - Library/City	-	-	13,668	17,096	17,846	17,846	17,846
110-800-7120 Loan Principal - SDC Fund Loan	12,895	-	-	-	-	-	-
110-800-7511 Loan Interest - Library/City	-	-	18,601	23,252	22,502	22,502	22,502
110-800-7520 Loan Interest - SDC Fund Loan	-	-	-	-	-	-	-
Total Debt Service	12,895	-	32,269	40,348	40,348	40,348	40,348
Transfers Out							
110-900-9120 Transfer to Building Fund	-	-	-	-	37,200	37,200	37,200
110-900-9130 Transfer to Water Fund	-	-	-	-	-	-	-
110-900-9140 Transfer to Sewer Fund	-	-	-	-	-	-	-
110-900-9150 Transfer to Equipment Fund	2,000	2,000	6,000	6,000	-	-	-
Total Transfers Out	2,000	2,000	6,000	6,000	37,200	37,200	37,200
Contingency							
110-900-9590 Contingency	-	-	60,502	-	57,314	57,314	57,314
Total Contingency	-	-	60,502	-	57,314	57,314	57,314
Reserved for Future Expenditure							
110-900-9895 Reserved for future use - Park	-	-	7,500	5,000	2,500	2,500	2,500
110-900-9899 Unappropriated Ending Balance	-	-	-	-	-	-	-
Total Reserved for Future Expenditure	-	-	7,500	5,000	2,500	2,500	2,500
Total Non Departmental Requirements	14,895	2,000	106,271	51,348	137,362	137,362	137,362
Total Requirements	255,834	1,129,870	1,655,225	316,977	1,285,908	1,285,908	1,285,908

CITY OF LOWELL
BUILDING FUND RESOURCES
JULY 1, 2020 - JUNE 30, 2021

		2017-18	2018-19	2019-20	2019-20	2020-21	2020-21	2020-21
	DESCRIPTION	ACTUAL	ACTUAL	BUDGET	PROJECTED	PROPOSED	APPROVED	ADOPTED
	Fund Balance							
220-3100	Beginning Balance - Bldg (85%)	-	-	-	-	-	-	-
220-3101	Beginning Balance - Elec (15%)	-	-	-	-	-	-	-
	Total Beginning Balance	-	-	-	-	-	-	-
	Revenues							
220-315-4125	Interest Earned	-	-	-	-	150	150	150
220-335-4356	Building Permit Fees	-	-	-	-	57,160	57,160	57,160
220-335-4358	Electrical Permit Fees	-	-	-	-	9,472	9,472	9,472
220-370-4849	Capital Asset Disposal	-	-	-	-	-	-	-
220-385-4895	Miscellaneous Revenue	-	-	-	-	100	100	100
	Total Revenues	-	-	-	-	66,882	66,882	66,882
	Transfers In							
220-390-4910	Transfer from General Fund	-	-	-	-	37,200	37,200	37,200
	Total Transfers In	-	-	-	-	37,200	37,200	37,200

CITY OF LOWELL
 BUILDING FUND RESOURCES
 JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION	2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Total Building Department Fund	-	-	-	-	104,082	104,082	104,082

CITY OF LOWELL
BUILDING FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

		2017-18	2018-19	2019-20	2019-20	2020-21	2020-21	2020-21
	DESCRIPTION	ACTUAL	ACTUAL	BUDGET	PROJECTED	PROPOSED	APPROVED	ADOPTED
Personal Services								
220-490-5110	City Administrator	-	-	-	-	-	-	-
220-490-5114	City Clerk	-	-	-	-	2,775	2,775	2,775
220-490-5220	Overtime	-	-	-	-	40	40	40
220-490-5315	Social Security/Medicare	-	-	-	-	215	215	215
220-490-5320	Worker's Comp	-	-	-	-	50	50	50
220-490-5350	Unemployment	-	-	-	-	250	250	250
220-490-5410	Health Insurance	-	-	-	-	791	791	791
220-490-5450	Public Employees Retirement	-	-	-	-	525	525	525
	Total Personal Services	-	-	-	-	4,646	4,646	4,646
Materials and Services								
220-490-6524	Building State Surcharge	-	-	-	-	11,432	11,432	11,432
220-490-6525	Electrical State Surcharge	-	-	-	-	1,894	1,894	1,894
220-490-6110	Auditing	-	-	-	-	500	500	500
220-490-6112	Legal Services	-	-	-	-	500	500	500
220-490-6122	IT Services	-	-	-	-	2,400	2,400	2,400
220-490-6128	Other Contract Services	-	-	-	-	500	500	500
220-490-6150	Building Inspection Services	-	-	-	-	45,470	45,470	45,470
220-490-6152	Electrical Inspection Services	-	-	-	-	8,803	8,803	8,803
220-490-6220	Publications, Printing & Dues	-	-	-	-	125	125	125
220-490-6226	Postage	-	-	-	-	75	75	75
220-490-6230	Office Supplies/Equipment	-	-	-	-	150	150	150
220-490-6238	Bank Service Charges	-	-	-	-	125	125	125
220-490-6240	Travel & Training	-	-	-	-	100	100	100
220-490-6290	Miscellaneous	-	-	-	-	100	100	100
220-490-6330	Other Repair & Maintenance	-	-	-	-	200	200	200
220-490-6334	Non-Capitalized Assets	-	-	-	-	500	500	500
220-490-6420	Water Services	-	-	-	-	175	175	175
220-490-6425	Sewer Services	-	-	-	-	125	125	125
220-490-6430	Electricity Services	-	-	-	-	225	225	225
220-490-6435	Internet Services	-	-	-	-	95	95	95
220-490-6440	Telephone Services	-	-	-	-	225	225	225
220-490-6445	Refuse Services	-	-	-	-	50	50	50
	Total Materials and Services	-	-	-	-	73,769	73,769	73,769
Capital Outlay								
220-700-8320	Software	-	-	-	-	8,525	8,525	8,525
220-700-8335	Equipment & Furnishings	-	-	-	-	-	-	-
	Total Capital Outlay	-	-	-	-	8,525	8,525	8,525
Contingency								
220-900-9590	Contingency	-	-	-	-	17,142	17,142	17,142
	Total Contingency	-	-	-	-	17,142	17,142	17,142
Reserved for Future Expenditure								
220-900-9893	Reserved for future use - Bldg	-	-	-	-	-	-	-
	Total Reserved for Future Expenditure	-	-	-	-	-	-	-
Total Building Department Fund		-	-	-	-	104,082	104,082	104,082

CITY OF LOWELL
WATER FUND RESOURCES
JULY 1, 2020 - JUNE 30, 2021

		2017-18	2018-19	2019-20	2019-20	2020-21	2020-21	2020-21
	DESCRIPTION	ACTUAL	ACTUAL	BUDGET	PROJECTED	PROPOSED	APPROVED	ADOPTED
	Fund Balance							
230-3100	Beginning Fund Balance	151,833	139,109	145,115	140,328	140,181	140,181	140,181
	Total Beginning Balance	151,833	139,109	145,115	140,328	140,181	140,181	140,181
	Revenues							
230-315-4125	Interest Earned	153	248	2,902	2,532	2,200	2,200	2,200
230-325-4151	Grant Revenue	153	248	2,902	-	90,000	90,000	90,000
230-325-4162	CDBG Grant	-	-	-	-	-	-	-
230-335-4370	Water/Sewer Connection Permit	3,715	4,165	2,000	1,000	5,250	5,250	5,250
230-340-4425	Water/Sewer Sales	284,832	300,281	333,048	334,723	350,275	350,275	350,275
230-340-4426	Bulk Water Sales	2,744	566	500	-	500	500	500
230-340-4430	Water/Sewer Connection Fees	-	-	2,000	-	-	-	-
230-340-4435	Fire Hydrant Fee	3,760	4,136	4,337	3,940	4,750	4,750	4,750
230-340-4450	Water/Sewer Penalties	-	100	-	2,869	3,012	3,012	3,012
230-345-4531	Water Reimbursement SDC	6,653	13,410	8,568	9,183	11,175	11,175	11,175
230-360-4210	Principal Payments Recieved	-	-	-	-	-	-	-
230-360-4220	Interim Financing Revenue	-	-	-	-	-	-	-
230-360-4225	Loan Proceeds	-	-	175,000	-	250,000	250,000	250,000
230-365-4752	Reimbursement Revenue	274	35	-	-	-	-	-
230-365-4790	SVDP Project Reimbursement	-	-	-	-	-	-	-
230-370-4849	Capital Asset Disposal	-	-	-	-	-	-	-
230-385-4895	Miscellaneous Revenue	6,434	5,413	5,000	1,000	350	350	350
	Total Revenues	308,718	328,603	536,257	355,247	717,512	717,512	717,512
	Transfers In							
230-390-4910	Transfer from General Fund	-	-	-	-	-	-	-
230-390-4917	Transfer from SDC Fund	-	-	-	-	-	-	-
230-390-4940	Transfer from Sewer Fund	-	-	-	-	-	-	-
230-390-4950	Transfer from Equipment Fund	-	-	-	-	6,051	6,051	6,051
230-390-4955	Transfer from Debt Reserve Fun	7,715	-	-	-	-	-	-
	Total Transfers In	7,715	-	-	-	6,051	6,051	6,051
	Total Water Fund	468,265	467,711	681,372	495,575	863,744	863,744	863,744

CITY OF LOWELL
WATER FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

		2017-18	2018-19	2019-20	2019-20	2020-21	2020-21	2020-21
	DESCRIPTION	ACTUAL	ACTUAL	BUDGET	PROJECTED	PROPOSED	APPROVED	ADOPTED
Personal Services								
230-490-5110	City Administrator	18,925	22,893	23,796	23,737	24,750	24,750	24,750
230-490-5112	Finance Clerk	-	839	-	-	-	-	-
230-490-5114	City Clerk	19,175	19,272	20,613	21,083	22,200	22,200	22,200
230-490-5150	Public Works Director	21,872	24,376	28,680	29,260	30,747	30,747	30,747
230-490-5152	Utility Worker I	12,417	-	13,923	30,961	35,500	35,500	35,500
230-490-5154	Utility Worker II	14,489	15,747	13,923	-	-	-	-
230-490-5156	Temporary/Seasonal	-	-	-	-	577	577	577
230-490-5158	Maintenance Worker I	3,199	3,233	2,735	2,417	2,987	2,987	2,987
230-490-5220	Overtime	5,059	6,474	6,516	2,088	6,020	6,020	6,020
230-490-5315	Social Security/Medicare	7,277	6,716	9,882	8,348	9,360	9,360	9,360
230-490-5320	Worker's Comp	3,359	2,922	5,934	3,267	1,880	1,880	1,880
230-490-5350	Unemployment	-	-	8,736	-	8,500	8,500	8,500
230-490-5410	Health Insurance	27,840	21,354	29,720	31,276	29,750	29,750	29,750
230-490-5450	Public Employees Retirement	10,895	9,627	18,996	17,808	21,150	21,150	21,150
	Total Personal Services	144,507	133,453	183,454	170,245	193,421	193,421	193,421
Materials and Services								
230-490-6110	Auditing	3,900	3,900	4,419	4,225	4,419	4,419	4,419
230-490-6112	Legal Services	-	-	500	-	500	500	500
230-490-6114	Financial Services	2,256	3,543	3,749	4,964	5,212	5,212	5,212
230-490-6116	Engineering Services	-	-	80,000	2,849	40,000	40,000	40,000
230-490-6122	IT Services	1,838	2,463	5,381	5,381	6,304	6,304	6,304
230-490-6128	Other Contract Services	3,565	3,828	2,000	1,000	2,000	2,000	2,000
230-490-6130	General Contract Services	-	-	-	-	-	-	-
230-490-6190	Computer Serv/Warr/Contracts	-	-	-	-	-	-	-
230-490-6210	Insurance & Bonds	5,731	5,643	6,115	5,968	6,427	6,427	6,427
230-490-6220	Publications, Printing & Dues	800	555	1,000	458	1,000	1,000	1,000
230-490-6226	Postage	1,163	1,544	1,707	1,650	2,100	2,100	2,100
230-490-6230	Office Supplies/Equipment	205	1,274	1,281	680	1,500	1,500	1,500
230-490-6234	General Supplies	2,549	8,995	2,699	5,847	2,750	2,750	2,750
230-490-6238	Bank Service Charges	3,876	4,089	2,825	3,426	3,850	3,850	3,850
230-490-6240	Travel & Training	148	1,113	1,500	729	1,500	1,500	1,500
230-490-6290	Miscellaneous	1,544	671	1,500	195	1,500	1,500	1,500
230-490-6320	Building Repair & Maintenance	459	1,913	2,500	1,892	2,500	2,500	2,500
230-490-6324	Equipment Repair & Maintenance	2,136	2,427	1,000	2,661	1,500	1,500	1,500
230-490-6330	Other Repair & Maintenance	12,776	16,962	15,329	10,929	15,000	15,000	15,000
230-490-6334	Non-Capitalized Assets	2,338	1,030	1,500	5,000	2,750	2,750	2,750
230-490-6420	Water Services	494	1,733	1,697	602	1,825	1,825	1,825
230-490-6425	Sewer Services	679	700	723	720	775	775	775
230-490-6430	Electricity Services	13,976	16,930	19,254	16,508	19,500	19,500	19,500
230-490-6435	Internet Services	840	840	865	840	875	875	875
230-490-6440	Telephone Services	3,485	3,552	3,886	3,063	3,950	3,950	3,950
230-490-6445	Refuse Services	232	226	233	248	275	275	275
230-490-6520	Permits	2,700	-	-	-	-	-	-
230-490-6710	Gas & Oil	892	1,981	1,602	641	1,600	1,600	1,600
230-490-6712	Operations & Supplies	-	27	-	2,300	1,675	1,675	1,675
230-490-6750	Chemicals & Lab Supplies	18,372	20,200	21,349	18,728	21,500	21,500	21,500
230-490-6755	Water/Sewer Analysis	2,733	2,967	2,842	4,418	3,375	3,375	3,375
230-490-6758	Water/Sewer Connection Expendi	-	-	-	134	-	-	-
230-490-6760	Franchise Fees	-	-	-	-	17,776	17,776	17,776
	Total Materials and Services	89,688	109,107	187,456	106,051	173,938	173,938	173,938
	Subtotal Water	234,196	242,560	370,910	276,295	367,359	367,359	367,359

CITY OF LOWELL
WATER FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION	2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Total Water	304,213	312,578	503,470	350,317	523,744	523,744	523,744

CITY OF LOWELL
SEWER FUND RESOURCES
JULY 1, 2020 - JUNE 30, 2021

		2017-18	2018-19	2019-20	2019-20	2020-21	2020-21	2020-21
	DESCRIPTION	ACTUAL	ACTUAL	BUDGET	PROJECTED	PROPOSED	APPROVED	ADOPTED
	Fund Balance							
240-3100	Beginning Fund Balance	17,265	121,619	182,029	176,148	132,151	132,151	132,151
	Total Beginning Balance	17,265	121,619	182,029	176,148	132,151	132,151	132,151
	Revenues							
240-315-4125	Interest Earned	3,112	4,655	3,640	2,424	2,150	2,150	2,150
240-325-4151	Grant Revenue	-	-	-	-	-	-	-
240-325-4162	CDBG Grant	-	-	-	-	-	-	-
240-360-4220	Interim Financing Revenue	-	-	-	-	-	-	-
240-360-4225	Loan Proceeds	-	-	-	-	-	-	-
240-335-4354	Misc Permits & Licenses	-	-	-	-	-	-	-
240-335-4370	Water/Sewer Connection Permit	1,035	1,610	920	-	2,250	2,250	2,250
240-340-4425	Water/Sewer Sales	330,589	342,844	394,156	364,613	386,875	386,875	386,875
240-340-4430	Water/Sewer Connection Fees	-	-	-	-	-	-	-
240-340-4450	Water/Sewer Penalties	-	108	-	1,994	2,321	2,321	2,321
240-345-4541	Sewer Reimbursement SDC	5,533	6,891	4,944	5,807	9,270	9,270	9,270
240-370-4824	Donations	-	-	-	-	-	-	-
240-370-4849	Capital Asset Disposal	-	-	-	-	-	-	-
240-385-4895	Miscellaneous Revenue	45,127	8,102	4,500	100	350	350	350
	Total Revenues	385,396	364,209	408,160	374,939	403,216	403,216	403,216
	Transfers In							
240-390-4910	Transfer from General Fund	-	-	-	-	-	-	-
240-390-4917	Transfer from SDC Fund	-	-	-	-	-	-	-
240-390-4921	Transfer from Sewer Reserve Fu	-	-	-	-	-	-	-
240-390-4930	Transfer from Water Fund	-	-	-	-	-	-	-
240-390-4950	Transfer from Equipment Fund	-	-	-	-	6,051	6,051	6,051
240-390-4955	Transfer from Debt Reserve Fun	15,745	15,745	12,724	-	-	-	-
	Total Transfers In	15,745	15,745	12,724	-	6,051	6,051	6,051
	Total Sewer Fund	418,406	501,574	602,913	551,087	541,418	541,418	541,418

CITY OF LOWELL
SEWER FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

		2017-18	2018-19	2019-20	2019-20	2020-21	2020-21	2020-21
	DESCRIPTION	ACTUAL	ACTUAL	BUDGET	PROJECTED	PROPOSED	APPROVED	ADOPTED
Personal Services								
240-490-5110	City Administrator	18,926	22,894	23,796	23,738	24,750	24,750	24,750
240-490-5112	Finance Clerk	-	-	-	-	-	-	-
240-490-5114	City Clerk	19,175	20,110	20,613	21,083	22,200	22,200	22,200
240-490-5150	Public Works Director	21,872	24,376	28,680	29,259	30,747	30,747	30,747
240-490-5152	Utility Worker I	12,418	-	13,923	30,961	35,500	35,500	35,500
240-490-5154	Utility Worker II	14,489	15,746	13,923	-	-	-	-
240-490-5156	Temporary/Seasonal	-	-	-	-	577	577	577
240-490-5158	Maintenance Worker I	3,199	3,233	2,735	2,417	2,987	2,987	2,987
240-490-5220	Overtime	5,059	6,474	6,516	2,088	6,020	6,020	6,020
240-490-5315	Social Security/Medicare	7,278	6,716	9,882	8,348	9,360	9,360	9,360
240-490-5320	Worker's Comp	3,359	2,915	5,934	3,267	1,880	1,880	1,880
240-490-5350	Unemployment	-	-	8,736	-	8,500	8,500	8,500
240-490-5410	Health Insurance	27,840	21,354	29,720	31,276	29,750	29,750	29,750
240-490-5450	Public Employees Retirement	10,896	9,627	18,996	17,808	21,150	21,150	21,150
	Total Personal Services	144,511	133,446	183,454	170,245	193,421	193,421	193,421
Materials and Services								
240-490-6110	Auditing	3,900	3,900	4,419	4,225	4,419	4,419	4,419
240-490-6112	Legal Services	-	-	500	-	500	500	500
240-490-6114	Financial Services	2,256	3,543	3,749	4,964	5,212	5,212	5,212
240-490-6116	Engineering Services	-	2,950	100,000	4,000	40,000	40,000	40,000
240-490-6122	IT Services	1,838	2,324	3,881	4,058	6,304	6,304	6,304
240-490-6128	Other Contract Services	3,565	7,716	3,600	4,155	3,500	3,500	3,500
240-490-6130	General Contract Services	-	-	-	-	-	-	-
240-490-6190	Computer Serv/Warr/Contracts	-	-	-	-	-	-	-
240-490-6210	Insurance & Bonds	5,731	5,643	6,115	5,968	6,427	6,427	6,427
240-490-6220	Publications, Printing & Dues	1,250	430	600	500	600	600	600
240-490-6226	Postage	1,163	1,543	2,000	1,500	2,100	2,100	2,100
240-490-6230	Office Supplies/Equipment	164	336	500	500	500	500	500
240-490-6234	General Supplies	1,201	1,270	2,000	3,250	2,500	2,500	2,500
240-490-6238	Bank Service Charges	3,856	4,048	1,498	3,403	3,850	3,850	3,850
240-490-6240	Travel & Training	598	1,489	1,500	1,434	1,500	1,500	1,500
240-490-6290	Miscellaneous	316	685	500	-	500	500	500
240-490-6320	Building Repair & Maintenance	115	591	1,000	1,969	1,750	1,750	1,750
240-490-6324	Equipment Repair & Maintenance	3,556	9,724	5,000	4,000	5,000	5,000	5,000
240-490-6330	Other Repair & Maintenance	193	4,254	12,500	19,379	15,000	15,000	15,000
240-490-6334	Non-Capitalized Assets	2,478	1,000	1,000	1,452	1,200	1,200	1,200
240-490-6420	Water Services	7,053	12,656	11,457	24,295	21,250	21,250	21,250
240-490-6425	Sewer Services	6,111	6,304	6,620	6,666	6,750	6,750	6,750
240-490-6430	Electricity Services	23,720	19,710	25,068	18,763	19,889	19,889	19,889
240-490-6435	Internet Services	-	-	-	816	857	857	857
240-490-6440	Telephone Services	1,610	1,456	1,518	1,738	1,825	1,825	1,825
240-490-6445	Refuse Services	299	226	238	368	379	379	379
240-490-6520	Permits	2,635	2,812	3,100	3,100	3,193	3,193	3,193
240-490-6710	Gas & Oil	902	2,460	1,457	1,560	1,450	1,450	1,450
240-490-6712	Operations & Supplies	-	216	-	-	-	-	-
240-490-6750	Chemicals & Lab Supplies	11,090	14,122	14,700	11,252	15,250	15,250	15,250
240-490-6755	Water/Sewer Analysis	10,384	10,532	10,483	10,405	10,575	10,575	10,575
240-490-6758	Water/Sewer Connection Expendi	-	-	-	-	-	-	-
240-490-6760	Franchise Fees	-	-	-	-	19,344	19,344	19,344
240-490-6792	Reimbursable Expenditure	-	-	-	-	-	-	-
	Total Materials and Services	95,986	121,939	225,003	143,721	201,624	201,624	201,624
	Subtotal Sewer	240,498	255,385	408,457	313,965	395,045	395,045	395,045

CITY OF LOWELL
SEWER FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION	2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Total Sewer	296,637	310,868	560,913	372,773	541,418	541,418	541,418

CITY OF LOWELL
STREET FUND RESOURCES
JULY 1, 2020 - JUNE 30, 2021

		2017-18	2018-19	2019-20	2019-20	2020-21	2020-21	2020-21
	DESCRIPTION	ACTUAL	ACTUAL	BUDGET	PROJECTED	PROPOSED	APPROVED	ADOPTED
	Fund Balance							
312-3100	Beginning Fund Balance	126,877	126,292	99,659	90,839	53,537	53,537	53,537
	Total Beginning Balance	126,877	126,292	99,659	90,839	53,537	53,537	53,537
	Revenues							
312-315-4125	Interest Earned	94	153	2,045	1,524	1,400	1,400	1,400
312-320-4140	Lane County Distributions	-	-	-	-	-	-	-
312-320-4142	State Distributions	67,914	78,103	79,288	74,932	64,212	64,212	64,212
312-325-4151	Grant Revenue	-	-	150,000	-	200,000	200,000	200,000
312-345-4513	Transportation Reimbursement S	1,340	2,354	1,605	2,262	1,560	1,560	1,560
312-360-4210	Principal Payments Received	-	-	-	-	-	-	-
312-360-4215	Interest Payments Received	-	-	-	-	-	-	-
312-360-4225	Loan Proceeds	-	-	268,042	-	360,291	360,291	360,291
312-365-4752	Reimbursement Revenue	4,281	-	-	-	-	-	-
312-365-4791	SVDP Project Revenue	-	-	-	-	-	-	-
312-370-4849	Capital Asset Disposal	-	-	-	-	-	-	-
312-385-4895	Miscellaneous Revenue	7	133	-	100	50	50	50
	Total Revenues	73,637	80,743	500,980	78,818	627,513	627,513	627,513
	Transfers In							
312-390-4950	Transfer from Equipment Fund	-	-	-	-	4,033	4,033	4,033
	Total Transfers In	-	-	-	-	4,033	4,033	4,033
	Total Street Fund	200,513	207,035	600,639	169,657	685,083	685,083	685,083

CITY OF LOWELL
STREET FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

		2017-18	2018-19	2019-20	2019-20	2020-21	2020-21	2020-21
	DESCRIPTION	ACTUAL	ACTUAL	BUDGET	PROJECTED	PROPOSED	APPROVED	ADOPTED
Personal Services								
312-490-5110	City Administrator	7,570	8,872	4,326	4,316	4,500	4,500	4,500
312-490-5150	Public Works Director	9,374	10,615	3,374	3,442	3,617	3,617	3,617
312-490-5152	Utility Worker I	3,104	-	1,638	3,642	4,128	4,128	4,128
312-490-5154	Utility Worker II	3,622	3,937	1,638	-	-	-	-
312-490-5156	Utility Worker III	-	-	-	-	1,153	1,153	1,153
312-490-5158	Maintenance Worker I	1,600	1,616	-	-	-	-	-
312-490-5220	Overtime	1,288	2,153	676	227	675	675	675
312-490-5315	Social Security/Medicare	2,032	1,960	1,045	884	1,085	1,085	1,085
312-490-5320	Worker's Comp	1,113	977	673	750	230	230	230
312-490-5350	Unemployment	-	-	913	-	1,000	1,000	1,000
312-490-5410	Health Insurance	6,071	4,524	2,877	2,891	4,195	4,195	4,195
312-490-5450	Public Employees Retirement	3,043	2,829	2,009	1,873	2,520	2,520	2,520
312-490-5910	Wage Adjustment	-	-	-	-	-	-	-
	Total Personal Services	38,816	37,483	19,169	18,025	23,103	23,103	23,103
Materials and Services								
312-490-6110	Auditing	1,300	1,300	1,473	1,325	1,473	1,473	1,473
312-490-6114	Financial Services	752	1,181	1,250	1,655	1,737	1,737	1,737
312-490-6116	Engineering Services	840	24,962	1,000	500	2,500	2,500	2,500
312-490-6122	IT Services	597	671	1,342	1,297	2,102	2,102	2,102
312-490-6128	Other Contract Services	9,077	12,607	12,772	3,576	8,500	8,500	8,500
312-490-6210	Insurance & Bonds	1,910	1,881	2,038	1,989	2,142	2,142	2,142
312-490-6234	General Supplies	144	34	150	200	200	200	200
312-490-6290	Miscellaneous	130	228	500	-	500	500	500
312-490-6324	Equipment Repair & Maintenance	-	49	500	150	500	500	500
312-490-6330	Other Repair & Maintenance	486	6,101	10,000	10,000	10,000	10,000	10,000
312-490-6334	Non-Capitalized Assets	671	-	500	4,998	2,500	2,500	2,500
312-490-6430	Electricity Services	13,402	15,379	20,363	12,500	13,250	13,250	13,250
312-490-6720	Storm Drain Maintenance	1,923	-	-	-	-	-	-
312-490-6724	Street Signs	175	312	500	4,230	1,000	1,000	1,000
	Total Materials and Services	31,405	64,705	52,388	42,420	46,404	46,404	46,404
Capital Outlay								
312-700-8320	Software	-	2,275	-	180	-	-	-
312-700-8335	Equipment & Furnishings	-	-	-	-	-	-	-
312-700-8425	Vehicles & Rolling Stock	-	7,733	-	-	-	-	-
312-700-8530	Street Improvements	-	-	438,042	26,359	560,291	560,291	560,291
312-700-8532	Signage	-	-	-	-	-	-	-
	Total Capital Outlay	-	10,008	438,042	26,539	560,291	560,291	560,291
Debt Service								
312-800-7111	Loan Principal - Library/City	-	-	683	-	-	-	-
312-800-7511	Loan Interest - Library/City	-	-	930	-	-	-	-
	Total Debt Service	-	-	1,613	-	-	-	-
Transfers Out								
312-900-9150	Transfer to Equipment Fund	4,000	4,000	4,000	4,000	-	-	-
	Total Transfers Out	4,000	4,000	4,000	4,000	-	-	-
Contingency								
312-900-9590	Contingency	-	-	85,427	-	55,285	55,285	55,285
	Total Contingency	-	-	85,427	-	55,285	55,285	55,285
Reserved for Future Expenditure								
312-900-9898	Reserved for future use - Stre	-	-	-	-	-	-	-
	Total Reserved for Future Expenditure	-	-	-	-	-	-	-
	Total Streets	74,222	116,196	600,639	90,984	685,083	685,083	685,083

CITY OF LOWELL
BBJ FESTIVAL FUND RESOURCES
JULY 1, 2020 - JUNE 30, 2021

		2017-18	2018-19	2019-20	2019-20	2020-21	2020-21	2020-21
	DESCRIPTION	ACTUAL	ACTUAL	BUDGET	PROJECTED	PROPOSED	APPROVED	ADOPTED
	Fund Balance							
314-3100	Beginning Fund Balance	21,526	19,374	14,522	16,392	12,352	12,352	12,352
	Total Beginning Balance	21,526	19,374	14,522	16,392	12,352	12,352	12,352
	Revenues							
314-315-4125	Interest Earned	12	7	291	10	8	8	8
314-370-4824	BBJ Donations	-	-	-	30	50	50	50
314-370-4849	Capital Asset Disposal	-	-	-	-	-	-	-
314-380-4861	Craft/Commercial Booth Sales	2,215	1,980	3,000	1,675	3,000	3,000	3,000
314-380-4862	Food Booth Sales	570	1,200	1,200	590	1,200	1,200	1,200
314-380-4863	Beer Garden	-	-	3,000	-	-	-	-
314-380-4864	Jam Sales	220	1,300	1,500	1,575	1,500	1,500	1,500
314-380-4866	Quilt Raffle Sales	1,386	3,280	4,000	3,373	4,000	4,000	4,000
314-380-4868	Program Ad Sales	2,670	1,480	2,750	1,545	2,750	2,750	2,750
314-380-4870	Sponsorship Revenue	1,750	1,500	4,000	750	4,000	4,000	4,000
314-380-4872	Pie Sales	-	194	-	-	225	225	225
314-380-4874	50/50 Raffle Sales	-	-	-	-	-	-	-
314-380-4876	5K Race Revenue	-	595	1,100	-	1,000	1,000	1,000
314-380-4878	Car Show Revenue	430	4,067	3,500	3,445	4,250	4,250	4,250
314-380-4880	Fishing Derby Revenue	200	440	440	200	450	450	450
314-380-4882	Horseshoe Tourney Revenue	-	100	100	145	175	175	175
314-380-4884	Kidz Korner Revenue	-	796	1,000	726	1,000	1,000	1,000
314-380-4886	Pie Eating Contest Revenue	-	-	100	124	150	150	150
314-380-4888	RC Flyers Revenue	-	60	-	-	-	-	-
314-380-4889	BBJ Festival Other Revenue	11,365	-	-	-	-	-	-
314-385-4895	Miscellaneous Revenue	-	328	500	101	75	75	75
	Total Revenues	20,818	17,327	26,481	14,289	23,833	23,833	23,833

