2010 & 2011

Pavement Maintenance Utility Fee Annual Report

Preserving our past - building our future

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OREGON CITY

TABLE OF CONTENTS

PURPOSE FOR AN ANNUAL REPORT ---------- **1**

BACKGROUND ---------- **1**

GRADING THE CONDITION OF OUR ROADWAYS ---------- 2
A BILLABLE UNIT RATE ---------- 2
RATES AND RATE TYPES ---------- 3
OREGON CITY'S TRANSPORTATION SYSTEM ---------- 3
OREGON CITY'S PAVEMENT CONDITION INDEX ---------- 4

PMUF ACCOMPLISHMENTS ---------- **5**

PREVENTIVE MAINTENANCE ---------- 5
IN-HOUSE PAVEMENT MAINTENANCE AND STREET RECONSTRUCTION ---------- 6

PAVEMENT MAINTENANCE PLANNING ---------- **10**

STREETSAVER PAVEMENT MANAGEMENT SYSTEM ---------- 10
FIVE YEAR PAVEMENT MAINTENANCE PLAN ---------- 10

FUTURE PMUF WORK ---------- **12**

CONCLUSION ---------- **13**

ATTACHMENTS ---------- **14**

APPENDICES ---------- **15**

2010 & 2011 Pavement Maintenance Utility Fee Annual Report

Purpose for an Annual Report

In accordance with Ordinance No. 08-1007, this established City Code 13.30, Transportation Utility Fees (TUF):

> *"City staff shall prepare an annual report that presents how revenues were spent."*

For consistency and to better align the name of the fee with the purpose, throughout the remainder of this report the TUF will be referred to as a Pavement Maintenance Utility Fee (PMUF).

Background

Oregon City has 135 miles of surface streets with a reconstruction value of approximately $1 million per mile. Transportation funding is one of the most challenging issues facing public agencies. In the past, Oregon City has used State gas taxes and road transfer revenues to provide limited maintenance of the City's street system. Historically, the City's pavement maintenance liability far exceeded the amount available for use from these revenue sources.

In 2007, the City Commission asked the Public Works Department and a Transportation Funding Study Citizens Committee to identify and establish a sustainable funding source for street maintenance. The Committee concluded that a PMUF is the most equitable and stable source for street funding.

They recommended an annual revenue goal of $1.5 million to at least maintain the City's average Pavement Condition Index (PCI)[1]. The City Commission decided

Pavement overlay on South End Road

[1] Pavement Condition Index (PCI), developed by the United States Army Corps of Engineers, is based on a visual survey of the pavement and a numerical value between 0 and 100 to define the condition with 100 representing excellent pavement.

Chip Seal Application on Warner Parrott Road

that this target be gradually phased in over a 5-year period to allow customers time to incrementally budget for the fee. With this phased in fee scenario, first year fees could provide $600,000 and jump-start the City's pavement maintenance program.

On May 21, 2008, the City Commission approved Ordinance No. 08-1007 establishing the PMUF. The purpose of the fee was to provide cost recovery for maintaining and operating Oregon City's transportation system. The fee was based on actual cost projections from the StreetSaver Pavement Management software (model). Like those in many other Oregon communities, the fee is also based on nationally recognized information developed by the Institute of Traffic Engineers that estimates the average number of vehicle trips generated by a property based on how that property is used.

Grading the Condition of our Roadways

Documentation of pavement history including inspections, maintenance, and cost scenarios are examples of the kinds of information recorded in the City's StreetSaver software program (database). Each street is split into one or more segments and tracked as an asset along with the maintenance history of the segment. Oregon City has been collecting inspection history since 1983. Since 2008, the maintenance work completed is added to and tracked in the StreetSaver Pavement Management System. A PMUF map showing major pavement maintenance accomplishments since 2008 is attached as ***Exhibit A***.

A Billable Unit Rate

In order to meet the annual revenue goal of $1.5M, the residential monthly unit rate, applied to single family residential land uses, was established at $1.15 per adjusted average daily

trip. The monthly non-residential unit rate, applied to all other land uses, was established at $0.189 per adjusted average daily trip. For the first five years, this fee has been phased in to help ease the impact of this fee. The schedule of the phased in fee (with inflation included) follows:

Table 1 – PMUF Rates

Time Period	Residential Monthly Rate	Residential Rate per Trip	Non-Residential Rate per Trip	Annual Total Revenue
July 1, 2008 through June 30, 2009	$4.50	$0.470	$0.077	$605,650
July 1, 2009 through June 30, 2010	$6.00	$0.627	$0.103	$972,044
July 1, 2010 through June 30, 2011	$7.50	$0.784	$0.129	$1,231,835
July 1, 2011 through June 30, 2012	$9.00	$0.940	$0.154	$1,401,636 (estimated)
July 1, 2012 through June 30, 2013	**$11.20**	**$1.172**	**$0.192**	**$1,795,000 (estimated)**

Rates and Rate Types

Adoption of the PMUF established a rate structure providing for a variety of parcel types. The rates for single family residences are a straight-forward unit rate per each parcel. Multi-family housing rates were a similar calculation. The monthly fee for schools is computed based on the number of students which varies based on enrollment.

All other developed parcels have a monthly fee based on the non-residential unit rate and then considering factors of estimated daily trips and square footages of buildings. Currently, there are 519 non-residential customers.

City Crews Patching Monroe Street

Oregon City's Transportation System

Within the city limits, the transportation system is comprised of multiple jurisdictional responsibilities. Table 2 below provides a history and summary of the mileage obligation of each jurisdiction:

Table 2 – Transportation System Inventory*

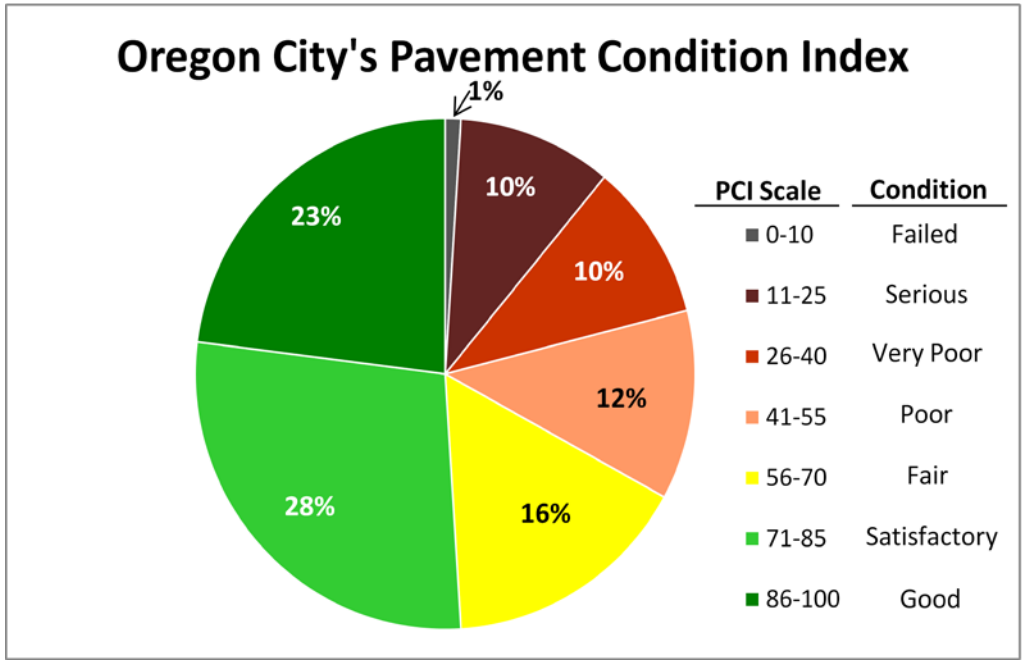
Year	City	County	Private	ODOT	Grand Total
2006 Miles	128.15	10	8	11.4	**157.55**
2007 Miles	129.08	11.94	9.93	12.48	**163.43**
2008 Miles	131.01	11.58	9.34	12.31	**164.24**
2009 Miles	134.71	7.6	9.56	12.49	**164.36**
2010 Miles	135.43	7.75	9.84	12.47	**165.49**
2011 Miles	134.8	7.77	10.67	12.54	**165.78**

* Note: Figures in Table 2 have been edited from previous annual reports due to calculation errors and inclusion of unimproved road miles.

Oregon City's Pavement Condition Index

In June 2007, the City completed a pavement condition survey, reviewing the condition of portions of all Oregon City streets. Historically the City has completed this evaluation every three years. Oregon City has been collecting inspection history since 1983. The pavement condition survey is a detailed field assessment of a minimum 10% representative sample of each street segment. This survey information is compiled within the StreetSaver software system where a computation is run to establish a city-wide Pavement Condition Index (PCI).

In 2007, the overall city-wide average PCI was 68. In March, 2010, the City completed a new pavement condition survey and the overall city-wide PCI was 61. The most recent PCI provided in 2011 was 60.



Percentages based on area of road surfaces

This reduction in PCI is an indication that the deterioration of Oregon City's pavement system continues to exceed the rate of repair. It is also an indication that the City has a backlog of maintenance needs which have progressed into a condition that will require higher cost repair work.

The good news is that 67% of our roadways are still in "fair" to "good" condition with only 33% of our roadway surfaces having a "poor" condition rating or lower. A color-coded Pavement Condition Index (PCI) map is attached as ***Exhibit B***.

PMUF Accomplishments

Preventive Maintenance

Preventive pavement maintenance treatments are surface treatments that are applied early in the life of the roadway to prolong the life of the surface. The objective of preventive maintenance is to add a protective coating on top of the existing surface to keep surface water from seeping through the small cracks into the underlying base rock or native soil. Crack sealing, slurry sealing, and chip sealing are the traditional types of preventive maintenance used in our region.

2010 - During the fall of 2010, the slurry seal program included 58 individual street segments which were scattered throughout Oregon City. In total, 6.95 miles of streets were surface treated as part of this program.

2011 - During the fall of 2011, the slurry seal program included 26 individual street segments which were scattered throughout Oregon City.
In-house crews prepared the streets in the spring and early summer months by cleaning and sealing all surface cracks prior to the slurry seal application. A slurry seal contractor later applied the slurry sealing materials.

A micro seal product was tested in Oregon City and the test project involved Fir Street. Although more expensive than a slurry seal, a micro seal has a much faster cure time and may be more appropriate on certain streets. In total, 4.19 miles of streets were surface treated in 2011 as part of this program.

Crack Seal - Injection of hot tar or asphalt into cracks and paving seams.

Slurry Seal - Very thin layer of liquid asphalt and sand used to seal street surfaces. (Cost is typically less than $2 per square yard.)

Chip Seal - A thin layer of hot asphalt is applied to the street surface then small gravel is applied and leveled and compacted into place. (Costs range from $2.50 to $3.00 per square yard.)

Micro Seal – A surface treatment similar to slurry seal using modified liquid asphalt which cures faster and contains a heavier layer of fractured rock. (Cost is typically $2.50 to $3.50 per square yard.)

Overlay - A new layer of asphalt or concrete, which adds structural strength and seals the surface. Often grinding or inlays are needed to match pavement grades or remove severely distressed pavement. (Costs range from $6 to $26 per square yard, depending on the overlay thickness and preparation.)

Reconstruction - The most expensive street treatment, reconstruction entails extensive street repair work that involves excavating the existing street and rebuilding gravel road base and surface layers. (Costs range from $35 to $55 per square yard depending on the pavement section and preparation.)

Preventive maintenance project locations and segment details for 2010 and 2011 are included in table form as Appendices A, B and C and shown in map form as ***Exhibits C and D***. During both 2010 and 2011 the City worked with the Clackamas County Road Department to complete 4 chip seal projects. The 2010 projects included Linn Avenue from Holmes Lane to Warner Parrott Road and most of Warner Parrott Road. The 2011 projects included all of Swan Avenue and all of Woodlawn Avenue (Appendix D).

In-House Pavement Maintenance and Street Reconstruction

In-house pavement maintenance is work that the Oregon City Public Works Department (OCPW) performs using City equipment. In the summer months, staffing is augmented by seasonal workers and Street Division work can be anything from pothole repair or spot repair of small pavement failures to larger scale pavement failure repair using the same in-house resources. All in-house pavement maintenance projects focused on repairing the base of the road, adding additional strength and repairing failing pavement sections.

Summer 2010 - OCPW used in-house staff and equipment to complete a total of 8 larger scale individual projects applying a total of over 851 tons of asphalt. Table 3 includes a summary of the 2010 in-house pavement repairs. In-house resources were also used to place 1,276 tons of asphalt for patching potholes/minor repairs, and place 33,400 pounds of crackseal material.

Table 3 – 2010 In-House Work

Street	Beginning	Ending	Material Cost	In-House Labor Cost*	Project Cost	General Treatment Description
Glacier Street	South End Road	Lassen Court	$11,407	$2,680	$14,087	Spot repair & 2" overlay
Pease Road	Leland Road	Crisp Drive	$7,195	$2,052	$9,247	Spot repair, minor overlay
Warner Parrott Road	South End Road	Aladdin Road	$3,685	$3,193	$6,878	Spot repair
Park Drive	McCarver Avenue	Telford Road	$9,301	$7,958	$17,259	Spot repair
Hilltop Avenue	Molalla Avenue	End of road	$8,365	$6,943	$15,308	Spot repair
Partlow Road	Central Point Road	Spring Valley Road	$2,106	$7,865	$9,971	Spot repair
Linn Avenue	JQ Adams Street	Hood Street	$4,680	$4,800	$9,480	Spot repair
Main Street	10th Street	11th Street	$3,042	$6,841	$9,883	Mill & inlay

* In-house labor costs are shown for comparative presentation but they are not paid using PMUF funding but instead paid using State gas tax revenues.

Summer 2011 - OCPW used in-house staff and equipment to complete a total of 13 larger scale individual projects applying a total of over 898 tons of asphalt. Table 4 includes a summary of the 2011 in-house pavement repairs. In-house resources were also used to place 27,580 pounds of crack seal material.

Table 4 – 2011 In-House Work

Street	Beginning	Ending	Material Cost	In-House Labor Cost*	Project Cost	General Treatment Description
1st Street	Center Street	High Street	$5,839	$2,252	$8,091	Spot repair & 2" overlay
Apperson Boulevard	Holcomb Blvd.	100' north of intersection	$3,149	$2,064	$5,213	Spot repairs
Beemer Way	Holcomb Blvd.	End	$1,603	$1,419	$3,022	Spot repairs
Holcomb Boulevard	Apperson Boulevard	Near intersection	$2,317	$2,602	$4,919	Spot repairs
Fir Street	Molalla Avenue	Beavercreek Road	$2,316	$2,964	$5,280	Spot repairs
Front Street	La Rae Road	Forsythe Road	$594	$2,015	$2,609	Spot repairs
Gaffney Lane	Meyers Road	Berta Street	$5,820	$2,693	$8,513	Spot repairs
Hilda Street	Molalla Avenue	Alden Street	$5,290	$4,320	$9,610	Spot repairs
Hiram Avenue	Holcomb Blvd.	End	$2,017	$1,419	$3,436	Spot repairs
Main Street	10th Street	12th Street	$9,173	$4,040	$13,213	Mill & inlay
Monroe Street (Alley)	5th Street	7th Street	$6,170	$2,964	$9,134	Spot repairs
Van Buren Street	13th Street	14th Street	$2,790	$2,264	$5,054	Shoulder repair
Woodlawn Avenue	Warner Parrott Road	Barker Avenue	$1,187	$932	$2,119	Spot repairs

* In-house labor costs are shown for comparative presentation but they are not paid using PMUF funding but instead paid using State gas tax revenues.

Contract Street Reconstruction

Typically, this work includes asphalt overlays, cold plane pavement removal (milling) combined with an asphalt overlay, structural dig-outs and repairs, or a complete reconstruction of the entire street section. Costs for this kind of work vary widely based on the type of repairs, classification of the street, volume of traffic, anticipated vehicle loading, and complexity of temporary traffic control. Generally these kinds of projects include engineering, project administration, detailed plans, and contract specifications.

In 2010 the City advertised the 2010 Pavement Rehabilitation Project and received six bids. The engineer's estimate for the project was $578,495 which included a variety of utility improvements and the low bid came in at $492,670. The successful low bidder was awarded the project and completed the work with a final project cost including change orders for utility related work at $587,810. The PMUF funded construction costs were $463,700. The work performed is outlined in Table 5. The project plan set cover sheet and the bid tabulation sheet is included as ***Exhibits E and F***.

