AGENDA

CANBY CITY COUNCIL REGULAR MEETING
June 20, 2012
7:30 PM
Council Chambers
155 NW 2nd Avenue

Mayor Randy Carson

Council President Walt Daniels
Councilor Richard Ares
Councilor Tim Dale
Councilor Traci Hensley
Councilor Brian Hodson
Councilor Greg Parker

WORK SESSION
6:30 PM
City Hall Conference Room
182 N Holly

This Work Session will be attended by the Mayor and City Council to discuss new SDC Fees for Stormwater and Sewer.

CITY COUNCIL REGULAR MEETING

1. CALL TO ORDER

A. Pledge of Allegiance and Moment of Silence
B. MV Transportation Presentation of Driver Safety Award
C. Canby Fire District #62 "Fill-the-Boot" Day Proclamation Pg. 1
D. Presentation on New SDC Fees for Stormwater and Sewer

2. COMMUNICATIONS

3. CITIZEN INPUT & COMMUNITY ANNOUNCEMENTS

(This is an opportunity for visitors to address the City Council on items not on the agenda. It is also the time to address items that are on the agenda but not scheduled for a public hearing. Each citizen will be given 3 minutes to give testimony. Citizens are first required to fill out a testimony/comment card prior to speaking and hand it to the City Recorder. These forms are available by the sign-in podium. Staff and the City Council will make every effort to respond to questions raised during citizens input before tonight's meeting ends or as quickly as possible thereafter.)

4. MAYOR'S BUSINESS

5. COUNCILOR COMMENTS & LIAISON REPORTS

6. CONSENT AGENDA

(This section allows the City Council to consider routine items that require no discussion and can be approved in one comprehensive motion. An item may be discussed if it is pulled from the consent agenda to New Business.)

A. Approval of Minutes of the June 6, 2012 City Council Work Session and Regular Meeting
B. Reappointment to City Budget Committee Pg. 2
C. Appointments to Transit Advisory Committee Pg. 3

7. PUBLIC HEARINGS

A. State Revenue Sharing Funds
B. 2012-2013 Fiscal Year Budget

8. RESOLUTIONS & ORDINANCES

A. Res. 1132, Verifying City has Met Requirements to Receive Revenues from Cigarette, Gas and Liquor Taxes Pg. 5
B. Res. 1133, Adopting Budget, Making Appropriations and Categorization for the FY 2012-13 Pg. 7
C. Res. 1134, Amending Methodologies and Fees for Sanitary Sewer and Stormwater SDCs Pg. 13
D. Res. 1135, Adopting the 2012 Revised Public Works Design Standards Pg. 38
E. Res. 1136, Authorizing Transfers of Appropriations from Existing Categories to Other Existing Categories Within the General, Technical Services and Swim Center Levy Funds Pg. 84
F. Ord. 1358, Authorizing the Purchase of Two Vehicles for Canby Area Transit from Gillig LLC of California **(2nd Reading)** Pg. 87
G. Ord. 1359, Authorizing Contract with Eagle-Elsner, Inc. in the Amount of $534,435 for Construction of the 2012 Street Maintenance Program **(2nd Reading)** Pg. 95
H. Ord. 1360, Declaring City's Election to Receive State Revenue for FY 2012-2013 Pg. 103

9. NEW BUSINESS

A. Cancellation of July 5 City Council Meeting

10. CITY ADMINISTRATOR'S BUSINESS & STAFF REPORTS

11. CITIZEN INPUT

12. ACTION REVIEW

13. EXECUTIVE SESSION: ORS 192.660(2)(h) Pending Litigation

14. ADJOURN

*The meeting location is accessible to persons with disabilities. A request for an interpreter for the hearing impaired or for other accommodations for persons with disabilities should be made at least 48 hours before the meeting to Kim Scheafer, MMC, City Recorder at 503.266.4021 ext. 233. A copy of this Agenda can be found on the City's web page at www.ci.canby.or.us. City Council and Planning Commission Meetings are broadcast live and can be viewed on OCTS Channel 5. For a schedule of the playback times, please call 503.263.6287.