Total Street Fund	42,345	36,702	41,003	30,681	36,185	36,185	36,185
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CITY OF LOWELL
BBJ FESTIVAL FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION	2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Materials and Services							
314-490-6118 Police Services	-	-	1,500	1,220	1,750	1,750	1,750
314-490-6122 IT Services	84	131	450	465	473	473	473
314-490-6220 Publications, Printing & Dues	-	1,079	1,200	-	1,000	1,000	1,000
314-490-6224 Festival Advertisement	169	535	1,500	1,377	1,500	1,500	1,500
314-490-6226 Postage	30	-	50	-	50	50	50
314-490-6238 Bank Service Charges	-	-	-	30	75	75	75
314-490-6290 Miscellaneous	32	2,241	2,000	2,290	2,000	2,000	2,000
314-490-6440 Telephone Services	65	144	200	-	250	250	250
314-490-6445 Refuse Services	-	812	1,000	-	1,150	1,150	1,150
314-490-6705 Rent	280	940	1,000	995	1,250	1,250	1,250
314-490-6714 Materials & Services	20,683	140	-	-	-	-	-
314-490-6810 Craft/Commercial Booth Exp	10	121	750	38	750	750	750
314-490-6812 Food Booth Exp	-	40	100	150	175	175	175
314-490-6813 Beer Garden	-	-	1,500	-	-	-	-
314-490-6814 Jam Sales Exp	434	1,143	750	486	825	825	825
314-490-6816 Quilt Raffle	498	3,726	4,000	2,905	4,000	4,000	4,000
314-490-6820 Sponsorship Exp	-	51	-	-	50	50	50
314-490-6822 Pie Sales Exp	-	187	-	-	-	-	-
314-490-6850 5K Race Exp	185	495	600	-	600	600	600
314-490-6852 Car Show Exp	500	3,555	4,000	3,749	4,000	4,000	4,000
314-490-6854 Fishing Derby Exp	-	500	440	200	450	450	450
314-490-6856 Horseshoe Tourney Exp	-	-	50	-	50	50	50
314-490-6858 Kidz Korner Exp	-	590	1,000	380	1,000	1,000	1,000
314-490-6860 Pie Eating Contest Exp	-	-	200	284	300	300	300
314-490-6862 RC Flyers Exp	-	100	100	-	100	100	100
314-490-6864 Entertainment Exp	-	3,780	4,000	3,760	4,000	4,000	4,000
Total Materials and Services	22,970	20,309	26,390	18,329	25,798	25,798	25,798
Contingency							
314-900-9590 Contingency	-	-	14,613	-	10,387	10,387	10,387
Total Contingency	-	-	14,613	-	10,387	10,387	10,387
Total BBJ Festival Fund	22,970	20,309	41,003	18,329	36,185	36,185	36,185

CITY OF LOWELL
SDC FUND RESOURCES
JULY 1, 2020 - JUNE 30, 2021

		2017-18	2018-19	2019-20	2019-20	2020-21	2020-21	2020-21
	DESCRIPTION	ACTUAL	ACTUAL	BUDGET	PROJECTED	PROPOSED	APPROVED	ADOPTED
	Fund Balance							
417-3100	Beginning Fund Balance	316,946	397,391	-	-	-	-	-
	Total Beginning Balance	316,946	397,391	-	-	-	-	-
	Revenues							
417-315-4125	Interest Earned	342	-	-	-	-	-	-
417-345-4510	Park SDC Fees	8,824	-	-	-	-	-	-
417-345-4511	Parks Reimbursement SDC	-	-	-	-	-	-	-
417-345-4512	Transportation SDC	7,682	-	-	-	-	-	-
417-345-4530	Water SDC	34,308	-	-	-	-	-	-
417-345-4540	Sewer SDC	9,594	-	-	-	-	-	-
417-345-4545	Storm Drainage SDC	6,800	-	-	-	-	-	-
417-360-4210	Interfund Loan Principle from	12,895	-	-	-	-	-	-
	Total Revenues	80,445	-	-	-	-	-	-
	Transfers In							
417-390-4910	Transfer from General Fund	-	-	-	-	-	-	-
417-390-4912	Transfer from Street Fund	-	-	-	-	-	-	-
417-390-4930	Transfer from Water Fund	-	-	-	-	-	-	-
417-390-4940	Transfer from Sewer Fund	-	-	-	-	-	-	-
	Total Transfers In	-	-	-	-	-	-	-
	Total SDC Fund	397,391	397,391	-	-	-	-	-

CITY OF LOWELL
SDC FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION	2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Capital Outlay							
417-700-8520 Parks Improvements	-	-	-	-	-	-	-
417-700-8530 Street Improvements	-	-	-	-	-	-	-
417-700-8540 Water Systems Improvemts	-	-	-	-	-	-	-
417-700-8550 Sewer Systems	-	-	-	-	-	-	-
417-700-8560 Stormwater Improvements	-	-	-	-	-	-	-
Total Capital Outlay	-	-	-	-	-	-	-
Transfers Out							
417-900-9110 Transfer to Parks SDC Fund	-	37,691	-	-	-	-	-
417-900-9112 Transfer to Streets SDC Fund	-	23,187	-	-	-	-	-
417-900-9130 Transfer to Water SDC Fund	-	196,255	-	-	-	-	-
417-900-9140 Transfer to Sewer SDC Fund	-	115,917	-	-	-	-	-
417-900-9145 Transfer to Stormwater SDC Fun	-	24,340	-	-	-	-	-
417-900-9155 Transfer to Debt Reserve Fund	-	-	-	-	-	-	-
Total Transfers Out	-	397,391	-	-	-	-	-
Reserved for Future Expenditure							
417-900-9893 Reserved for future use - Wate	37,691	-	-	-	-	-	-
417-900-9895 Reserved for future use - Park	23,187	-	-	-	-	-	-
417-900-9896 Reserved for future use - Stor	196,255	-	-	-	-	-	-
417-900-9897 Reserved for future use - Sewe	115,917	-	-	-	-	-	-
417-900-9898 Reserved for future use - Stre	24,340	-	-	-	-	-	-
Total Reserved for Future Expe	397,391	-	-	-	-	-	-
Total SDC Fund	397,391	397,391	-	-	-	-	-

CITY OF LOWELL
PARKS SDC FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

		2017-18	2018-19	2019-20	2019-20	2020-21	2020-21	2020-21
	DESCRIPTION	ACTUAL	ACTUAL	BUDGET	PROJECTED	PROPOSED	APPROVED	ADOPTED
	Materials and Services							
410-490-6714	Materials & Services	-	-	10,000	-	2,000	2,000	2,000
	Total Materials and Services	-	-	10,000	-	2,000	2,000	2,000
	Capital Outlay							
410-700-8520	Parks Improvements	-	-	45,556	-	67,602	67,602	67,602
	Total Capital Outlay	-	-	45,556	-	67,602	67,602	67,602
	Reserved for Future Expenditure							
410-900-9895	Reserved for future use - Park	-	-	-	-	-	-	-
	Total Reserved for Future Expenditure	-	-	-	-	-	-	-

Total Parks SDC Fund	-	-	55,556	-	69,602	69,602	69,602
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CITY OF LOWELL
WATER SDC FUND RESOURCES
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION		2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Fund Balance								
430-3100	Beginning Fund Balance	-	-	239,460	265,465	320,027	320,027	320,027
	Total Beginning Balance	-	-	239,460	265,465	320,027	320,027	320,027
Revenues								
430-315-4125	Interest Earned	-	270	5,987	7,358	6,400	6,400	6,400
430-345-4530	Water SDC	-	68,940	30,640	40,215	57,450	57,450	57,450
	Total Revenues	-	69,210	36,627	47,573	63,850	63,850	63,850
Transfers In								
430-390-4917	Transfer from SDC Fund	-	196,255	-	-	-	-	-
	Total Transfers In	-	196,255	-	-	-	-	-

Total Water SDC Fund	-	265,465	276,087	313,038	383,877	383,877	383,877
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CITY OF LOWELL
WATER SDC FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

		2017-18	2018-19	2019-20	2019-20	2020-21	2020-21	2020-21
	DESCRIPTION	ACTUAL	ACTUAL	BUDGET	PROJECTED	PROPOSED	APPROVED	ADOPTED
	Materials and Services							
430-490-6128	Other Contract Services	-	-	2,000	-	2,000	2,000	2,000
430-490-6714	Materials & Services	-	-	-	-	-	-	-
	Total Materials and Services	-	-	2,000	-	2,000	2,000	2,000
	Capital Outlay							
430-700-8540	Water Systems Improvemts	-	-	274,087	-	381,877	381,877	381,877
	Total Capital Outlay	-	-	274,087	-	381,877	381,877	381,877
	Reserved for Future Expenditure							
430-900-9893	Reserved for future use - Wate	-	-	-	-	-	-	-
	Total Reserved for Future Expi	-	-	-	-	-	-	-

Total Water SDC Fund	-	-	276,087	-	383,877	383,877	383,877
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CITY OF LOWELL
 STORMWATER SDC FUND REQUIREMENTS
 JULY 1, 2020 - JUNE 30, 2021

		2017-18	2018-19	2019-20	2019-20	2020-21	2020-21	2020-21
	DESCRIPTION	ACTUAL	ACTUAL	BUDGET	PROJECTED	PROPOSED	APPROVED	ADOPTED
	Materials and Services							
445-490-6128	Other Contract Services	-	-	2,000	-	2,000	2,000	2,000
445-490-6714	Materials & Services	-	-	-	-	-	-	-
	Total Materials and Services	-	-	2,000	-	2,000	2,000	2,000
	Capital Outlay							
445-700-8560	Stormwater Improvements	-	-	34,475	-	53,843	53,843	53,843
	Total Capital Outlay	-	-	34,475	-	53,843	53,843	53,843
	Reserved for Future Expenditure							
445-900-9897	Reserved for future use - Sewer	-	-	-	-	-	-	-
	Total Reserved for Future Expenditure	-	-	-	-	-	-	-

Total Stormwater SDC Fund	-	-	36,475	-	55,843	55,843	55,843
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CITY OF LOWELL
WATER RESERVE FUND RESOURCES
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION		2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Fund Balance								
520-3100	Beginning Fund Balance	11,814	15,752	19,690	19,692	23,647	23,647	23,647
	Total Beginning Balance	11,814	15,752	19,690	19,692	23,647	23,647	23,647
Revenues								
520-315-4125	Interest Earned	-	2	-	17	15	15	15
	Total Revenues	-	2	-	17	15	15	15
Transfers In								
520-390-4930	Transfer from Water Fund	3,938	3,938	3,938	3,938	15,740	15,740	15,740
	Total Transfers In	3,938	3,938	3,938	3,938	15,740	15,740	15,740
Total Water Reserve Fund		15,752	19,692	23,628	23,647	39,402	39,402	39,402

CITY OF LOWELL
WATER RESERVE FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION		2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Reserved for Future Expenditure								
520-900-9892	Reserved for Water Bond Pymt	-	-	23,628	23,647	39,402	39,402	39,402
	Total Reserved for Future Expenditure	-	-	23,628	23,647	39,402	39,402	39,402

Total Water Reserve Fund	-	-	23,628	23,647	39,402	39,402	39,402
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CITY OF LOWELL
SEWER RESERVE FUND RESOURCES
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION		2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Fund Balance								
521-3100	Beginning Fund Balance	5,095	6,670	8,245	8,245	9,828	9,828	9,828
	Total Beginning Balance	5,095	6,670	8,245	8,245	9,828	9,828	9,828
Revenues								
521-315-4125	Interest Earned	-	1	-	7	8	8	8
	Total Revenues	-	1	-	7	8	8	8
Transfers In								
521-390-4940	Transfer from Sewer Fund	1,575	1,575	1,575	1,575	5,920	5,920	5,920
	Total Transfers In	1,575	1,575	1,575	1,575	5,920	5,920	5,920
Total Sewer Reserve Fund		6,670	8,246	9,820	9,827	15,756	15,756	15,756

CITY OF LOWELL
SEWER RESERVE FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION	2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Reserved for Future Expenditure							
521-900-9892 Reserved for Sewer Bond Pymt	-	-	9,820	9,827	15,756	15,756	15,756
Total Reserved for Future Expenditure	-	-	9,820	9,827	15,756	15,756	15,756

Total Sewer Reserve Fund	-	-	9,820	9,827	15,756	15,756	15,756
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CITY OF LOWELL
EQUIPMENT RESERVE FUND RESOURCES
JULY 1, 2020 - JUNE 30, 2021

		2017-18	2018-19	2019-20	2019-20	2020-21	2020-21	2020-21
	DESCRIPTION	ACTUAL	ACTUAL	BUDGET	PROJECTED	PROPOSED	APPROVED	ADOPTED
	Fund Balance							
550-3100	Beginning Fund Balance	17,195	43,614	35	174	22,186	22,186	22,186
	Total Beginning Balance	17,195	43,614	35	174	22,186	22,186	22,186
	Revenues							
550-315-4125	Interest Earned	-	2	-	12	-	-	-
	Total Revenues	-	2	-	12	-	-	-
	Transfers In							
550-390-4910	Transfer from General Fund	2,000	2,000	6,000	6,000	-	-	-
550-390-4912	Transfer from Street Fund	4,000	4,000	4,000	4,000	-	-	-
550-390-4930	Transfer from Water Fund	2,000	2,000	6,000	6,000	-	-	-
550-390-4940	Transfer from Sewer Fund	2,000	2,000	6,000	6,000	-	-	-
	Total Transfers In	10,000	10,000	22,000	22,000	-	-	-

Total Sewer Reserve Fund	27,195	53,616	22,035	22,186	22,186	22,186	22,186	22,186
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CITY OF LOWELL
EQUIPMENT RESERVE FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION	2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Capital Outlay							
550-700-8425 Vehicles & Rolling Stock	-	53,442	22,035	-	-	-	-
Total Capital Outlay	-	53,442	22,035	-	-	-	-
Transfers Out							
550-900-9110 Transfer to General Fund	-	-	-	-	6,051	6,051	6,051
550-900-9112 Transfer to Street Fund	-	-	-	-	4,033	4,033	4,033
550-900-9130 Transfer to Water Fund	-	-	-	-	6,051	6,051	6,051
550-900-9140 Transfer to Sewer Fund	-	-	-	-	6,051	6,051	6,051
Total Transfers Out	-	-	-	-	22,186	22,186	22,186

Total Equipment Reserve Fund	-	53,442	22,035	-	22,186	22,186	22,186
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CITY OF LOWELL
DEBT RESERVE FUND RESOURCES
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION		2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Fund Balance								
555-3100	Beginning Fund Balance	51,854	28,469	12,724	12,839	-	-	-
	Total Beginning Balance	51,854	28,469	12,724	12,839	-	-	-
Revenues								
555-315-4125	Interest Earned	75	115	-	33	-	-	-
	Total Revenues	75	115	-	33	-	-	-
Transfers In								
555-390-4917	Transfer from SDC Fund	-	-	-	-	-	-	-
	Total Transfers In	-	-	-	-	-	-	-
Total Debt Reserve Fund		51,928	28,584	12,724	12,872	-	-	-

CITY OF LOWELL
DEBT RESERVE FUND REQUIREMENTS
JULY 1, 2020 - JUNE 30, 2021

DESCRIPTION	2017-18 ACTUAL	2018-19 ACTUAL	2019-20 BUDGET	2019-20 PROJECTED	2020-21 PROPOSED	2020-21 APPROVED	2020-21 ADOPTED
Transfers Out							
555-900-9130 Transfer to Water Fund	7,715	-	-	-	-	-	-
555-900-9140 Transfer to Sewer Fund	15,745	15,745	12,724	33	-	-	-
Total Transfers Out	23,460	15,745	12,724	33	-	-	-
Reserved for Future Expenditure							
555-900-9893 Reserved for future use - Wate	-	-	-	-	-	-	-
555-900-9897 Reserved for future use - Sewe	-	-	-	-	-	-	-
Total Reserved for Future Expenditure	-	-	-	-	-	-	-

Total Debt Reserve Fund	23,460	15,745	12,724	33	-	-	-
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**CITY OF LOWELL
APPROPRIATION SUMMARY
JULY 1, 2020 - JUNE 30, 2021**

GENERAL FUND	
ADMINISTRATION	91,143
PARKS AND RECREATION	624,228
POLICE	29,530
COMMUNITY DEVELOPMENT	30,990
LIBRARY	333,763
CODE ENFORCEMENT	14,080
TOURISM	10,816
MUNICIPAL COURT	13,996
NON-DEPARTMENTAL	
TRANSFERS	37,200
DEBT SERVICE	40,348
CONTINGENCY	57,314
TOTAL	1,283,408

BBJ FESTIVAL FUND	
BBJ FESTIVAL	25,798
CONTINGENCY	10,387
TOTAL	36,185

WATER FUND	
WATER	707,359
DEBT SERVICE	64,093
INTERFUND TRANSFERS	15,740
CONTINGENCY	76,552
TOTAL	863,744

SEWER FUND	
SEWER	395,045
DEBT SERVICE	50,545
INTERFUND TRANSFERS	5,920
CONTINGENCY	89,908
TOTAL	541,418

STREET FUND	
STREET	629,798
DEBT SERVICE	-
TRANSFERS	-
CONTINGENCY	55,285
TOTAL	685,083

WATER SDC FUND	
MATERIALS & SERVICES	2,000
CAPITAL OUTLAY	381,877
TOTAL	383,877

SEWER SDC FUND	
MATERIALS & SERVICES	2,000
CAPITAL OUTLAY	156,494
TOTAL	158,494

STORMWATER SDC FUND	
MATERIALS & SERVICES	2,000
CAPITAL OUTLAY	53,843
TOTAL	55,843

STREET SDC FUND	
MATERIALS & SERVICES	2,000
CAPITAL OUTLAY	54,613
TOTAL	56,613

PARKS SDC FUND	
MATERIALS & SERVICES	2,000
CAPITAL OUTLAY	67,602
TOTAL	69,602

EQUIPMENT FUND	
TRANSFERS	22,186
TOTAL	22,186

BUILDING FUND	
BUILDING	86,940
CONTINGENCY	17,142
TOTAL	104,082

APPROPRIATIONS BY DEPARTMENT OR PROGRAM	2,993,486
APPROPRIATIONS NOT ALLOCATED BY DEPARTMENT OR PROGRAM	1,267,049
TOTAL APPROPRIATIONS	4,260,535
UNAPPROPRIATED AND RESERVE AMOUNTS	57,658
	4,318,193

FORM LB-1

NOTICE OF BUDGET HEARING

A public meeting of the Lowell City Council will be held on June 23, 2020 at 7:00 pm at the Maggie Osgood Library, 70 N. Pioneer Street, Lowell, Oregon and online at www.ci.lowell.or.us. The purpose of this meeting is to discuss the budget for the fiscal year beginning July 1, 2020 as approved by the City of Lowell Budget Committee. A summary of the budget is presented below. A copy of the budget may be obtained at Lowell City Hall, 107 East Third Street, Lowell, Oregon, between the hours of 9 a.m. and 5:30 p.m. or online at www.ci.lowell.or.us. This budget is for an annual budget period. This budget was prepared on a basis of accounting that is the same as the preceding year. A public hearing to discuss the proposed uses of state revenue sharing will also be held at the same time and place noted above.

Contact: Jared Cobb Telephone: 541-937-2157 Email: jcobb@ci.lowell.or.us

FINANCIAL SUMMARY - RESOURCES			
TOTAL OF ALL FUNDS	Actual Amount 2018-19	Adopted Budget This Year 2019-20	Approved Budget Next Year 2020-21
Beginning Fund Balance/Net Working Capital	1,123,685	1,185,978	1,211,151
Fees, Licenses, Permits, Fines, Assessments & Other Service Charges	1,024,835	947,986	1,075,502
Federal, State and all Other Grants, Gifts, Allocations and Donations	128,432	1,328,605	814,994
Revenue from Bonds and Other Debt	530,000	443,042	851,034
Interfund Transfers / Internal Service Reimbursements	428,648	40,237	81,046
All Other Resources Except Current Year Property Taxes	273,607	71,153	134,192
Current Year Property Taxes Estimated to be Received	147,569	148,061	150,274
Total Resources	3,656,776	4,165,062	4,318,193

FINANCIAL SUMMARY - REQUIREMENTS BY OBJECT CLASSIFICATION			
	Actual Amount 2018-19	Adopted Budget This Year 2019-20	Approved Budget Next Year 2020-21
Personnel Services	400,368	510,484	551,411
Materials and Services	623,177	769,234	686,803
Capital Outlay	817,333	2,382,282	2,479,701
Debt Service	115,989	163,558	154,986
Interfund Transfers	428,648	40,387	81,046
Contingencies	0	258,169	306,588
Special Payments	0	0	0
Unappropriated Ending Balance and Reserved for Future Expenditure	1,271,261	40,948	57,658
Total Requirements	3,656,776	4,165,062	4,318,193

FINANCIAL SUMMARY - REQUIREMENTS AND FULL-TIME EQUIVALENT EMPLOYEES (FTE) BY ORGANIZATIONAL UNIT OR PROGRAM *			
Name of Organizational Unit or Program FTE for that unit or program	Actual Amount 2018-19	Adopted Budget This Year 2019-20	Approved Budget Next Year 2020-21
Administration	403,112	182,988	91,143
FTE	0.43	0.36	0.36
Parks & Recreation	494,499	851,891	624,228
FTE	0.48	0.62	0.73
Police	27,300	35,561	29,530
FTE	0.00	0.00	0.00
Community Development	168,434	115,777	30,990
FTE	0.15	0.10	0.05
Library	3,908	339,929	333,763
FTE	0.00	0.40	0.46
Code Enforcement	11,863	14,738	14,080
FTE	0.10	0.10	0.10
Tourism	7,566	11,350	10,816
FTE	0.00	0.00	0.00
Municipal Court	11,187	14,170	13,996
FTE	0.10	0.10	0.10
Building	0.00	0.00	86,940
FTE	0.00	0.00	0.05
Streets	112,196	509,599	629,798
FTE	0.51	0.20	0.20
Water	257,117	545,910	707,359
FTE	1.93	2.05	2.07
Sewer	269,943	450,457	395,045
FTE	1.93	2.05	2.07
Blackberry Jam Festival	20,310	26,390	25,798
FTE	0.00	0.00	0.00
Not Allocated to Organizational Unit or Program	1,869,341	1,066,302	1,324,707
FTE	0.00	0.00	0.00
Total Requirements	3,656,776	4,165,062	4,318,193
Total FTE	5.63	5.98	6.19

STATEMENT OF CHANGES IN ACTIVITIES and SOURCES OF FINANCING *
 Several allocations were modified across funds to better reflect hours worked in each program. The City has budgeted for capital improvements, including smart water meters; repaving Main Street from Pioneer Street to Moss Street; repaving Lakeview Avenue from Pioneer Street to Moss Street; replacement of two water mains; development of the Cannon Street Festival Area; development of the Maggie Osgood Library; development of Rolling Rock Park, Paul Fisher Park, and the Railroad Corridor Trail. Total investment is estimated at \$1,474,059, which is comprised of \$514,243 in grant funds and \$959,816 in City funds.

PROPERTY TAX LEVIES			
	Rate or Amount Imposed 2017-18	Rate or Amount Imposed This Year 2018-19	Rate or Amount Approved Next Year 2019-20
Permanent Rate Levy (rate limit \$2.1613 per \$1,000)	\$2.1613	\$2.1613	\$2.1613
Local Option Levy			
Levy For General Obligation Bonds			

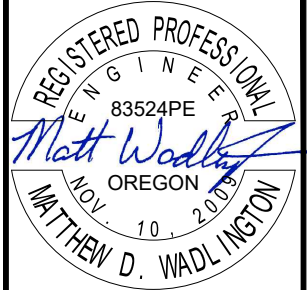
STATEMENT OF INDEBTEDNESS		
LONG TERM DEBT	Estimated Debt Outstanding on July 1	Estimated Debt Authorized, But Not Incurred on July 1
General Obligation Bonds	\$0	\$0
Other Bonds	\$1,480,689	\$0
Other Borrowings	512,905	\$0
Total	\$1,993,594	\$0

CITY OF LOWELL

LANE COUNTY, OREGON

LAKEVIEW STREET PAVEMENT AND UTILITY IMPROVEMENTS

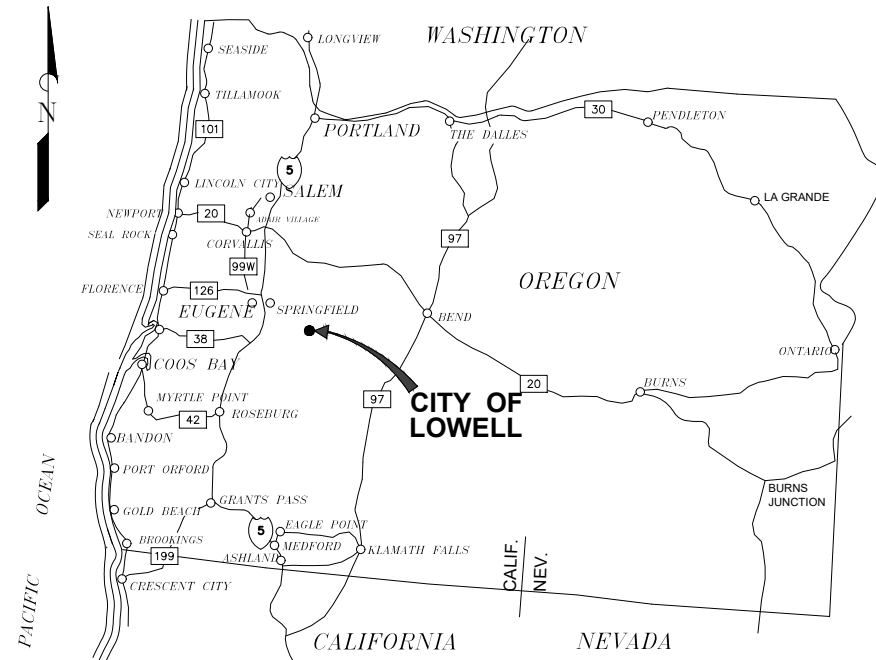
PROJECT NO. 2101-018
APRIL 2020



RENEWS: 06/30/2020



213 Water Ave. NW, Suite 100
Albany, Oregon 97321
541-266-8601
www.civilwest.com



LOCATION MAP



VICINITY MAP
NOT TO SCALE

REV.	DATE	DESCRIPTION	BY

Designed By: MKC	Drawn By: MKC	Checked By: MDW
Project No: 2101-018		

CITY OF LOWELL LANE COUNTY, OREGON
LAKEVIEW STREET PAVEMENT AND UTILITY IMPROVEMENTS
COVER

Sheet No: **G1**
Date: **APRIL 2020**

DATE: 4/27/20 FILE: C:\CW_Projects\2101-Lowell\2101-018 Lakeview Street Pavement and Utility Improvements\04 Final Design\Drawings\Dwg\DESIGN.dwg

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.
- THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
- THE EXISTING UTILITY CROSSINGS OF THE PIPELINES ARE SHOWN ACCORDING TO AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL THE UTILITY CROSSINGS ALONG THE LENGTH OF THE PIPELINES AS SPECIFIED. NO GUARANTEE IS MADE THAT ALL OF THE EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN EXCAVATING AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING HIS OPERATIONS.
- OVERHEAD ELECTRICAL DISTRIBUTION SYSTEMS MAY NOT BE SPECIFICALLY INDICATED ON THE DRAWINGS BUT DO EXIST ALONG THE PIPELINE ROUTES.
- EXISTING WATER METER BOXES AND VALVES MAY NOT BE SPECIFICALLY INDICATED ON THE DRAWINGS BUT DO EXIST ALONG THE PIPELINE ROUTES. CONTRACTOR SHALL LOCATE PRIOR TO THE START OF CONSTRUCTION.
- THE LOCATION AND DEPTH SHOWN ON THESE DRAWINGS FOR THE EXISTING WATERLINES ARE APPROXIMATE ONLY AND BASED ON AS BUILT DRAWINGS, VALVE LOCATIONS AND OTHER INFORMATION. THERE ARE NO TRACER WIRES FOR LOCATING THE MAJORITY OF EXISTING WATERLINES AND EXISTING WATERLINES MAY BE IN CLOSE PROXIMITY TO NEW WATERLINE ROUTES.
- CONTRACTOR SHALL POTHOLE AND LOCATE EXISTING WATERLINES PRIOR TO PLACEMENT OF NEW WATERLINES. EXISTING WATERLINES SHALL REMAIN IN SERVICE AND BE PROTECTED IN PLACE UNTIL COMPLETION OF NEW WATERLINES. CONTRACTOR SHALL PROVIDE TEMPORARY CONNECTIONS AS REQUIRED TO MAINTAIN CONTINUED SERVICE TO CUSTOMERS UNTIL COMPLETION OF NEW WATERLINE.
- AFTER COMPLETION OF NEW WATERLINES AND ALL TESTING AND CONNECTIONS HAVE BEEN MADE. DESIGNATED PORTIONS OF THE EXISTING WATERLINES ARE TO BE ABANDONED IN PLACE. REMOVE TEMPORARY CONNECTIONS, EXISTING VALVES, COVERS AND PROVIDE END CAPS OR PLUGS AS REQUIRED FOR ABANDONMENT.
- THE PIPELINE PROFILES HAVE BEEN MARKED TO INDICATE THE REQUIRED BACKFILL CLASSES (A, B, & E) SEE TECHNICAL SPECIFICATION FOR SPECIFIC BACKFILL MATERIAL REQUIREMENTS.
- WHEN NO RECORD WAS AVAILABLE TO INDICATE THE ELEVATION OF AN EXISTING UTILITY A MINIMUM COVER OF 30-INCHES WAS ASSUMED. THE CONTRACTOR SHALL EXERCISE CAUTION WHILE EXCAVATING NEAR THESE ESTIMATED UTILITY LOCATIONS WHICH ARE INDICATED ON THE PROFILE DRAWINGS.
- CONTRACTOR SHALL INSTALL NEW WATERLINES WITH A MINIMUM CLEARANCE OF 18-INCHES AT ALL CROSSINGS WITH SANITARY SEWER LINES AND/OR STORM DRAIN LINES, UNLESS OTHERWISE SPECIFIED OR APPROVED BY THE ENGINEER. WHERE NEW WATERLINES CROSS EXISTING UNDERGROUND TELEPHONE, ELECTRICAL, AND/OR GAS LINES, A MINIMUM CLEARANCE OF 6-INCHES SHALL BE UTILIZED, UNLESS OTHERWISE NOTED.
- ALL MATERIALS IN CONTACT WITH WATER SHALL BE NSF 61 APPROVED.
- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PROJECT DESIGN SPECIFICATIONS AND DRAWINGS. THESE DRAWINGS SHALL BE COORDINATED AND USED IN CONJUNCTION WITH THE TECHNICAL SPECIFICATIONS AND APPROVED SUBMITTALS. CONSTRUCTION PERMITS AS REQUIRED FROM LINCOLN COUNTY ROAD DEPARTMENT TO WORK WITHIN THE RIGHT-OF-WAY SHALL BE OBTAINED BY THE OWNER PRIOR TO THE START OF CONSTRUCTION.
- PROPERTY AND RIGHT OF WAY LINES SHOWN IN THIS PLAN SET ARE APPROXIMATE AND BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR SHALL OBTAIN TEMPORARY CONSTRUCTION ACCESS OR PERMISSION FROM PRIVATE LAND OWNERS PRIOR TO ENTERING PRIVATE PROPERTY.
- PERMITS ASSOCIATED WITH THE TRENCH DE-WATERING SYSTEM SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO POTHOLE EXISTING WATERLINES AND SURROUNDING UTILITIES TO DETERMINE THEIR EXACT LOCATION AND DEPTH. POTHOLE EXPLORATION SHALL OCCUR A MINIMUM OF SEVEN (7) DAYS PRIOR TO THE COMMENCEMENT OF WORK IN ANY AREA.
- PVC SEWER PIPE SHALL BE CLASS SDR-35 UNLESS OTHERWISE NOTED.