Table 5 – 2010 Contracted Street Reconstruction

Street	Beginning	Ending	Length (ft)	Width (ft)	Area (sy)	Treatment Unit Cost ($/sy)	Concept Estimate Project Cost*	General Treatment Description
Leland Road	Warner Milne Road	Clairmont Way	3,000	30	10,000	$30.92	$309,200	3" overlay; minor widening, curbs and ADA improvements; coordinated with utilities
Meyers Road	Clairmont Way	Frontier Parkway	1,850	28	5,760	$26.82	$154,500	3" overlay
Total							**$463,700**	

* The Estimated Unit Treatment Cost = the Estimated Project Allocation / Area

** The Estimated Project Allocation is not a detailed bid breakout of each unit quantity and unit price but rather it's an allocation based on an estimate of the percent of the overall project cost minus the cost of underground utilities or sidewalk improvements (non PMUF related work).

A PMUF map showing the 2010 Street Repair Projects is attached as ***Exhibit C***.

In 2011, the City advertised the 2011 Pavement Rehabilitation Project and received three bids. The engineer's estimate for the project was $881,674 and the low bid came in at $769,632. The successful low bidder was awarded the project and completed the work with a final project cost including change orders at $819,368. The project change orders included a $95,065 improvement to a section of Beavercreek Road. The extra work was an obligation of Clackamas County and the project costs were reimbursed to the City via an agency reimbursement agreement. The work performed in 2011 is outlined in Table 6 and a map showing the 2011 street repair projects is attached as ***Exhibit D***. The project plan set cover sheet and the bid tabulation sheet is included as ***Exhibits G and H***.

Table 6 – 2011 Contracted Street Reconstruction

Street	Beginning	Ending	Length (ft)	Width (ft)	Area (sy)	Estimated Treatment Unit Cost ($/sy)*	Estimated Project Allocation**	General Treatment Description
Beavercreek Road	200' west of Molalla	1,000' west of Molalla	600	Varies	825	$66.14	$54,566	Digout reconstruct and grind/inlay
Beavercreek Road (County section)***	Warner Milne Road	100' south of Library Court	900	42	4,200	$22.63	$95,065	Digout reconstruct and grind/inlay
Chippendale Lane	Eastbourne Drive	Eastbourne Drive	850	32	3,022	$13.80	$41,694	Grind and overlay
Eastbourne Drive	Clairmont Way	Clairmont Way	1,375	32	4,888	$17.06	$83,388	Grind and overlay
AV Davis Road	Linn Avenue	Canemah Road/Telford Road	2,125	Varies	3,778	$44.25	$167,178	Digout, reconstruct, grind and overlay
Molalla Avenue	Garden Meadows Drive	75' south of Lazy Creek Lane	1,600	Varies	6,315	$30.07	$189,865	Grind and inlay
Blue Ridge Drive	Shenandoah Drive	Shenandoah Drive	1,350	32	4,800	$17.48	$83,908	Grind and overlay

Street	Beginning	Ending	Length (ft)	Width (ft)	Area (sy)	Estimated Treatment Unit Cost ($/sy)*	Estimated Project Allocation**	General Treatment Description
Oyer Drive	Trail Drive	180' east of Trail Drive	180	30	600	$19.64	$11,782	Grind and inlay
Linn Avenue	Jackson Street	4th Street	530	Varies	890	$29.22	$26,009	Grind and inlay
Central Point Road	Warner Parrott Road	Trade Wind Street	875	12	2,375	$27.75	$65,913	Digout, reconstruct, and grind and inlay
Total							$819,368	

* The Estimated Unit Treatment Cost = the Estimated Project Allocation / Area

** The Estimated Project Allocation is not a detailed bid breakout of each unit quantity and unit price but rather it's an allocation based on an estimate of the percent of the overall project cost minus the cost of underground utilities or sidewalk improvements (non PMUF related work).

*** Work done on behalf of Clackamas County and reimbursed by the County.

Pavement Maintenance Planning

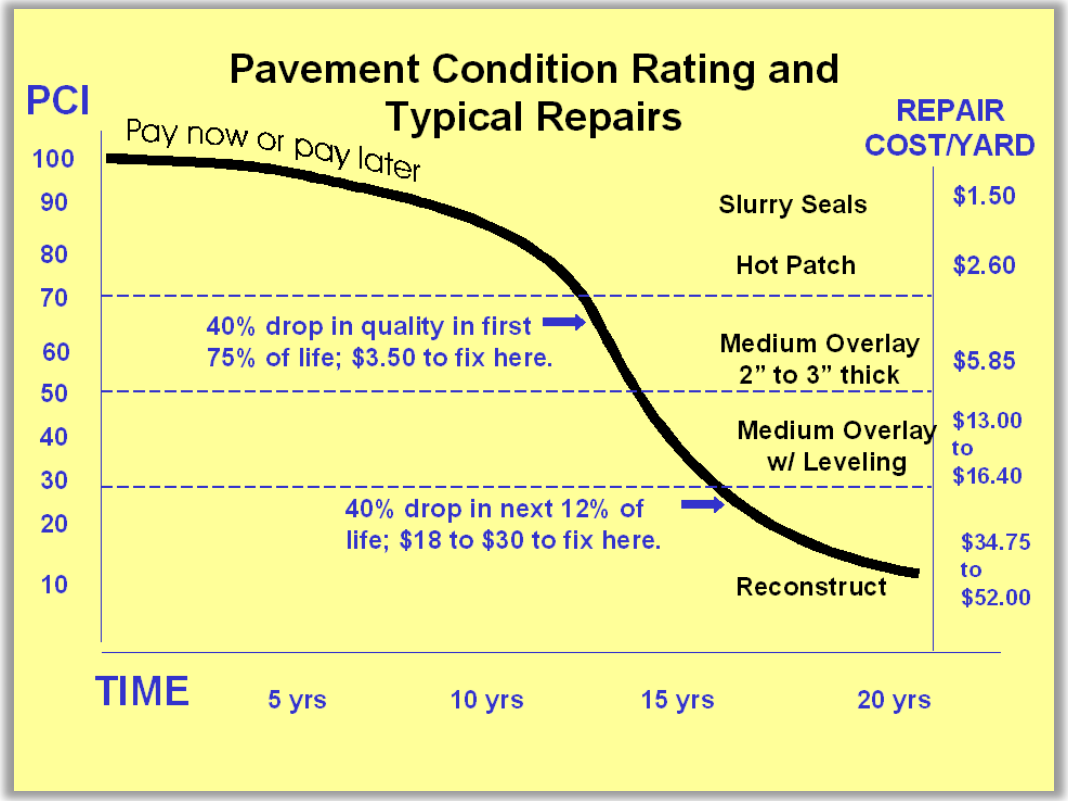
StreetSaver Pavement Management System

March and April 2010 included inspections and a new StreetSaver analysis of the City's pavement system. During 2010, the City used the new inspections and PCI calculations to develop scenarios, considering different annual funding contributions, to establish the City's 5-year paving CIP program. The StreetSaver results were compared with the 2010 Water Master Plan to build a comprehensive list of paving projects that coordinate water and other utility improvement projects. This information was then used to develop a Five Year Pavement Maintenance Plan.

Five Year Pavement Maintenance Plan

In 2011, the City contracted with Murray, Smith & Associates, Inc. (MSA), to prepare a five year plan (www.orcity.org/publicworks/five-year-pavement-maintenance-plan-2011). The intent of the plan was to develop a long term pavement maintenance plan for 2012 through 2016 to support continued effective use of the PMUF. This plan will help guide City Operations staff with the management of future pavement maintenance needs.

The overall planning team for this effort consisted of MSA and several City Public Works staff who participated in the planning meetings and overall plan review. The planning process included evaluation of both rehabilitation and preventative maintenance techniques with an emphasis on rehabilitation which represents the majority of the PMUF budget. The planning team utilized the City's StreetSaver software which included known existing pavement conditions, field verifications and budget constraints, to develop an initial project list based on system wide criteria such as street classification, traffic volumes, etc.



The planning team scrutinized the draft project list by considering additional location-specific criteria such as known future development projects, street classification updates, bus routes, etc. The planning team prioritized the location specific criteria and made resulting adjustments to the project list. The planning team successively met with City utility staff to coordinate possible overlapping projects to avoid the potential future conflict of cutting recently rehabilitated pavement. During this process, certain paving projects were delayed or combined with known utility projects where it seemed equitable to do so.

The final recommended locations and years of planned pavement maintenance (rehabilitation and preventative maintenance) work within the 2012 to 2016 (5-year) timeframe were incorporated into the plan. The implementation of these projects has and will continue to have a positive impact on Oregon City streets.

The plan found that although funding is less than what is necessary to improve all pavement surfaces in Oregon City, the overall average pavement condition in Oregon City is anticipated to improve based on this plan. According to the StreetSaver projections, the average Pavement Condition Index (PCI) for the City is projected to increase (improve) from 60 to 61 in five years if maintenance work progresses

as recommended. In this respect, the PMUF is anticipated to meet the City's goal to maintain and improve where possible the Oregon City's street infrastructure system.

Future PMUF Work

The City is in the process of negotiating a personal services agreement with Murray, Smith & Associates, Inc., an engineering consultant, to develop the plans and specifications necessary to solicit bids for the City's 2012 and 2013 Oregon City Roadway Reconstruction Projects. Engineering consulting services for development of a bid package for the contract overlay work are anticipated to be approximately $123,000 for the 2012 projects and $77,000 for the 2013 projects. The engineering services scope of work is included as ***Exhibit I***.

Table 7 includes a tentative description of the project limits, a short description of the anticipated work and project cost estimates.

Table 7 - 2012 Street Work

Street	Beginning	Ending	Estimated Cost	General Treatment Description
7th Street	Harrison Street	Division Street	$12,978	Mill and overlay
Barclay Avenue	Telford Road	Cherry Avenue	$22,109	Thin AC overlay (1.5 inches)
Barclay Hills Drive	Molalla Avenue	Alden Street	$85,930	Mill 2 inches and 4 inch overlay
Barclay Hills Drive	Alden Street	Chickaree Drive	$87,477	Mill 2 inches and 4 inch overlay
Birchwood Drive	Warner Parrott Road	Hazelwood Drive	$183,463	Reconstruction and overlay
Division Street	7th Street	15th Street	$93,494	Thin AC overlay (1.5 inches)
Gaffney Lane	Molalla Avenue	Berta Drive	$63,613	Mill 2 inches and 4 inch overlay
Hazel Street	Linn Avenue	East Avenue	$21,312	Reconstruction and overlay
Holmes Lane	Telford Road	McCarver Avenue	$87,593	Reconstruction and overlay
Josephine Street	Lawton Road	End	$23,333	Thin AC overlay (1.5 inches)
Molalla Avenue	Warner Milne Road	Holmes Lane	$220,986	Thin AC overlay (1.5 inches)
Netzel Street	Lawton Road	End	$18,109	Thin AC overlay (1.5 inches)
Ogden Drive	Telford Road	Brighton Avenue	$45,979	Thin AC overlay (1.5 inches)

Street	Beginning	Ending	Estimated Cost	General Treatment Description
Pleasant Avenue	Molalla Avenue	Molalla Avenue	$33,080	Thin AC overlay (1.5 inches)
S. 2nd Street	Hwy 99E	S. High Street	$35,463	Mill 2 inches and 4 inch overlay
TOTAL			**$1,034,919**	

In addition to roadway reconstruction projects, the City has allocated $200,000 towards slurry seal (including crack sealing where needed) projects during the summer of 2012.

The proposed 2012 Street Repair project map is attached as ***Exhibit J***.

Conclusion

The summers of 2010 and 2011 continued to be productive and successful continuations of the City's pavement management program. This is a program which we are committed to working into an already heavy workload. We know this program is important and valuable to the community. We continue to improve our in-house paving program and balance the demands on the department with the demands of the paving season. Our small paving crew and lightweight equipment continue to provide strong support for the more robust abilities of construction companies in the business of milling and paving.

Preventive maintenance continues to be a top priority for the City's 10 to 15 year-old residential streets, in some cases, even older streets. This is consistent both with the direction we received from the Transportation Funding Study Citizen Committee and with the way other agencies with proven preventive pavement maintenance programs proceed.

Thus far, all pavement maintenance expenses have stayed within the City's PMUF budget allocation. The highly competitive bids have helped to ensure that the City continues to complete the planned projects with little in the way of deferred projects.

Attachments

Exhibit A – Map - PMUF Major Accomplishments 2008-2011
Exhibit B – Map - Pavement Condition Index (PCI)
Exhibit C – Map - 2010 Street Repair Projects
Exhibit D – Map - 2011 Street Repair Projects
Exhibit E – Project Cover Sheet - 2010 Pavement Rehabilitation Projects
Exhibit F – Bid Tabulation Sheet - 2010 Pavement Rehabilitation Projects
Exhibit G – Project Cover Sheet - 2011 Pavement Improvement Project
Exhibit H – Bid Tabulation Sheet - 2011 Pavement Improvement Project
Exhibit I – Murray, Smith & Associates, Inc., 2012 Pavement Improvement Projects Scope of Work
Exhibit J – Map - Proposed 2012 Street Repair Projects

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Appendix A

Preventive Pavement Maintenance Areas (2010)

Type II Slurry Seal @ $1.21/sq. yd.

Street	Beginning	Ending	Length (ft)	Total Area (sf)	Total Area (sy)	Total Cost
Ann Drive	Entirety		275	7,700	856	$1,036
Armel Drive	Trail Drive	Oyer Drive	428	19,209	2,134	$2,583
Auburn Drive	Atlanta Drive	Dead end	945	35,620	3,958	$4,789
Barlow Drive	Entirety		1,059	30,711	3,412	$4,129
Beaver Lane	Entirety		403	12,896	1,433	$1,734
Bonn Street	Swan Avenue	End	307	8,903	989	$1,197
Boynton Street	Warner Parrott Rd	Highland Drive	1,520	47,120	5,236	$6,335
Buol Street	Entirety		136	4,216	468	$567
Canemah Court	Entirety		1,580	49,825	5,536	$6,699
Canemah Way	Entirety		72	6,085	676	$818
Chapin Court	Entirety		111	9,330	1,037	$1,254
Chiara Drive	Entirety		621	18,009	2,001	$2,421
Coltrane Street	Entirety		1,253	42,937	4,771	$5,773
Conn Street	Entirety		230	6,900	767	$928
Daybreak Court	Entirety		262	13,698	1,522	$1,842
Deerbrook Drive	Entirety		895	28,775	3,197	$3,869
Ed Street	Entirety		255	7,650	850	$1,029

Street	Beginning	Ending	Length (ft)	Total Area (sf)	Total Area (sy)	Total Cost
Faircrest Drive	Entirety		789	22,881	2,542	$3,076
Filbert Drive	Hazel Grove Drive	Mahogany Drive	222	6,438	715	$866
Four Oaks Street	Entirety		332	15,910	1,768	$2,139
Fox Lane	Entirety		280	8,960	996	$1,205
Glacier Street	670' east of South End Rd	Dead end	511	14,308	1,590	$1,924
Hartwood Drive	Entirety		361	10,830	1,203	$1,456
Hazel Grove Drive	350' SW of Filbert Drive	Hartwood Dr	1,239	37,170	4,130	$4,997
Hein Street	Entirety		1,183	42,665	4,741	$5,736
Heskett Court	Entirety		342	16,918	1,880	$2,275
Hilltop Avenue	Entirety		1,036	39,368	4,374	$5,293
Josi Court	Entirety		297	14,988	1,665	$2,015
Lassen Court	Entirety		493	21,826	2,425	$2,934
Leroy Lane	Holcomb Boulevard	Start of private driveway	258	7,224	803	$971
Mahogany Drive	Filbert Drive	125' SE of Rose Road	232	6,728	748	$905
Marci June Way	Entirety		220	6,600	733	$887
Marysville Lane	Entirety		850	31,250	3,472	$4,201
McCord Road	Central Point Road	19438 McCord Road	629	21,386	2,376	$2,875
Merchant Place	Brandow Street	Loop	146	4,088	454	$550
Merchant Place	Loop		777	14,763	1,640	$1,985
Merchant Place	Loop	Forest Ridge Road	259	6,734	748	$905
Miles Street	Entirety		323	9,367	1,041	$1,259

Street	Beginning	Ending	Length (ft)	Total Area (sf)	Total Area (sy)	Total Cost
Moccasin Way	Meyers Road	End of crack sealing at 13277 Moccasin	1,500	45,000	5,000	$6,050
Noble Drive	Entirety		630	21,970	2,441	$2,954
Oyer Drive	Armel Dr	170' east of Trail Dr	519	15,932	1,770	$2,142
Park Drive	Telford Road	Westerly intersection with Harding Boulevard	1,803	55,893	6,210	$7,515
Randall Court	Entirety		105	6,335	704	$852
Rollins Street	Entirety		1,303	37,787	4,199	$5,080
Salmon Court	Entirety		114	9,481	1,053	$1,275
Setera Circle	Entirety		1,312	39,360	4,373	$5,292
Stitt Court	Entirety		99	8,796	977	$1,183
Sunset Springs Drive	McCord Road	NE to dead end	794	23,026	2,558	$3,096
Swan Avenue	Holcomb Boulevard	Bonn Street	850	24,650	2,739	$3,314
Tina Street	Entirety		238	6,664	740	$896
Towercrest Drive	Chiara Drive	Boynton Street	896	34,230	3,803	$4,602
Trail Drive	Barlow Drive	90 degree corner at north end	910	26,390	2,932	$3,548
Vincent Drive	Partlow Road	NE cul de sac	890	32,925	3,658	$4,427
Warner Milne Road	Beavercreek Rd	600' east of Linn Ave	1,083	37,905	4,212	$5,096
Warner Milne Road Ext.	Fox Ln	130' east of Molalla Ave	308	10,780	1,198	$1,449
Wayne Drive	South end	Pavement change ~100' north of Ann Drive	503	15,090	1,677	$2,029
Westwood Drive	Entirety		1,342	61,618	6,846	$8,284

Street	Beginning	Ending	Length (ft)	Total Area (sf)	Total Area (sy)	Total Cost
Wynton Drive	Entirety		358	10,382	1,154	$1,396
Totals			**36,688**	**1,234,200**	**137,134**	**$165,932**

*Includes Warner Milne Road slurry seal and pavement striping which was added as a change order.