SHEET INDEX

SHEET # SHEET NAME

GENERAL

- G1 - COVER
- G2 - GENERAL NOTES
- G3 - SYMBOLS & LEGENDS
- G4 - PROJECT OVERVIEW

DEMOLITION

- C100 - DEMOLITION PLAN
- C101 - DEMOLITION PLAN

ROADWAY

- C200 - STREET IMPROVEMENTS STA 0+00 TO 5+00
- C201 - STREET IMPROVEMENTS STA 5+00 TO 7+30

WATERLINE

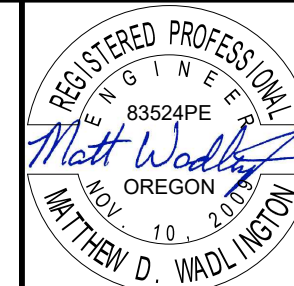
- C300 - WATERLINE - IMPROVEMENTS, PLAN AND PROFILE STA 0+00 TO 2+50
- C301 - WATERLINE - IMPROVEMENTS, PLAN AND PROFILE STA 2+50 TO 5+00
- C302 - WATERLINE - IMPROVEMENTS, PLAN AND PROFILE STA 5+00 TO 7+30

DETAIL

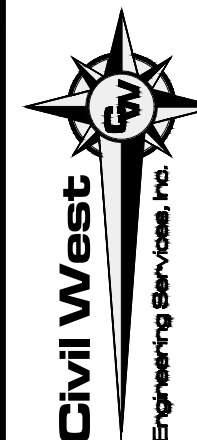
- D1 - DETAILS
- D2 - DETAILS
- D3 - DETAILS
- D5 - DETAILS
- D4 - DETAILS
- D5 - DETAILS
- D6 - DETAILS

GENERAL ABBREVIATIONS

AC	PAVEMENT	TBC	TOP BACK OF CURB
BFV	BUTTERFLY VALVE	TD	TANK DRAIN
BOW	BACK OF WALK	TG	TOP OF GRATE
CB	CATCH BASIN	TOE	TOP OF SLOPE
CPLG	COUPLING	TOP	TOP OF BANK
CTR	CENTER	TOC	TOP OF CURB
CW	CITY WATER (POTABLE)	TRANS.	TRANSITION
CWN	CITY WATER (NONPOTABLE)	TYP.	TYPICAL
DI	DUCTILE IRON	WM	WATER METER
EL	ELEVATION	WV	WATER VALVE
EOC	EDGE OF CONCRETE		
EOG	EDGE OF GRAVEL		
EOP	EDGE OF PAVEMENT		
EX	EXISTING		
FLG	FLANGE		
GV	GATE VALVE		
HDPE	HIGH DENSITY POLYETHYLENE PIPE		
HPC	HYPOCHLORITE		
IE	INVERT ELEVATION		
LT	LEFT		
MH	MANHOLE		
MJ	MECHANICAL JOINT		
NG	NATURAL GAS		
PVC	POLY VINYL CHLORIDE PIPE		
ROW	RIGHT OF WAY		
RS	RAW SEWAGE		
RT	RIGHT		
SD	STORM DRAIN		
SS	SANITARY SEWER		
STA	STATION		
SW	SIDEWALK		



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Drawn By: MKC
Checked By: MDW
Project No: 2101-018

CITY OF LOWELL
LANE COUNTY, OREGON

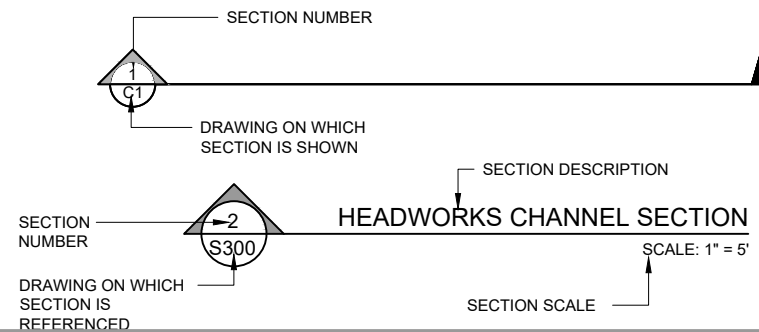
LAKEVIEW STREET PAVEMENT AND UTILITY IMPROVEMENTS

GENERAL NOTES

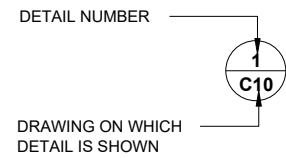
Sheet No. **G2**

Date **APRIL 2020**

SECTION REFERENCING



DETAIL REFERENCING



EXISTING FEATURE LEGEND

SYMBOL LEGEND	
SANITARY SEWER MANHOLE	(S)
STORM DRAIN MANHOLE	(D)
CATCH BASIN	[Grid Symbol]
WATER VALVE	[WV Symbol]
WATER METER	[W Symbol]
FIRE HYDRANT	[FH Symbol]
CLEANOUT	[CO Symbol]
POWER POLE	[PP Symbol]
GUY ANCHOR	[GA Symbol]
POWER PEDESTAL	[E]
TELEPHONE PEDESTAL	[T]
SURVEY MARKER	[SM Symbol]
MAIL BOX	[MB Symbol]
AIR RELEASE VALVE	[ARV Symbol]
BLOW OFF VALVE	[BOV Symbol]
PROFILE SERVICE LATERAL CROSSING	— SVC —
PROFILE TELEPHONE LINE CROSSING	— TEL —
PROFILE ELECTRICAL LINE CROSSING	— ELE —
PROFILE WATERLINE CROSSING	— WTR —
PROFILE SANITARY SEWER CROSSING	— SS —
PROFILE STORM DRAIN CROSSING	— SD —
TREE/SHRUB	[Tree Symbol]
STREET SIGN	[Sign Symbol]

LINETYPE LEGEND

WATER LINE	— W — W — W —
STORM DRAIN	— SD — SD — SD —
SANITARY SEWER	— SS — SS — SS —
ELECTRICAL	— E — E — E —
OVER HEAD LINE	— OH — OH — OH —
TELEPHONE LINE	— T — T — T —
GAS LINE	— GAS — GAS —
TREELINE	[Wavy Line]
EDGE OF PAVEMENT	[Dashed Line]
RIGHT OF WAY	[Dashed Line]
CONTOURS	— 230 —

HATCH LEGEND

CONCRETE	[Concrete Hatch]
PAVEMENT	[Pavement Hatch]
GRANULAR MATERIALS SUCH AS CRUSHED ROCK OR GRAVEL	[Gravel Hatch]
NATURAL GROUND	[Natural Ground Hatch]
WETLANDS	[Wetlands Hatch]
BUILDING	[Building Hatch]

NEW FEATURE LEGEND

SYMBOL LEGEND	
SANITARY SEWER MANHOLE	(S)
STORM DRAIN MANHOLE	(D)
CATCH BASIN	[Grid Symbol]
WATER VALVE	[WV Symbol]
WATER METER	[W Symbol]
FIRE HYDRANT	[FH Symbol]
CLEANOUT	[CO Symbol]
TEE/CROSS FITTING	[Tee Symbol]
ELBOW FITTING	[Elbow Symbol]
REDUCER FITTING	[Reducer Symbol]
MECHANICAL JOINT ADAPTER	[Adapter Symbol]
AIR RELEASE VALVE	[ARV Symbol]
BLOW OFF VALVE	[BOV Symbol]
MAILBOX	[MB Symbol]
ANCHOR WALL	[Anchor Wall Symbol]

LINETYPE LEGEND

WATER LINE	— W — W — W —
STORM DRAIN	— SD — SD — SD —
SANITARY SEWER	— SS — SS — SS —
ELECTRICAL	— E — E — E —
OVER HEAD LINE	— OH — OH — OH —
TELEPHONE LINE	— T — T — T —
GAS LINE	— GAS — GAS —
CONTOURS	— 230 —

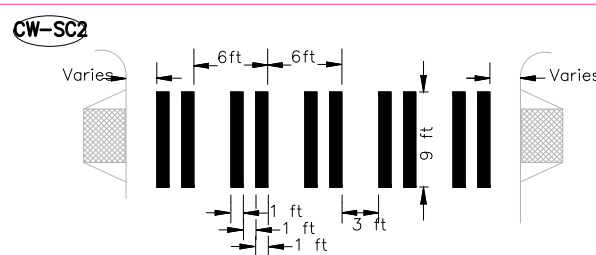
HATCH LEGEND

CONCRETE	[Concrete Hatch]
PAVEMENT	[Pavement Hatch]
GRANULAR MATERIALS SUCH AS CRUSHED ROCK OR GRAVEL	[Gravel Hatch]

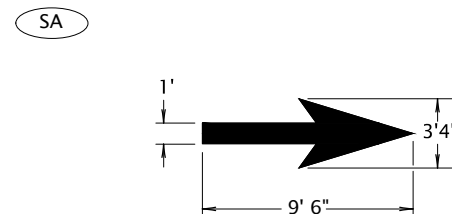
GRADING LEGEND

CUT OR FILL SLOPE-ARROWS POINT DOWN SLOPE	[Slope Symbol]
GRADING SLOPE: 2 HORIZONTAL:1 VERTICAL	— 2:1 —
EXISTING GRADE SPOT ELEVATION	⊙ 210.0
FINISH GRADE SPOT ELEVATION	⊙ 210.0

PAVEMENT MARKING KEY NOTES

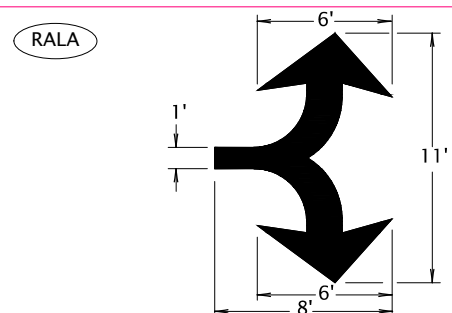


STAGGERED CONTINENTAL CROSSWALK
1 ft WHITE BARS
Install per Standard Drawing TM530



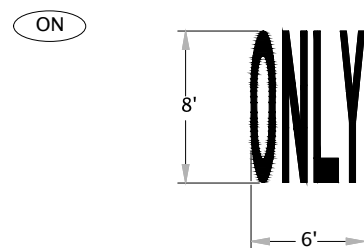
STRAIGHT ARROW (white)

For arrow proportion details, see current version of Standard Highway Signs



RIGHT TURN LEFT TURN ARROW (white)

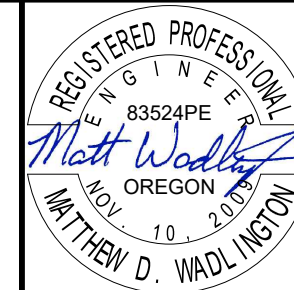
For arrow proportion details, see current version of Standard Highway Signs



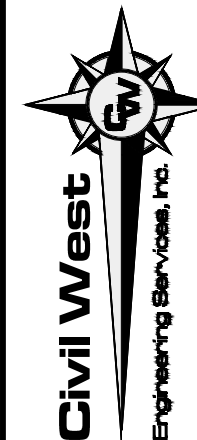
ONLY (white)

Center marking within lane width

For letter proportion details, see current version of Standard Highway Signs



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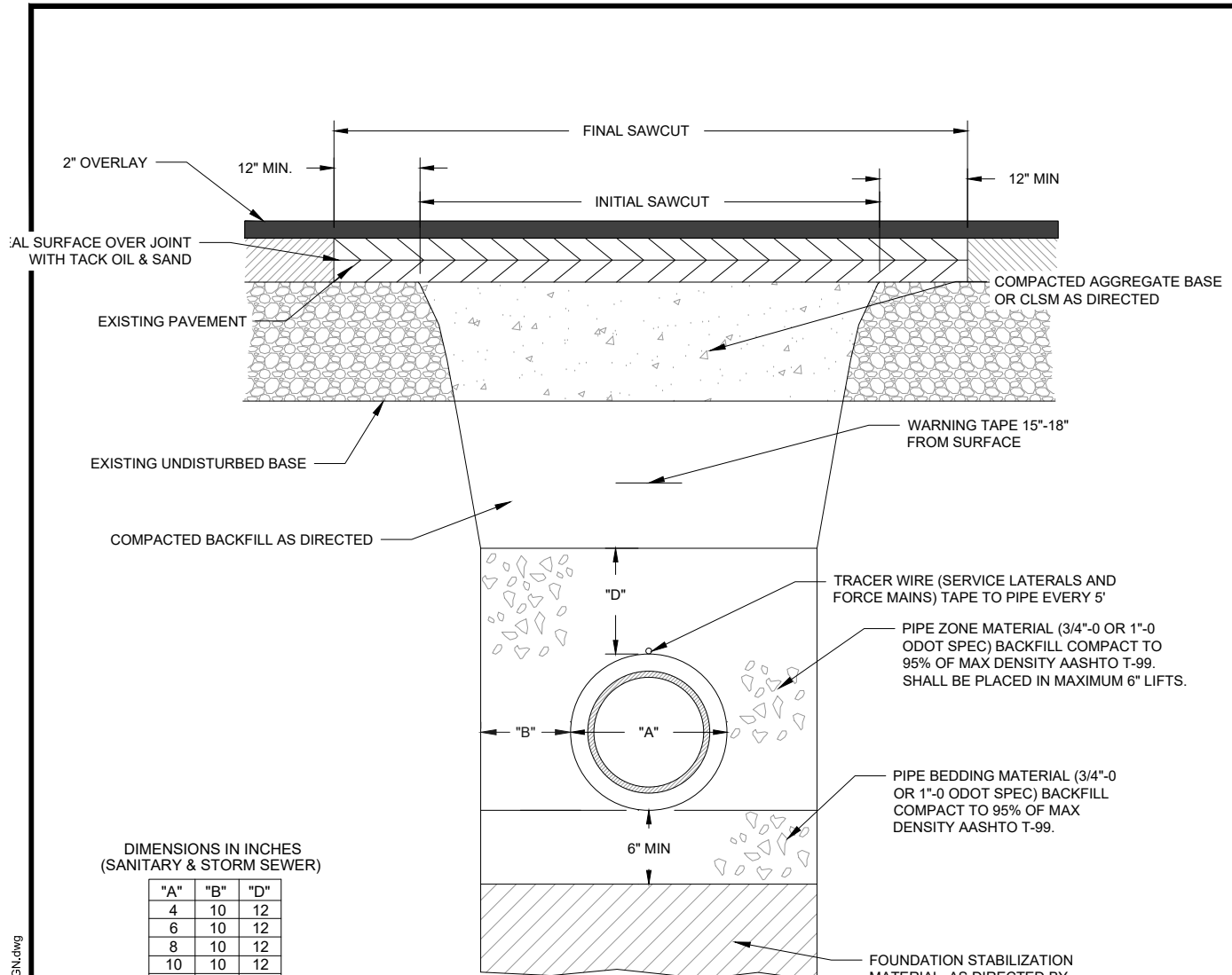
Designed By:	MKC
Drawn By:	MKC
Checked By:	MDW
Project No:	2101-018

CITY OF LOWELL
LANE COUNTY, OREGON

LAKEVIEW STREET PAVEMENT AND UTILITY IMPROVEMENTS

SYMBOLS AND LEGENDS

Sheet No. **G3**
Date **APRIL 2020**



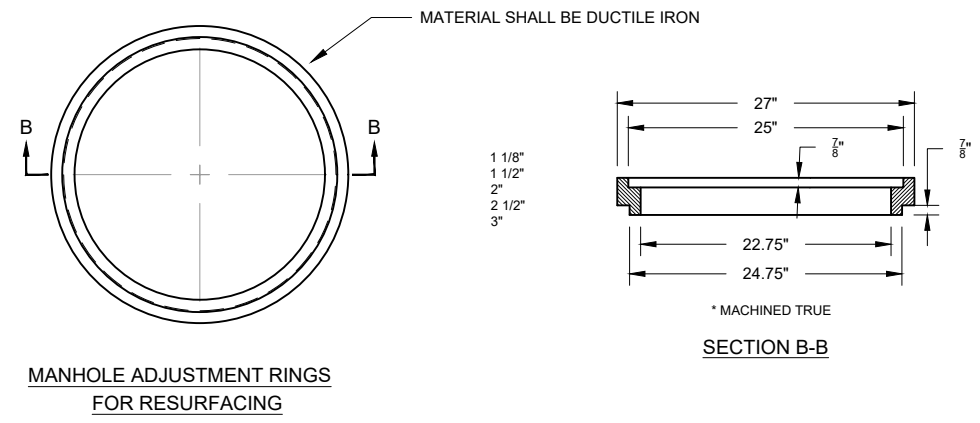
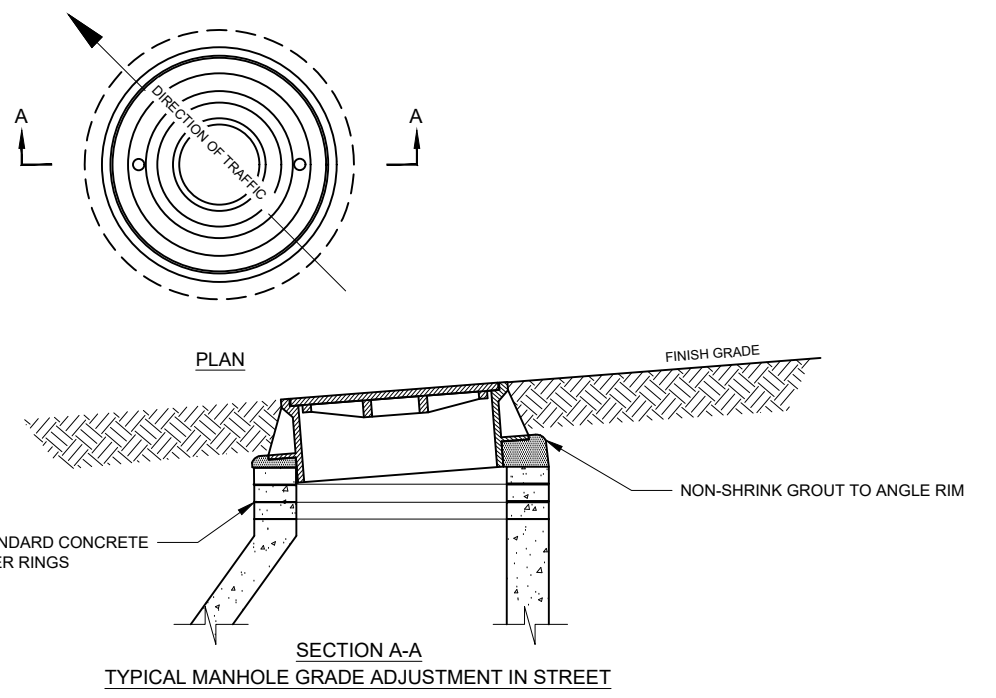
DIMENSIONS IN INCHES
(SANITARY & STORM SEWER)

"A"	"B"	"D"
4	10	12
6	10	12
8	10	12
10	10	12
12	12	12
15	12	12
18	16	12
21	16	12
24	18	12
30	18	12
36	24	14

- NOTES:
- TRENCH EXCAVATION SHALL BE CONDUCTED IN A SAFE MANNER WITH ALL NECESSARY BRACING AND SHORING PROVIDED TO BE IN COMPLIANCE WITH OSHA.
 - ALL EXISTING AC OR PCC PAVEMENT SHALL BE SAWCUT IMMEDIATELY PRIOR TO REPAVING.
 - FOUNDATION STABILIZATION SHALL BE PROVIDED WHEN MATERIAL AT BOTTOM OF TRENCH IS UNSUITABLE, IN THE OPINION OF THE CITY, TO PROVIDE A STABLE TRENCH BASE.
 - PLACE COMPACTED AGGREGATE BASE TO A MINIMUM THICKNESS OF 12 INCHES OR THE THICKNESS OF REMOVED AGGREGATE BASE, WHICHEVER IS GREATER. COMPACT AS DIRECTED.
 - IF EXISTING TRENCH CONSISTED OF CONCRETE PAVEMENT THEN CONCRETE PAVEMENT SHALL BE REPLACED WITH CONCRETE TO A MINIMUM THICKNESS OF 6 INCHES OR TO THE THICKNESS OF REMOVED PAVEMENT, WHICHEVER IS GREATER. (UNLESS DIRECTED BY THE CITY TO USE AC)
 - IF EXISTING TRENCH CONSISTED OF AC, PLACE AC MIX TO A MINIMUM THICKNESS OF 4 INCHES (2-2 INCH LIFTS) OR THE THICKNESS OF REMOVED PAVEMENT, WHICHEVER IS GREATER, COMPACT AS DIRECTED. AC PAVEMENT SHALL BE PLACED IN AT LEAST TWO 2 INCH LIFTS.
 - IN SITUATIONS WHERE EXISTING PCC PAVEMENT IS OVERLAYED WITH AC PAVEMENT. PLACE PCC PAVEMENT IN ACCORDANCE WITH NOTE 3 AND WITH AC PAVEMENT PLACED IN ACCORDANCE WITH NOTE 4.
 - BACKFILL IN PIPE ZONE SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED AS SPECIFIED TO 95%.
 - TRACER WIRE REQUIRED AT SERVICE LATERALS, FORCEMAINS, AND GRAVITY LINE. WIRE SHALL BE 18 GA. MINIMUM SOLID COPPER WIRE WITH GREEN 30 MIL THICK HDPE INSULATION RATED FOR DIRECT BURY. USE APPROVED WATERPROOF SPLICE AT ALL CONNECTIONS.
 - SANITARY AND STORM SEWER LINES MUST HAVE WARNING TAPE AND IT SHALL BE 6-INCHES WIDE, 4 MIL THICK, APWA GREEN, RADING "CAUTION SEWER LINE BURIED BELOW".
 - TYPICAL DEPTH OF BURY FOR SEWER FORCE MAIN SHALL BE 3 FEET MINIMUM.
 - TYPICAL DEPTH OF BURY FOR SEWER GRAVITY SHALL BE 5 FEET MINIMUM OR AS DIRECTED BY ENGINEER.
 - CLASS B BACKFILL REQUIRED IN ALL ROADWAYS AND TRAFFIC PATHS EXCEPT WHERE CLSM BACKFILL IS REQUIRED BY COUNTY, ODOT OR CITY.

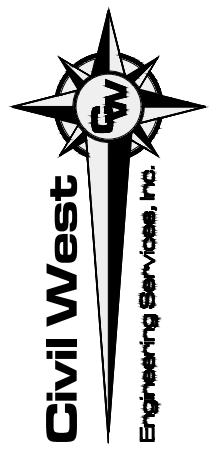
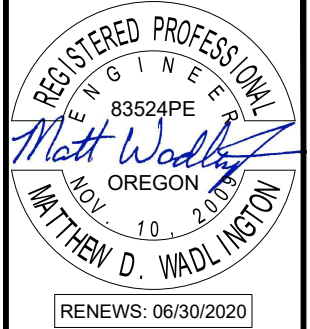
1
D1

TYPICAL TRENCH DETAIL



2
D1

MANHOLE FRAME GRADE ADJUSTMENT



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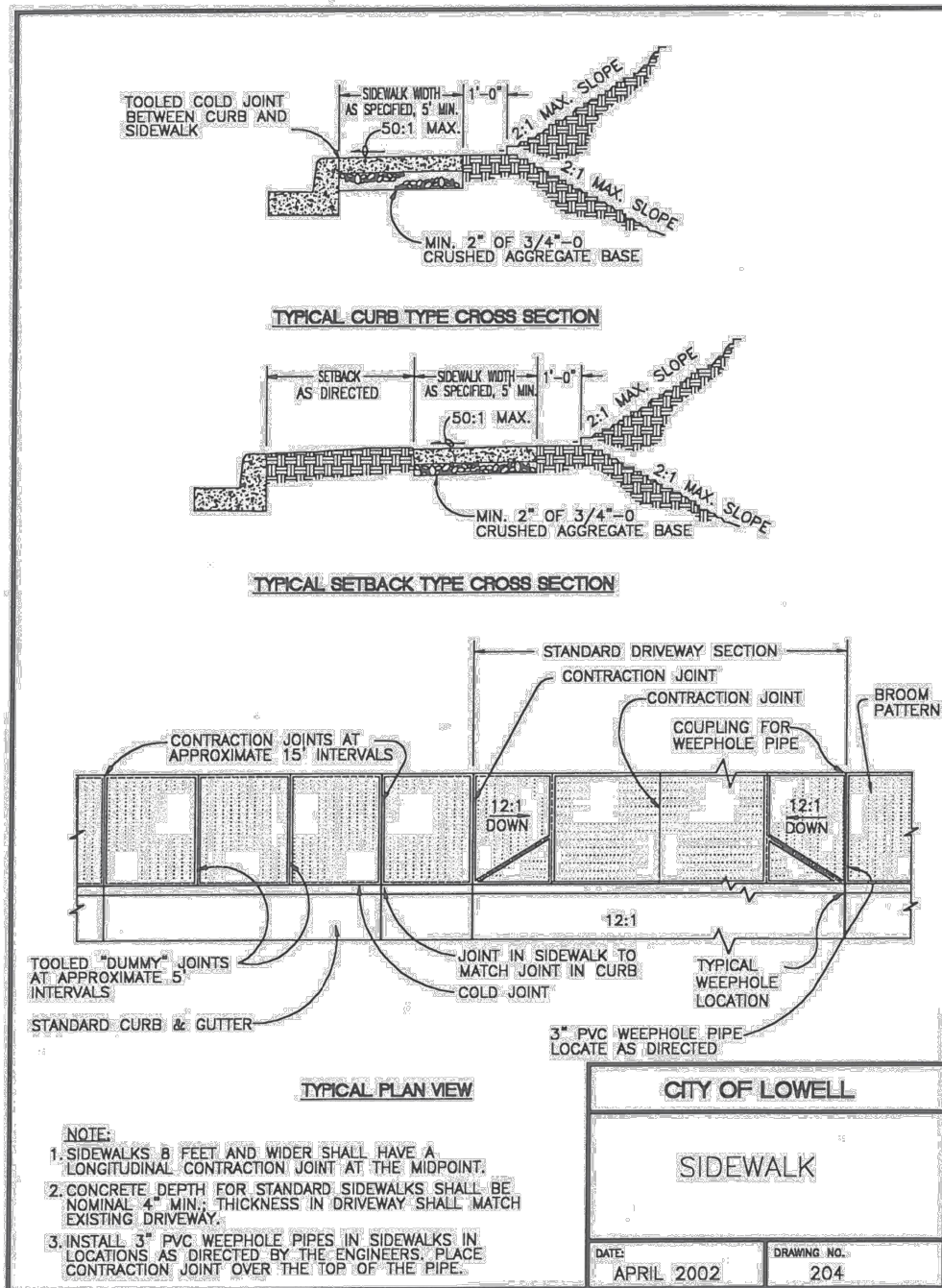
Designed By: MKC
Drawn By: MKC
Checked By: MDW
Project No: 2101-018

CITY OF LOWELL
LANE COUNTY, OREGON
LAKEVIEW STREET PAVEMENT AND UTILITY IMPROVEMENTS
DETAILS

Sheet No: D1
Date: APRIL 2020

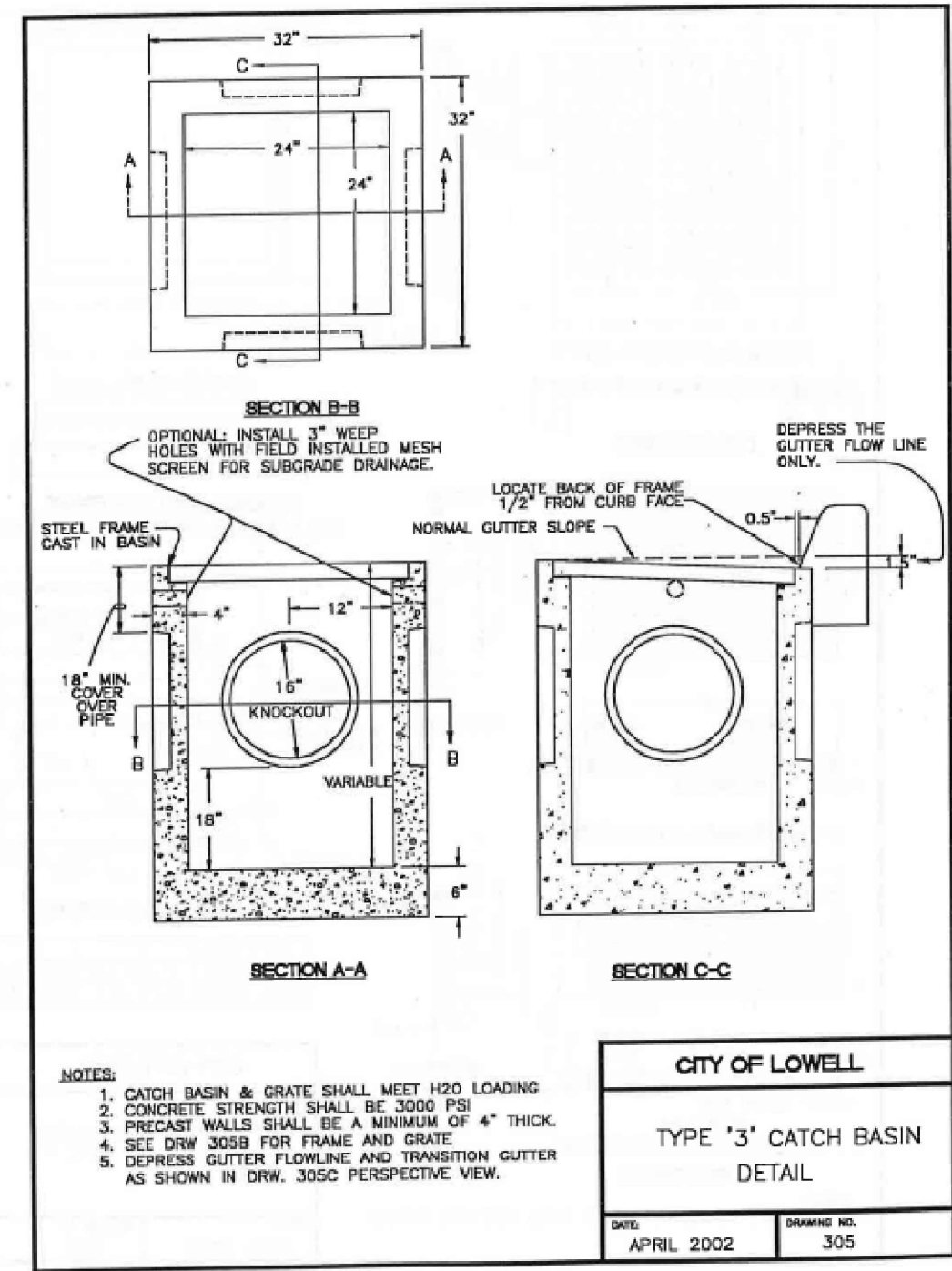
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DATE: 4/27/20 FILE: C:\CW_Projects\2101-Lakeview Street Pavement and Utility Improvements\04-Final Design\Drawings\DWG\DESIGN.dwg



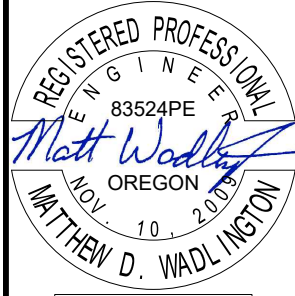
1
D2

SIDEWALK DETAIL



2
D2

CATCH BASIN DETAIL



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Project No: 2101-018		

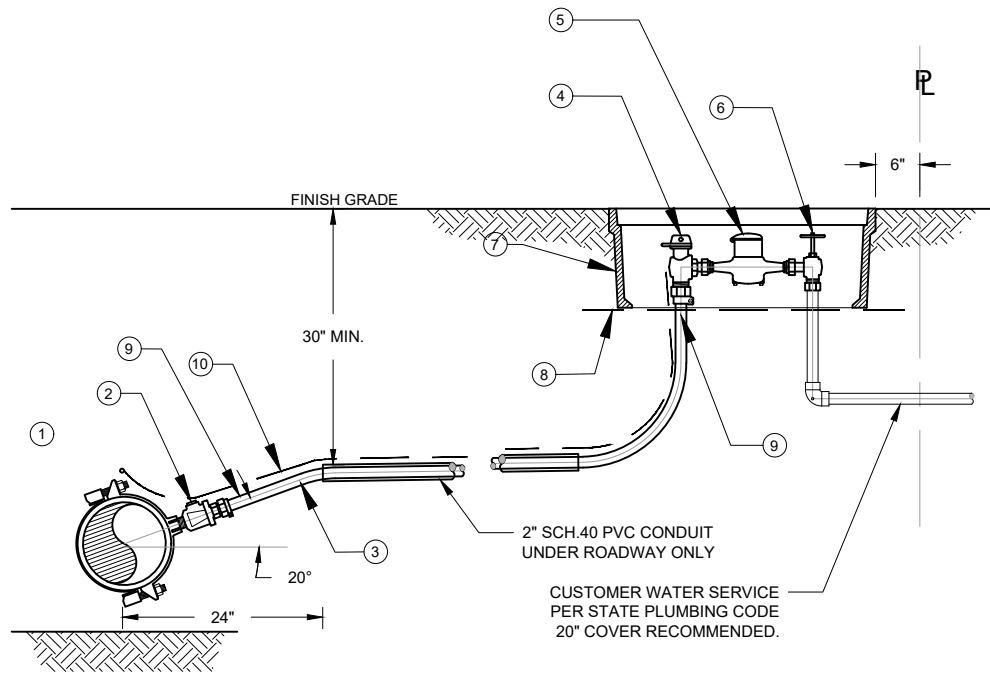
CITY OF LOWELL
LANE COUNTY, OREGON

LAKEVIEW STREET PAVEMENT AND UTILITY IMPROVEMENTS

DETAILS

Sheet No. **D2**
Date **APRIL 2020**

DATE: 4/27/20 FILE: C:\CW_Projects\2101-018 Lakeview Street Pavement and Utility Improvements\04 Final Design\Drawings\DWG\DESIGN.dwg



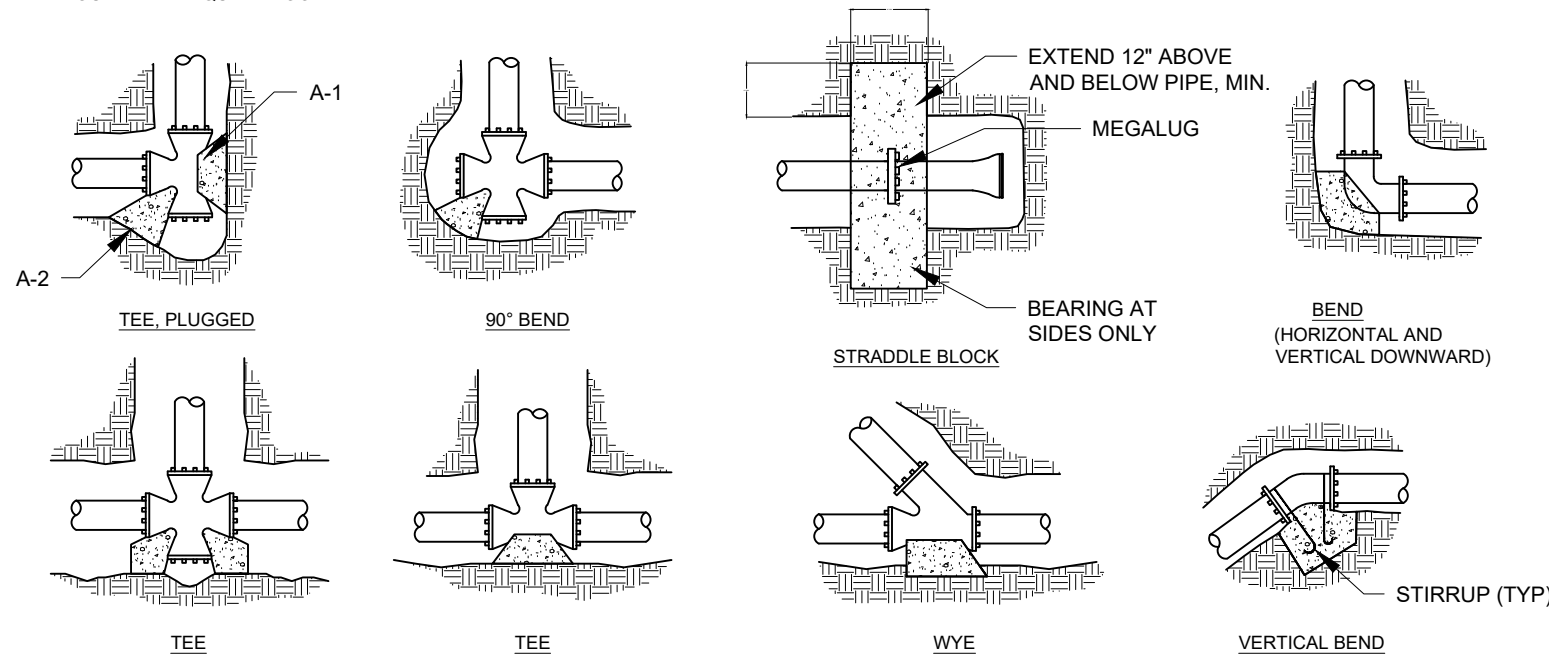
ITEM	SIZE	DESCRIPTION	SPECIFICATION
1	AS REQ'D	SADDLE	FORD/ROMAC 202BS; 1" FIP TAP
2	1"	BALL CORP. STOP	MIP x PEP PJ; FORD FB1100-4, MUELLER P-25028, McDONALD 7407B-22
3	1"	SERVICE PIPE	HDPE (PE 3408), SIDR 7, 200 PSI, IPS FITTING COMPATIBLE, NSF 61
4	1"	ANGLE BALL METER VALVE	PEP PACK JOINT INLET x METER SWIVEL NUT OUTLET FORD BA43-444W, MUELLER B24258N, McDONALD 4602B--22
5	1"	WATER METER	CITY PROVIDED
6	1"	SERVICE VALVE ANGLE GLOBE	METER SWIVEL NUT INLET X FIP OUTLET FORD GA43-332(NRWD SUPPLIES)
7	17"x30"x12"	METER BOX	ARMORCAST A6001640PCX12, A6001947TDZ (COVER), A6000482T (DROP-IN)
8	24" x 36"	FELT PAPER	90-LB FELT PAPER, ASPHALT SATURATED
9	1"	STIFFENER	304 STAINLESS STEEL INSERT STIFFENER
10	10 GA.	TRACER WIRE	10 GA. COPPER WIRE WITH BLUE 30 MIL THICK HDPE INSULATION

NOTES:

- METER BOX SHALL BE POLYMER CONCRETE WITH DROP-IN DUCTILE IRON LID.
- SEE DETAILS FOR TRENCH SECTION.
- MINIMUM DISTANCE BETWEEN TAPS AND MAINLINE FITTINGS SHALL BE 18".

FITTING SIZE	(HORIZONTAL) BEARING AREA OF THRUST BLOCKS IN SQUARE FEET							(VERTICAL UP) VOLUME OF THRUST BLOCK IN CUBIC YARDS				
	TEE, WYE, DEAD END, AND HYDRANT	STRADDLE BLOCK	90° BEND	TEE PLUGGED ON RUN		45° BEND	22-1/2° BEND	11-1/4° BEND	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND
				A-1	A-2							
4	1.0	1.0	1.4	1.0	1.4	0.8	0.4	0.2	0.82	0.45	0.23	0.11
6	2.1	2.1	3.0	2.1	3.0	1.6	0.9	0.5	1.85	1.00	0.51	0.26
8	3.8	3.8	5.4	3.8	5.4	2.9	1.5	0.8	3.29	1.78	0.91	0.46
10	5.9	5.9	8.4	5.9	8.4	4.5	2.3	1.2	5.14	2.78	1.42	0.71

ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 150 PSI AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 POUNDS PER SQUARE FOOT.



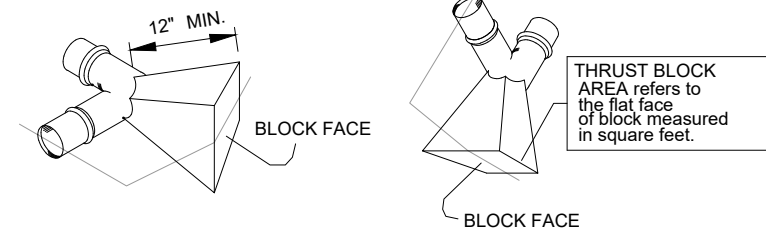
NOTES:

- CONCRETE BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
- ALL CONCRETE TO BE CLASS 3000 MINIMUM.
- INSTALL 6 MIL PLASTIC BETWEEN PIPE AND/OR FITTINGS BEFORE POURING CONCRETE BLOCKING.
- CONCRETE SHALL BE KEPT CLEAR OF ALL JOINTS AND ACCESSORIES.
- TIE RODS SHALL BE DEFORMED GALVANIZED COLD ROLLED STEEL, 40000 PSI TENSILE STRENGTH (ASTM A615) COAT WITH COAL TAR EPOXY AFTER INSTALLATION.
- BEARING AREA REQ'D AT REDUCERS IS THE DIFFERENCE BETWEEN VALUES FOR DEAD END FOR EACH END SIZE (IE 6x8 = 3.8-2.1 = 1.7 S.F.)

RODS FOR VERTICAL BENDS		
FITTING SIZE	ROD SIZE	EMBEDMENT
10" AND LESS	#5	17"

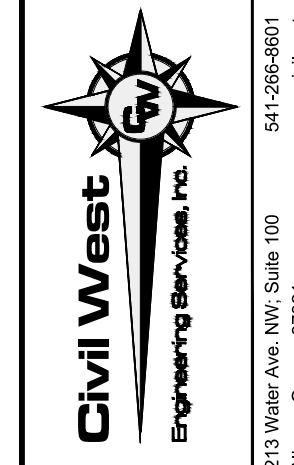
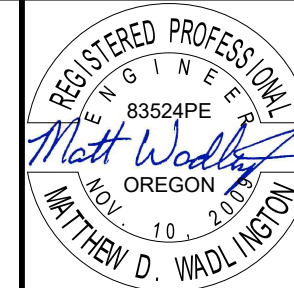
FOR HORIZONTAL AND VERTICAL BENDS DOWNWARD:
THRUST BLOCK AREA SHALL BE CALCULATED BY
DIVIDING THE THRUST IN LBS. BY 2000 PSF.

FOR VERTICAL BENDS UPWARD:
THRUST BLOCK VOLUME SHALL BE CALCULATED BY
DIVIDING THE THRUST IN LBS. BY 3900.



1
D3 STANDARD 1" WATER SERVICE CONNECTION
NOT TO SCALE

2
D3 CONC. THRUST BLOCKING STD. DETS.
NOT TO SCALE

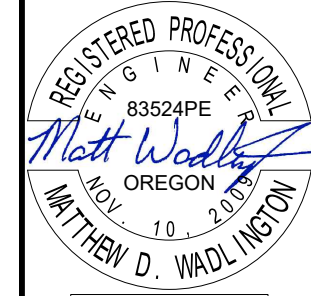


REV.	DATE	DESCRIPTION	BY

Designed By: MKC
Drawn By: MKC
Checked By: MDW
Project No: 2101-018

CITY OF LOWELL
LANE COUNTY, OREGON
LAKEVIEW STREET PAVEMENT AND UTILITY
IMPROVEMENTS
DETAILS

Sheet No: **D3**
Date: **APRIL 2020**



RENEWS: 06/30/2020



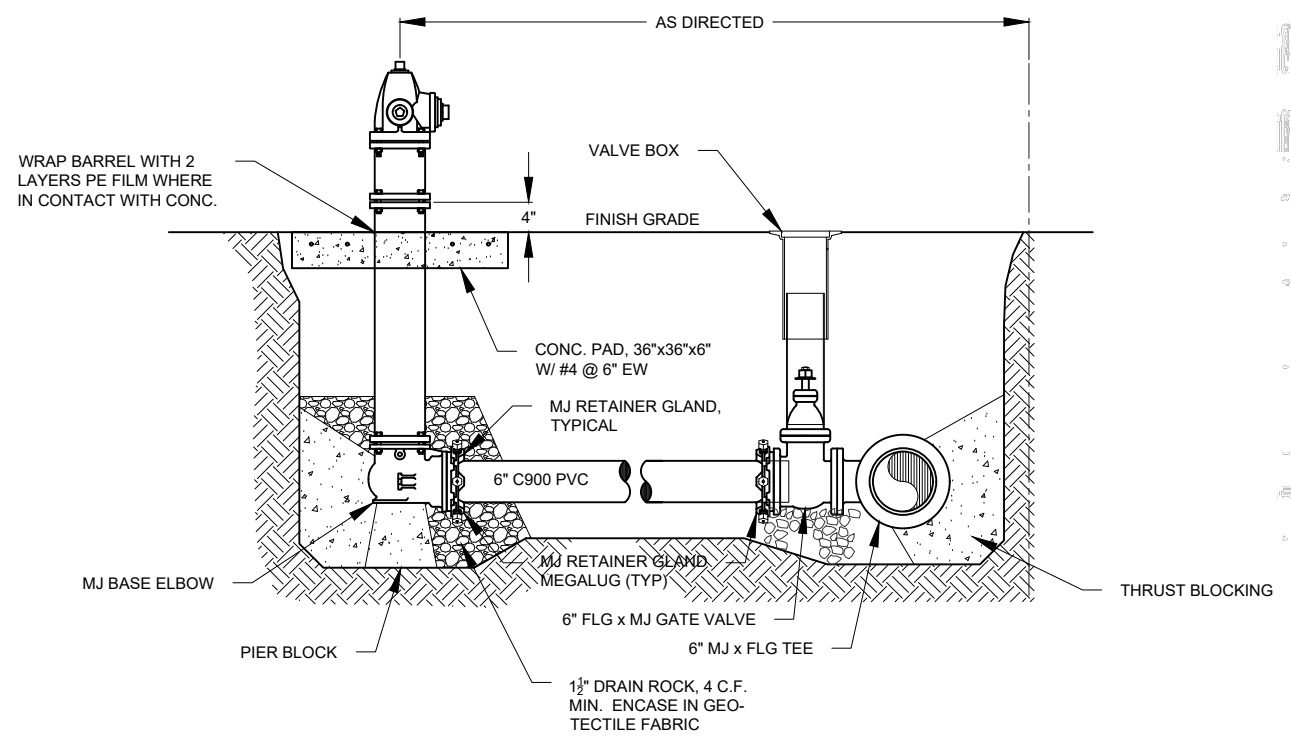
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www.civilwest.com
213 Water Ave. NW, Suite 100
Albany, Oregon 97321

REV.	DATE	DESCRIPTION	BY

Designed By:	MKC	Drawn By:	MKC	Checked By:	MDW
Project No.:	2101-018				

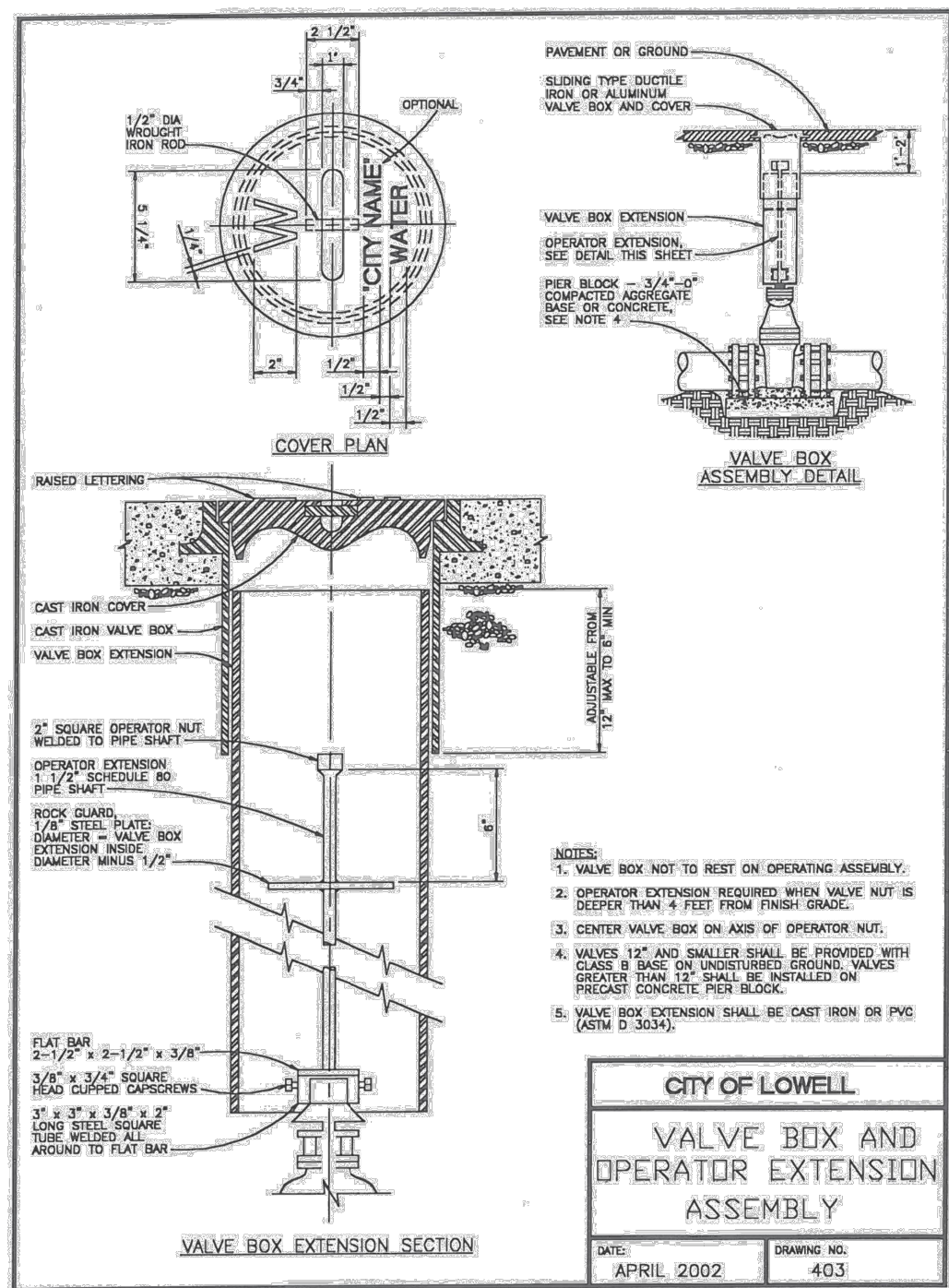
CITY OF LOWELL
LANE COUNTY, OREGON
LAKEVIEW STREET PAVEMENT AND UTILITY IMPROVEMENTS
DETAILS

Sheet No. **D4**
Date **APRIL 2020**



- NOTES:
1. FIELD VERIFY SPOOL LENGTHS AND HYDRANT BARREL LENGTH REQUIRED AT EACH HYDRANT. NO JOINTS ALLOWED WHERE SPOOL LENGTH IS LESS THAN 18 FEET.
 2. HYDRANT SHALL BE INSTALLED PLUMB.
 3. KEEP DRAIN HOLES CLEAR AND FREE TO DRAIN.
 4. A MINIMUM OF 36" OF CLEAR SPACE AROUND HYDRANTS IS REQUIRED PER UFC (NO POSTS, WALLS, SIGNS, ETC.) THERE SHALL BE NO OBSTRUCTIONS DIRECTLY IN LINE WITH ANY OF THE PORTS OF A HYDRANT.
 5. HYDRANT PUMPER PORT SHALL FACE DIRECTION OF ACCESS.
 6. HYDRANT, VALVES AND OTHER MATERIALS PER CITY STANDARDS.

1
D4 **STANDARD FIRE HYDRANT ASSEMBLY**
NOT TO SCALE



CITY OF LOWELL

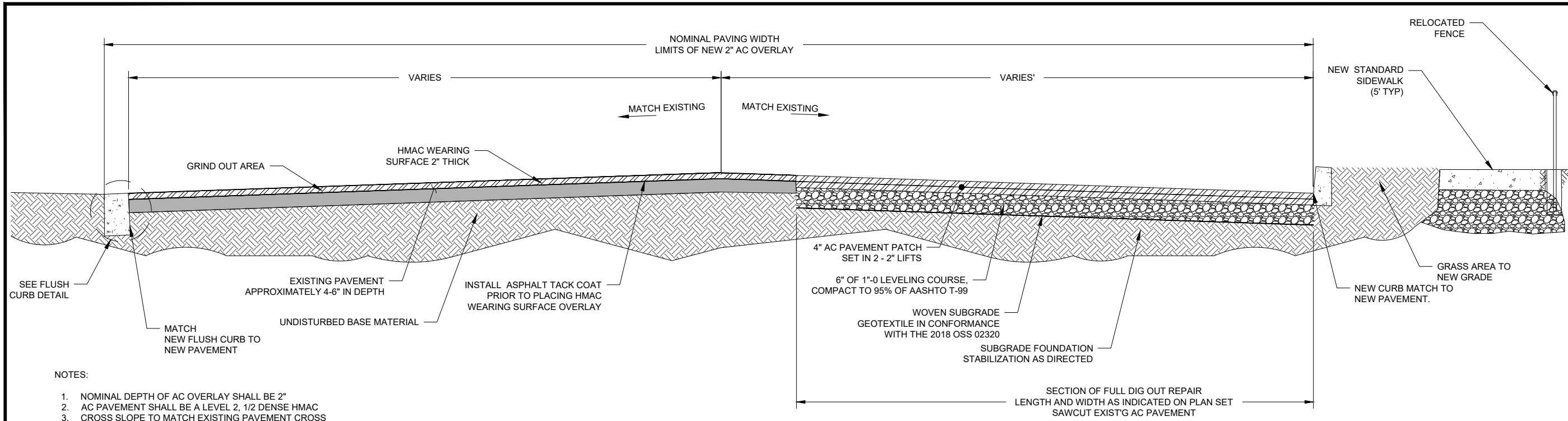
VALVE BOX AND OPERATOR EXTENSION ASSEMBLY

DATE:	APRIL 2002	DRAWING NO.:	403
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2
D4 **VALVE BOX AND RISER DETAIL**
NOT TO SCALE

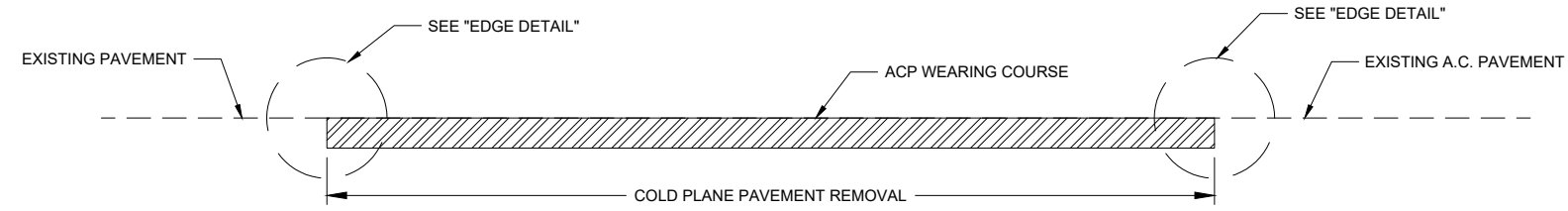
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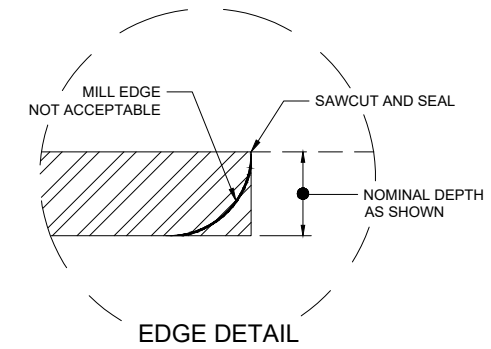


- NOTES:**
1. NOMINAL DEPTH OF AC OVERLAY SHALL BE 2"
 2. AC PAVEMENT SHALL BE A LEVEL 2, 1/2 DENSE HMAC
 3. CROSS SLOPE TO MATCH EXISTING PAVEMENT CROSS SLOPE
 4. SAW CUT PAVEMENT WHERE IMPROVEMENTS MEET EXISTING PAVEMENT.

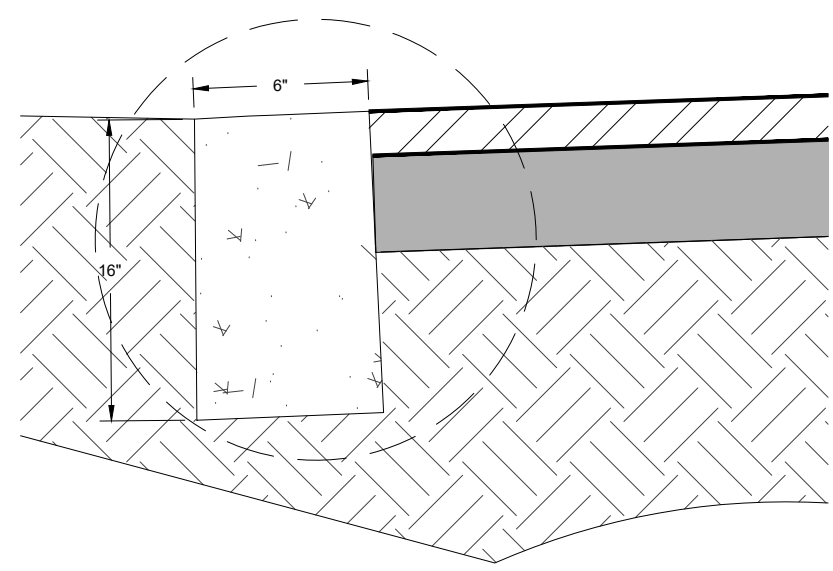
1
D5
TYPICAL ROAD IMPROVEMENTS CROSS SECTION
NOT TO SCALE



2
D5
TYPICAL DETAIL MATCHING EXISTING PAVEMENT
NOT TO SCALE



3
D5
TYPICAL EDGE DETAIL
NOT TO SCALE



- NOTES:**
1. ALL CONCRETE SHALL BE CLASS 3300 - 3/4" 054 W/C RATIO
 2. ALL WORK AND MATERIALS SHALL CONFORM TO CURRENT OREGON APWA STANDARD SPEC'S. AS AMENDED BY THE CITY OF CRESWELL.
 3. CONTRACTION JOINTS SHALL BE PLACED AT 10' INTERVALS AND SHALL EXTEND AT LEAST 50% THROUGH THE CURB OR CURB & GUTTER.
 4. 3/8" ISOLATION JOINTS SHALL BE PLACED EVERY 50' AND AT THE END OF CURB RETURNS.
 5. ALL RADII SHALL BE 1/2" EXCEPT AS OTHERWISE SHOWN.