Appendix B

Preventive Pavement Maintenance Areas (2011)

Type II Slurry Seal @ $1.27/sq. yd.

Street	Beginning	Ending	Length (ft)	Total Area (sf)	Total Area (sy)	Total Cost
Alden Street	Entirety		220	6,380	709	$900
Alvaro Lane	Entirety		357	15,075	1,675	$2,127
Beemer Way	Entirety		1,787	44,675	4,964	$6,304
Berta Drive	Clairmont Way	Gaffney Lane	635	20,320	2,258	$2,867
Beverly Drive	140' West of north end	150' West of south end	913	28,303	3,145	$3,994
C Street	Entirety		936	23,400	2,600	$3,302
Cathy Adams Drive	Gentry Way	32' south of Ginger Way	697	17,425	1,936	$2,459
Char Diaz Drive	Entirety		650	18,200	2,022	$2,568
Cokeron Drive	Entirety		970	27,160	3,018	$3,833
Frontier Parkway	Meyers Rd	75' west of Silverfox Parkway	1,624	48,720	5,413	$6,875
Gaffney Lane	Nobel Rd	110' south of Dateline Avenue	990	28,710	3,190	$4,051
Garden Meadow Drive	Entirety		1,321	33,025	3,669	$4,660
Gentry Way	Entirety		510	14,790	1,643	$2,087

Street	Beginning	Ending	Length (ft)	Total Area (sf)	Total Area (sy)	Total Cost
Ginger Way	Entirety		198	5,544	616	$782
Hilda Street	200' East of Molalla Avenue	Alden Street	850	22,950	2,550	$3,239
Hiram Avenue	Holcomb Boulevard	Cleveland Street	1,342	21,472	2,386	$3,030
Jacobs Way	Entirety		305	10,095	1,122	$1,425
Monroe Street	5th Street	6th Street	290	11,310	1,257	$1,596
Monroe Street	6th Street	8th Street	552	21,528	2,392	$3,038
Paulsen Drive	The Church property	32' south of Ginger Way	1,014	29,406	3,267	$4,150
Schaefer Drive	Nobel Road	Gaffney Lane	582	16,878	1,875	$2,382
Sebastian Way	Entirety		755	27,195	3,022	$3,838
Towercrest Drive	Chiara Drive	Spring Valley Drive	950	28,500	3,167	$4,022
Vista Hill Court	Entirety		130	10,400	1,156	$1,468
Widman Court	Entirety		629	25,741	2,860	$3,632
Wild Bill Court	Entirety		0	7,200	800	$1,016
Totals			**19,207**	**564,402**	**62,711**	**$79,643**

Appendix C

Preventive Pavement Maintenance Areas (2011)

Type III Micro Seal @ $3.00/sq. yd.

Street	Beginning	Ending	Length (ft)	Total Area (sf)	Total Area (sy)	Total Cost
Fir Street	Molalla Avenue	45 Ft south of Beavercreek Road	2,909	127,996	14,222	$42,666
Total			**2,909**	**127,996**	**14,222**	**$42,666**

Appendix D

Preventive Pavement Maintenance Areas (2011)

Chip Seal @ $3.00/sq. yd.

Street	Beginning	Ending	Length (ft)	Total Area (sf)	Total Area (sy)	Total Cost
Warner Parrott Road	100' east of South End Road	650' west of Linn Avenue	3,950	79,000	8,778	$30,450
Linn Avenue	50 feet north of Warner Parrott Road	Holmes Lane	1,900	38,000	4,222	$14,750
Total			**5,850**	**117,000**	**13,000**	**$45,200**

City of Oregon City

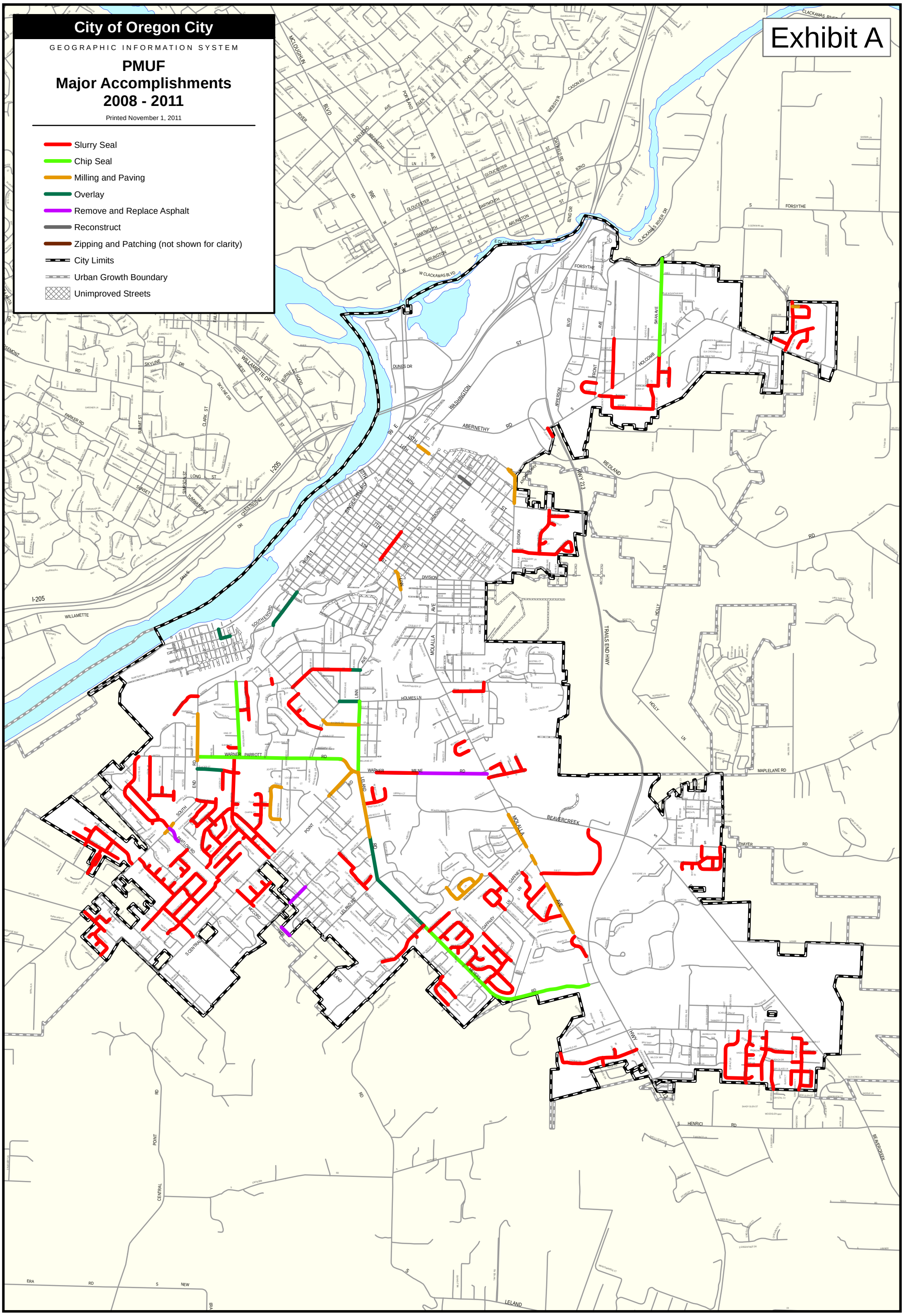
GEOGRAPHIC INFORMATION SYSTEM

PMUF
Major Accomplishments
2008 - 2011

Printed November 1, 2011

- Slurry Seal
- Chip Seal
- Milling and Paving
- Overlay
- Remove and Replace Asphalt
- Reconstruct
- Zipping and Patching (not shown for clarity)
- City Limits
- Urban Growth Boundary
- Unimproved Streets

Exhibit A



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, or surveying purposes. Notification of any errors is appreciated.

Please recycle with colored office grade paper.

N W E S

0 0.25 0.5 1 1.5 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

City of Oregon City
P.O. Box 3040
625 Center St.
Oregon City, OR 97045
503-657-0891 phone
503-657-6629 fax
www.ci.oregon-city.or.us

OREGON CITY

Plot date: November 1, 2011
Plot name: 2008 - 2011 Street Repair Projects - 11x17P - 20111101.pdf
Map name: 2008 - 2011 Street Repair Projects - 11x17P.mxd

City of Oregon City

GEOGRAPHIC INFORMATION SYSTEM

Pavement Condition Index (PCI)

Printed May 24, 2012

Pavement Condition	% of Total*
Failed (PCI = 1 - 10)	0.64%
Serious (PCI = 11 - 25)	9.62%
Very Poor (PCI = 26 - 40)	9.62%
Poor (PCI = 41 - 55)	11.87%
Fair (PCI = 56 - 70)	16.57%
Satisfactory (PCI = 71 - 85)	28.76%
Good (PCI = 86 - 100)	22.93%

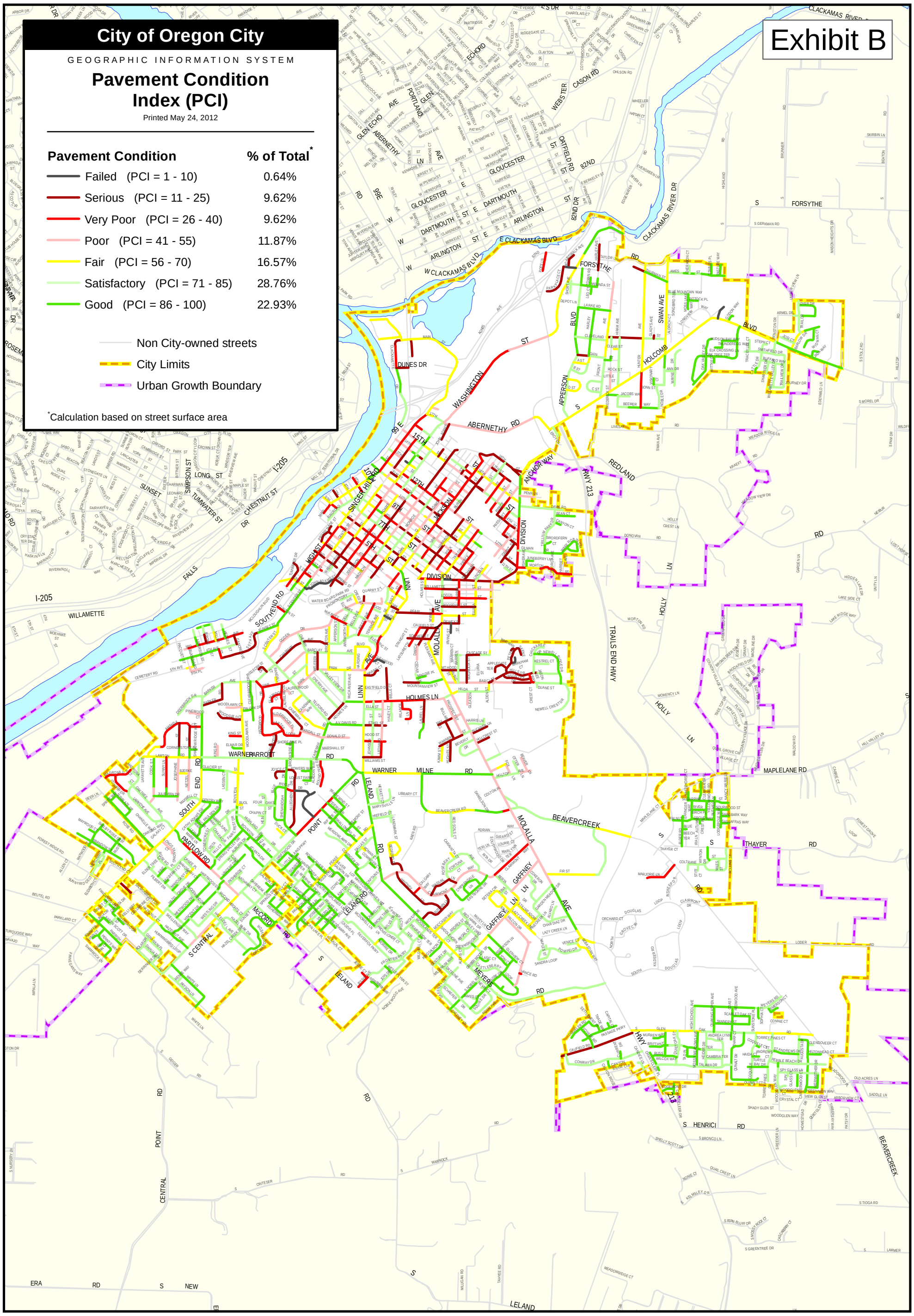
Non City-owned streets

City Limits

Urban Growth Boundary

*Calculation based on street surface area

Exhibit B



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City of Oregon City
P.O. Box 3040
624 Center St
Oregon City, OR 97045
503-657-0891 phone
503-657-6629 fax
www.orcity.org

OREGON CITY

Plot date: May 24, 2012
Plot name: Street Saver Map - PCI Codes - 11x17P - 20120524.pdf
Map name: Street Saver Map - PCI Codes - 11x17P.mxd

City of Oregon City

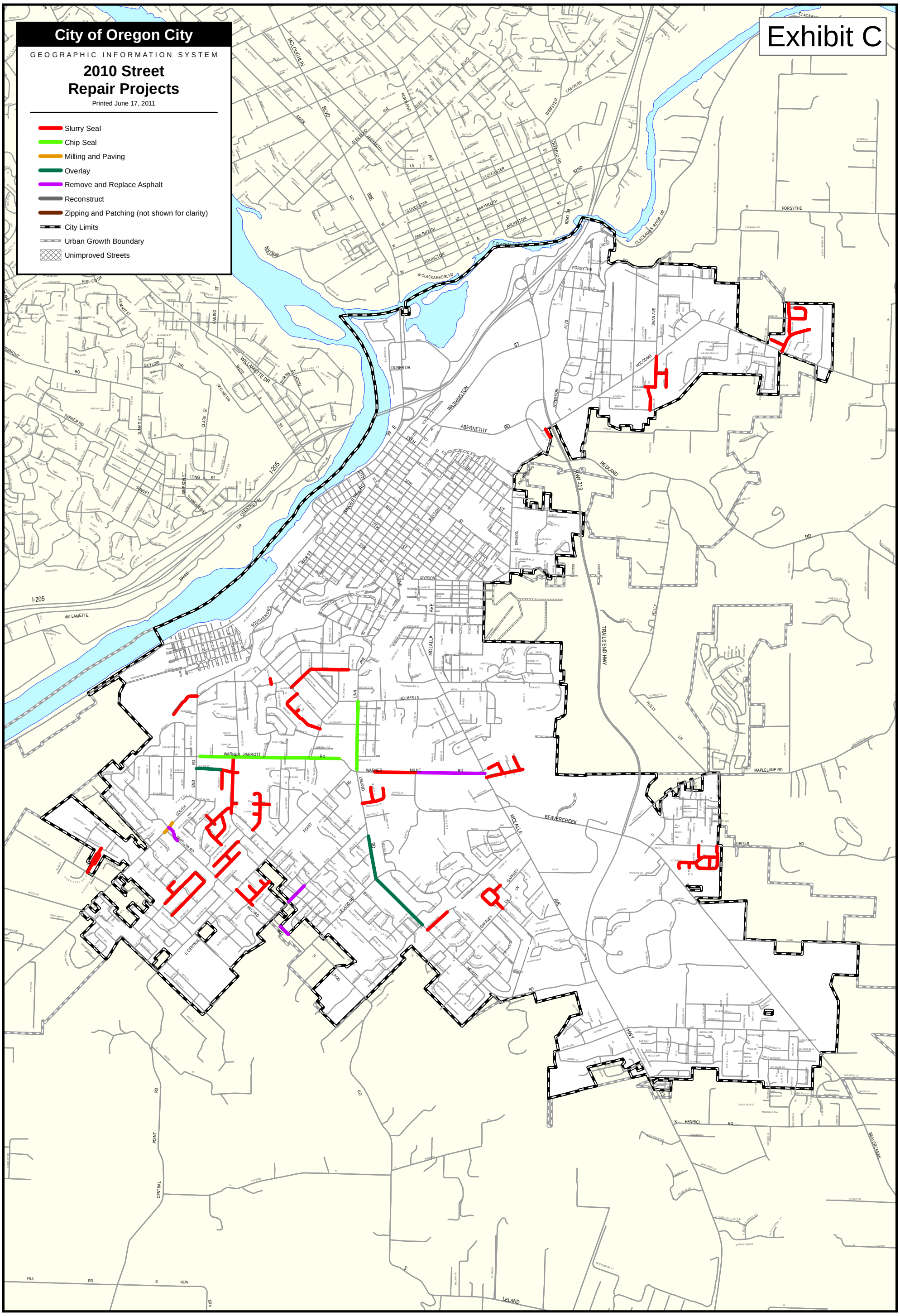
GEOGRAPHIC INFORMATION SYSTEM

2010 Street Repair Projects

Printed June 17, 2011

- Slurry Seal
- Chip Seal
- Milling and Paving
- Overlay
- Remove and Replace Asphalt
- Reconstruct
- Zipping and Patching (not shown for clarity)
- City Limits
- Urban Growth Boundary
- Unimproved Streets

Exhibit C



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N W E S

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0 1,000 2,000 4,000 6,000 Feet

City of Oregon City
P.O. Box 3040
625 Center St
Oregon City, OR 97045
503-657-0891 phone
503-657-6629 fax
www.orcity.org

OREGON CITY

Plot date: June 17, 2011
Plot name: PMUF - 2010 Projects Map - 20110617 - 11x17P.pdf
Map name: PMUF - 2010 Projects Map - 20110617 - 11x17P.mxd

City of Oregon City

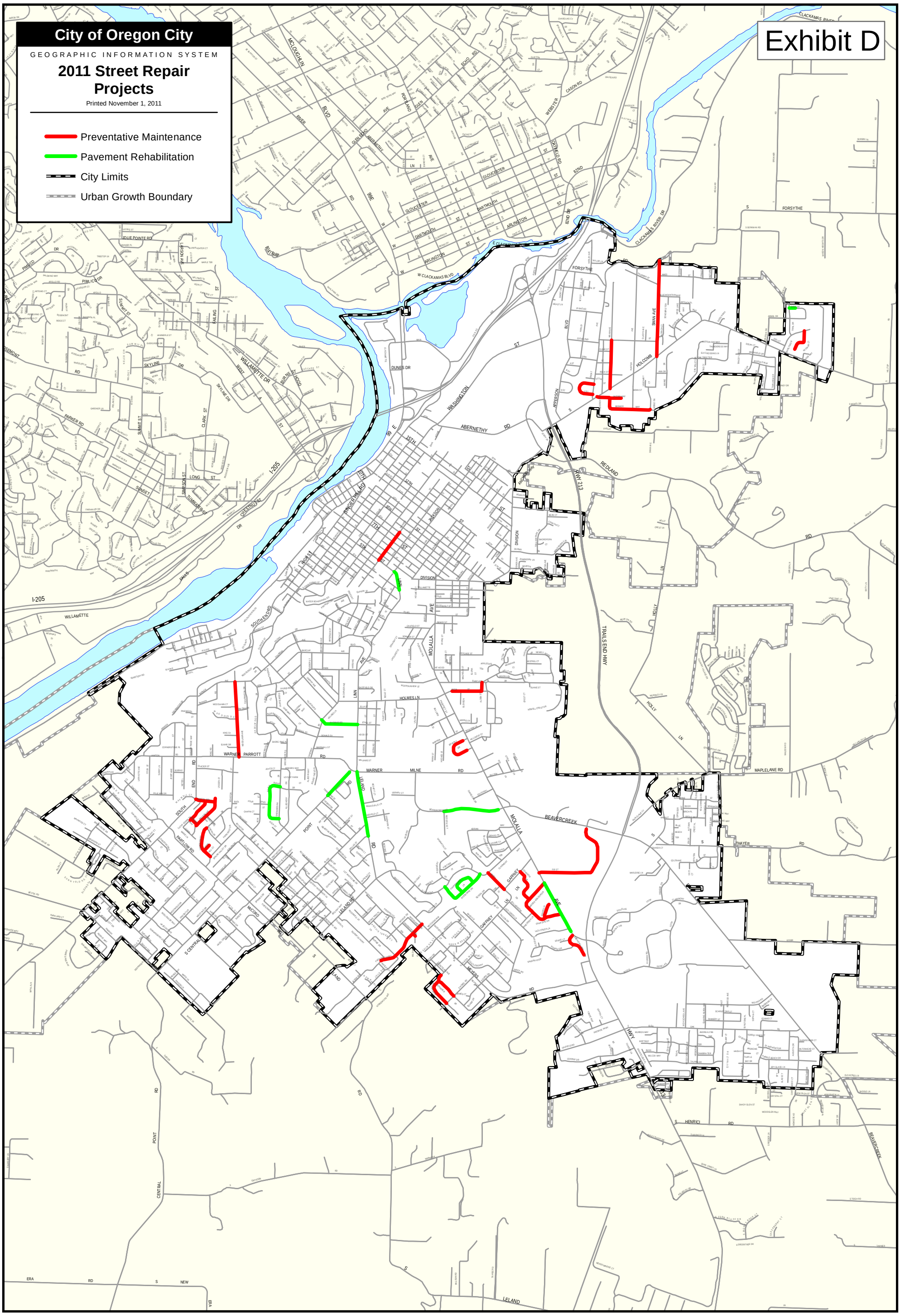
GEOGRAPHIC INFORMATION SYSTEM

2011 Street Repair Projects

Printed November 1, 2011

Exhibit D

- Preventative Maintenance
- Pavement Rehabilitation
- City Limits
- Urban Growth Boundary



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N W E S

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0 1,000 2,000 4,000 6,000 Feet

City of Oregon City
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Oregon City, OR 97045
503-657-0891 phone
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www.orcity.org

OREGON CITY

Plot date: November 1, 2011
Plot name: PMUF - 2011 Projects Map - 20111101 - 11x17P.pdf
Map name: PMUF - 2011 Projects Map - 20111101 - 11x17P.mxd

LELAND / MEYERS ROAD

2010 PAVEMENT REHABILITATION

OREGON CITY, OREGON

ENGINEER

HARPER HOUF PETERSON RIGHELLIS INC.
CONTACT: GARY ALFSON, BEAU BRAMAN
205 SE SPOKANE STREET, SUITE 200
PORTLAND, OREGON 97202
(503) 221-1131

UTILITY CONTACTS

OREGON CITY PUBLIC WORKS
OPERATIONS MANAGER AND PROJECT MANAGER: JOHN LEWIS, P.E.
WATER DIVISION CONTACT: ELI DEBERRY
SANITARY AND STORM DIVISION CONTACT: ERIC HAND
STREET DIVISION CONTACT: JIM BURCH
(503) 657-8241

PORTLAND GENERAL ELECTRIC
CONTACT: LARRY GRIGGS
(503) 742-8417

NORTHWEST NATURAL
CONTACT: RYAN TRUAIR
(503) 226-4211 X4361
(503) 708-3699

QWEST
CONTACT: SCOTT MILLER
(503) 242-4144

COMCAST
CONTACT: BRIAN EVERY
(503) 596-3767

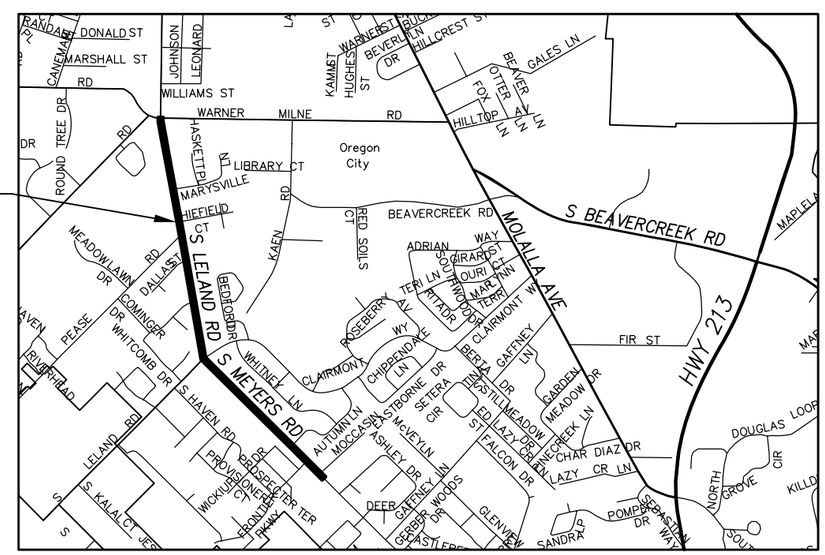
CLACKAMAS COUNTY SIGNAL OPERATIONS
CONTACT: KENT BAUMAN
(503) 650-3735

BEAVER CREEK TELEPHONE
CONTACT: RON WASCH
(503) 632-6959

SHEET INDEX

1 COVER SHEET
2 GENERAL NOTES
3 STANDARD DETAILS
4 STANDARD DETAILS
5 STANDARD DETAILS
6 STANDARD DETAILS
7 STANDARD DETAILS
8 STANDARD DETAILS
9 STANDARD DETAILS
10 WIDENING PLAN
11 WIDENING PLAN
12 WIDENING PLAN
13 S LELAND ROAD PAVING PLAN
14 S LELAND ROAD PAVING PLAN
15 S LELAND ROAD PAVING PLAN
16 S MEYERS ROAD PAVING PLAN
17 S MEYERS ROAD PAVING PLAN
18 S LELAND ROAD STRIPING PLAN
19 S LELAND ROAD STRIPING PLAN
20 S LELAND ROAD STRIPING PLAN
21 S MEYERS ROAD STRIPING PLAN
22 S MEYERS ROAD STRIPING PLAN
23 STRIPING DETAILS

PROJECT LOCATION



VICINITY MAP

NTS

Owner: City of Oregon City
P.O.Box 3040
625 Center Street
Oregon City, Oregon 97045
Oregon City Public Works Department

NOTE:

INFORMATION SHOWN IS BASED ON THE CITY'S AVAILABLE GIS DATA BASE. CONTRACTOR SHALL VISIT SITE AND VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. SEE GENERAL NOTES, SHEET 2 FOR ADDITIONAL REQUIREMENTS.

EXHIBIT E

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
205 SE Spokane Street, Suite 200, Portland, OR 97202
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

REGISTERED PROFESSIONAL ENGINEER 11,863 OREGON SEPT. 24, 1982 GARY ALFSON
EXPIRES: 12/31/

OREGON CITY

FILE NUMBER: CI 10-004
PROJECT MANAGER: JOHN LEWIS

Harper Houf Peterson Righellis Inc.

SCALE: 1" = 40'
DESIGNED BY: GAA
PROJECT NO: ORE-08
DRAWN BY: HHPR
DATE: JULY 2010
REV:

COVER SHEET
LELAND / MEYERS ROAD
2010 PAVEMENT REHABILITATION

REVISIONS
NO. DESCRIPTION DATE

DRAWING NUMBER:
1

Project No. CI 10-004
2010 Pavement Rehabilitation Project
08/10/10

EXHIBIT F

			Engineer's Estimate			Parker NW Paving		Brix Paving		S2 Contractors, Inc.	
Item	Description	Unit	Qty.	Price	Total	Price	Total	Price	Total	Price	Total
1	Mobilization	LS	1	$42,980.00	$42,980.00	$32,800.00	$32,800.00	$22,791.75	$22,791.75	$18,000.00	$18,000.00
2	Work Zone Traffic Control, Complete	LS	1	$25,000.00	$25,000.00	$25,000.00	$25,000.00	$41,133.72	$41,133.72	$25,000.00	$25,000.00
3	Erosion Control	LS	1	$2,500.00	$2,500.00	$1,000.00	$1,000.00	$3,510.60	$3,510.60	$2,000.00	$2,000.00
4	Pollution Control and Prevention	LS	1	$500.00	$500.00	$500.00	$500.00	$1,296.22	$1,296.22	$1,000.00	$1,000.00
5	Clear and Grub	LS	1	$2,500.00	$2,500.00	$1,500.00	$1,500.00	$2,955.39	$2,955.39	$3,000.00	$3,000.00
6	General Excavation	LS	1	$5,000.00	$5,000.00	$10,000.00	$10,000.00	$31,269.30	$31,269.30	$5,000.00	$5,000.00
7	Driveway Preparation	EA	61	$300.00	$18,300.00	$200.00	$12,200.00	$243.04	$14,825.44	$550.00	$33,550.00
8	12-Inch Subgrade Stabilization	SY	100	$25.00	$2,500.00	$17.00	$1,700.00	$34.57	$3,457.00	$30.00	$3,000.00
9	12-Inch CI V RCP Storm Sewer Pipe	LF	400	$45.00	$18,000.00	$31.50	$12,600.00	$45.37	$18,148.00	$80.00	$32,000.00
10	12-Inch HDPE Storm Sewer Pipe	LF	30	$50.00	$1,500.00	$50.00	$1,500.00	$70.21	$2,106.30	$70.00	$2,100.00
11	18-Inch HDPE Storm Sewer Pipe	LF	40	$50.00	$2,000.00	$35.00	$1,400.00	$91.82	$3,672.80	$80.00	$3,200.00
12	24-Inch HDPE Storm Sewer Pipe	LF	535	$55.00	$29,425.00	$42.00	$22,470.00	$56.17	$30,050.95	$95.00	$50,825.00
13	Concrete Inlets, Type G-2 Catch Basin with Sump	EA	4	$750.00	$3,000.00	$1,250.00	$5,000.00	$1,632.16	$6,528.64	$600.00	$2,400.00
14	Concrete Manhole, 48"	EA	3	$3,500.00	$10,500.00	$2,800.00	$8,400.00	$3,456.60	$10,369.80	$1,200.00	$3,600.00
15	Concrete Manhole, 72"	EA	1	$4,500.00	$4,500.00	$4,000.00	$4,000.00	$7,021.21	$7,021.21	$2,000.00	$2,000.00
16	WORK ON EXISTING SEWERS AND STRUCTURES										
17	Minor Adjust Manhole to Grade	EA	20	$150.00	$3,000.00	$150.00	$3,000.00	$432.07	$8,641.40	$50.00	$1,000.00
18	Major Adjust Manhole to Grade	EA	6	$300.00	$1,800.00	$900.00	$5,400.00	$864.15	$5,184.90	$200.00	$1,200.00
19	Adjust Monument/Valve Box to Grade	EA	55	$150.00	$8,250.00	$50.00	$2,750.00	$156.63	$8,614.65	$25.00	$1,375.00
20	Install Monument/Valve Box	EA	25	$300.00	$7,500.00	$175.00	$4,375.00	$178.23	$4,455.75	$50.00	$1,250.00
21	Install Monument Pin	EA	1	($750.00)	($750.00)	($750.00)	($750.00)	($750.00)	($750.00)	($750.00)	($750.00)
22	Fire Hydrant, Complete	EA	1	$2,500.00	$2,500.00	$5,000.00	$5,000.00	$4,536.78	$4,536.78	$5,000.00	$5,000.00
23	Connection to Existing Structures	EA	8	$500.00	$4,000.00	$800.00	$6,400.00	$405.07	$3,240.56	$500.00	$4,000.00
24	Cold Plane Pavement Removal, 0-3 Inch Depth	SY	2500	$2.60	$6,500.00	$4.10	$10,250.00	$4.62	$11,550.00	$3.00	$7,500.00
25	Aggregate Base and Shoulders	TON	1500	$30.00	$45,000.00	$25.00	$37,500.00	$25.92	$38,880.00	$38.00	$57,000.00
26	Level 2, 1/2-inch Dense HMAC	TON	3500	$75.00	$262,500.00	$69.00	$241,500.00	$63.60	$222,600.00	$69.00	$241,500.00
27	Asphalt Concrete Pavement Repair	SY	980	$50.00	$49,000.00	$20.00	$19,600.00	$41.75	$40,915.00	$64.00	$62,720.00
28	Concrete Curbs, Standard	LF	410	$20.00	$8,200.00	$12.00	$4,920.00	$15.70	$6,437.00	$11.00	$4,510.00
29	Concrete Walks	SF	128	$5.00	$640.00	$10.00	$1,280.00	$12.41	$1,588.48	$6.00	$768.00