4
D5
TYPICAL EDGE DETAIL
NOT TO SCALE

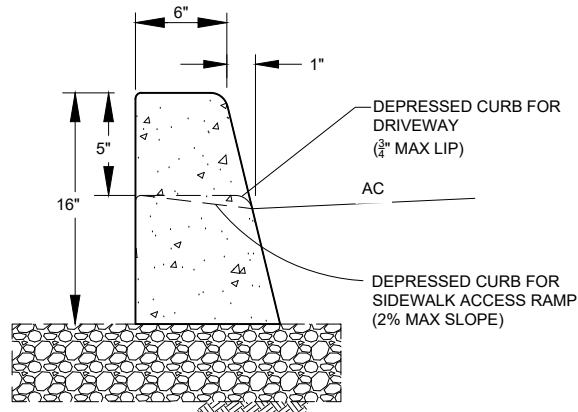
REGISTERED PROFESSIONAL ENGINEER
83524PE
Matthew D. Wadlington
OREGON
NOV. 10, 2019
MATTHEW D. WADLINGTON
RENEWS: 06/30/2020

Civil West
Engineering Services, Inc.
213 Water Ave. NW, Suite 100
Albany, Oregon 97321
541-266-8601
www.civilwest.com

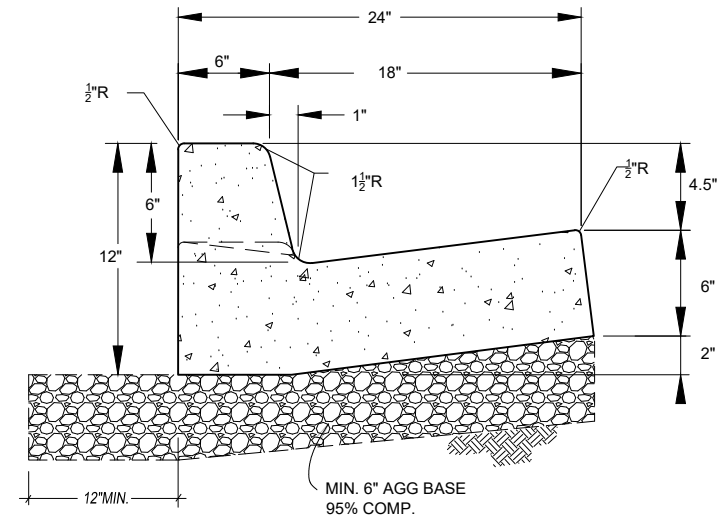
REV.	DATE	DESCRIPTION	BY

Designed By: MKC
Drawn By: MKC
Checked By: MDW
Project No: 2101-018

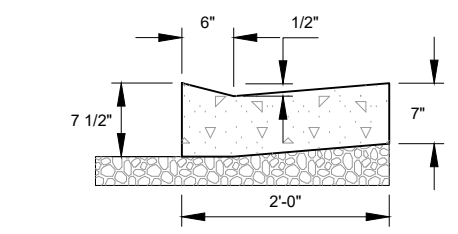
CITY OF LOWELL
LANE COUNTY, OREGON
LAKEVIEW STREET PAVEMENT AND UTILITY IMPROVEMENTS
DETAILS
D5
APRIL 2020



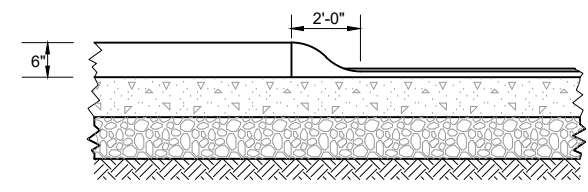
TYPICAL STRAIGHT CURB



TYPICAL CURB & GUTTER

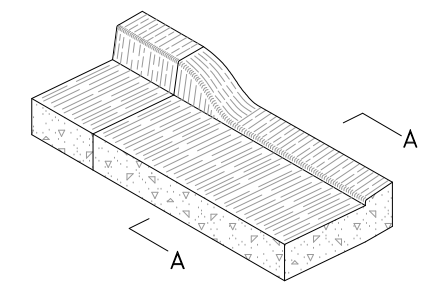


SECTION A-A



SECTION ELEVATION @ GUTTER LINE

CONCRETE APRONS ARE REQUIRED IF:
 1. THERE IS AN EXISTING SIDEWALK ADJACENT TO THE DRIVEWAY.
 2. THERE IS A CURB INLET WITHIN 25' OF THE ENTRANCE.
 3. THE LOT ADJACENT TO THE DRIVEWAY IS LOWER THAN THE CURB.



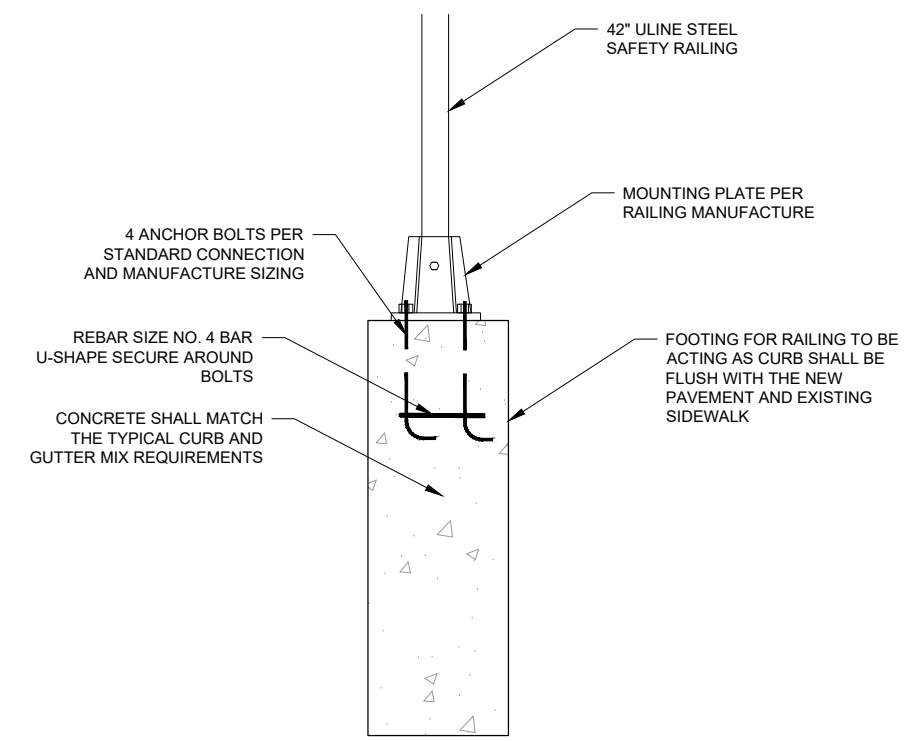
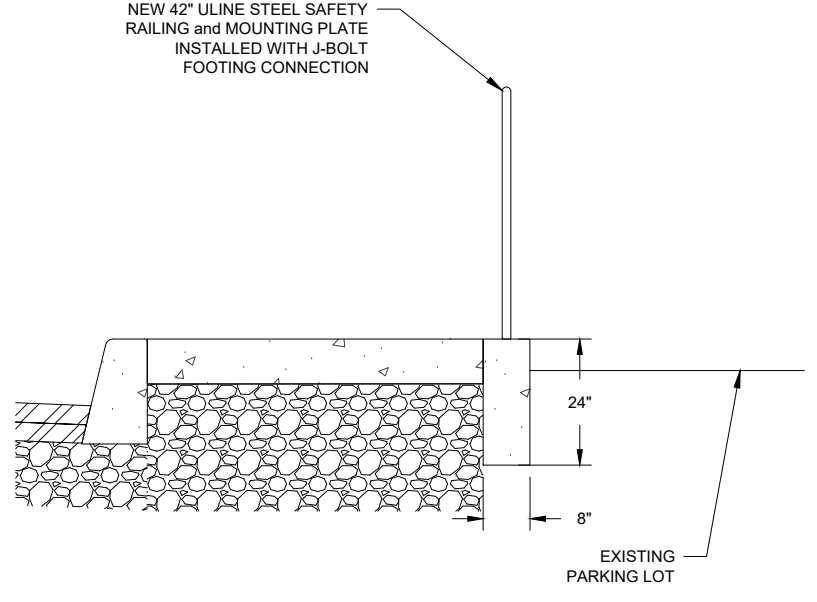
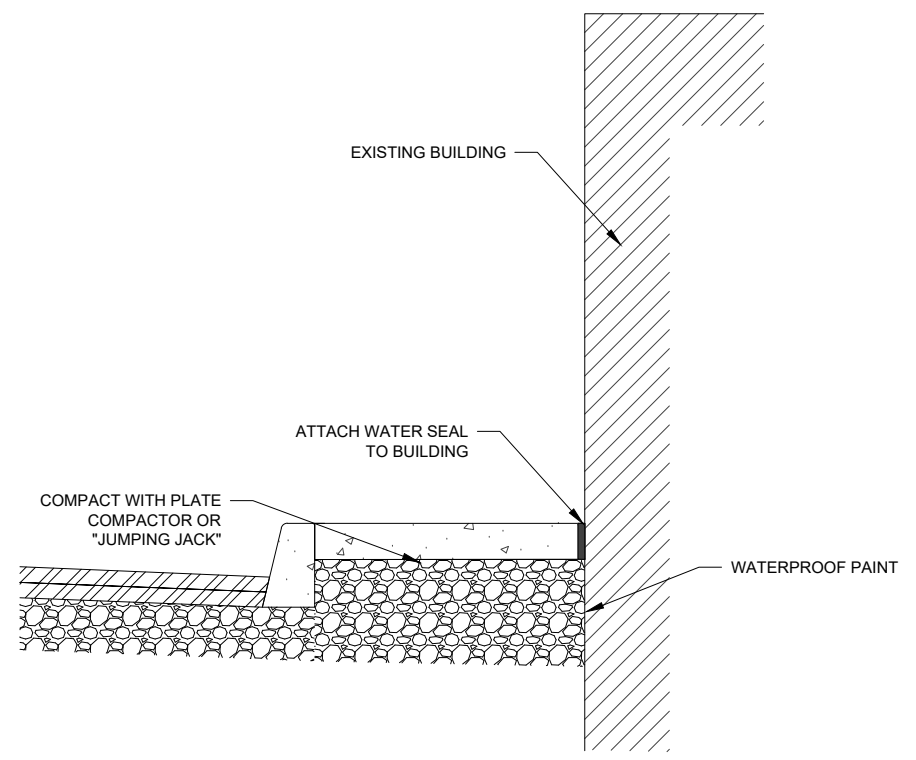
ISOMETRIC VIEW

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3300 - 3/4" 054 W/C RATIO
2. ALL WORK AND MATERIALS SHALL CONFORM TO CURRENT OREGON APWA STANDARD SPEC'S. AS AMENDED BY THE CITY OF CRESWELL.
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4. 3/8" ISOLATION JOINTS SHALL BE PLACED EVERY 50' AND AT THE END OF CURB RETURNS.
5. ALL RADII SHALL BE 1/2" EXCEPT AS OTHERWISE SHOWN.

1
D6
TYPICAL CURB AND GUTTER
NOT TO SCALE

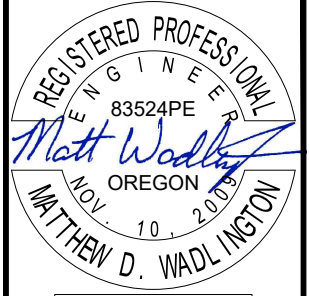
2
D6
TYPICAL CURB CUT
NOT TO SCALE



3
D6
SIDEWALK PROFILE
NOT TO SCALE

4
D6
SIDEWALK PROFILE
NOT TO SCALE

5
D6
J-BOLT CONNECTION FOR SAFETY RAILING
NOT TO SCALE



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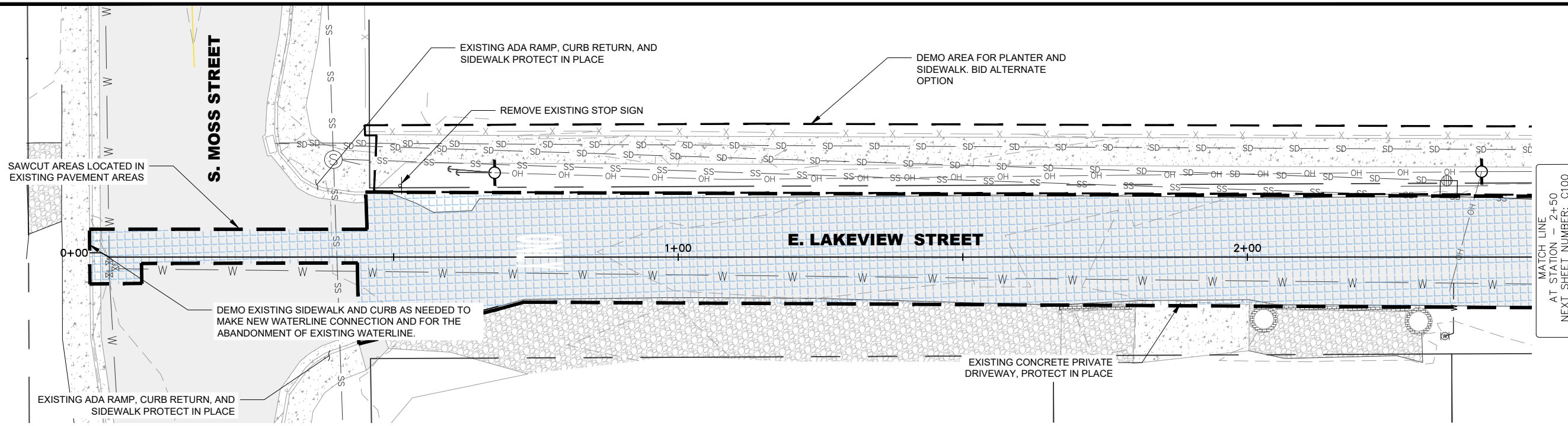
Designed By: MKC
 Drawn By: MKC
 Checked By: MDW
 Project No: 2101-018

CITY OF LOWELL
 LANE COUNTY, OREGON
 LAKEVIEW STREET PAVEMENT AND UTILITY IMPROVEMENTS
 DETAILS

Sheet No: **D6**
 Date: **APRIL 2020**

DATE: 4/27/20 FILE: C:\CW_Projects\2101-018 Lakeview Street Pavement and Utility Improvements\04 Final Design\Drawings\Dwg\DESIGN.dwg

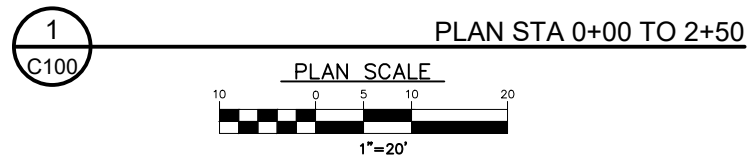
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MATCH LINE
AT STATION - 2+50
NEXT SHEET NUMBER: C100

HATCH LEGEND

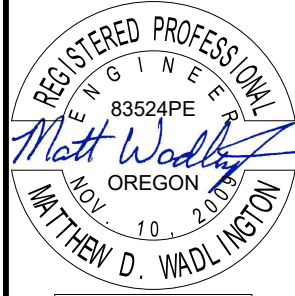
- HATCH DESIGNATED AREA FOR FULL DEMO AND PAVEMENT REMOVAL AND REPLACEMENT
- HATCH DESIGNATES AREA FOR GRIND AND OVERLAY OF 2-INCHES AC
- EXTENT OF ROADWAY WORK AREA



MATCH LINE
AT STATION - 5+00
NEXT SHEET NUMBER: C101

SHEET NOTES:

1. CONTRACTOR SHALL CONTACT "ONE CALL" FOR UTILITY LOCATES PRIOR TO THE START OF ANY EXCAVATION.
2. SAWCUT EXISTING AC PAVEMENT WHERE THE DEMO AREA ABUTS EXISTING PAVEMENT.
3. AREAS LABELED FOR GRIND AND OVERLAY, PREPARE AREA FOR NEW OVERLAY OF ASPHALT CONCRETE PAVEMENT BY MILLING 2-INCHES OF THE EXISTING AC IN PREPARATION OF NEW AC LAYER.
4. SAWCUT AND REMOVE SURFACE MATERIAL FROM EXISTING DRIVEWAYS AS SHOWN. PREPARE AREA FOR NEW ROADWAY.



RENEWS: 06/30/2020



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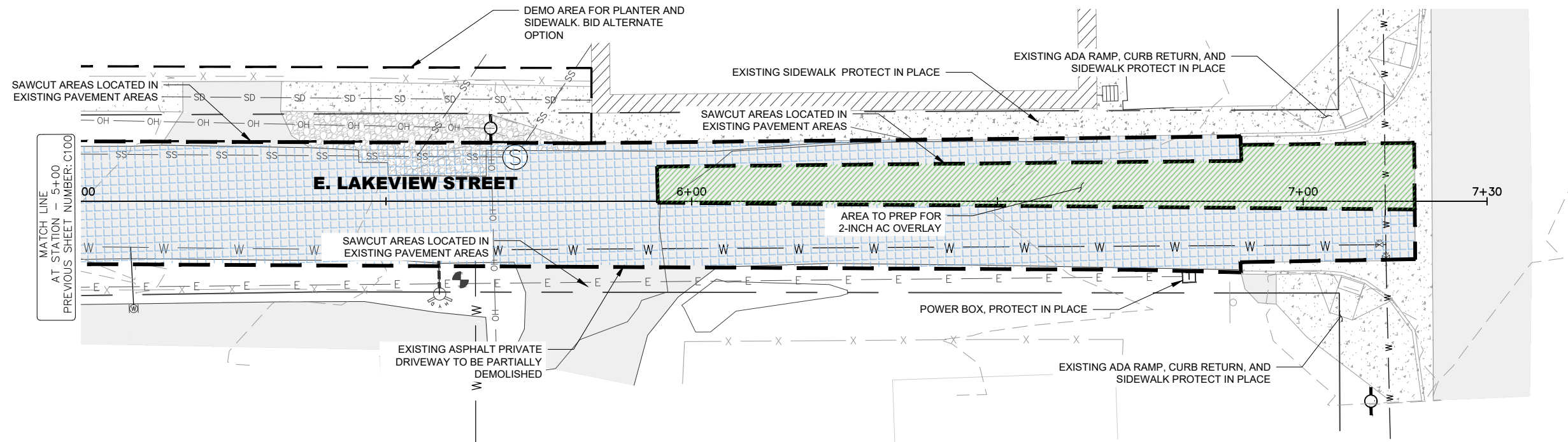
REV.	DATE	DESCRIPTION	BY

Designed By: MKC	Drawn By: MKC	Checked By: MDW
Project No: 2101-018		

CITY OF LOWELL
LANE COUNTY, OREGON
LAKEVIEW STREET PAVEMENT AND UTILITY IMPROVEMENTS
DEMOLITION PLAN

C100
APRIL 2020

DATE: 4/27/20 FILE: C:\CW_Projects\2101-Lowell\2101-018 Lakeview Street Pavement and Utility Improvements\04 Final Design\Drawings\Dwg\DESIGN.dwg



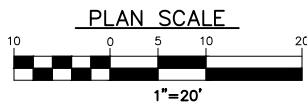
QUANTITIES

SAW CUTTING	1740 LF
COLD PLANE REMOVAL	110 SY
DEEP PATCHING AREAS	1375 SY



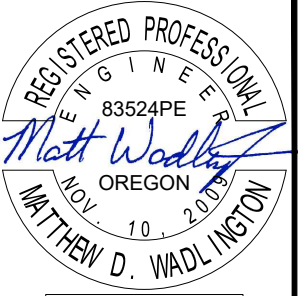
1
C101

PLAN STA 5+00 TO 7+30



SHEET NOTES:

1. CONTRACTOR SHALL CONTACT "ONE CALL" FOR UTILITY LOCATES PRIOR TO THE START OF ANY EXCAVATION.
2. SAWCUT EXISTING AC PAVEMENT WHERE THE DEMO AREA ABUTS EXISTING PAVEMENT.
3. AREAS LABELED FOR GRIND AND OVERLAY, PREPARE AREA FOR NEW OVERLAY OF ASPHALT CONCRETE PAVEMENT BY MILLING 2-INCHES OF THE EXISTING AC IN PREPARATION OF NEW AC LAYER.
4. SAWCUT AND REMOVE SURFACE MATERIAL FROM EXISTING DRIVEWAYS AS SHOWN. PREPARE AREA FOR NEW ROADWAY.



RENEWS: 06/30/2020



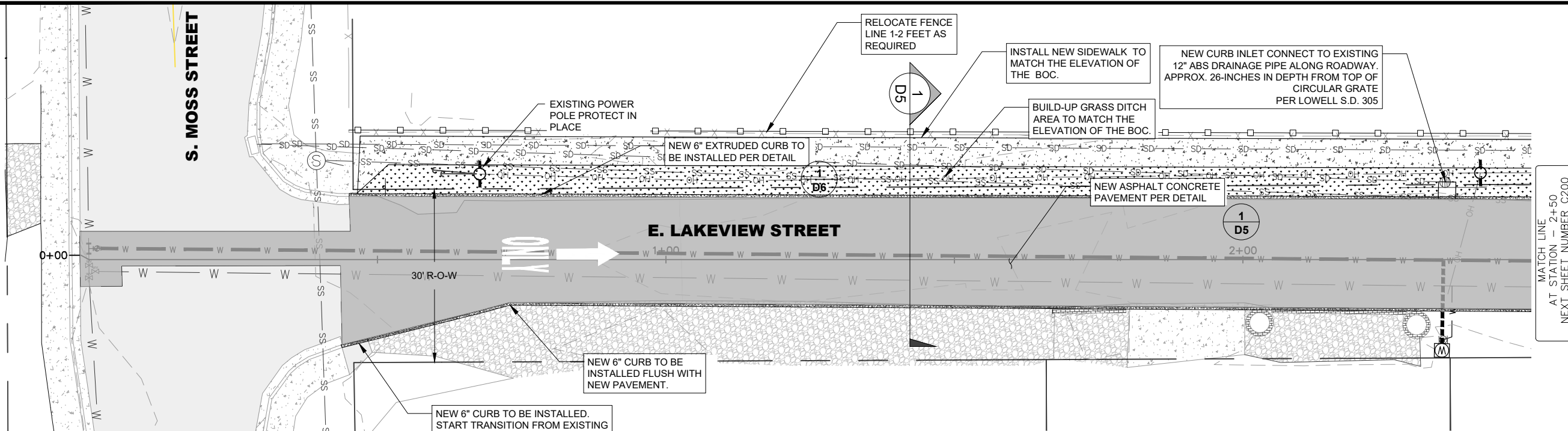
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REV.	DATE	DESCRIPTION	BY

Designed By: MKC	Drawn By: MKC	Checked By: MDW
Project No: 2101-018		

CITY OF LOWELL LANE COUNTY, OREGON
LAKEVIEW STREET PAVEMENT AND UTILITY IMPROVEMENTS
DEMOLITION PLAN
Sheet No: C101
Date: APRIL 2020

DATE: 4/27/20 FILE: C:\CW_Projects\2101-018_Lakeview Street Pavement and Utility Improvements\04_Final Design\Drawings\DWG\DESIGN.dwg

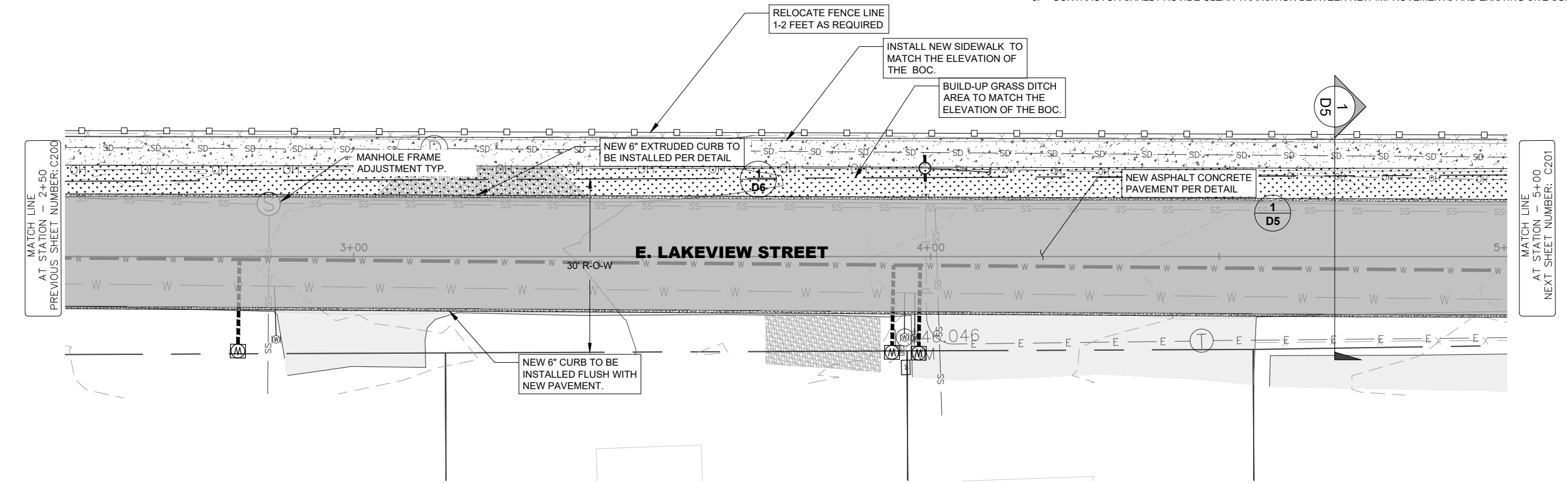


MATCH LINE
AT STATION - 2+50
NEXT SHEET NUMBER C200

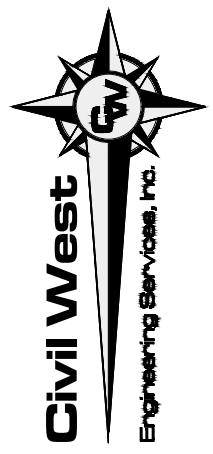
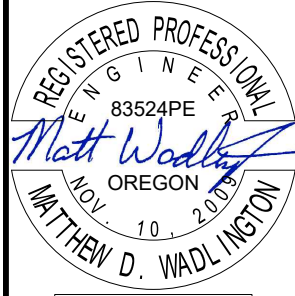
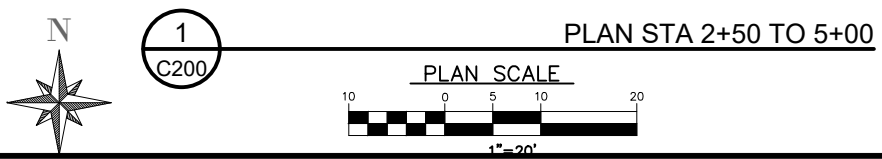


SHEET NOTES:

1. CONTRACTOR SHALL CONTACT "ONE CALL" FOR UTILITY LOCATES PRIOR TO THE START OF ANY EXCAVATION.
2. EXISTING MAILBOXES, FENCES, POWER POLES, TELEPHONE PEDESTALS, AND OTHER UTILITIES MAY BE IN CLOSE PROXIMITY TO THE IMPROVEMENTS SHOWN IN THESE DRAWINGS. CONTRACTOR SHALL PROTECT THESE STRUCTURES IN PLACE (UNLESS NOTED OTHERWISE) OR REPAIR TO PRE-CONSTRUCTION CONDITION IF DISTURBED DURING CONSTRUCTION. COORDINATE RELOCATION WITH OF DESIGNATED UTILITY STRUCTURES WITH UTILITY PROVIDER.
3. EXISTING SIGNS IMPACTED BY CONSTRUCTION SHALL BE RELOCATED.
4. CONTRACTOR SHALL MAINTAIN ONE LANE OF TRAFFIC OPEN AT ALL TIMES DURING CONSTRUCTION.
5. CONTRACTOR SHALL PROVIDE CLEAN TRANSITION BETWEEN NEW IMPROVEMENTS AND EXISTING SITE SURFACES.