Project No. CI 10-004
2010 Pavement Rehabilitation Project
08/10/10

			Engineer's Estimate			Parker NW Paving		Brix Paving		S2 Contractors, Inc.	
Item	Description	Unit	Qty.	Price	Total	Price	Total	Price	Total	Price	Total
30	Truncated Dome Treatment	EA	1	$200.00	$200.00	$300.00	$300.00	$521.73	$521.73	$1,000.00	$1,000.00
31	Permanent Striping, Complete	LS	1	$11,500.00	$11,500.00	$10,500.00	$10,500.00	$10,693.85	$10,693.85	$11,000.00	$11,000.00
32	Remove and Reinstall Existing Signs	EA	2	$150.00	$300.00	$200.00	$400.00	$162.03	$324.06	$50.00	$100.00
33	Mailbox Relocation	EA	1	$150.00	$150.00	$175.00	$175.00	$324.06	$324.06	$50.00	$50.00
	Bid Totals				**$578,495.00**		**$492,670.00**		**$566,895.34**		**$585,898.00**

Project No. CI 10-004
2010 Pavement Rehabilitation Project
08/10/10

				EngiEagle-Elsner, Inc.		Kodiak Pacific		Coffman Excavating	
Item	Description	Unit	Qty.	Price	Total	Price	Total	Price	Total
1	Mobilization	LS	1	$41,000.00	$41,000.00	$44,800.00	$44,800.00	$23,902.00	$23,902.00
2	Work Zone Traffic Control, Complete	LS	1	$60,000.00	$60,000.00	$50,115.00	$50,115.00	$11,350.00	$11,350.00
3	Erosion Control	LS	1	$4,000.00	$4,000.00	$1,735.00	$1,735.00	$6,715.00	$6,715.00
4	Pollution Control and Prevention	LS	1	$1,000.00	$1,000.00	$1,750.00	$1,750.00	$1,120.00	$1,120.00
5	Clear and Grub	LS	1	$5,500.00	$5,500.00	$15,200.00	$15,200.00	$3,355.00	$3,355.00
6	General Excavation	LS	1	$15,000.00	$15,000.00	$12,755.00	$12,755.00	$4,000.54	$4,000.54
7	Driveway Preparation	EA	61	$300.00	$18,300.00	$116.00	$7,076.00	$170.00	$10,370.00
8	12-Inch Subgrade Stabilization	SY	100	$24.00	$2,400.00	$19.65	$1,965.00	$64.32	$6,432.00
9	12-Inch CI V RCP Storm Sewer Pipe	LF	400	$53.00	$21,200.00	$44.68	$17,872.00	$56.82	$22,728.00
10	12-Inch HDPE Storm Sewer Pipe	LF	30	$67.00	$2,010.00	$84.00	$2,520.00	$75.62	$2,268.60
11	18-Inch HDPE Storm Sewer Pipe	LF	40	$76.00	$3,040.00	$56.00	$2,240.00	$79.74	$3,189.60
12	24-Inch HDPE Storm Sewer Pipe	LF	535	$85.00	$45,475.00	$95.00	$50,825.00	$72.09	$38,568.15
13	Concrete Inlets, Type G-2 Catch Basin with Sump	EA	4	$1,100.00	$4,400.00	$1,015.00	$4,060.00	$1,654.85	$6,619.40
14	Concrete Manhole, 48"	EA	3	$3,000.00	$9,000.00	$2,365.00	$7,095.00	$3,460.23	$10,380.69
15	Concrete Manhole, 72"	EA	1	$4,000.00	$4,000.00	$5,965.00	$5,965.00	$6,882.00	$6,882.00
16	WORK ON EXISTING SEWERS AND STRUCTURES								
17	Minor Adjust Manhole to Grade	EA	20	$675.00	$13,500.00	$750.00	$15,000.00	$800.00	$16,000.00
18	Major Adjust Manhole to Grade	EA	6	$550.00	$3,300.00	$2,225.00	$13,350.00	$1,700.00	$10,200.00
19	Adjust Monument/Valve Box to Grade	EA	55	$190.00	$10,450.00	$116.00	$6,380.00	$336.00	$18,480.00
20	Install Monument/Valve Box	EA	25	$275.00	$6,875.00	$418.00	$10,450.00	$300.00	$7,500.00
21	Install Monument Pin	EA	1	($750.00)	($750.00)	($750.00)	($750.00)	($750.00)	($750.00)
22	Fire Hydrant, Complete	EA	1	$5,000.00	$5,000.00	$2,962.00	$2,962.00	$5,505.00	$5,505.00
23	Connection to Existing Structures	EA	8	$175.00	$1,400.00	$320.00	$2,560.00	$555.00	$4,440.00
24	Cold Plane Pavement Removal, 0-3 Inch Depth	SY	2500	$4.00	$10,000.00	$6.75	$16,875.00	$10.00	$25,000.00
25	Aggregate Base and Shoulders	TON	1500	$20.00	$30,000.00	$26.00	$39,000.00	$40.00	$60,000.00
26	Level 2, 1/2-inch Dense HMAC	TON	3500	$67.00	$234,500.00	$64.20	$224,700.00	$80.00	$280,000.00
27	Asphalt Concrete Pavement Repair	SY	980	$43.00	$42,140.00	$44.80	$43,904.00	$60.00	$58,800.00
28	Concrete Curbs, Standard	LF	410	$13.00	$5,330.00	$16.20	$6,642.00	$37.21	$15,256.10
29	Concrete Walks	SF	128	$9.50	$1,216.00	$7.25	$928.00	$18.14	$2,321.92

Project No. CI 10-004
2010 Pavement Rehabilitation Project
08/10/10

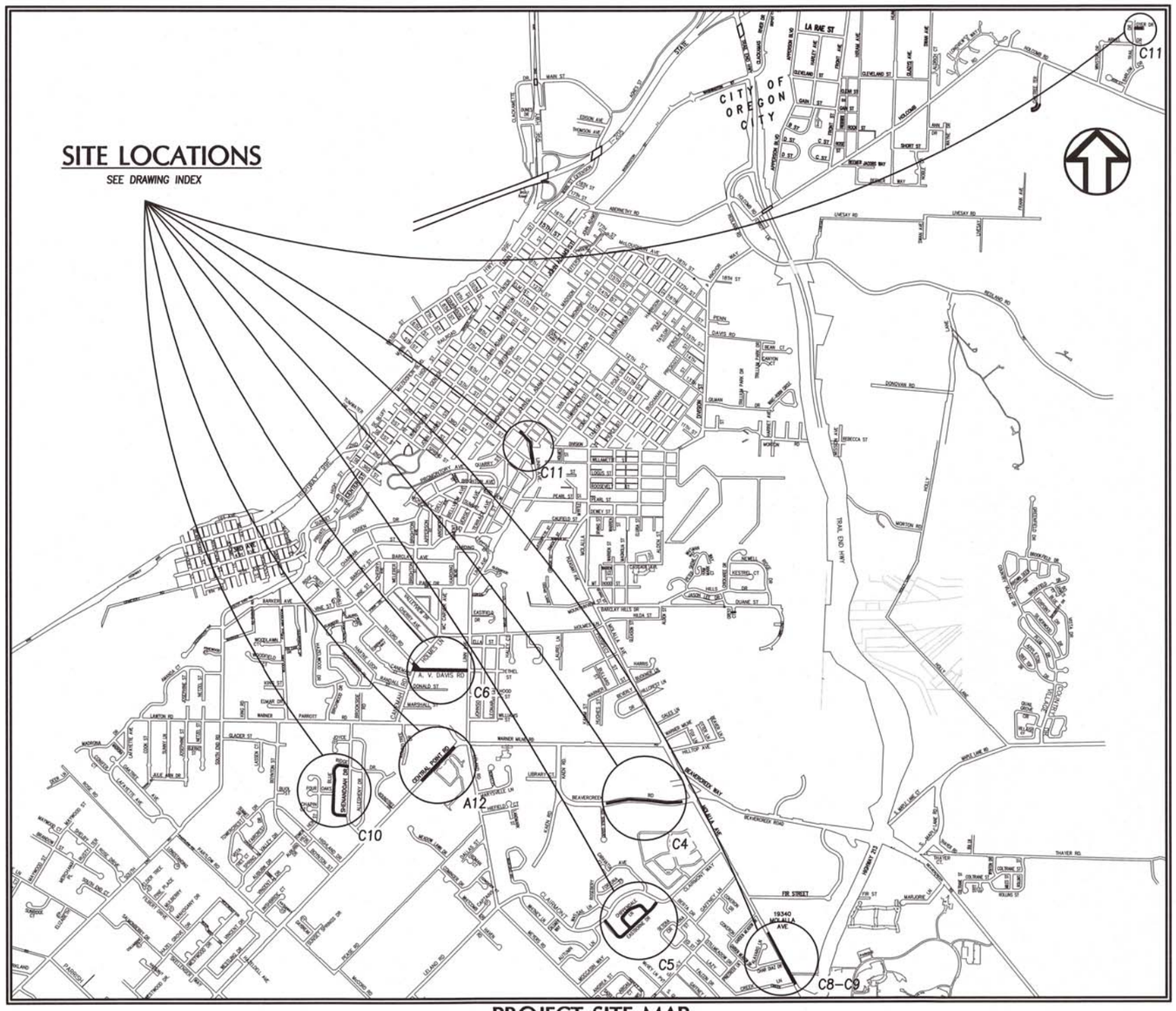
				EngiEagle-Elsner, Inc.		Kodiak Pacific		Coffman Excavating	
Item	**Description**	**Unit**	**Qty.**	**Price**	**Total**	**Price**	**Total**	**Price**	**Total**
30	Truncated Dome Treatment	EA	1	$300.00	$300.00	$250.00	$250.00	$420.00	$420.00
31	Permanent Striping, Complete	LS	1	$11,600.00	$11,600.00	$10,000.00	$10,000.00	$13,400.00	$13,400.00
32	Remove and Reinstall Existing Signs	EA	2	$120.00	$240.00	$138.00	$276.00	$168.00	$336.00
33	Mailbox Relocation	EA	1	$185.00	$185.00	$118.00	$118.00	$224.00	$224.00
	Bid Totals				**$611,611.00**		**$618,618.00**		**$675,014.00**

EXHIBIT G

CITY OF OREGON CITY

2011 PAVEMENT IMPROVEMENTS PROJECT

JUNE 2011



PROJECT SITE MAP

NOT TO SCALE

INDEX TO DRAWINGS

C1	COVER & INDEX
C2	GENERAL NOTES & LEGEND
C3	TYPICAL SECTIONS & DETAILS
C4	BEAVERCREEK ROAD
C5	CHIPPENDALE LANE & EASTBORNE DRIVE
C6	AV DAVIS ROAD
C7	AV DAVIS ROAD AND LINN AVENUE INTERSECTION DETAILS
C8	MOLALLA AVENUE I
C9	MOLALLA AVENUE II
C10	BLUE RIDGE DRIVE
C11	LINN AVENUE & OYER DRIVE
C12	CENTRAL POINT ROAD (ADDITIVE ALTERNATE BID SCHEDULE)
C13	STANDARD DETAILS I
C14	PAVEMENT MARKING LEGEND PLAN

NOTE:

1. INFORMATION SHOWN IS BASED ON THE CITY'S AVAILABLE GIS DATA BASE. CONTRACTOR SHALL VISIT SITE AND VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. SEE GENERAL NOTES, SHEET C2 FOR ADDITIONAL REQUIREMENTS.

OREGON CITY

Owner: City of Oregon City
625 Center Street
Oregon City, Oregon 97045
Oregon City Public Works Department
Contact: John Burrell, Project Manager
(503) 496-1556

wallis engineering

Civil Engineer: Wallis Engineering
215 W. 4th Ave., Suite 200
Vancouver, Washington 98660
(360) 695-7041
Contact: Adam Craft, P.E.

PART V - CONTRACT DRAWINGS

OC PROJECT NO. CI 11-001

Project No. CI 11-001
2011 Pavement Improvements Project
07/07/11

EXHIBIT H

			Engineer's Estimate			S-2 Contractors, Inc.		Eagle-Elsner, Inc.		Brix Paving, Inc.	
Item	Description	Unit	Qty.	Price	Total	Price	Total	Price	Total	Price	Total
BASE BID SCHEDULE											
1	Mobilization	LS	1		$0.00	$36,000.00	$36,000.00	$80,000.00	$80,000.00	$28,000.00	$28,000.00
2	Temporary Work Zone Traffic Control, Complete	LS	1		$0.00	$20,000.00	$20,000.00	$70,000.00	$70,000.00	$42,340.00	$42,340.00
3	Erosion Control	LS	1		$0.00	$1,900.00	$1,900.00	$4,000.00	$4,000.00	$800.00	$800.00
4	Pollution Control Plan	LS	1		$0.00	$500.00	$500.00	$500.00	$500.00	$285.00	$285.00
5	Sawcutting Existing Pavements, all depths	LF	19750		$0.00	$1.50	$29,625.00	$0.05	$987.50	$1.75	$34,562.50
6	Clearing and Grubbing	LS	1		$0.00	$5,000.00	$5,000.00	$1,000.00	$1,000.00	$2,900.00	$2,900.00
7	General Excavation	CY	2900		$0.00	$22.00	$63,800.00	$21.00	$60,900.00	$36.00	$104,400.00
8	12-Inch Subgrade Stabilization	SY	150		$0.00	$25.00	$3,750.00	$22.00	$3,300.00	$19.00	$2,850.00
9	Replace Disturbed Monument Box	EA	2		$0.00	$500.00	$1,000.00	$325.00	$650.00	$515.00	$1,030.00
10	Drainage Curb	LF	250		$0.00	$7.00	$1,750.00	$5.00	$1,250.00	$8.00	$2,000.00
11	Minor Adjustment of Manholes	EA	35		$0.00	$65.00	$2,275.00	$105.00	$3,675.00	$145.00	$5,075.00
12	Adjusting Boxes	EA	40		$0.00	$55.00	$2,200.00	$35.00	$1,400.00	$74.00	$2,960.00
13	Adjusting Catch Basins	EA	25		$0.00	$200.00	$5,000.00	$150.00	$3,750.00	$1.00	$25.00
14	Temporary HMAC Pavement	SY	2850		$0.00	$9.00	$25,650.00	$10.00	$28,500.00	$7.00	$19,950.00
15	Miscellaneous Roadside Restoration	LS	1		$0.00	$2,000.00	$2,000.00	$3,000.00	$3,000.00	$7,400.00	$7,400.00
16	Cold Plane Pavement Removal, 0-2 Inch Depth	SY	1175		$0.00	$8.00	$9,400.00	$10.00	$11,750.00	$20.00	$23,500.00
17	Cold Plane Pavement Removal, 2-3 Inch Depth	SY	4450		$0.00	$8.00	$35,600.00	$11.00	$48,950.00	$12.75	$56,737.50
18	3/4 Inch – 0 Aggregate Base	CY	475		$0.00	$25.00	$11,875.00	$42.50	$20,187.50	$148.00	$70,300.00
19	1-1/2 Inch – 0 Aggregate Base	CY	950		$0.00	$25.00	$23,750.00	$42.50	$40,375.00	$60.00	$57,000.00
20	Level 2, 1/2 – Inch Dense HMAC, PG 64-22	TON	3375		$0.00	$75.00	$253,125.00	$67.25	$226,968.75	$81.50	$275,062.50
21	Level 3, 1/2 – Inch Dense HMAC, PG 70-22	TON	1900		$0.00	$79.00	$150,100.00	$82.50	$156,750.00	$104.00	$197,600.00
22	Concrete Curbs, Standard	LF	155		$0.00	$15.00	$2,325.00	$28.00	$4,340.00	$23.00	$3,565.00
23	Concrete Walks	SF	400		$0.00	$5.00	$2,000.00	$16.50	$6,600.00	$10.00	$4,000.00
24	Pavement Bar Removal	SF	200		$0.00	$2.00	$400.00	$1.65	$330.00	$2.00	$400.00
25	Bi-Directional Yellow Type IAR Markers	EA	100		$0.00	$5.00	$500.00	$4.00	$400.00	$5.00	$500.00
26	Longitudinal Pavement Markings - Paint	LF	11250		$0.00	$0.22	$2,475.00	$0.20	$2,250.00	$0.20	$2,250.00
27	Pavement Legend, Type B: Arrows	EA	1		$0.00	$250.00	$250.00	$195.00	$195.00	$225.00	$225.00
28	Pavement Legend, Type B: Bicycle Lane Markings	EA	1		$0.00	$375.00	$375.00	$325.00	$325.00	$375.00	$375.00
29	Pavement Bar, Type B	SF	600		$0.00	$9.00	$5,400.00	$8.35	$5,010.00	$9.65	$5,790.00
30	Remove and Reinstall Existing Signs	EA	4		$0.00	$190.00	$760.00	$200.00	$800.00	$173.00	$692.00
31	Traffic Signal Loop Detector Modifications	EA	9		$0.00	$600.00	$5,400.00	$500.00	$4,500.00	$555.00	$4,995.00
32	Subgrade Geotextile	SY	4050		$0.00	$0.50	$2,025.00	$1.00	$4,050.00	$1.15	$4,657.50
	Base Bid Totals						**$706,210.00**		**$796,693.75 ***		**$962,227.00**
ADDITIVE ALTERNATE BID SCHEDULE											
1	Mobilization	LS	1		$0.00	$6,000.00	$6,000.00	$1,800.00	$1,800.00	$2,000.00	$2,000.00
2	Temporary Work Zone Traffic Control, Complete	LS	1		$0.00	$5,000.00	$5,000.00	$5,000.00	$5,000.00	$1,735.00	$1,735.00
3	Erosion Control	LS	1		$0.00	$300.00	$300.00	$1,000.00	$1,000.00	$230.00	$230.00
4	Saw cutting Existing Pavements, all depths	LF	650		$0.00	$1.50	$975.00	$0.05	$32.50	$1.75	$1,137.50
5	Clearing and Grubbing	LS	1		$0.00	$2,000.00	$2,000.00	$250.00	$250.00	$1,400.00	$1,400.00
6	General Excavation	CY	160		$0.00	$22.00	$3,520.00	$21.00	$3,360.00	$29.00	$4,640.00
7	12-Inch Subgrade Stabilization	SY	25		$0.00	$25.00	$625.00	$22.00	$550.00	$19.00	$475.00
8	Drainage Curb	LF	4		$0.00	$50.00	$200.00	$5.00	$20.00	$28.00	$112.00
9	Minor Adjustment of Manholes	EA	2		$0.00	$65.00	$130.00	$105.00	$210.00	$173.00	$346.00

Project No. CI 11-001
2011 Pavement Improvements Project
07/07/11

			Engineer's Estimate			S-2 Contractors, Inc.		Eagle-Elsner, Inc.		Brix Paving, Inc.	
Item	Description	Unit	Qty.	Price	Total	Price	Total	Price	Total	Price	Total
10	Adjusting Boxes	EA	3		$0.00	$55.00	$165.00	$30.00	$90.00	$100.00	$300.00
11	Adjusting Catch Basins	EA	1		$0.00	$200.00	$200.00	$150.00	$150.00	$1.00	$1.00
12	Temporary HMAC Pavement	SY	260		$0.00	$9.00	$2,340.00	$10.00	$2,600.00	$7.00	$1,820.00
13	Miscellaneous Roadside Restoration	LS	1		$0.00	$500.00	$500.00	$500.00	$500.00	$300.00	$300.00
14	Cold Plane Pavement Removal, 0-2 Inch Depth	SY	2050		$0.00	$3.00	$6,150.00	$6.85	$14,042.50	$10.00	$20,500.00
15	3/4 Inch – 0 Aggregate Base	CY	35		$0.00	$25.00	$875.00	$42.50	$1,487.50	$150.00	$5,250.00
16	1-1/2 Inch – 0 Aggregate Base	CY	70		$0.00	$25.00	$1,750.00	$42.50	$2,975.00	$62.00	$4,340.00
17	Level 3, 1/2 – Inch Dense HMAC, PG 70-22	TON	390		$0.00	$79.00	$30,810.00	$67.25	$26,227.50	$106.00	$41,340.00
18	Bi-Directional Yellow Type IAR Markers	EA	40		$0.00	$4.50	$180.00	$4.00	$160.00	$4.60	$184.00
19	Longitudinal Pavement Markings - Paint	LF	5800		$0.00	$0.23	$1,334.00	$0.20	$1,160.00	$0.20	$1,160.00
20	Pavement Legend, Type B: Arrows	EA	1		$0.00	$225.00	$225.00	$195.00	$195.00	$225.00	$225.00
21	Subgrade Geotextile	SY	285		$0.00	$0.50	$142.50	$1.00	$285.00	$1.00	$285.00
	Additive Alternate Bid Totals						**$63,421.50**		**$62,095.00**		**$87,780.50**
	GRAND TOTALS (BASE + ADDITIVE ALTERNATE)						**$769,631.50**		**$858,788.75 ***		**$1,050,007.50**

*Denotes mathematical error.

EXHIBIT I

SCOPE OF WORK
CITY OF OREGON CITY
ENGINEERING SERVICES FOR
OREGON CITY ROADWAY RECONSTRUCTION

Background

The City of Oregon City's (City) transportation system includes about 125 miles of City-owned surface streets of varying size and capacity requiring periodic maintenance to keep them operational. The City established a Pavement Maintenance Utility Fee (PMUF) in 2007 to address maintenance needs for these streets. A significant portion of the fees collected are to be spent on reconstruction/restoration of existing roadways.

With the first four years of PMUF funded pavement maintenance projects completed, the City contracted with Murray, Smith & Associates, Inc. (MSA) to help the City plan its long term pavement maintenance for 2012 through 2016. The goal of the plan was to develop a pavement maintenance plan for the next five years which will help guide the City's future pavement maintenance needs.

Project Description

This project will include the design and construction of streets identified for pavement rehabilitation in 2012 and 2013. The street segments to be rehabilitated for both years are shown on a map in Exhibit A . Work on these streets may also include ADA ramp retrofits and minor underground utility work located within the proposed paving limits. The City anticipates having the following budget (inclusive of design and construction engineering services) available for this work.

Fiscal Year (Construction Year)	Budget
2012-13 (2012)	Approximately $1,200,000
2013-14 (2013)	Approximately $1,300,000

An additional $300,000 remaining balance not used for work in 2011 may also be available in addition to the above budgets. The Consultant will develop and produce a total of two bid packages (one for each year) to complete this work. To address project uncertainty, the City is currently authorizing design services with this scope of work only for those streets identified in Phase 1 in Exhibit B. Streets identified in Phase 2 have more uncertainty associated with them and will be addressed later. Exhibit B also provides information about the type of work anticipated for each street segment to be rehabilitated. The City will work with the Consultant to formalize construction work on the Phase 1 streets considering the economies of location, type of work and the ability to fund certain underground utility improvements. The City will collaborate with the Consultant to develop future amendments for design associated with the Phase 2streets and for construction phase services. It is anticipated that design for Phase 2 streets will be incorporated into the bid packages for 2012

and 2013. Work to be completed for the Phase 2 streets will largely depend on estimated available budget remaining after the design and estimates have been developed for Phase 1 streets.

City Responsibilities

The City of Oregon City will be responsible for the following:

- Provide a project engineer/manager who is responsible for overall project management and will provide coordination between the consultant and the City.
- Establish the work scope and design parameters for each project, including related standards.
- Provide the Consultant copies of all available, relevant City utility "as-built" plans, topographical maps, reports and studies pertinent to the project.
- Provide Consultant with GIS technical support including a base map based upon coordinate geometry with aerial photography and topographic contours.
- Provide Consultant with the City's standard drafting frame, title block and a Drafting Standards Manual.
- Provide Consultant with digital copies of the City's standard construction specifications, details and "front end" bidding document sections.
- Provide timely review and comment on all reports, drawings and specifications submitted by Consultant to City for review and approval.
- Submit applications to the State and/or County for required permits. (Note Consultant will prepare and may be requested to contribute project information for any such applications).
- Maintain records and process consultant invoices.
- Provide legal review of all contracts, bid forms, and real property.
- Provide notifications as necessary to the public and business community regarding the nature and timing of the work to be completed.

Proposed Scope of Services

The scope of design services for the contemplated work is presented below. The design services described will apply to both bid packages to be developed. Where the scope differs between bid packages, appropriate distinction is made below.

TASK 1 – PROJECT MANAGEMENT

This effort covers the administration and coordination of the consultant's staff, subconsultants, and the interface with the City project manager and other City staff. The effort will include the following subtasks:

- Schedule and attend up to three (3) construction project scoping meetings with City staff for the 2012 projects and two (2) similar meetings for the 2013 projects. The

purpose of these meetings will be to establish project goals and expectations, design considerations, and existing site understandings. Review available information about the project area, and then develop an outline that the City and consultant can use for any follow-up investigations necessary to develop a biddable construction package. Prepare agendas and meeting notes.

- Coordinate submittal and review of plans and specifications by the City at the 50% and 90% level of completion.
- Process and submit monthly billings with a summary of project status by task and subtask, including a summary of invoicing from subconsultants retained for this project.
- Preparation and maintenance of the overall project schedule including adding staff subconsultants and other resources as needed to meet scheduled milestones. Periodically update detailed project schedules beginning with the predesign meeting and through to final completion of construction.

Task 1 Deliverables

- Invoices (monthly through November 2013)
- Project Design Schedule and updated project schedules as requested by the City
- Meeting agendas and minutes for scoping meetings

TASK 2 - SURVEYING

The majority of the project designs can be developed without a full site topographic survey; however, more complex utility improvements or some ADA ramp replacements, or areas of reconstruction may require a detailed site depiction requiring surveying and site mapping. In addition, pre and post monument surveys will be necessary for each roadway selected for reconstruction.

Task 2.1 Preliminary Monument Research

The locations and extent of pre-construction and post-construction monument survey work will depend on the final pavement rehabilitation work to be completed. This task will cover the following preliminary monument survey items:

- Research survey and plat records along the approximately 23 project locations described in Phase 1 of Exhibit B to find out what monuments have been set.
- Drive by sites to observe existing conditions.
- Meet with Oregon City to discuss minimum requirements.
- Meet with Clackamas County Surveyor to confirm requirements are met.

It is understood that field work and necessary filing of surveys with the County to complete the pre and post-construction survey work (based on the final design documents) will be added by amendment to this contract prior to construction.

Task 2.2 Pocket Survey – Contingency Task

Consultant shall complete base map, surface, and field topographic survey as needed to complete the final design. All work under this contingency task shall be on an as needed basis and shall be first authorized with a separate written Notice-to-Proceed, on a per day (9 hours for a survey crew and 9 hours for a survey technician for office work) basis, for up to three (5) days, at a cost not to exceed $2,837 for each day authorized. Consultant shall provide labor, equipment and materials to complete the surveying needs for the project.

Task 2 Deliverables

- Base map and surface files for use in design

TASK 3 – UTILITY COORDINATION

Although no significant utility conflicts are anticipated for this project due to shallow depth pavement rehabilitation, some small scale utility improvements may be completed in conjunction with the paving. In some project areas identified in Exhibit B, the design considerations may include utilities such as water, sewer, and storm drainage systems. Other considerations not identified may include franchise utilities including electric, gas, telephone, television and cable. Utility coordination efforts will include the following subtasks:

- Compilation and review of record drawings and system plans of existing utilities.
- Utilize the utility notification system to obtain field identification of underground utility systems.
- Meet with the existing utility providers (separately for both the 2012 and 2013 bid packages) to identify concerns related to the street reconstruction project and its impact on underground utilities.
- Coordinate the inclusion of any "straightforward" utility provider requirements determined appropriate for inclusion by the City into the final construction documents. "Straightforward" utility provider requirements would be those that can be noted in a project construction plan with reference to standard details (i.e., adding a simple pipe and catch basin system, water system appurtenance changes, utility system point repairs).
- In some cases, more complex ADA/utility improvements (i.e., grade challenged ADA ramp, water main replacement project, water quality swale including landscaping) are anticipated as necessary and identified in Exhibit B. Coordinate the inclusion of plan specific construction directives necessary to identify and specify the work.

Task 3 Deliverables

- Meeting agenda and minutes for group utility meeting for each bid package

- Utility provider requirements incorporated into the design submittals for each bid package

TASK 4 – 50% DESIGN

During this phase, Consultant will establish appropriate project limits, develop the design sections and solutions for drainage concerns, traffic control, construction phasing and neighborhood coordination requirements. Specific requirements under this task include:

- Complete a review of the City's existing mapping, as-builts, aerial photographs, topographic surveys and geotechnical reports (Another consultant is currently completing geotechnical evaluation services for the City to establish the conditions of the street subgrade for all project areas which will be provided for use in the design. Any additional geotechnical services that are determined necessary by the City and the Consultant team will either be obtained by the City or through a contract amendment with the Consultant.)
- Four (3) meetings with City staff (2 in 2012 and 1 in 2013) to complete site reconnaissance and site inspections. Meetings are anticipated to be full day meetings intended to address each street segment.
- Establish complexity of each project area to determine the need for supplemental project surveys, geotechnical evaluation, ADA compliance issues, construction plan/detail needs and underground utility improvement needs.
- Develop pavement rehabilitation recommendations for each street by evaluating the existing pavement sections from the provided geotechnical report and anticipated traffic loading conditions based on street classification and available historical traffic count and classification data.
- Preparation of 50% level cost estimate. Estimate will be broken down by funding source (PMUF and various utility funds) as needed. If work described in the design package is not within available funding, Consultant will make recommendations to adjust scope of the work to fit within available budget.
- Preparation of 50% construction plans, profiles, and details as needed to clearly describe the work to be constructed. Construction plans shall, at a minimum, include civil notes, details and sections, and street improvement plans. For projects requiring more detail (arterials and some collectors), the construction plans may also include centerline or curb line profiles, striping plans, utility improvement plans, and signal detection, demolition and erosion control plans. Construction drawings shall be prepared using AutoCAD Map 3D 2009. Submittals must be in .DWG format and include all reference and plotting files. Use standard City title block and drafting frame as provided by the City.
- Preparation of 50% special specifications to cover conditions specific to the work. Specifications shall incorporate the contract forms and general and supplementary general conditions. Consultant shall use the Joint ODOT / APWA Construction Specifications format when preparing special specifications. Work will include a

determination of the need for special pre-bid qualifications for contractors. Incorporate these requirements into final bidding documents if warranted
- Attend a design review (one each for 2012 and 2013) meeting approximately one week after submittal of the 50% design package.

Task 4 Deliverables

- Three (3) sets of 50% plans, specifications and cost estimate for each bid package
- Updated project schedule for each bid package
- Meeting agenda and minutes for 50% design review meeting for each bid package

TASK 5 – 90% DESIGN

The 90% design submittal shall be advanced from the 50% submittal (incorporating all review comments). Work will include attendance at one design review meeting (one each for 2012 and 2013) approximately one week after submittal of the 90% design package.

Task 5 Deliverables

- Three (3) sets of complete contract documents including 90% plans, specifications and cost estimate for each bid package
- Updated project schedule for each bid package
- Meeting agenda and minutes for 90% design review meeting for each bid package

TASK 6 – FINAL DESIGN

The final design submittal shall be advanced from the 90% submittal (incorporating all review comments).

Task 6 Deliverables

- Three (3) sets of complete contract documents including final plans, specifications and cost estimate for each bid package
- Updated project schedule for each bid package

TASK 7 – BIDDING SERVICES

The advertisement and bid administration will include:

- Provide one (1) reproducible set of construction documents for each bid package. The construction documents shall include special bidding requirements, technical specifications, and “full sized” and “half-sized” construction drawings and details. Depending on the complexity of the plans, drawings and details may be bound separately.