MATCH LINE
AT STATION - 5+00
NEXT SHEET NUMBER: C201



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REV.	DATE	DESCRIPTION	BY

Designed By:	MKC	Drawn By:	MKC	Checked By:	MDW
Project No:	2101-018				

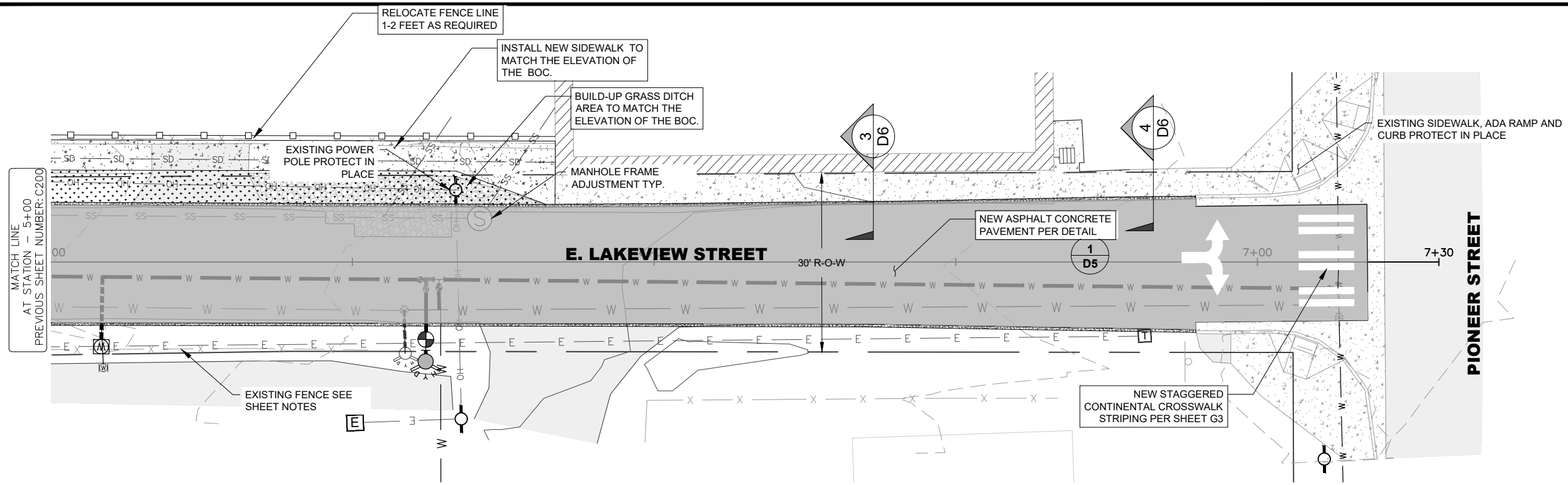
CITY OF LOWELL
LANE COUNTY, OREGON

LAKEVIEW STREET PAVEMENT AND UTILITY IMPROVEMENTS

STREET IMPROVEMENTS STA 0+00 TO 5+00

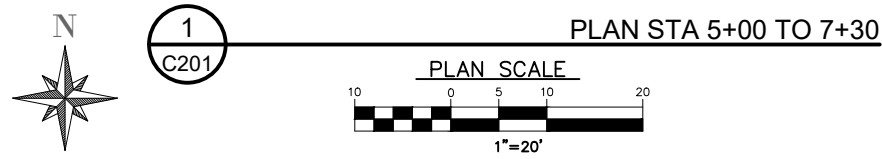
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Date **APRIL 2020**

DATE: 4/27/20 FILE: C:\CW_Projects\2101-018_Lakeview Street Pavement and Utility Improvements\04_Final Design\Drawings\Dwg\DESIGN.dwg



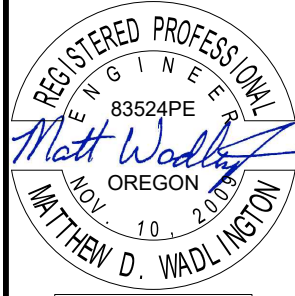
QUANTITIES

HMAC 310 TONS
 CLEAN PAVEMENT AND TACK COAT 1485 SY



SHEET NOTES:

1. CONTRACTOR SHALL CONTACT "ONE CALL" FOR UTILITY LOCATES PRIOR TO THE START OF ANY EXCAVATION.
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RENEWS: 06/30/2020



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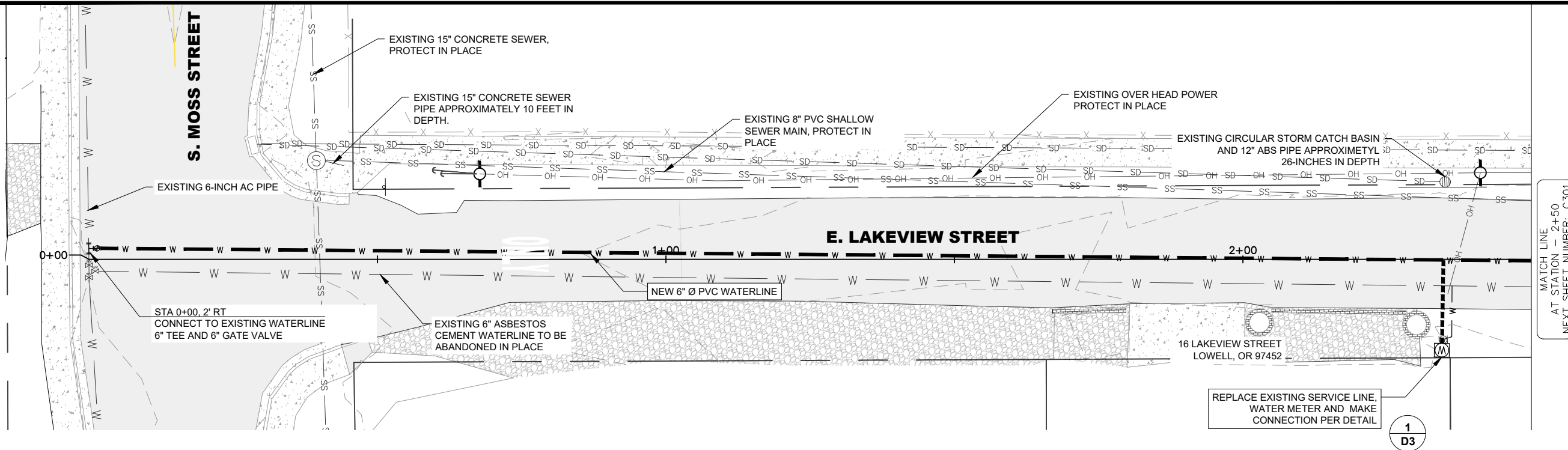
REV.	DATE	DESCRIPTION	BY

Designed By: MKC	Drawn By: MKC	Checked By: MDW
Project No: 2101-018		

CITY OF LOWELL
 LANE COUNTY, OREGON
 LAKEVIEW STREET PAVEMENT AND UTILITY IMPROVEMENTS
 STREET IMPROVEMENTS STA 5+00 TO 7+30

Sheet No: **C201**
 Date: **APRIL 2020**

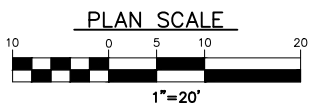
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MATCH LINE
AT STATION - 2+50
NEXT SHEET NUMBER: C301



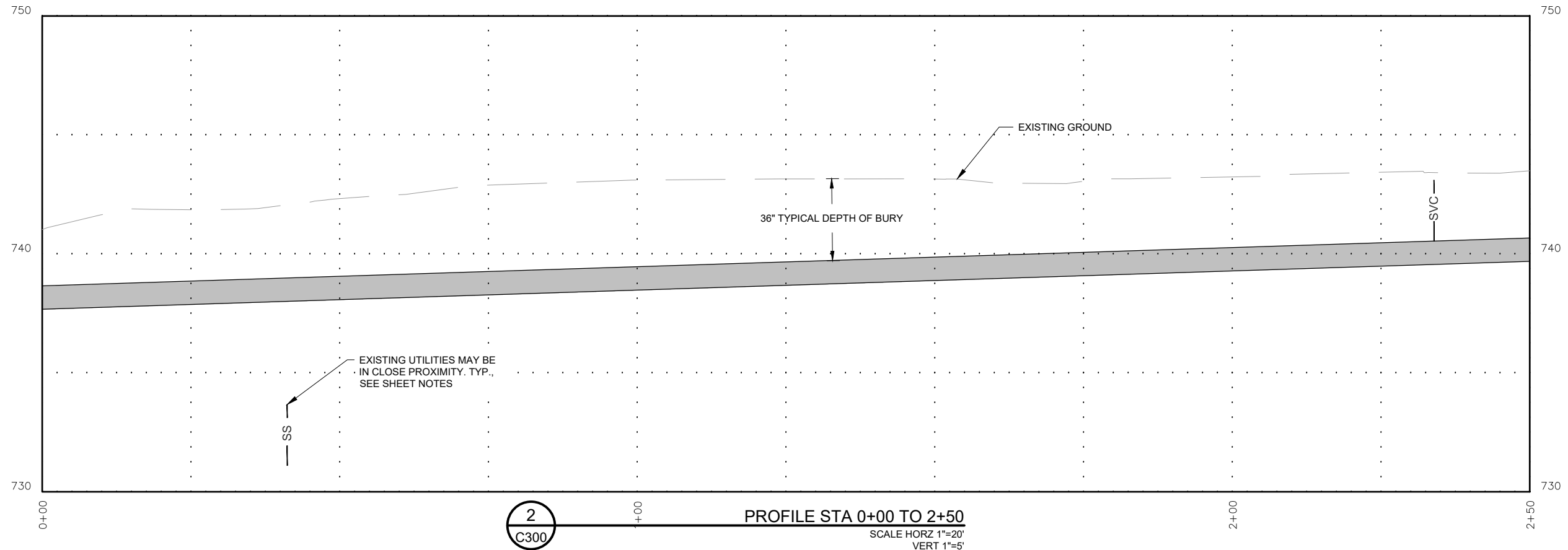
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C300



PLAN STA 0+00 TO 2+50

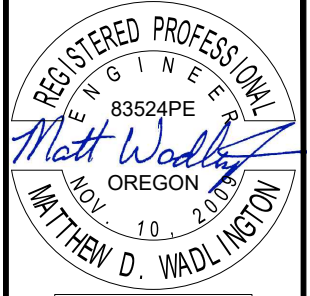
SHEET NOTES:

1. CONTRACTOR SHALL CONTACT "ONE CALL" FOR UTILITY LOCATES PRIOR TO THE START OF ANY EXCAVATION.
2. CONTRACTOR SHALL POTHOLE EXISTING WATERLINE PRIOR TO NEW WATERLINE CONSTRUCTION TO CONFIRM EXISTING WATERLINE DEPTH LOCATION, AND FITTING REQUIREMENTS FOR CONNECTION OF NEW WATERLINE TO EXISTING.
3. TYPICAL BURY FOR NEW WATERLINE SHALL BE 36" TO TOP OF PIPE. ADJUST DEPTH OF BURY AS REQUIRED TO MAINTAIN CONSTANT GRADE
4. AFTER COMPLETION OF NEW WATERLINE AND ALL TESTING AND CONNECTIONS HAVE BEEN MADE, DESIGNATED PORTIONS OF EXISTING WATERLINE ARE TO BE ABANDONED IN PLACE. EXISTING VALVES AND BOXES SHALL BE REMOVED IN THEIR ENTIRETY ALONG WITH ANY TEMPORARY SPOOLS AND CONNECTIONS. PROVIDE END CAPS, BLIND FLANGES OR PLUGS AS REQUIRED FOR COMPLETE ABANDONMENT OF DESIGNATED PORTIONS OF EXISTING WATERLINES.



PROFILE STA 0+00 TO 2+50

SCALE HORZ 1"=20'
VERT 1"=5'



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REV.	DATE	DESCRIPTION	BY

Designed By: MKC	Drawn By: MKC	Checked By: MDW
Project No: 2101-018		

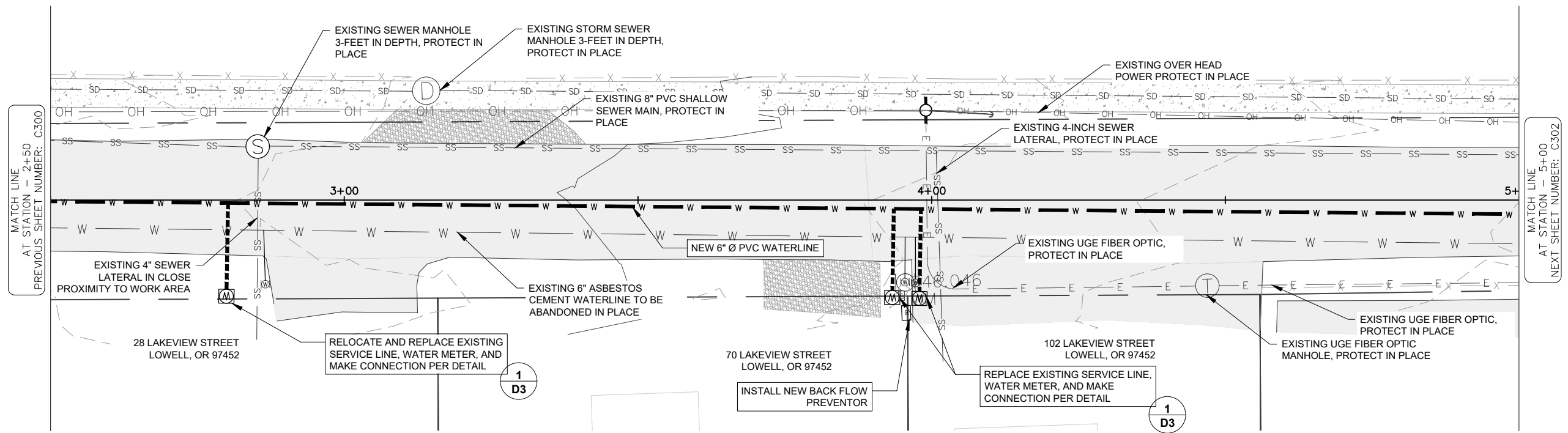
CITY OF LOWELL
LANE COUNTY, OREGON

LAKEVIEW STREET PAVEMENT AND UTILITY IMPROVEMENTS

WATERLINE - IMPROVEMENTS, PLAN AND PROFILE STA 0+00 TO 2+50

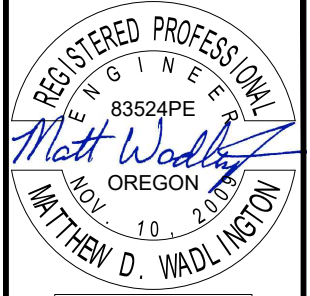
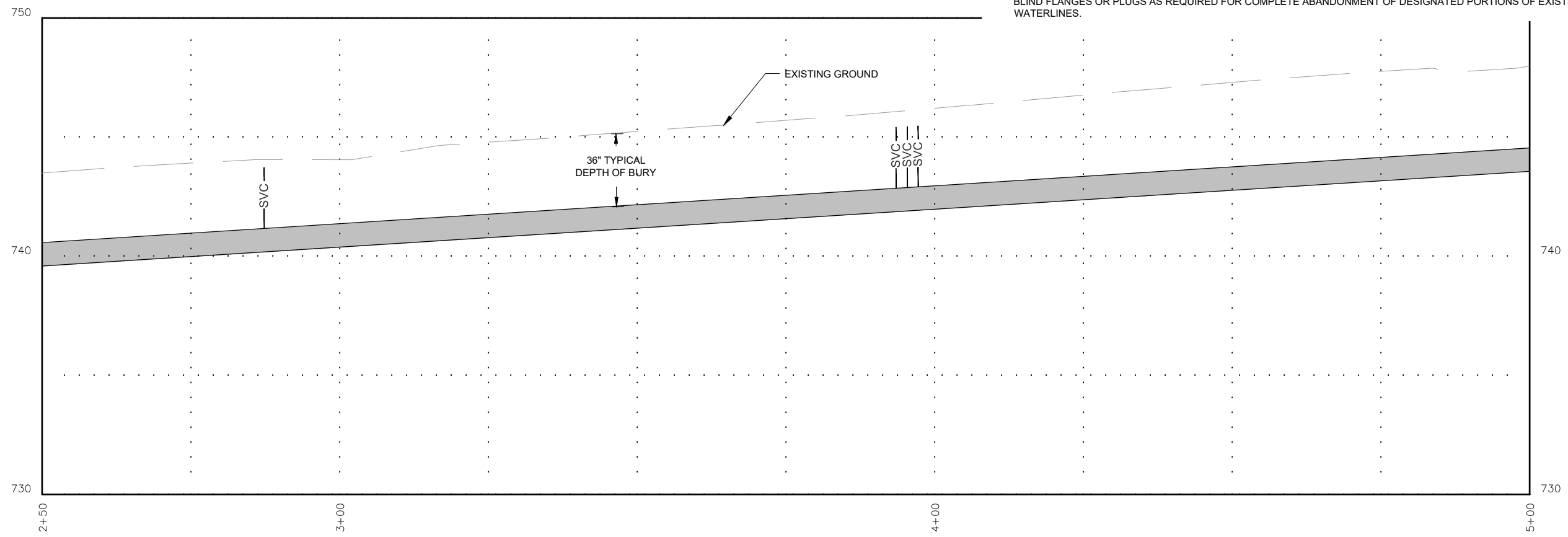
Sheet No: **C300**
Date: **APRIL 2020**

DATE: 4/27/20 FILE: C:\CW_Projects\2101-018_Lakeview Street Pavement and Utility Improvements\04_Final Design\Drawings\DWG\DESIGN.dwg



SHEET NOTES:

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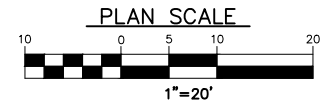


RENEWS: 06/30/2020



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1
C301
PLAN STA 2+50 TO 5+00



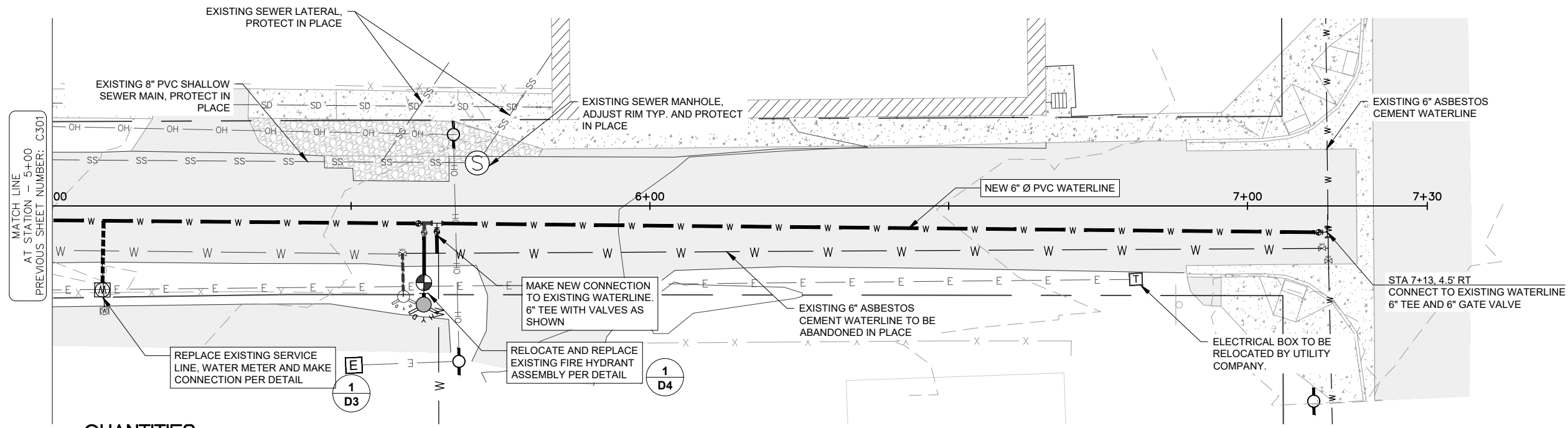
2
C301
PROFILE STA 2+50 TO 5+00
SCALE HORZ 1"=20'
VERT 1"=5'

REV.	DATE	DESCRIPTION	BY

Designed By: MKC	Drawn By: MKC	Checked By: MDW
Project No: 2101-018		

CITY OF LOWELL
LANE COUNTY, OREGON
LAKEVIEW STREET PAVEMENT AND UTILITY IMPROVEMENTS
WATERLINE - IMPROVEMENTS, PLAN AND PROFILE STA 2+50 TO 5+00

Sheet No: **C301**
Date: **APRIL 2020**

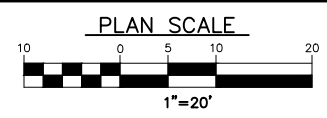


QUANTITIES

WATERLINE	720 LF
NEW WATER METERS AND CONNECTIONS	5
6" VALVES	6
NEW BACK FLOW PREVENTER	1
CONNECT TO EXISTING FIRE HYDRANT ASSEMBLY	3
	1

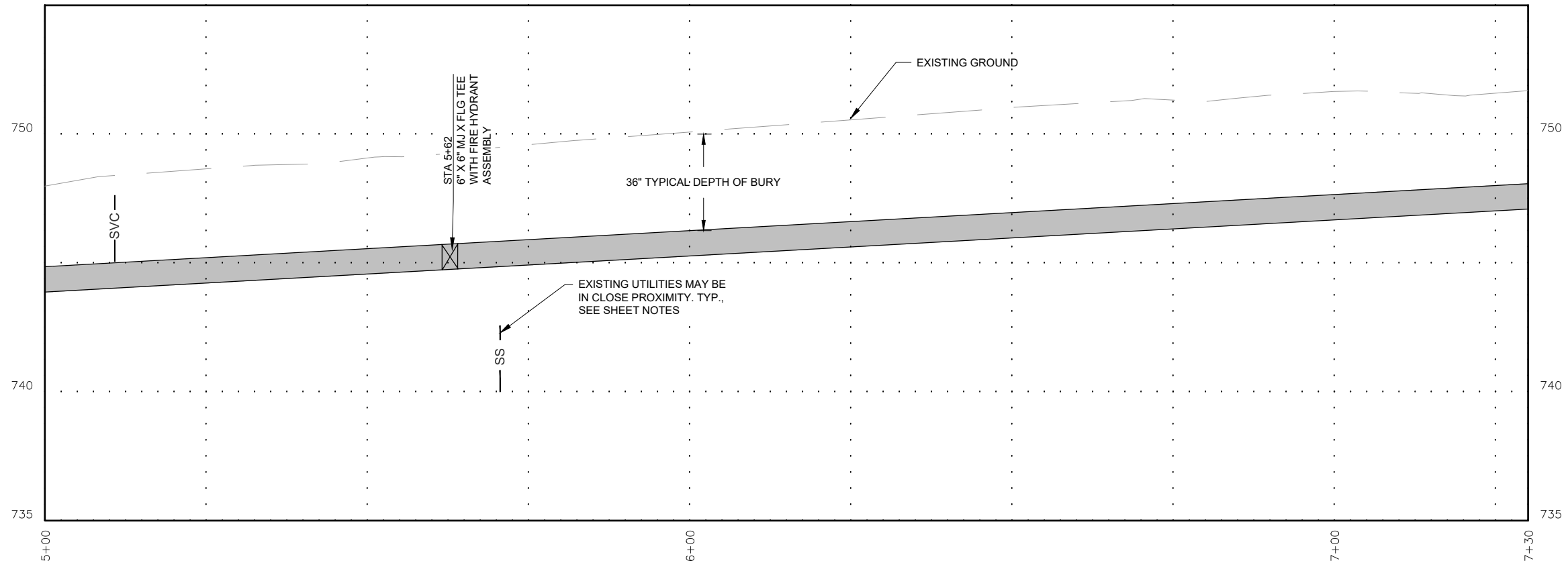


1 C302 PLAN STA 5+00 TO 7+30

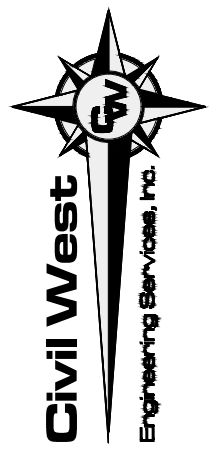
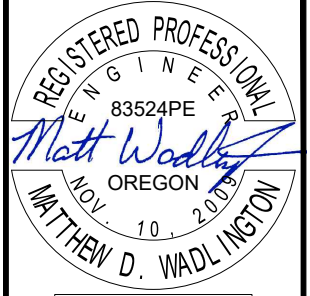


SHEET NOTES:

1. CONTRACTOR SHALL CONTACT "ONE CALL" FOR UTILITY LOCATES PRIOR TO THE START OF ANY EXCAVATION.
2. CONTRACTOR SHALL POTHOLE EXISTING WATERLINE PRIOR TO NEW WATERLINE CONSTRUCTION TO CONFIRM EXISTING WATERLINE DEPTH LOCATION, AND FITTING REQUIREMENTS FOR CONNECTION OF NEW WATERLINE TO EXISTING.
3. TYPICAL BURY FOR NEW WATERLINE SHALL BE 36" TO TOP OF PIPE. ADJUST DEPTH OF BURY AS REQUIRED TO MAINTAIN CONSTANT GRADE
4. AFTER COMPLETION OF NEW WATERLINE AND ALL TESTING AND CONNECTIONS HAVE BEEN MADE, DESIGNATED PORTIONS OF EXISTING WATERLINE ARE TO BE ABANDONED IN PLACE. EXISTING VALVES AND BOXES SHALL BE REMOVED IN THEIR ENTIRETY ALONG WITH ANY TEMPORARY SPOOLS AND CONNECTIONS. PROVIDE END CAPS, BLIND FLANGES OR PLUGS AS REQUIRED FOR COMPLETE ABANDONMENT OF DESIGNATED PORTIONS OF EXISTING WATERLINES.



2 C302 PROFILE STA 5+00 TO 7+30
SCALE HORZ 1"=20'
VERT 1"=5'



213 Water Ave. NW, Suite 100
Albany, Oregon 97321
541-266-8601
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REV.	DATE	DESCRIPTION	BY

Designed By: MKC
Drawn By: MKC
Checked By: MDW
Project No: 2101-018

CITY OF LOWELL
LANE COUNTY, OREGON
LAKEVIEW STREET PAVEMENT AND UTILITY IMPROVEMENTS
WATERLINE - IMPROVEMENTS, PLAN AND PROFILE STA 5+00 TO 7+30

C302
APRIL 2020

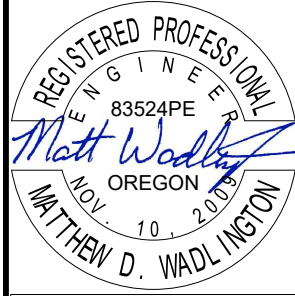
CITY OF LOWELL

LANE COUNTY, OREGON

MAIN STREET PAVEMENT AND UTILITY IMPROVEMENTS

PROJECT NO. 2101-016

APRIL 2020

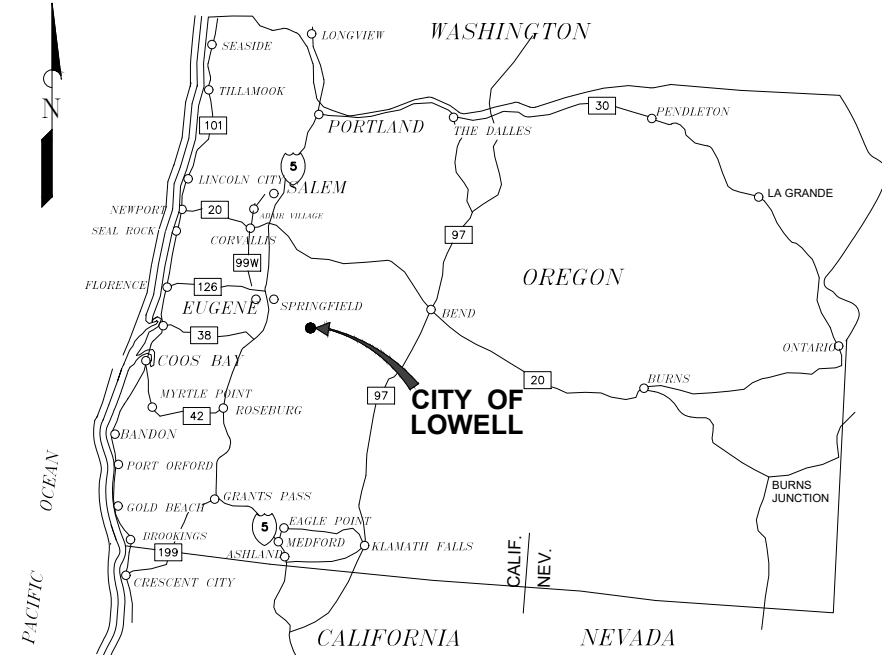


EXPIRATION DATE: 06/30/2020

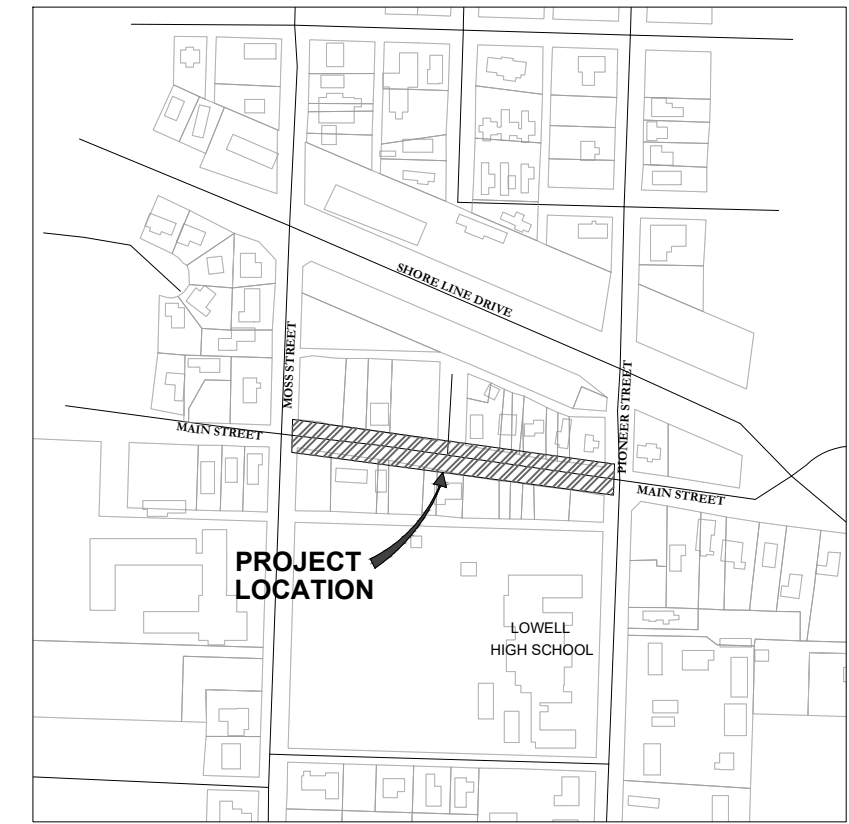
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LOCATION MAP



VICINITY MAP
NOT TO SCALE

REV.	DATE	DESCRIPTION	BY

Designed By: MKC	Drawn By: MKC	Checked By: MDW
Project No: 2101-016		

CITY OF LOWELL LANE COUNTY, OREGON
MAIN STREET PAVEMENT AND UTILITY IMPROVEMENTS
COVER

Date: Sheet No: **G1**
APRIL 2020

DATE: 4/24/20 FILE: C:\CW_Projects\2101-016 Main Street Pavement Improvements\04 Final Design\Drawings\Dwg\Main Street Improvements.dwg

GENERAL NOTES

1. OREGON LAW REQUIRES YOU TO FOLLOW THE RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH 952-001-0090 AND ORS 757.542 THROUGH ORS 757.562 AND ORS 757.993. YOU MAY OBTAIN COPIES OF THE RULES FROM THE CENTER BY CALLING (503) 246-1987.
2. THE CONTRACTOR SHALL CONTACT 'ONE CALL' FOR UTILITY LOCATES PRIOR TO EXCAVATION. (1-800-332-2344)
3. THE EXISTING UTILITY CROSSINGS OF THE PIPELINES ARE SHOWN ACCORDING TO AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL THE UTILITY CROSSINGS ALONG THE LENGTH OF THE PIPELINES AS SPECIFIED. NO GUARANTEE IS MADE THAT ALL OF THE EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN EXCAVATING AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING HIS OPERATIONS.
4. OVERHEAD ELECTRICAL DISTRIBUTION SYSTEMS MAY NOT BE SPECIFICALLY INDICATED ON THE DRAWINGS BUT DO EXIST ALONG THE PIPELINE ROUTES.
5. EXISTING WATER METER BOXES AND VALVES MAY NOT BE SPECIFICALLY INDICATED ON THE DRAWINGS BUT DO EXIST ALONG THE ROADWAYS. CONTRACTOR SHALL LOCATE PRIOR TO THE START OF CONSTRUCTION.
6. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PROJECT DESIGN SPECIFICATIONS AND DRAWINGS. THESE DRAWINGS SHALL BE COORDINATED AND USED IN CONJUNCTION WITH THE TECHNICAL SPECIFICATIONS AND APPROVED SUBMITTALS. CONSTRUCTION PERMITS AS REQUIRED FROM THE CITY OF TOLEDO PUBLIC WORKS DEPARTMENT TO WORK WITHIN THE RIGHT-OF-WAY SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
7. PROPERTY AND RIGHT OF WAY LINES SHOWN IN THIS PLAN SET ARE APPROXIMATE AND BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR SHALL OBTAIN TEMPORARY CONSTRUCTION ACCESS OR PERMISSION FROM PRIVATE LAND OWNERS PRIOR TO ENTERING PRIVATE PROPERTY.
8. CONTRACTOR SHALL POTHOLE AND LOCATE EXISTING WATERLINES PRIOR TO PLACEMENT OF NEW WATERLINES. EXISTING WATERLINES SHALL REMAIN IN SERVICE AND BE PROTECTED IN PLACE UNTIL COMPLETION OF NEW WATERLINES. CONTRACTOR SHALL PROVIDE TEMPORARY CONNECTIONS AS REQUIRED TO MAINTAIN CONTINUED SERVICE TO CUSTOMERS UNTIL COMPLETION OF NEW WATERLINE.
9. AFTER COMPLETION OF NEW WATERLINE AND ALL TESTING AND CONNECTIONS HAVE BEEN MADE, DESIGNATED PORTIONS OF THE EXISTING WATERLINE ARE TO BE ABANDONED IN PLACE. REMOVE TEMPORARY CONNECTIONS, EXISTING VALVES, COVERS AND PROVIDE END CAPS OR PLUGS AS REQUIRED FOR ABANDONMENT.
10. WHEN NO RECORD WAS AVAILABLE TO INDICATE THE ELEVATION OF AN EXISTING UTILITY A MINIMUM COVER OF 30-INCHES WAS ASSUMED. THE CONTRACTOR SHALL EXERCISE CAUTION WHILE EXCAVATING NEAR THESE ESTIMATED UTILITY LOCATIONS WHICH ARE INDICATED ON THE PROFILE DRAWINGS.
11. CONTRACTOR SHALL INSTALL NEW WATERLINES WITH A MINIMUM CLEARANCE OF 18-INCHES AT ALL CROSSINGS WITH SANITARY SEWER LINES AND/OR STORM DRAIN LINES, UNLESS OTHERWISE SPECIFIED OR APPROVED BY THE ENGINEER. WHERE NEW WATERLINES CROSS EXISTING UNDERGROUND TELEPHONE, ELECTRICAL, AND/OR GAS LINES, A MINIMUM CLEARANCE OF 6-INCHES SHALL BE UTILIZED, UNLESS OTHERWISE NOTED.
12. ALL MATERIALS IN CONTACT WITH WATER SHALL BE NSF 61 APPROVED.