- Responding to bidder inquiries during the bid periods.
- Attending a pre-bid conference and site visit for each bid package.
- Preparation of any necessary bid addenda to address contractor questions and/or to identify contractors, suppliers, etc., that are qualified to submit bids or furnish equipment.
- Assisting City staff with the bid openings. Consultant shall review any specialty contractor prequalification applications as part of the bid review process. Consultant shall also consult with and advise owner as to the acceptability of subcontractors, suppliers and others proposed by the prime contractor if required by the bidding documents.

TASK 8 – CONSTRUCTION PHASE SERVICES

Basic construction phase services for the 2012 and 2013 bid packages include:

- Attending a preconstruction meeting.
- Reviewing requests for information, clarifications and change orders.
- Review of contractor submittals and shop drawings for conformance to the design requirements of the project and in accordance with the requirements of the contract documents. Consult with and advise City as to the acceptability of substitute and "or-equal" items proposed for use by the contractor.
- Periodic site visits (assumed two visits per week, four hours per visit over a two month construction period for 2012 and one month period for 2013) to monitor the progress and quality of the work, including preparation of construction inspection reports.
- Assistance in determining if non-conforming contract work should be rejected.
- Attendance at progress meetings (assume weekly for a total of two months) with contractor and City to address construction related issues.
- Reviewing and making recommendations for contractor monthly progress payments (assumed two progress payments for 2012 and one for 2013 bid packages).
- Attendance during the final inspection and preparation of a report on completion of the project, including a recommendation of final acceptance of work by the City.
- Provide Record Drawings representative of the "as constructed" project. Record Drawings shall be in ink and furnished on 3-mil mylar. Sepia mylar is not acceptable. Record Drawings and construction specifications shall also be provided to the City in digital format.

Given the uncertainty of the project construction service needs and the City's in-house staff availability for daily project oversight, the City will negotiate with the Consultant to establish the additional service needs and the appropriate fees. Upon agreement, the additional construction phase work will be added to the original contract via contract amendment. In general, the additional construction phase services could include:

- On-site construction observation and testing of subgrade aggregates, unreinforced concrete, and asphalt.
- Offsite laboratory analysis of construction materials including native and imported backfill, concrete, and asphalt.
- Providing detailed construction staking services as needed.
- Establishing monument property corners upon completion of the project including monumentation disturbed by construction or new monuments required for adjusted property lines resulting from dedication of additional public right-of-way.

Preliminary Sheet List

Based on the list of Phase 1 streets to be rehabilitated in 2012 and 2013, a total of 44 sheets (28 in 2012 and 16 in 2013) are estimated. A sheet list showing the breakdown of sheets per bid package is provided in Exhibit C. As Phase 2 and 3 streets are added by amendment to the bid packages as funding allows, it is anticipated that this sheet count will be adjusted accordingly.

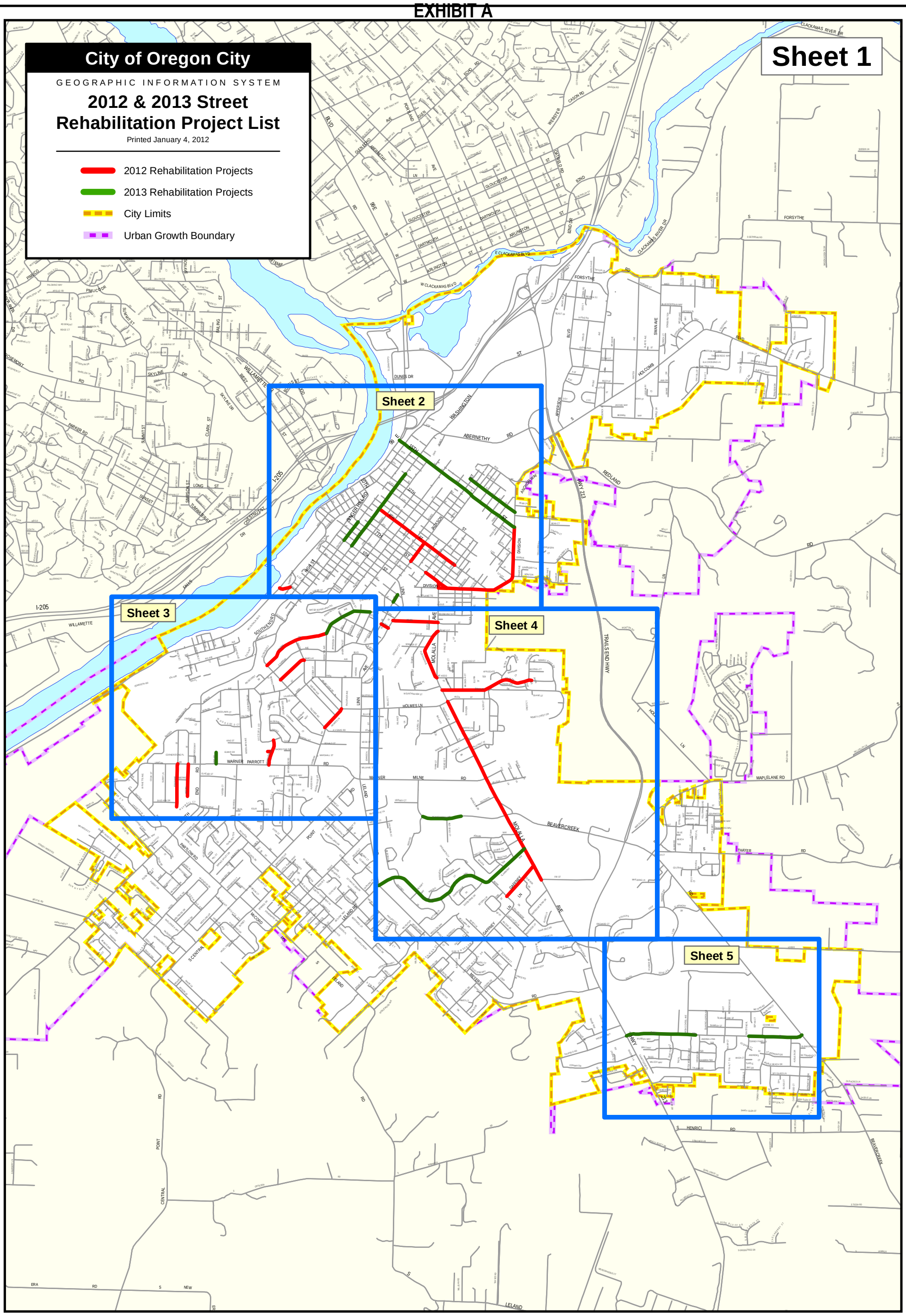
Proposed Fee Estimate

MSA proposes to perform this work on a time and expenses basis with a total not to exceed amount of $198,736 which includes design and construction services for the Phase 1 streets identified in Exhibit B for both the 2012 and 2013 bid packages. The proposed fee estimate is broken down for each bid package (2012 and 2013) in accordance with the attached Exhibits D and E.

Schedule

The design schedule for the 2012 bid package will accommodate an anticipated bid opening date of July 10th, 2012 with anticipated NTP to the construction contractor in early August. The schedule for the 2013 bid package will accommodate construction in July and August of 2013.

EXHIBIT A



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, or surveying purposes. Notification of any errors is appreciated.

Please recycle with colored office grade paper.

N W E S

0 0.25 0.5 1 Miles

0 1,000 2,000 4,000 6,000 Feet

City of Oregon City
P.O. Box 3040
624 Center St
Oregon City, OR 97045
503-657-0891 phone
503-657-6629 fax
www.orcity.org

OREGON CITY

Plot date: January 4, 2012
Plot name: 2012 and 2013 Street Rehabilitation Projects Map - Sheet 1 - 11x17P - 20120104.pdf
Map name: 2012 and 2013 Street Rehabilitation Projects Map - Sheet 1 - 11x17P - 20120104.mxd

EXHIBIT B

PROFESSIONAL ENGINEERING SERVICES FOR
OREGON CITY ROADWAY RECONSTRUCTION
CITY OF OREGON CITY
STREETS TO BE REHABILITATED (2012 AND 2013 BID PACKAGES)

Project Location		Construction Year	**Phase 1** - Anticipated Design & Construction Services											
			Utility Design					Street Design			Construction Plans			
Phase 1	Length (feet)		Sewer - Pipe upgrades	Storm - Pipe upgrades	Storm - Surface drainage/grading	Storm - Swales/infiltration	Water - Pipe upgrades	Sidewalk ADA ramps	Curb &/or Sidewalk	Signal systems	Striping & or signing	Complex traffic control	Detailed plan & profile w/ construction notes	Plan map w/construction notes
7th Street - Harrison St. to Division St.	927	2012	no	no	no	no	no	**yes***	no	yes	yes	yes	no	yes
Division Street - 7th St. to 15th St.	3669	2012	no	**yes***	no	no	no	no	no	no	no	yes	yes	yes
S. 2nd Street - Hwy 99E to S. High Street	322	2012	no	no	no	no	no	**yes***	no	yes	yes	yes	no	yes
Ogden Drive - Telford Rd. to Brighton Ave.	2022	2012	no	no	yes	**yes***	no	no	no	no	no	no	no	yes
Barclay Avenue - Telford Rd. to Cherry Ave.	969	2012	no	no	yes	no	no	no	no	no	no	no	no	yes
Hazel Street - Linn Ave. to East Ave.	222	2012	no	no	no	no	no	no	no	no	no	no	no	yes
Holmes Lane - Telford Rd to McCarver Ave.	711	2012	no	no	yes	no	no	no	no	no	no	no	no	yes
Birchwood Drive - Warner Parrott Rd. to Hazelwood Dr.	696	2012	no	no	no	no	no	no	no	no	no	no	no	yes
Netzel Street - Lawton Rd. to end	897	2012	yes	no	no	no	no	no	no	no	no	no	yes	no
Josephine Street - Lawton Rd. to end	1214	2012	yes	no	no	no	no	no	no	no	no	no	yes	no
Gaffney Lane - Molalla Ave. to Berta Dr.	1155	2012	no	no	no	no	no	**yes***	**yes***	yes	yes	yes	yes	no
Molalla Avenue - Warner Milne Rd. to Holmes Ln.	5811	2012	no	no	no	no	no	**yes***	no	yes	yes	yes	no	yes
Pleasant Avenue - Molalla Ave. to Molalla Ave.	1463	2012	no	no	yes	no	no	no	no	no	no	no	no	yes
Barclay Hills Drive - Molalla Ave to Alden Street	1216	2012	**yes***	no	no	no	no	no	no	no	yes	no	yes	yes
Barclay Hills Drive - Alden St. to Chickaree Dr.	1473	2012	no	no	**yes***	no	no	no	no	no	no	no	yes	no
Jackson Street - 7th St. to 9th St.	327	2013	no	**yes***	no	no	**yes***	**yes***	no	no	no	no	yes	no
Center Street - 5th St. to 7th St.	667	2013	no	**yes***	no	no	**yes***	**yes***	no	no	no	yes	yes	no
Washington Street - 5th St. to 7th St.	667	2013	no	**yes***	no	no	**yes***	**yes***	no	yes	yes	yes	yes	no
East Street - 3rd St. to 4th St.	260	2013	no	no	yes	no	no	no	no	no	no	no	no	yes
Glen Oak Road - Hwy 213 to Mossy Meadows Ave.	1883	2013	no	no	no	no	no	no	no	yes	yes	yes	no	yes
Glen Oak Road - Coquille Dr. to Beavercreek Rd.	1556	2013	no	no	no	no	no	yes	no	no	yes	yes	no	yes
Beavercreek Road - Kaen Rd. to 2011 paving limits	1021	2013	no	no	no	no	no	no	no	no	yes	yes	no	yes
Total	29148													

*** indicates the design effort is considered more complex than "straightforward".**

Future Phase Work

9th Street - Washington St. to Taylor St.	2714	2012	**Phase 2** - Concept level design including developing and recommending the alternatives for improvements (see notes)	**Phase 3** - Final design and construction phase services
Pearl Street - Linn Ave. to Molalla Ave.	1266	2012		
Washington Street - 7th St. to 13th St.	1922	2013		
15th Street - Main St. to Division St.	3978	2013		
16th Street - Jackson St. to Division St.	1552	2013		
Clairmont Way - Leland Rd. to Molalla Ave.	5161	2013		
	16593			

EXHIBIT C

PROFESSIONAL ENGINEERING SERVICES FOR
OREGON CITY ROADWAY RECONSTRUCTION
CITY OF OREGON CITY
ANTICIPATED SHEET LIST (ASSUMED PHASE 1 STREETS ONLY)

2012 BID PACKAGE

	GENERAL	
1	G-1	COVER/TITLE SHEET
1	G-2	GENERAL NOTES, LEGEND, ABBREVIATIONS AND STANDARD DRAWING LIST
	CIVIL (PLAN AND PROFILES FOR KEY UTILITY AREAS ONLY)	
1	C-1	PLAN MAP & NOTES - 2ND, 7TH, 9TH, JACKSON AND DIVISION
1	C-2	PLAN MAP & NOTES - OGDEN, BARCLAY, HOLMES, BIRCHWOOD, NETZEL AND JOSEPHINE
1	C-3	PLAN MAP & NOTES - HAZEL, PEARL, PLEASANT, BARCLAY HILLS, MOLALLA AND GAFFNEY
1	C-4	PLAN & PROFILE - DIVISION STREET
1	C-5	PLAN & PROFILE - DIVISION STREET
1	C-6	PLAN & PROFILE - NETZEL STREET
1	C-7	PLAN & PROFILE - JOSEPHINE STREET
1	C-8	PLAN & PROFILE - GAFFNEY LANE
1	C-9	PLAN & PROFILE - BARCLAY HILLS DRIVE
1	C-10	PLAN & PROFILE - BARCLAY HILLS DRIVE
1	C-11	PLAN & PROFILE - AS NEEDED
1	C-12	TYPICAL STREET SECTIONS
1	C-13	STREET DETAILS
1	C-14	STREET DETAILS
1	C-15	UTILITY DETAILS
	STRIPING & SIGNING	
1	S-1	STRIPING & SIGNING NOTES & DETAILS
1	S-2	STRIPING PLAN MAP
1	S-3	STRIPING & SIGNING PLAN - 7TH STREET & 2ND STREET
1	S-4	STRIPING & SIGNING PLAN - GAFFNEY LANE & BARCLAY HILLS DRIVE
1	S-5	STRIPING & SIGNING PLAN - MOLALLA AVENUE
	TRAFFIC CONTROL (CONCEPTUAL STAGING, DETOURS AND ALTERNATIVE ROUTES ONLY)	
1	TC-1	TRAFFIC CONTROL LEGEND & NOTES
1	TC-2	TRAFFIC CONTROL PLAN - 7TH STREET, 2ND STREET & GAFFNEY LANE
1	TC-3	TRAFFIC CONTROL PLAN - DIVISION STREET
1	TC-4	TRAFFIC CONTROL PLAN - DIVISION STREET
1	TC-5	TRAFFIC CONTROL PLAN - MOLALLA AVENUE
1	TC-6	TRAFFIC CONTROL PLAN - MOLALLA AVENUE

28 <---SHEET COUNT TOTAL

2013 BID PACKAGE

	GENERAL	
1	G-1	COVER/TITLE SHEET
1	G-2	GENERAL NOTES, LEGEND, ABBREVIATIONS AND STANDARD DRAWING LIST
	CIVIL (PLAN AND PROFILES FOR KEY UTILITY AREAS ONLY)	
1	C-1	PLAN MAP & NOTES - EAST, GLEN OAK AND BEAVERCREEK
1	C-2	PLAN & PROFILE - JACKSON STREET
1	C-3	PLAN & PROFILE - CENTER STREET
1	C-4	PLAN & PROFILE - WASHINGTON STREET
1	C-5	TYPICAL STREET SECTIONS
1	C-6	STREET DETAILS
1	C-7	UTILITY DETAILS
	STRIPING & SIGNING	
1	S-1	STRIPING & SIGNING NOTES, DETAILS & MAP
1	S-2	STRIPING & SIGNING PLAN - WASHINGTON & GLEN OAK
1	S-3	STRIPING & SIGNING PLAN - GLEN OAK & BEAVERCREEK
	TRAFFIC CONTROL (CONCEPTUAL STAGING, DETOURS AND ALTERNATIVE ROUTES ONLY)	
1	TC-1	TRAFFIC CONTROL LEGEND & NOTES
1	TC-2	TRAFFIC CONTROL PLAN - CENTER & WASHINGTON
1	TC-3	TRAFFIC CONTROL PLAN - GLEN OAK
1	TC-4	TRAFFIC CONTROL PLAN - BEAVERCREEK ROAD

16 <---SHEET COUNT TOTAL

EXHIBIT D

PROFESSIONAL ENGINEERING SERVICES FOR
OREGON CITY ROADWAY RECONSTRUCTION
CITY OF OREGON CITY
PROPOSED FEE ESTIMATE (2012 BID PACKAGE)

TASK	Principal $167.54 Bowers	Engineer V $114.47 Crop	Engr. III $100.94 Giesy	Engr. III $100.94 Linscheid	Tech. $88.45 Harjala	Clerical $62.44	Total Hours	ESTIMATED FEES Labor	Subs HDJ	Expenses	Total
Task 1 - Project Management											
Scoping meetings (3 total)	8	18	4				30	$ 3,805		$ 41	$ 3,846
Coordinate design reviews		8					8	$ 916		$ -	$ 916
Monthly billings	8	16					24	$ 3,172		$ -	$ 3,172
Schedule		4	8				12	$ 1,265		$ -	$ 1,265
Task 1 Subtotal	**16**	**46**	**12**	**0**	**0**	**0**	**74**	**$ 9,158**	**$ -**	**$ 41**	**$ 9,199**
Task 2 - Surveying											
2.1 Preliminary Monument Research		4		4			8	$ 862	$ 8,250	$ -	$ 9,112
2.2 Pocket Survey (Contingency Task) - see below							0	$ -		$ -	$ -
Task 2 Subtotal	**0**	**4**	**0**	**4**	**0**	**0**	**8**	**$ 862**	**$ 8,250**	**$ -**	**$ 9,112**
Task 3 - Utility Coordination											
Compile and review drawings and mapping		4	12				16	$ 1,669		$ -	$ 1,669
Coordinate One-Call locates			4				4	$ 404		$ -	$ 404
Meet with utilities		4	8				12	$ 1,265		$ 14	$ 1,279
Review and incorporate utility provider requirements		8	12	4			24	$ 2,531		$ -	$ 2,531
Task 3 Subtotal	**0**	**16**	**36**	**4**	**0**	**0**	**56**	**$ 5,869**	**$ -**	**$ 14**	**$ 5,883**
Task 4 - 50% Design											
Review City provided documents	1	6	4	6			17	$ 1,864		$ -	$ 1,864
Establish complexity for each project area	1	8	4	4			17	$ 1,891		$ -	$ 1,891
Develop pavement rehabilitaiton recommendations	1	8	4	4			17	$ 1,891		$ -	$ 1,891
On-site meetings (2 total)		4	16	16			36	$ 3,688		$ -	$ 3,688
Plans	1	7	14	42	42		106	$ 10,336		$ 559	$ 10,895
Specifications & contract documents	4	20	4				28	$ 3,363		$ 90	$ 3,453
Cost Estimate	1	4	12	8			25	$ 2,644		$ -	$ 2,644
Design review meeting		8	4				12	$ 1,320		$ 14	$ 1,333
Task 4 Subtotal	**9**	**65**	**62**	**80**	**42**	**0**	**258**	**$ 26,997**	**$ -**	**$ 662**	**$ 27,659**
Task 5 - 90% Design											
Incorporate comments		1		6			7	$ 720		$ -	$ 720
Plans	2	7	14	42	42		107	$ 10,504		$ 559	$ 11,063
Specifications & contract documents	2	20	4				26	$ 3,028		$ 90	$ 3,118
Cost Estimate	1	2	12	8			23	$ 2,415		$ -	$ 2,415
Design review meeting		8	4				12	$ 1,320		$ 14	$ 1,333
Task 5 Subtotal	**5**	**38**	**34**	**56**	**42**	**0**	**175**	**$ 17,987**	**$ -**	**$ 662**	**$ 18,649**
Task 6 - Final Design											
Incorporate comments		1		4			5	$ 518		$ -	$ 518
Plans	1	4	7	28	28		68	$ 6,635		$ 368	$ 7,003
Specifications & contract documents	1	10	4			2	17	$ 1,841		$ 30	$ 1,871
Cost Estimate		2	4	2			8	$ 835		$ -	$ 835
Task 6 Subtotal	**2**	**17**	**15**	**34**	**28**	**2**	**98**	**$ 9,829**	**$ -**	**$ 398**	**$ 10,227**
Task 7 - Bidding Services											
Bidder questions		8	4				12	$ 1,320		$ -	$ 1,320
Pre-bid conference	4	8					12	$ 1,586		$ 14	$ 1,600
Addenda		8	4	8	4	2	26	$ 2,606		$ 52	$ 2,658
Bid opening	4	8					12	$ 1,586		$ 14	$ 1,600
Task 7 Subtotal	**8**	**32**	**8**	**8**	**4**	**2**	**62**	**$ 7,097**	**$ -**	**$ 80**	**$ 7,177**
Task 8 - Construction Phase Services											
Pre-Construction Meeting		8		4			12	$ 1,320		$ 14	$ 1,333
RFIs and change orders		8		12			20	$ 2,127		$ -	$ 2,127
Submittals		8		24			32	$ 3,338		$ -	$ 3,338
Site visits		8		72			80	$ 8,183		$ 248	$ 8,431
Progress meetings		8		36			44	$ 4,550		$ -	$ 4,550
Monthly progress payments		4		8			12	$ 1,265		$ -	$ 1,265
Final inspection		4		8			12	$ 1,265		$ -	$ 1,265
Record drawings		4		16	16		36	$ 3,488		$ 208	$ 3,696
Task 8 Subtotal	**0**	**52**	**0**	**180**	**16**	**0**	**248**	**$ 25,537**	**$ -**	**$ 469**	**$ 26,006**
TOTAL - NON-CONTINGENCY TASKS	***40***	***270***	***167***	***366***	***132***	***4***	***979***	***$ 103,335***	***$ 8,250***	***$ 2,327***	***$ 113,911***
2.2 Pocket Survey (Contingency Task)		6	6				12	$ 1,292	$ 7,217	$ -	$ 8,510
TOTAL - CONTINGENCY TASKS	***0***	***6***	***6***	***0***	***0***	***0***	***12***	***$ 1,292***	***$ 7,217***	***$ -***	***$ 8,510***
TOTAL - ALL TASKS	***40***	***276***	***173***	***366***	***132***	***4***	***991***	***$ 104,627***	***$ 15,467***	***$ 2,327***	***$ 122,421***

PROFESSIONAL ENGINEERING SERVICES FOR
OREGON CITY ROADWAY RECONSTRUCTION
CITY OF OREGON CITY
PROPOSED FEE ESTIMATE (2013 BID PACKAGE)

TASK	Principal $167.54 Bowers	Engineer V $114.47 Crop	Engr. III $100.94 Giesy	Engr. III $100.94 Linscheid	Tech. $88.45 Harjala	Clerical $62.44	Total Hours	ESTIMATED FEES Labor	Subs HDJ	Expenses	Total
Task 1 - Project Management											
Scoping meetings (2 total)		8	6				14	$ 1,521		$ 28	$ 1,549
Coordinate design reviews		6					6	$ 687		$ -	$ 687
Monthly billings	8	16					24	$ 3,172		$ -	$ 3,172
Schedule		2	6				8	$ 835		$ -	$ 835
Task 1 Subtotal	**8**	**32**	**12**	**0**	**0**	**0**	**52**	**$ 6,215**	**$ -**	**$ 28**	**$ 6,242**
Task 2 - Surveying											
2.1 Preliminary Monument Research							0	$ -		$ -	$ -
2.2 Pocket Survey (Contingency Task) - see below							0	$ -		$ -	$ -
Task 2 Subtotal	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**$ -**	**$ -**	**$ -**	**$ -**
Task 3 - Utility Coordination											
Compile and review drawings and mapping		2	8				10	$ 1,036		$ -	$ 1,036
Coordinate One-Call locates			4				4	$ 404		$ -	$ 404
Meet with utilities		4	8				12	$ 1,265		$ 14	$ 1,279
Review and incorporate utility provider requirements		6	8	4			18	$ 1,898		$ -	$ 1,898
Task 3 Subtotal	**0**	**12**	**28**	**4**	**0**	**0**	**44**	**$ 4,604**	**$ -**	**$ 14**	**$ 4,617**
Task 4 - 50% Design											
Review City provided documents	1	4	4	6			15	$ 1,635		$ -	$ 1,635
Establish complexity for each project area	1	6	4	2			13	$ 1,460		$ -	$ 1,460
Develop pavement rehabilitaiton recommendations	1	4	2	2			9	$ 1,029		$ -	$ 1,029
On-site meetings (2 total)		2	8	8			18	$ 1,844		$ -	$ 1,844
Plans	1	4	8	27	24		64	$ 6,281		$ 319	$ 6,600
Specifications & contract documents	4	12	2				18	$ 2,246		$ 90	$ 2,336
Cost Estimate	1	4	8	6			19	$ 2,039		$ -	$ 2,039
Design review meeting		8	4				12	$ 1,320		$ 14	$ 1,333
Task 4 Subtotal	**9**	**44**	**40**	**51**	**24**	**0**	**168**	**$ 17,853**	**$ -**	**$ 423**	**$ 18,276**
Task 5 - 90% Design											
Incorporate comments		2		4			6	$ 633		$ -	$ 633
Plans	2	4	8	24	24		62	$ 6,146		$ 319	$ 6,465
Specifications & contract documents	2	12	2				16	$ 1,911		$ 90	$ 2,001
Cost Estimate	2	2	8	6			18	$ 1,977		$ -	$ 1,977
Design review meeting		8	4				12	$ 1,320		$ 14	$ 1,333
Task 5 Subtotal	**6**	**28**	**22**	**34**	**24**	**0**	**114**	**$ 11,986**	**$ -**	**$ 423**	**$ 12,409**
Task 6 - Final Design											
Incorporate comments		2		2			4	$ 431		$ -	$ 431
Plans	1	4	4	16	16		41	$ 4,059		$ 210	$ 4,270
Specifications & contract documents	1	6	2			2	11	$ 1,181		$ 30	$ 1,211
Cost Estimate		1	2	2			5	$ 518		$ -	$ 518
Task 6 Subtotal	**2**	**13**	**8**	**20**	**16**	**2**	**61**	**$ 6,190**	**$ -**	**$ 240**	**$ 6,430**
Task 7 - Bidding Services											
Bidder questions		6	2				8	$ 889		$ -	$ 889
Pre-bid conference	4	6					10	$ 1,357		$ 14	$ 1,371
Addenda		6	4	6	2	1	19	$ 1,936		$ 26	$ 1,962
Bid opening	4	6					10	$ 1,357		$ 14	$ 1,371
Task 7 Subtotal	**8**	**24**	**6**	**6**	**2**	**1**	**47**	**$ 5,538**	**$ -**	**$ 54**	**$ 5,592**
Task 8 - Construction Phase Services											
Pre-Construction Meeting		8		4			12	$ 1,320		$ 14	$ 1,333
RFIs and change orders		6		8			14	$ 1,494		$ -	$ 1,494
Submittals		6		20			26	$ 2,706		$ -	$ 2,706
Site visits		8		40			48	$ 4,953		$ 138	$ 5,091
Progress meetings		4		20			24	$ 2,477		$ -	$ 2,477
Monthly progress payments		2		4			6	$ 633		$ -	$ 633
Final inspection		4		8			12	$ 1,265		$ -	$ 1,265
Record drawings		4		8	8		20	$ 1,973		$ 104	$ 2,077
Task 8 Subtotal	**0**	**42**	**0**	**112**	**8**	**0**	**162**	**$ 16,821**	**$ -**	**$ 255**	**$ 17,076**
TOTAL - NON-CONTINGENCY TASKS	***33***	***195***	***116***	***227***	***74***	***3***	***648***	***$ 69,206***	***$ -***	***$ 1,436***	***$ 70,642***
2.2 Pocket Survey (Contingency Task)		4	4				8	$ 862	$ 4,811	$ -	$ 5,673
TOTAL - CONTINGENCY TASKS	***0***	***4***	***4***	***0***	***0***	***0***	***8***	***$ 862***	***$ 4,811***	***$ -***	***$ 5,673***
TOTAL - ALL TASKS	***33***	***199***	***120***	***227***	***74***	***3***	***656***	***$ 70,067***	***$ 4,811***	***$ 1,436***	***$ 76,315***

City of Oregon City

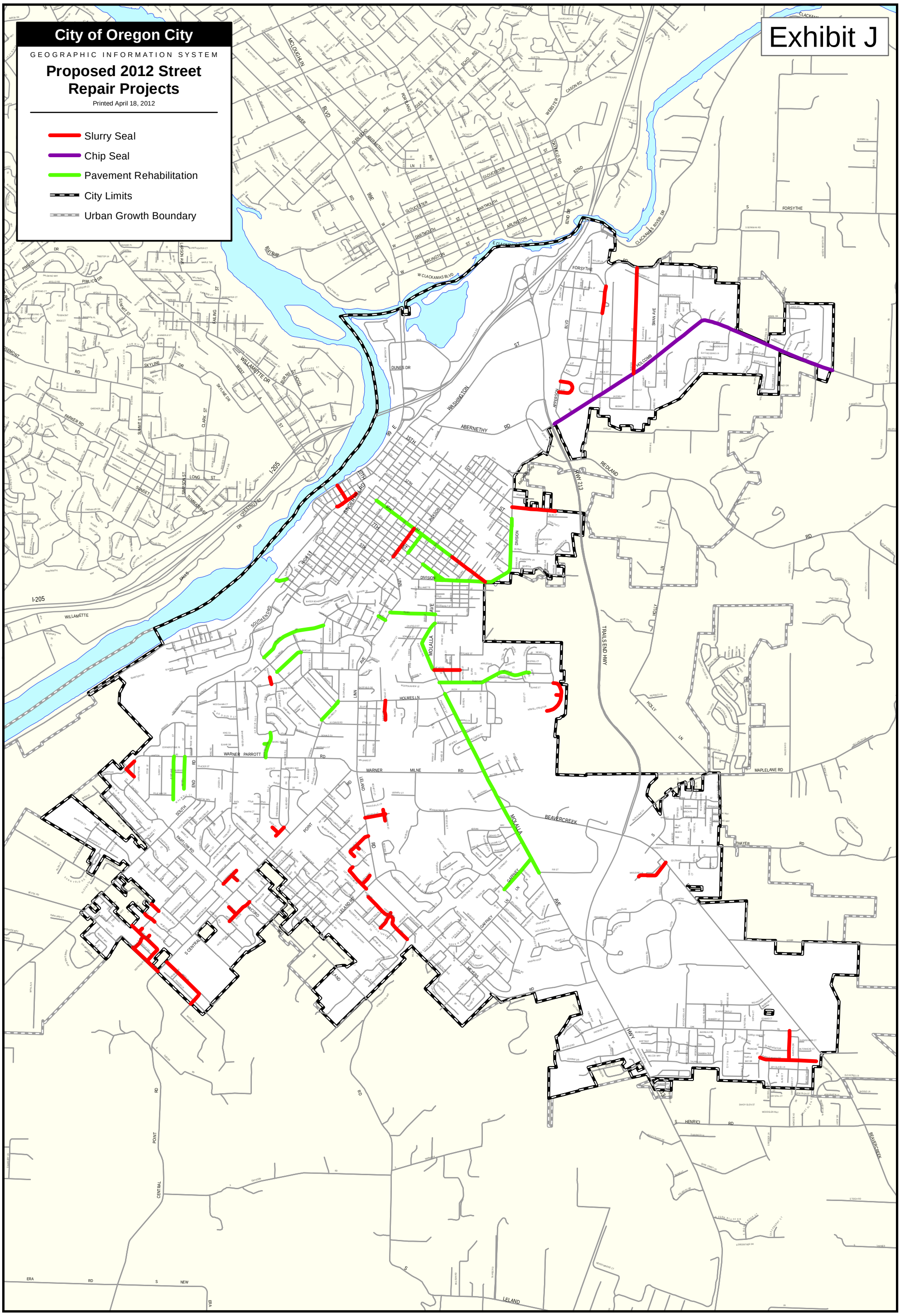
GEOGRAPHIC INFORMATION SYSTEM

Proposed 2012 Street Repair Projects

Printed April 18, 2012

- Slurry Seal
- Chip Seal
- Pavement Rehabilitation
- City Limits
- Urban Growth Boundary

Exhibit J



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, or surveying purposes. Notification of any errors is appreciated.

Please recycle with colored office grade paper.

N W E S

0 0.25 0.5 1 Miles

0 1,000 2,000 4,000 6,000 Feet

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Plot date: April 18, 2012
Plot name: PMUF - 2012 Projects Map - 20120418 - 11x17P.pdf
Map name: PMUF - 2012 Projects Map - 20120418 - 11x17P.mxd