LINE TYPE LEGEND

4" WIDE PAINTED CENTERLINE STRIPING	
NEW WATERLINE	
EXISTING SEWER LINE	
EXISTING WATERLINE	
EXISTING OVERHEAD POWER	
EXISTING UNDER GROUND POWER	

HATCH LEGEND

GRID AND OVERLAY	
DEEP PATCH	
EXTENTS OF PAVEMENT TO BE REHABILITATED	

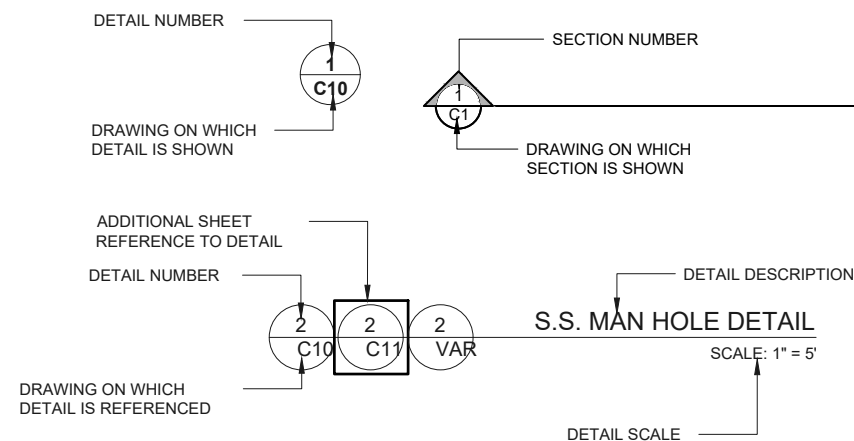
GENERAL ABBREVIATIONS

AC/ACP	ASPHALT CONCRETE PAVEMENT
EXTG	EXISTING
FT	FOOT
IN	INCH
MH	MANHOLE
NOM	NOMINAL
PVMT	PAVEMENT
STA	STATION
ST	STREET
TYP	TYPICAL

SYMBOL LEGEND

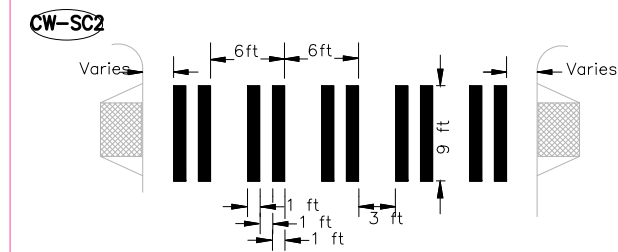
	MANHOLE
	STORM SEWER MANHOLE
	VALVE CAN (WATER)
	CATCH BASIN
	PROPERTY LINE/ROW
	NEW VALVE CAN (WATER)

DETAIL REFERENCING

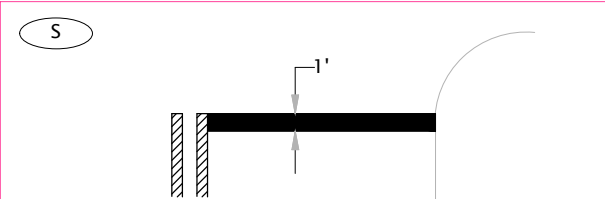


SECTION REFERENCING

PAVEMENT MARKING KEY NOTES

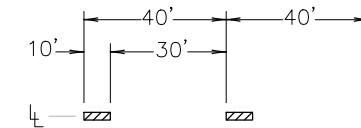


STAGGERED CONTINENTAL CROSSWALK
Install 1' WHITE BARS
per Standard Drawing TM530



STOP BAR
1' WHITE BAR
Install per Standard Drawing TM530

YB



4" YELLOW BROKEN LINE

SHEET INDEX

GENERAL

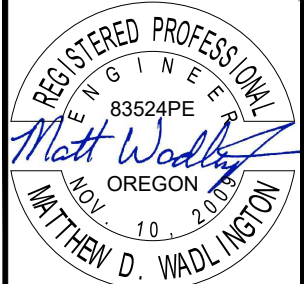
G1 - COVER SHEET, LOCATION MAP AND VICINITY MAPS
G2 - GENERAL NOTES, ABBREVIATIONS, SHEET INDEX AND LEGEND

CIVIL SHEETS

C1 - MAIN STREET PAVEMENT IMPROVEMENTS
C2 - MAIN STREET WATER IMPROVEMENTS

DETAIL SHEETS

D1 - DETAILS
D2 - DETAILS
D3 - DETAILS



EXPIRATION DATE: 06/30/2020



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REV.	DATE	DESCRIPTION	BY

Designed By: MKC
Drawn By: MKC
Checked By: MDW
Project No: 2101-016

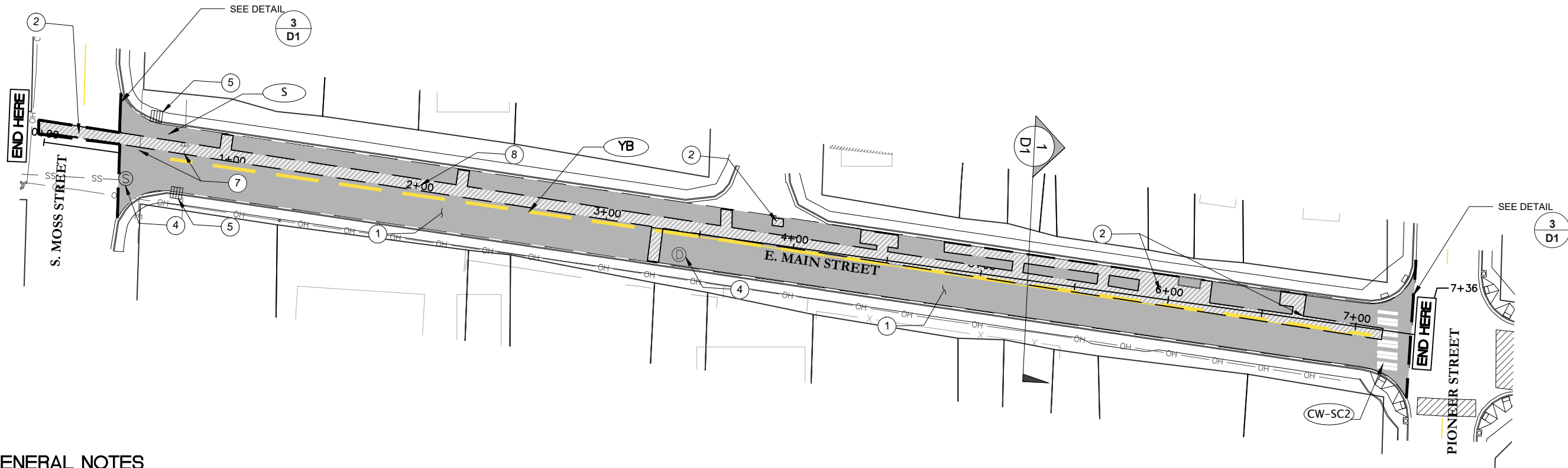
CITY OF LOWELL
LANE COUNTY, OREGON

MAIN STREET PAVEMENT AND UTILITY IMPROVEMENTS

GENERAL NOTES, ABBREVIATIONS, SHEET INDEX AND LEGEND

G2
APRIL 2020

DATE: 4/24/20 FILE: C:\CW_Projects\2101-Lowell\2101-016 Main Street Pavement Improvements\04-Final Design\Drawings\DWG\Main Street Improvements.dwg



GENERAL NOTES

1. **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.
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. APPLY 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, 1/2" 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 1-FOOT INTO GOOD PAVEMENT 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. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO STARTING WORK.
11. CONTRACTOR SHALL PROTECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA.
12. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER.
13. SEE SHEET G2 FOR PAVEMENT MARKING LEGEND.
14. CONTRACTOR SHALL ACQUIRE ALL NECESSARY TRAFFIC CONTROL PRIOR TO WORK. SUBMIT TO ENGINEER FOR APPROVAL PRIOR TO START OF CONSTRUCTION.
15. THE CONTRACTOR SHALL REPLACE THE EXISTING 6-INCH WATERLINE IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS SECTION 02510. EXISTING PIPE SHALL BE ABANDONED IN PLACE. CONTRACTOR TO PROVIDE END CAPS.
16. TYPICAL BURY FOR NEW WATERLINE SHALL BE 36" TO TOP OF PIPE.
17. AFTER COMPLETION OF NEW WATERLINE AND ALL TESTING AND CONNECTIONS HAVE BEEN MADE, DESIGNATED PORTIONS OF THE EXISTING WATERLINE ARE TO BE ABANDONED IN PLACE. REMOVE TEMPORARY CONNECTIONS, EXISTING VALVES, COVERS AND PROVIDE END CAPS OR PLUGS AS REQUIRED FOR ABANDONMENT.

QUANTITIES

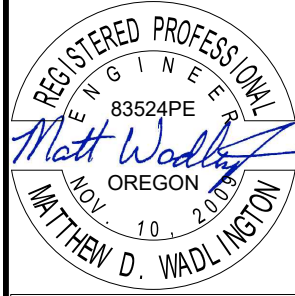
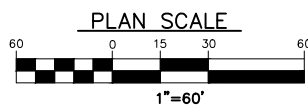
SAW CUTTING	3325 LF
COLD PLANE REMOVAL	2635 SY
DEEP PATCHING AREAS	650 SY
HMAC	360 TONS
CLEAN PAVEMENT AND TACK COAT	2635 SY

KEYED NOTES

- ① GRIND AND OVERLAY, SEE SHEET NOTES 4-8
- ② DEEP PATCH, SEE SHEET NOTE 9
- ③ REMOVE AND REPLACE VALVE
- ④ STORM SEWER MANHOLE RIM ADJUSTMENT TYP.
- ⑤ CATCH BASIN PROTECT IN PLACE
- ⑥ ABANDON THE EXISTING 6-INCH STEEL WATERLINE IN PLACE
- ⑦ EXISTING UNDERGROUND ELECTRICAL, PROTECT IN PLACE
- ⑧ INSTALL NEW 6-INCH PVC WATER LINE, VALVES, AND CONNECT EXISTING SERVICE LINE, SEE SHEET NOTE 15-17



1 C1 MAIN STREET PAVEMENT IMPROVEMENTS



EXPIRATION DATE: 06/30/2028

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Engineering Services, Inc.

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Albany, Oregon 97322

541-266-8601
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REV.	DATE	DESCRIPTION	BY

Designed By: MKC	Drawn By: MKC	Checked By: MDW
Project No: 2101-016		

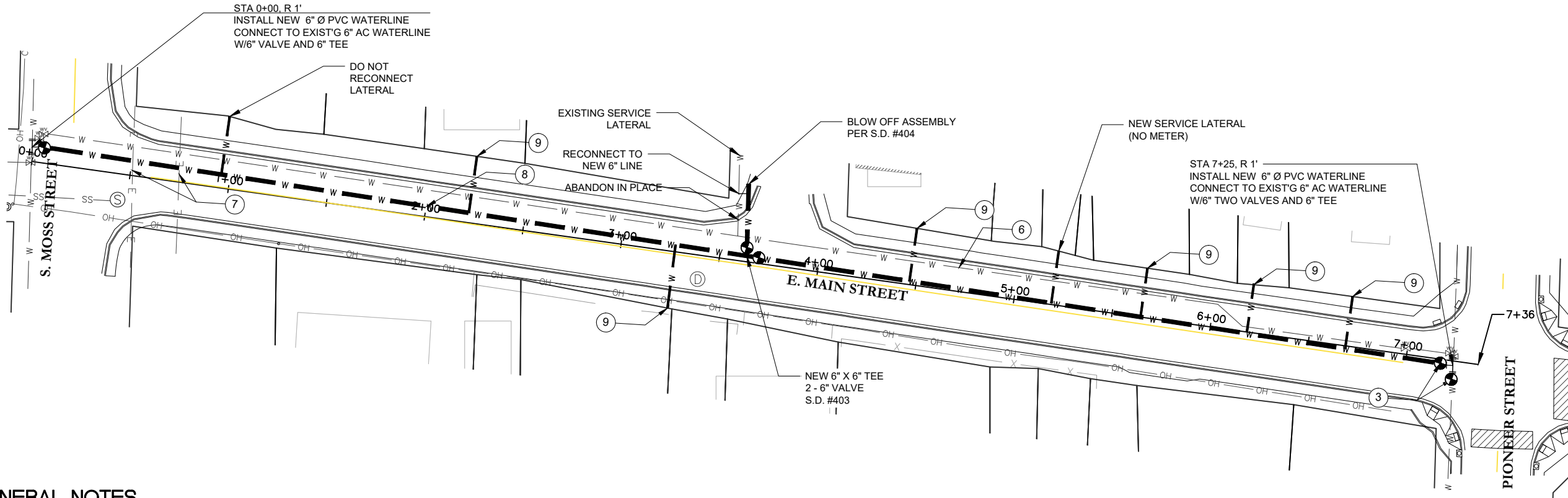
CITY OF LOWELL
LANE COUNTY, OREGON

MAIN STREET PAVEMENT AND UTILITY IMPROVEMENTS

MAIN STREET - PAVEMENT IMPROVEMENTS

Sheet No: **G1**

Date: **APRIL 2020**



GENERAL NOTES

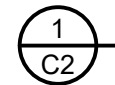
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4. GRIND EXISTING PAVEMENT. 2" COLD PLANE PAVEMENT REMOVAL WITHIN DASHED BOUNDARY.
5. APPLY TACK COAT TO CLEAN COLD PLANE SURFACE PER ODOT STANDARDS 00730.
6. SEAL SURFACE CRACKS IN ALL OTHER AREAS IN BOUNDARY PRIOR TO PAVEMENT PLACEMENT.
7. PRIOR 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, 1/2" 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 1-FOOT INTO GOOD PAVEMENT 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. PROTECT INLETS AND CATCH BASINS IN AND DOWNSTREAM FROM CONSTRUCTION AREAS PRIOR TO STARTING WORK.
11. CONTRACTOR SHALL PROTECT ALL STRUCTURES INCLUDING MANHOLES, VALVES, AND OTHER STRUCTURES IN IMPROVEMENT AREA.
12. CONTRACTOR TO FIELD VERIFY EXTENTS OF ALL WORK AREAS PRIOR TO COMMENCING WORK WITH ENGINEER.
13. SEE SHEET G2 FOR PAVEMENT MARKING LEGEND.
14. CONTRACTOR SHALL ACQUIRE ALL NECESSARY TRAFFIC CONTROL PRIOR TO WORK. SUBMIT TO ENGINEER FOR APPROVAL PRIOR TO START OF CONSTRUCTION.
15. THE CONTRACTOR SHALL REPLACE THE EXISTING 6-INCH WATERLINE IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS SECTION 02510. EXISTING PIPE SHALL BE ABANDONED IN PLACE. CONTRACTOR TO PROVIDE END CAPS.
16. TYPICAL BURY FOR NEW WATERLINE SHALL BE 36" TO TOP OF PIPE.
17. AFTER COMPLETION OF NEW WATERLINE AND ALL TESTING AND CONNECTIONS HAVE BEEN MADE, DESIGNATED PORTIONS OF THE EXISTING WATERLINE ARE TO BE ABANDONED IN PLACE. REMOVE TEMPORARY CONNECTIONS, EXISTING VALVES, COVERS AND PROVIDE END CAPS OR PLUGS AS REQUIRED FOR ABANDONMENT.

QUANTITIES

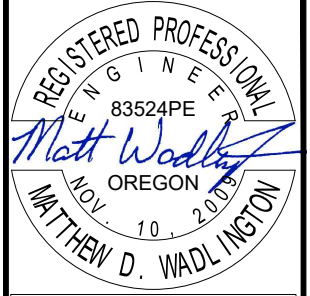
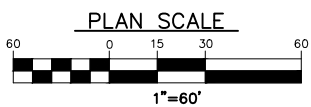
WATERLINE	740 LINEAR FEET
LATERAL RECONNECT	8
6" VALVES	5
BLOWOFF ASSEMBLY	1
CONNECT TO EXISTING	2

KEYED NOTES

- ① GRIND AND OVERLAY, SEE SHEET NOTES 4-8
- ② DEEP PATCH, SEE SHEET NOTE 9
- ③ NEW VALVE AND RISER PER DETAIL SHEET D3
- ④ STORM SEWER MANHOLE RIM ADJUSTMENT TYP.
- ⑤ CATCH BASIN PROTECT IN PLACE
- ⑥ ABANDON THE EXISTING 6-INCH STEEL WATERLINE IN PLACE
- ⑦ EXISTING UNDERGROUND ELECTRICAL, PROTECT IN PLACE
- ⑧ INSTALL NEW 6-INCH PVC WATER LINE, VALVES, AND CONNECT EXISTING SERVICE LINE, SEE SHEET NOTE 15-17
- ⑨ RECONNECT SERVICE LATERAL



MAIN STREET WATERLINE IMPROVEMENTS



EXPIRATION DATE: 06/30/2028

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REV.	DATE	DESCRIPTION	BY

Designed By: MKC
Drawn By: MKC
Checked By: MDW
Project No: 2101-016

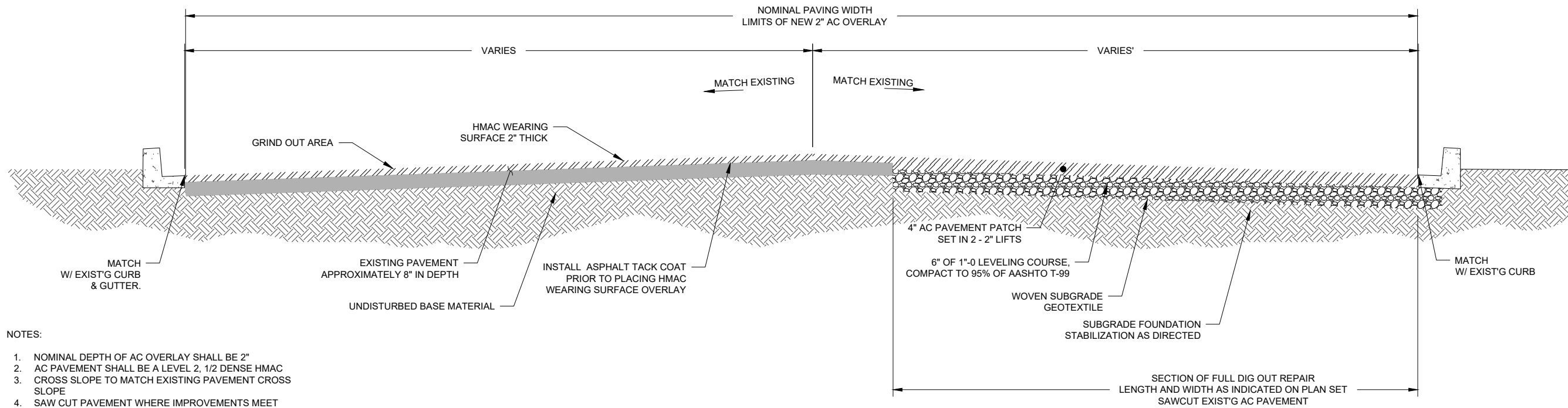
CITY OF LOWELL
LANE COUNTY, OREGON

MAIN STREET PAVEMENT AND UTILITY IMPROVEMENTS

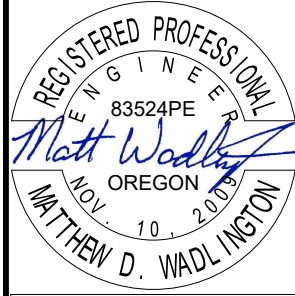
MAIN STREET - WATERLINE IMPROVEMENTS

Sheet No: **G2**
Date: **APRIL 2020**

DATE: 4/24/20 FILE: C:\CW_Projects\2101-Lowell\2101-016 Main Street Pavement Improvements\04_Final Design\Drawings\DWG\Main Street Improvements.dwg



- NOTES:
1. NOMINAL DEPTH OF AC OVERLAY SHALL BE 2"
 2. AC PAVEMENT SHALL BE A LEVEL 2, 1/2 DENSE HMAC
 3. CROSS SLOPE TO MATCH EXISTING PAVEMENT CROSS SLOPE
 4. SAW CUT PAVEMENT WHERE IMPROVEMENTS MEET EXISTING PAVEMENT.



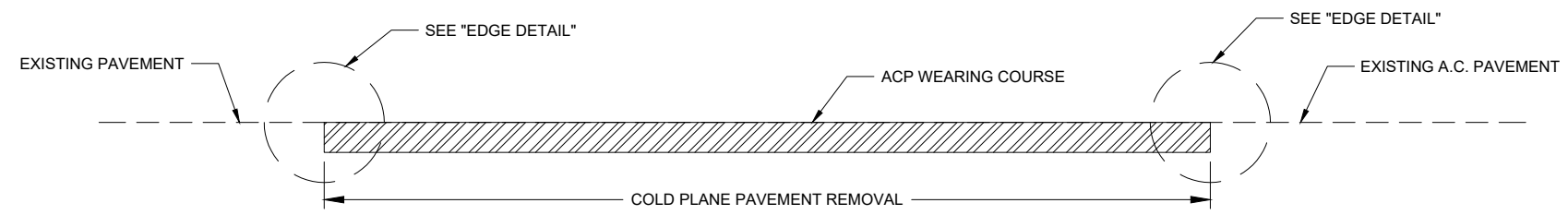
EXPIRATION DATE: 06/30/2020

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Engineering Services, Inc.

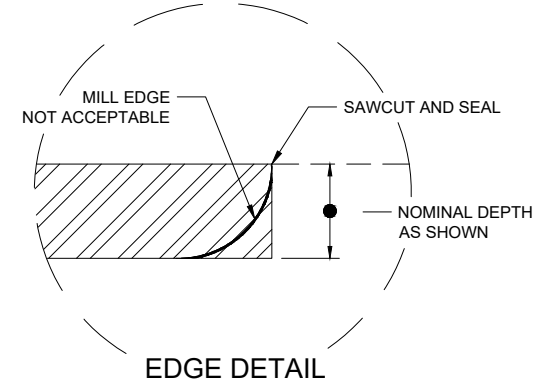
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1
D1
TYPICAL ROAD IMPROVEMENTS CROSS SECTION
NOT TO SCALE



2
D1
TYPICAL DETAIL MATCHING EXISTING PAVEMENT
NOT TO SCALE



3
D1
TYPICAL EDGE DETAIL
NOT TO SCALE

REV.	DATE	DESCRIPTION	BY

Designed By: MKC	Drawn By: MKC	Checked By: MDW
Project No: 2101-016		

CITY OF LOWELL
LANE COUNTY, OREGON

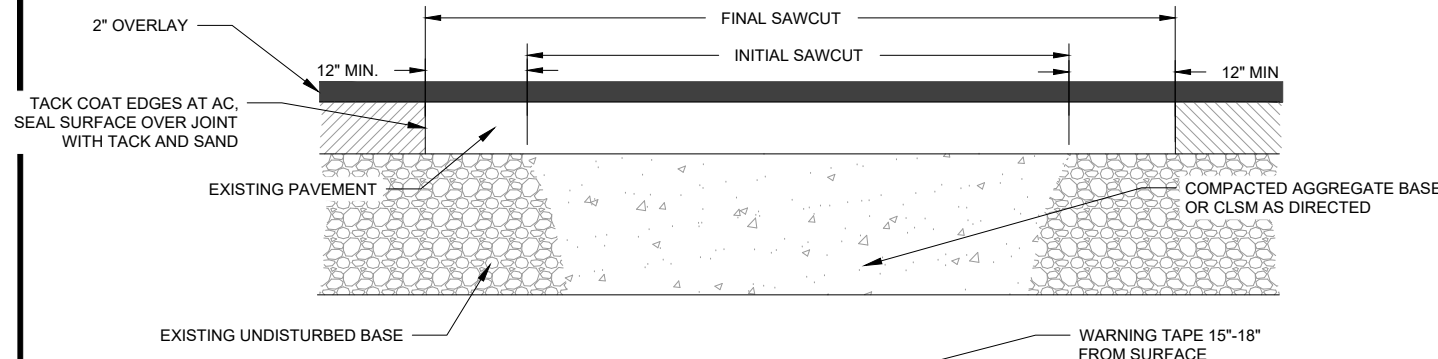
MAIN STREET PAVEMENT AND UTILITY IMPROVEMENTS

DETAILS

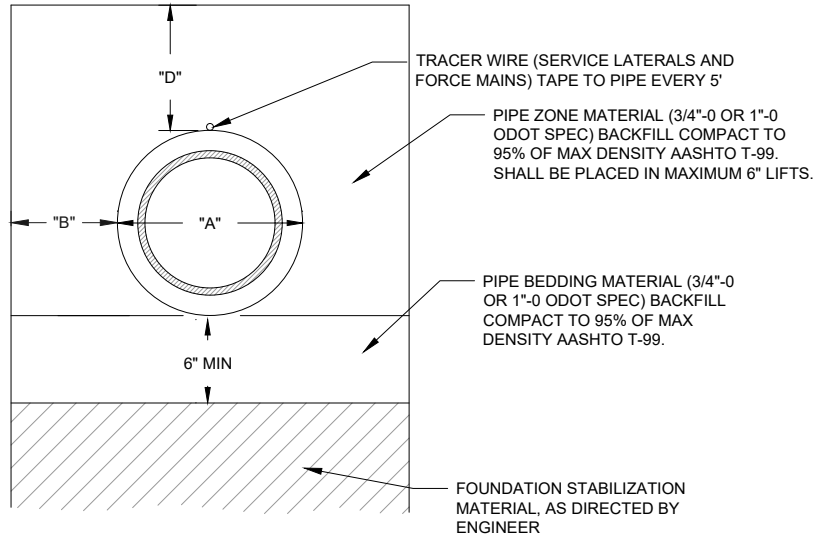
Sheet No: **D1**
Date: **APRIL 2020**

DATE: 4/24/20 FILE: C:\CW_Projects\2101-Lowell\2101-016 Main Street Pavement Improvements\04 Final Design\Drawings\DWG\Main Street Improvements.dwg

DATE: 4/24/20 FILE: C:\CW_Projects\2101-Lowell\2101-016 Main Street Pavement Improvements\04-Final Design\Drawings\DWG\Main Street Improvements.dwg



COMPACTED BACKFILL AS DIRECTED



DIMENSIONS IN INCHES
(SANITARY & STORM SEWER)

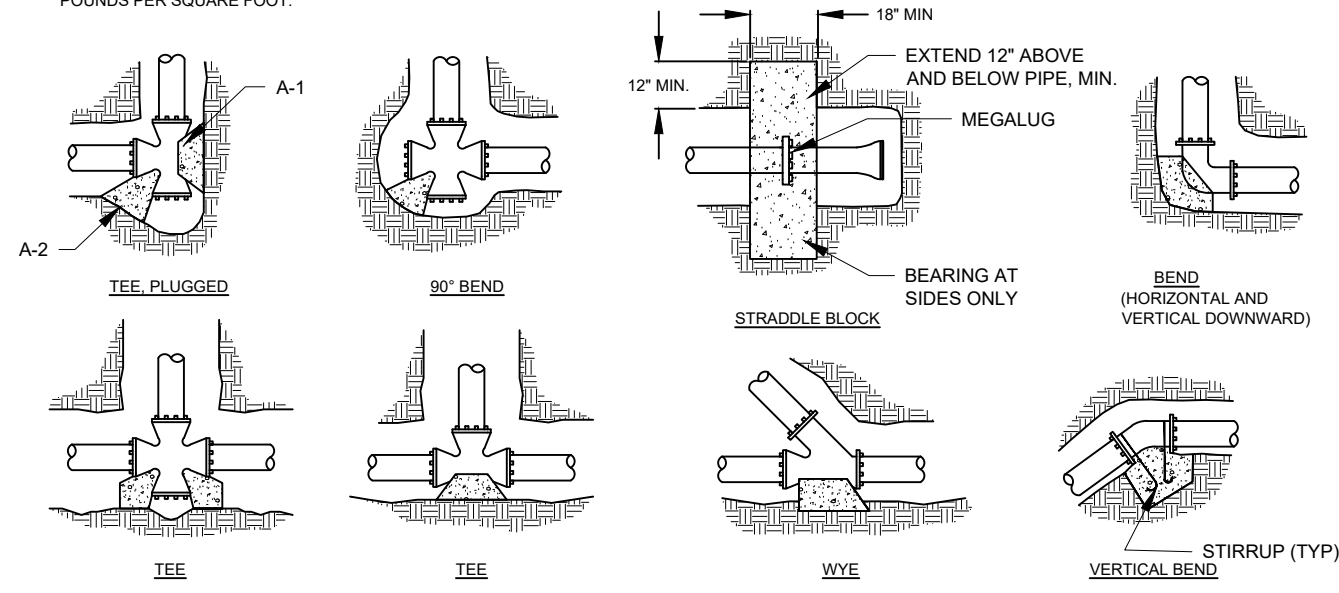
"A"	"B"	"D"
4	10	12
6	10	12
8	10	12
10	10	12
12	12	12
15	12	12
18	16	12
21	16	12
24	18	12
30	18	12
36	24	14

- NOTES:
- TRENCH EXCAVATION SHALL BE CONDUCTED IN A SAFE MANNER WITH ALL NECESSARY BRACING AND SHORING PROVIDED TO BE IN COMPLIANCE WITH OSHA.
 - ALL EXISTING AC OR PCC PAVEMENT SHALL BE SAWCUT IMMEDIATELY PRIOR TO REPAVING.
 - FOUNDATION STABILIZATION SHALL BE PROVIDED WHEN MATERIAL AT BOTTOM OF TRENCH IS UNSUITABLE, IN THE OPINION OF THE CITY, TO PROVIDE A STABLE TRENCH BASE.
 - PLACE COMPACTED AGGREGATE BASE TO A MINIMUM THICKNESS OF 12 INCHES OR THE THICKNESS OF REMOVED AGGREGATE BASE, WHICHEVER IS GREATER. COMPACT AS DIRECTED.
 - IF EXISTING TRENCH CONSISTED OF CONCRETE PAVEMENT THEN CONCRETE PAVEMENT SHALL BE REPLACED WITH CONCRETE TO A MINIMUM THICKNESS OF 6 INCHES OR TO THE THICKNESS OF REMOVED PAVEMENT, WHICHEVER IS GREATER. (UNLESS DIRECTED BY THE CITY TO USE AC)
 - IF EXISTING TRENCH CONSISTED OF AC, PLACE AC MIX TO A MINIMUM THICKNESS OF 4 INCHES (2-2 INCH LIFTS) OR THE THICKNESS OF REMOVED PAVEMENT, WHICHEVER IS GREATER. COMPACT AS DIRECTED. AC PAVEMENT SHALL BE PLACED IN AT LEAST TWO 2 INCH LIFTS.
 - IN SITUATIONS WHERE EXISTING PCC PAVEMENT IS OVERLAYED WITH AC PAVEMENT. PLACE PCC PAVEMENT IN ACCORDANCE WITH NOTE 3 AND WITH AC PAVEMENT PLACED IN ACCORDANCE WITH NOTE 4.
 - BACKFILL IN PIPE ZONE SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED AS SPECIFIED TO 95%.
 - TRACER WIRE REQUIRED AT SERVICE LATERALS, FORCEMAINS, AND GRAVITY LINE. WIRE SHALL BE 18 GA. MINIMUM SOLID COPPER WIRE WITH GREEN 30 MIL THICK HDPE INSULATION RATED FOR DIRECT BURY. USE APPROVED WATERPROOF SPLICE AT ALL CONNECTIONS.
 - SANITARY AND STORM SEWER LINES MUST HAVE WARNING TAPE AND IT SHALL BE 6-INCHES WIDE, 4 MIL THICK, APWA GREEN, RADING "CAUTION SEWER LINE BURIED BELOW".
 - TYPICAL DEPTH OF BURY FOR SEWER FORCE MAIN SHALL BE 3 FEET MINIMUM.
 - TYPICAL DEPTH OF BURY FOR SEWER GRAVITY SHALL BE 5 FEET MINIMUM OR AS DIRECTED BY ENGINEER.
 - CLASS B BACKFILL REQUIRED IN ALL ROADWAYS AND TRAFFIC PATHS EXCEPT WHERE CLSM BACKFILL IS REQUIRED BY COUNTY, ODOT OR CITY.

1
D2 TYPICAL TRENCH AND STREET CUT DETAIL

FITTING SIZE	(HORIZONTAL) BEARING AREA OF THRUST BLOCKS IN SQUARE FEET								(VERTICAL UP) VOLUME OF THRUST BLOCK IN CUBIC YARDS			
	TEE, WYE, DEAD END, AND HYDRANT	STRADDLE BLOCK	90° BEND	TEE PLUGGED ON RUN		45° BEND	22-1/2° BEND	11-1/4° BEND	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND
				A-1	A-2							
4	1.0	1.0	1.4	1.0	1.4	0.8	0.4	0.2	0.82	0.45	0.23	0.11
6	2.1	2.1	3.0	2.1	3.0	1.6	0.9	0.5	1.85	1.00	0.51	0.26
8	3.8	3.8	5.4	3.8	5.4	2.9	1.5	0.8	3.29	1.78	0.91	0.46
10	5.9	5.9	8.4	5.9	8.4	4.5	2.3	1.2	5.14	2.78	1.42	0.71

ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 150 PSI AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 POUNDS PER SQUARE FOOT.

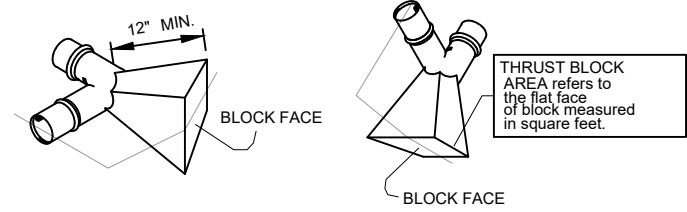


- NOTES:
- CONCRETE BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
 - ALL CONCRETE TO BE CLASS 3000 MINIMUM.
 - INSTALL 6 MIL PLASTIC BETWEEN PIPE AND/OR FITTINGS BEFORE POURING CONCRETE BLOCKING.
 - CONCRETE SHALL BE KEPT CLEAR OF ALL JOINTS AND ACCESSORIES.
 - TIE RODS SHALL BE DEFORMED GALVANIZED COLD ROLLED STEEL, 40000 PSI TENSILE STRENGTH (ASTM A615) COAT WITH COAL TAR EPOXY AFTER INSTALLATION.
 - BEARING AREA REQ'D AT REDUCERS IS THE DIFFERENCE BETWEEN VALUES FOR DEAD END FOR EACH END SIZE (IE 6x8 = 3.8-2.1 = 1.7 S.F.)

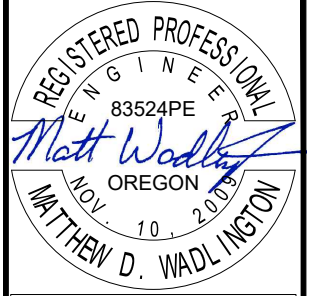
RODS FOR VERTICAL BENDS		
FITTING SIZE	ROD SIZE	EMBEDMENT
10" AND LESS	#5	17"

FOR HORIZONTAL AND VERTICAL BENDS DOWNWARD: TRUST BLOCK AREA SHALL BE CALCULATED BY DIVIDING THE THRUST IN LBS. BY 2000 PSF.

FOR VERTICAL BENDS UPWARD: TRUST BLOCK VOLUME SHALL BE CALCULATED BY DIVIDING THE THRUST IN LBS. BY 3900.



2
D2 CONC. THRUST BLOCKING STD. DETS.
NOT TO SCALE



EXPIRATION DATE: 06/30/2020

Civil West
Engineering Services, Inc.

541-266-8601
www.civilwest.com

945 Geary Street SE
Albany, Oregon 97322

REV.	DATE	DESCRIPTION	BY

Designed By: MKC
Drawn By: MKC
Checked By: MDW
Project No: 2101-016

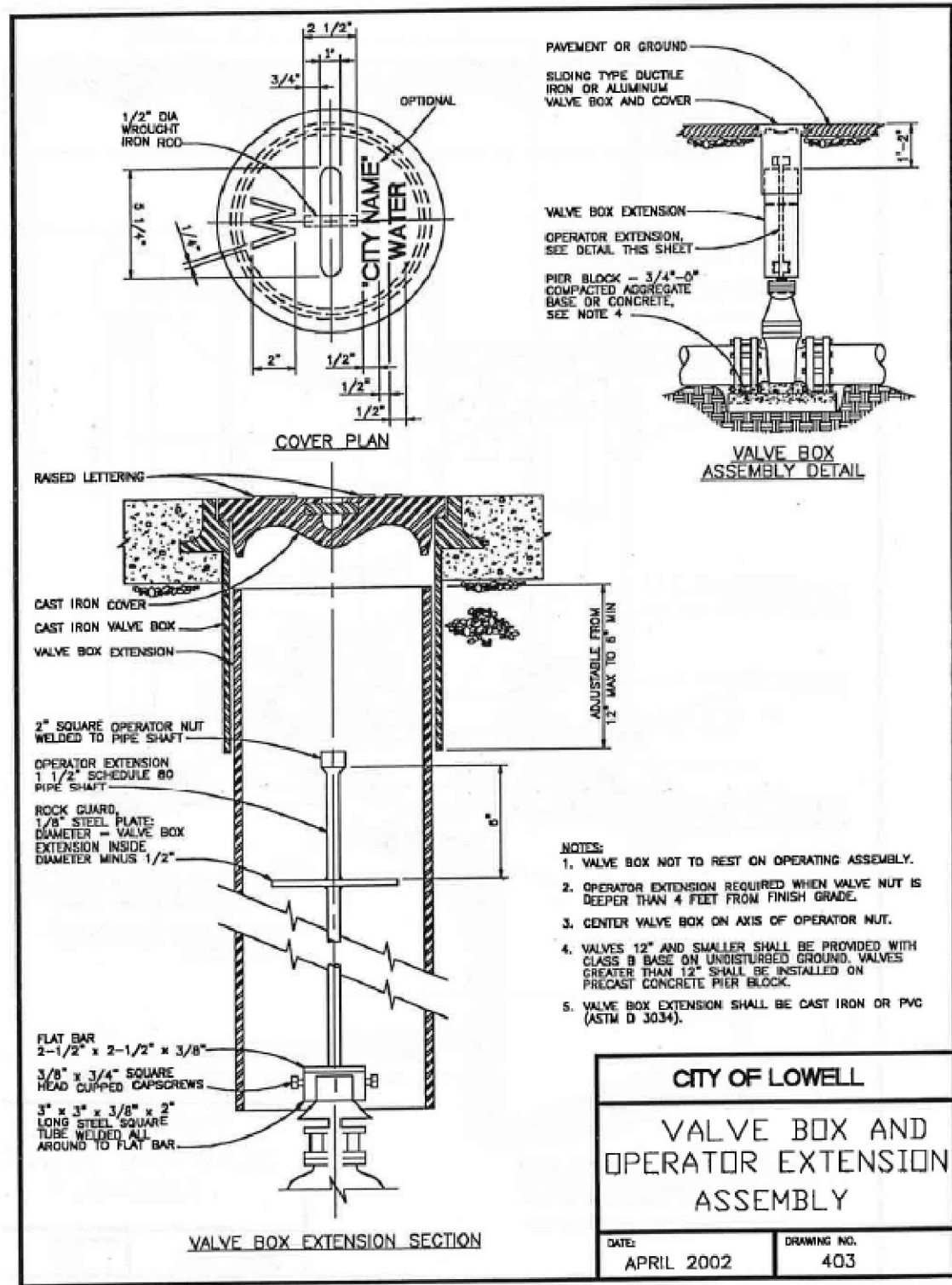
CITY OF LOWELL
LANE COUNTY, OREGON

MAIN STREET PAVEMENT AND UTILITY IMPROVEMENTS

DETAILS

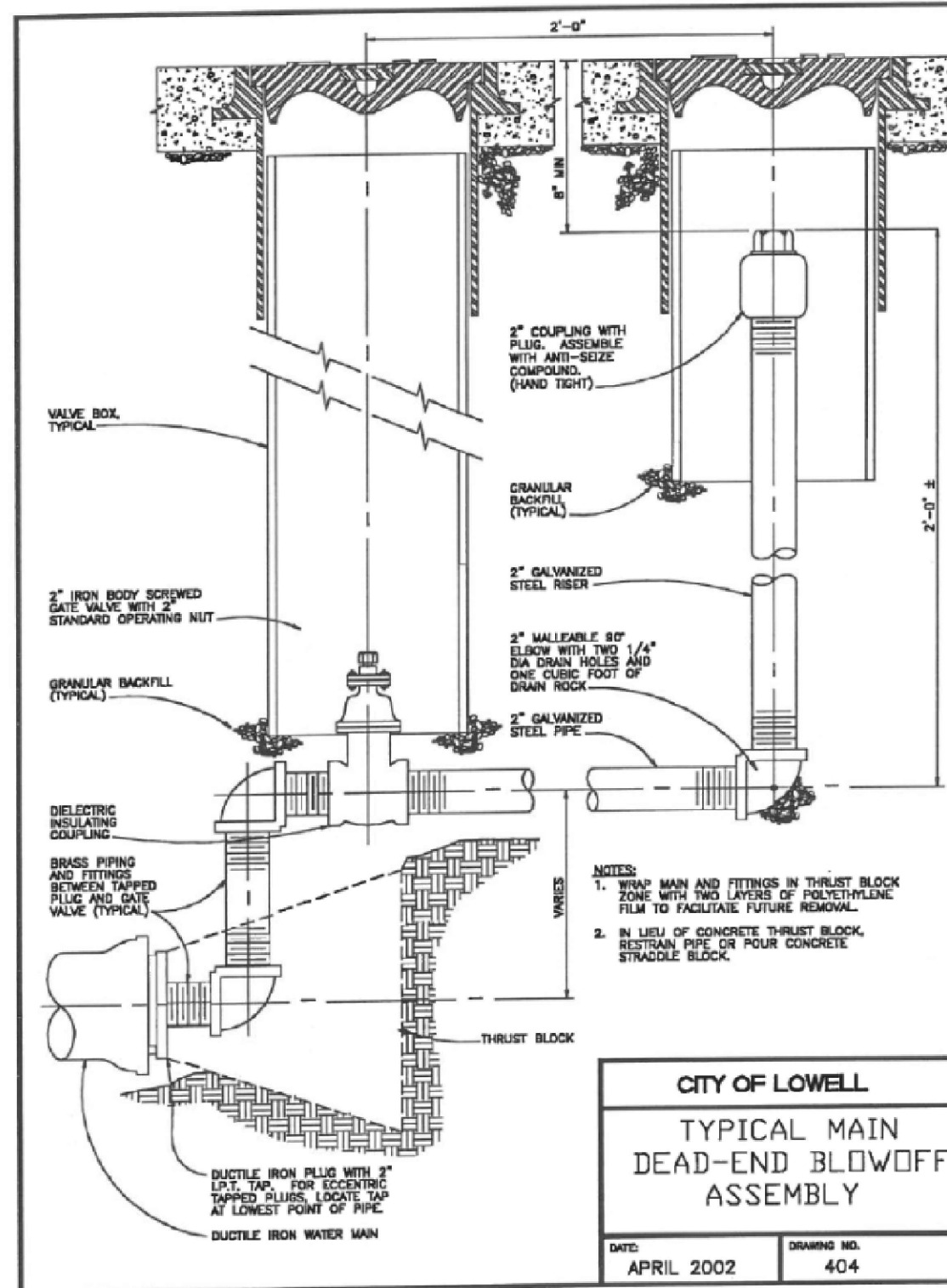
Sheet No: D2
Date: APRIL 2020

DATE: 4/24/20 FILE: C:\CW_Projects\2101-016 Main Street Pavement Improvements\04 Final Design Drawings\DWG Main Street Improvements.dwg



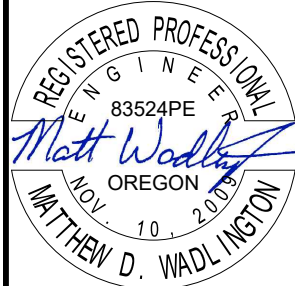
1
D3

VALVE DETAIL



2
D3

BLOWOFF ASSEMBLY



EXPIRATION DATE: 06/30/2020

Civil West
Engineering Services, Inc.

541-266-8601
www.civilwest.com

945 Geary Street SE
Albany, Oregon 97322

REV.	DATE	DESCRIPTION	BY

Designed By: MKC
Drawn By: MKC
Checked By: MDW
Project No: 2101-016

CITY OF LOWELL
LANE COUNTY, OREGON

MAIN STREET PAVEMENT AND UTILITY IMPROVEMENTS

DETAILS

Sheet No. **D3**
Date **APRIL 2020**

**Rogue Valley Office**

830 O'Hare Parkway, Suite 102
Medford, OR 97504
541-326-4828

Coos Bay Office

486 'E' Street
Coos Bay, OR 97420
541-266-8601

Albany Office

213 Water Ave NW, Suite 100
Albany, OR 97321
541-223-5130

Newport Office

609 SW Hurbert Street
Newport, OR 97366
541-264-7040

May 22, 2020

Attn: All Plan Holders/ Bidders

**RE: City of Lowell
Main Street and Lakeview Street Paving and Utility Improvements
Project No. 2101-016/018
Notice of Intent to Award**

The Bid opening for the Main Street and Lakeview Street Paving and Utility Improvement Project was held and read aloud at 2:00 pm on May 20th, 2020.

Based on the determination of responsible bidders per ORS 279C.375 and the results of the above-mentioned Bid opening and observations, this letter is to inform you it is the Intent of the City of Lowell to Award the Contract to

Wildish Construction Co.

This letter is not a Notice of Award and does not constitute the formation of a contract between the Owner and apparent successful bidder but is to serve only as a Notice of Intent to Award.

OAR 137-049-0450 requires any protest to this Notice of Intent to Award be filed with the City of Lowell within seven (7) calendar days after the date this notice was issued. Any protest of this Intent to Award must be in writing and specifically identify the grounds for the protest as provided in OAR 137-049-0450 (4). The contract may be awarded upon the later of the following: seven (7) calendar days after the date this Notice of Intent to Award was issued or after the Owner provides a written response to all timely-filed protests that deny the protest and affirms the award.

Respectfully,

Civil West Engineering Services, Inc.

Matt Wadlington, P.E.
Willamette Valley Regional Manager
Civil West Engineering Services, Inc.



Engineering Services, Inc.
213 Water Ave. NW, Ste. 100
Albany, OR 97321
p 541.223.5130

January 9, 2020

ENGINEERING SCOPE OF SERVICES

To: Jared Cobb, City Administrator – City of Lowell

From: Matt Wadlington, Regional Manager – Civil West Engineering Services, Inc.
Manda Catterlin, Project Engineer – Civil West Engineering Services, Inc.

RE: **City of Lowell: Lakeview Street Pavement and Utility Improvements**
Civil West Project Number: TBD

The purpose of this scope of services is to describe the proposed approach, costs, and schedule that Civil West will follow to support the City of Lowell as they undertake the Lakeview Street Improvements.

Background Summary

The City of Lowell owns and operates a transportation system that includes roadways, sidewalks, and traffic control devices and other related facilities. In the past, the city has completed minimal maintenance due to the lack of funding available.

The City has identified a need for improvements along Lakeview Street due to the amount of daily traffic that occurs on this street, observed pavement failure and the minimal width of the street. In July of 2018, the City completed a geotechnical investigation of this street. In conjunction with the geotechnical review, the City completed a Pavement Preservation Plan (PPP). This plan identifies Lakeview Street as a priority project. The PPP has a preliminary design to address the needed pavement improvements along Lakeview Street.

Improvements to Lakeview Street from Moss Street to Pioneer Street will include a 2” grind and overlay on the most eastern section of pavement with full removal and replacement of the remaining pavement. Additionally, widening the road 3 feet and reconstructing the intersection at Lakeview and Pioneer Street to accommodate the road widening. Civil West has prepared a preliminary cost estimate and estimated total project preliminary budget to be around \$182K, this includes engineering and contingency.

Through the Oregon Department of Transportation, Small City Allotment Grant Program, the City has been able to secure funding that is allocated to this project.

The project budget estimates are based on recent local work and unit prices. We feel the budget estimates are adequately conservative and that the City will be able to complete the work on this project.

In addition to the pavement improvements, the City would like to replace the aging infrastructure on Lakeview and Main Street. Additional improvements to Lakeview include; the removal and replacement of existing 6-inch asbestos cement waterline, the removal and replacement of 8” sewer, and the relocation of water meters. The additional improvements to Main Street include the removal and replacement of the existing 6-inch steel waterline. The above construction estimate does not include this work.

Goal for the Project

Upon completion, this project will result in the construction of new water distribution lines, sewer collection system, and a quality street for the planned section of Lakeview Street, ready for car and bus traffic. Also, new water distribution line on Main Street.

Part A: Scope of Work

The following scope of work describes the tasks, activities, and work that will take place to complete the engineering work associated with this project. The description of each task below is a summary of the estimated process, steps, and procedures that will be required for completion of the work. While there may be many subtasks included within these major task areas, only the major tasks are discussed below.

Lakeview Street Paving Improvements – Proposed Scope of Services

- Task 1 – Project Management and Administrative Services** – This task includes administrative and project management efforts related to the management of this project. This shall include processing of internal paperwork and correspondence between Civil West and the City, coordination on financial matters, directing resources internally, and meeting with staff on routine issues.
- Task 2 – Kickoff Meeting and Data Gathering** – Under this task, key members of our project team will attend a kickoff meeting, with staff from the City to review the project parameters, walk the project, complete a topographic survey, notate the specific needs of the project, and work through the details and data gathering required to prepare plans for the project. We will discuss the City's preferences for materials, workmanship, standards and related details and ensure that we have all the information needed to complete a rapid design process.
- Task 3 – Design/Preparation of Plans** – Civil West will utilize the existing City aerial photogrammetry and survey information for preparation of plans. The plans will include detailed notations, directives, details, and other information to provide the contractor with a clear picture of the final desired product. This also includes permitting with ODOT or County as needed for the reconstruction of the intersection of Lakeside and Pioneer.
- Task 4 – Bid Documents** – Under this task, we will compile a full set of bid documents for an alternate bid and other necessary documents for a complete project plan set. Bid Documents will be based on the current modified EJCDC documents or City standard bid forms if preferred. Upon completion of this task, the City will have all they need to advertise for bids and select a contractor. It is assumed that the City of Lowell Construction Standards will be used for the construction specifications, unless specific additional specifications are required.
- Task 5 - Bid Phase Support** – This task will include an allowance for obtaining construction bids for the project. This will include answering questions, issuing clarifications and addenda (if required) and participating in or administering the bid opening if requested by the City. We will also review all bids, issue recommendations to award, assist with the contracting process, and finally, issue a notice to proceed to the contractor to begin work.

Task 6 – Construction Phase Support - This task will include construction phase support during the construction of the project improvements. This will include a level of construction management support as well as some construction inspection services. The goal of construction phase support will be to ensure that the City gets what they pay for and that the project goes smoothly. We will act as the liaison between the City and the contractor, will process payment requests and change order requests, will perform inspections as well as punch lists with the contractor and the City, and otherwise ensure that the final product meets the terms of the contract. Finally, we will assist with project closeout to prepare record drawings, financial closeouts, and other administrative efforts to close this project. Based on the anticipated relatively quick construction window, we have budgeted just 5 site inspections.

Task 7 - Reimbursable – This task will cover direct reimbursable expenses anticipated for the project. These include travel and per diem costs, reproduction and office expenses, and other reimbursable costs.

- a. Travel costs – We have included an allowance for travel costs for meetings, various site visits to the City for meetings, site visits, and other travel need related to this project.
- b. Publication, reproduction, and office costs – Under this item, we have included a reimbursable allowance to provide the City with copies of any draft and final report(s), plans, contract documents and specifications, including digital deliverables upon request.

Part B: Project Fee Proposal

A summary of the proposed fee schedule is provided below:

Task	Summary of Proposed Engineering Budget:	Budget
1.1	Project Management and Administration	\$1,010.00
1.2	Kickoff Meeting and Data Gathering	\$5,990.00
1.3	Design Services/ Preparation of Plans	\$10,050.00
1.4	*Preparation of Technical Specs, bid docs, etc.	\$3,410.00
1.5	*Bid Phase Support	\$2,580.00
1.6	Construction Phase Support	\$10,060.00
1.7	Reimbursables	\$1,100.00
Total Proposed Budget - Phase 1		\$34,200.00

*Assumes the project will be completed with the Main Street project to reduce overall project costs associated with Preparation of Bid Documents and Bid Phase Support.

The above budget considers the Lakeview Project to be completed simultaneously with Main Street (Project No. 2101-016). If the projects are completed separately, the costs associated with Task 1.4 and 1.5 will be increased. The above budget is considered as a not-to-exceed maximum for the scope of work described and will be billed on a time and materials basis to a maximum. Civil West reserves the right to alter distribution of compensation between individual phases of the work noted herein to be consistent with services actually rendered but shall not exceed the total estimated compensation amount unless approved in writing by owner. If budget funds go unused, the City will realize the savings.

Part C: Project Schedule

The following schedule, while flexible, is provided as a preliminary schedule for the City to consider.

Proposed Schedule:

1. Authorization to begin work: Mid-January 2020
2. Kick off meeting & site visits: Late-January 2020
3. Field work completed: early-February 2020
4. Ready to Bid: early-March 2020
5. Contractor NTP: late-March 2020 to early-April 2020
6. Construction Completion: late-August 2019

The schedule shown above is preliminary in nature and may vary depending on a number of issues. This schedule can be modified to meet budgetary and scheduling constraints of the City and their other projects.

We are grateful for this opportunity to provide these services to the City of Lowell. We are prepared to begin work on this important project as soon as we are authorized to do so. Please let me know if you have any questions or if you wish to see any alterations to our proposed approach. If this proposed approach is acceptable, please sign below and return a copy to our office for our records.

Sincerely,
Civil West Engineering Services, Inc.



Matt Wadlington, PE
Willamette Valley Regional Manager

Authorized Representative Signature Accepting Scope of Services

Date



Civil West
Engineering Services, Inc.
213 Water Ave. NW, Ste. 100
Albany, OR 97321
p 541.223.5130

May 28, 2019

ENGINEERING SCOPE OF SERVICES

To: Jared Cobb, City Administrator – City of Lowell

From: Matt Wadlington, Regional Manager – Civil West Engineering Services, Inc.
Manda Catterlin, Project Engineer – Civil West Engineering Services, Inc.

RE: **City of Lowell: Main Street Paving Improvements**
Civil West Project Number: TBD

The purpose of this scope of services is to describe the proposed approach, costs, and schedule that Civil West will follow to support the City of Lowell as they undertake the Main Street pavement improvements.

Background Summary

The City of Lowell owns and operates a transportation system that includes roadways, sidewalks, and traffic control devices and other related facilities. In the past, the city has completed minimal maintenance due to the lack of funding available.

The City has identified a need for improvements along Main Street due to the amount of daily traffic that occurs on this street and by the observed pavement failure. In July of 2018, the City completed a geotechnical investigation of this street. In conjunction with the geotechnical review, the City completed a Pavement Preservation Plan (PPP). This plan identifies Main Street as a priority project. The PPP has a preliminary design to address the needed pavements improvements along Main Street.

Improvements to Main Street from Moss Street to Pioneer Street will include a 2" grind and overlay with some isolated sections that will require deep patching. Civil West has prepared a preliminary cost estimate and estimated total project preliminary budget to be around \$119K, this includes engineering and contingency.

Through the Oregon Department of Transportation, Small City Allotment Grant Program, the City has been able to secure funding that is allocated to this project.

The project budget estimates that we have prepared are based on recent local work and unit prices. We feel the budget estimates are adequately conservative and that the City will be able to complete the work on this project with the funds that they have planned for this work.

Goal for the Project

Upon completion, this project will result in the construction of a quality street for the planned section of Main Street, ready for car and bus traffic.

Part A: Scope of Work

The following scope of work describes the tasks, activities, and work that will take place to complete the engineering work associated with this project. The description of each task below is a summary of the estimated process, steps, and procedures that will be required for completion of the work. While there may be many subtasks included within these major task areas, only the major tasks are discussed below.

Main Street Paving Improvements – Proposed Scope of Services

- Task 1 – Project Management and Administrative Services** – This task includes administrative and project management efforts related to the management of this project. This shall include processing of internal paperwork and correspondence between Civil West and the City, coordination on financial matters, directing resources internally, and meeting with staff on routine issues.
- Task 2 – Kickoff Meeting and Data Gathering** – Under this task, key members of our project team will attend a kickoff meeting, with staff from the City to review the project parameters, walk the project, complete a topographic survey, notate the specific needs of each project, and work through the details and data gathering required to prepare plans for the project. We will discuss the City's preferences for materials, workmanship, standards and related details and ensure that we have all the information needed to complete a rapid design process.
- Task 3 – Design/Preparation of Plans** – Civil West will utilize the project survey and the existing City aerial photogrammetry for preparation of plans. The plans will include detailed notations, directives, details, and other information to provide the contractor with a clear picture of the final desired product.
- Task 4 – Bid Documents** – Under this task, we will compile a full set of bid documents, and other necessary documents for a complete project plan set. Bid Documents will be based on the current modified EJCDC documents or City standard bid forms if preferred. Upon completion of this task, the City will have all they need to advertise for bids and select a contractor. It is assumed that the City of Lowell Construction Standards will be used for the construction specifications, unless specific additional specifications are required.
- Task 5 - Bid Phase Support** – This task will include an allowance for obtaining construction bids for the project. This will include answering questions, issuing clarifications and addenda (if required) and participating in or administering the bid opening if requested by the City. We will also review all bids, issue recommendations to award, assist with the contracting process, and finally, issue a notice to proceed to the contractor to begin work.
- Task 6 – Construction Phase Support** - This task will include construction phase support during the construction of the project improvements. This will include a level of construction management support as well as some construction inspection services. The goal of construction phase support will be to ensure that the City gets what they pay for and that the project goes smoothly. We will act as the liaison between the City and the contractor, will process payment requests and change order requests, will perform inspections as well as punch lists with the contractor and the City, and otherwise ensure that the final product meets the terms of the contract. Finally, we will assist with project closeout to prepare record drawings, financial closeouts, and other administrative efforts to close this project. Based on the anticipated relatively quick construction window, we have budgeted just 3 site inspections.

Task 7 - Reimbursable – This task will cover direct reimbursable expenses anticipated for the project. These include travel and per diem costs, reproduction and office expenses, and other reimbursable costs.

- a. Travel costs – We have included an allowance for travel costs for meetings, various site visits to the City for meetings, site visits, and other travel need related to this project.
- b. Publication, reproduction, and office costs – Under this item, we have included a reimbursable allowance to provide the City with copies of any draft and final report(s), plans, contract documents and specifications, including digital deliverables upon request.

Part B: Project Fee Proposal

A summary of the proposed fee schedule is provided below:

Task	Summary of Proposed Engineering Budget:	Budget
1.1	Project Management and Administration	\$1,010.00
1.2	Kickoff Meeting and Data Gathering	\$2,990.00
1.3	Design Services/ Preparation of Plans	\$5,680.00
1.4	Preparation of Technical Specs, bid docs, etc.	\$3,260.00
1.5	Bid Phase Support	\$2,640.00
1.6	Construction Phase Support	\$3,640.00
1.7	Reimbursables	\$600.00
Total Proposed Budget - Phase 1		\$19,820.00

The above budget is considered as a not-to-exceed maximum for the scope of work described and will be billed on a time and materials basis to a maximum. Civil West reserves the right to alter distribution of compensation between individual phases of the work noted herein to be consistent with services actually rendered but shall not exceed the total estimated compensation amount unless approved in writing by owner. If budget funds go unused, the City will realize the savings.

Part C: Project Schedule

The following schedule, while flexible, is provided as a preliminary schedule for the City to consider.

Proposed Schedule:

1. Authorization to begin work: late-May 2019
2. Kick off meeting & site visits: early-June 2019
3. Field work completed: by late June 2019
4. Ready to Bid: mid-July 2019
5. Contractor NTP: Late July
6. Construction Completion: late September 2019

The schedule shown above is preliminary in nature and may vary depending on a number of issues. This schedule can be modified to meet budgetary and scheduling constraints of the City and their other projects.

We are grateful for this opportunity to provide these services to the City of Lowell. We are prepared to begin work on this important project as soon as we are authorized to do so. Please let me know if you have any questions or if you wish to see any alterations to our proposed approach. If this proposed approach is acceptable, please sign below and return a copy to our office for our records.

Sincerely,

Civil West Engineering Services, Inc.



Matt Wadlington, PE
Willamette Valley Regional Manager

Authorized Representative Signature Accepting Scope of Services

Date