Office of the Mayor

Proclamation

Canby Fire District #62 "Fill-the-Boot" Day

WHEREAS, Canby Fire District #62 has been working with the Muscular Dystrophy Association in their fight against neuromuscular disease; and

WHEREAS, "Fill-the-Boot" is an opportunity for Oregon firefighters to ask community members to drop donations into their fire boots to help local families served by MDA in the state. This year marks the 58th anniversary of the partnership between firefighters and MDA in the fight against muscle wasting diseases; and

WHEREAS, Canby Fire District #62 has spent many hours collecting money on the streets for this campaign; and

WHEREAS, firefighters, locally and nationally, are the largest contributors to the MDA. Canby Firefighters collected $8,700 in 2011 to help in the fight against the 43 different types of neuromuscular diseases.

NOW, THEREFORE, I, Randy Carson, by virtue of the authority vested in me as Mayor of the City of Canby, do hereby proclaim Saturday, July 28, 2012 as:

Canby Fire District #62
"Fill-the-Boot" Day for the City of Canby

Given unto my hand this 20th day of June, 2012

Randy Carson
Mayor

Term to Expire 6.30.15

CITY OF CANBY
APPLICATION
BOARD/COMMITTEES/COMMISSIONS/COUNCIL

Date: 05/30/2012

Name: Daniel O Stearns Occupation: Tax Consulting and Representation

Home Address: _____

Employer: Self Employed Position: _____

Daytime Phone: _____ Evening Phone: _____ _____

E-Mail Address: _____

For which position are you applying? Renew Canby Budget Comittee

What are your community interests (committees, organizations, special activities)? _____
Currently Member of Canby budget Comittee, Member of Canby Chamber of commerce, Director of Oregon Society of Enrolled Agents

Experience and educational background: BS Business Management University of Phoenix
United States Tax Court Practitioner, Enrolled to practice before the Internal Revenue Service, Licensed Tax Consultant. Notary Public

Reason for your interest in this position: I want to help make a difference

List any other City or County positions on which you serve or have served: _____
Currently a member of the Canby Budget Comittee

Information on any special membership requirements: _____

Referred by (if applicable): _____

Feel free to attach a copy of your resume and use additional sheets if necessary

THANK YOU FOR YOUR WILLINGNESS TO SERVE CANBY

RECEIVED
MAY 30 2012
CITY OF CANBY

Please return to: ***City of Canby***
Attn: City Recorder
182 N Holly Street
PO Box 930
Canby, OR 97013

Phone: 503.266.4021 Fax: 503.266.7961 Email: Scheaferk@ci.canby.or.us

Note: Please be advised that this information may be made available to anyone upon a public records request and may be viewable on the City's web site.

12-4-07

Term Expires 3.31.15

CITY OF CANBY
APPLICATION
BOARD/COMMITTEES/COMMISSIONS/COUNCIL

RECEIVED
JUN 04 2012
CITY OF CANBY

Date: 5/1/12

Name: Mariah Laitinen Occupation: _____

Home Address: _____

Employer: _____ Position: _____

Daytime Phone: _____ Evening Phone: same

E-Mail Address: _____

For which position are you applying? Transit Advisory Committee

What are your community interests (committees, organizations, special activities)? reg. bus rider

Experience and educational background: BA - Elementary Edu. TESOL certificate

Reason for your interest in this position: I was asked.

List any other City or County positions on which you serve or have served: none

Information on any special membership requirements: na

Referred by (if applicable): Julie Wehling

Feel free to attach a copy of your resume and use additional sheets if necessary

THANK YOU FOR YOUR WILLINGNESS TO SERVE CANBY

Please return to: ***City of Canby***
Attn: City Recorder
182 N Holly Street
PO Box 930
Canby, OR 97013
Phone: 503.266.4021 Fax: 503.266.7961 Email: Scheaferk@ci.canby.or.us

Note: Please be advised that this information may be made available to anyone upon a public records request and may be viewable on the City's web site. *12-4-07*

Term to Expire 3.31.15

CITY OF CANBY
APPLICATION
BOARD/COMMITTEES/COMMISSIONS/COUNCIL

RECEIVED
JUN 06 2012
CITY OF CANBY

Date: 6-4-12

Name: Francisco Zamora Flores Occupation: High School Student

Home Address: _____

Employer: _____ Position: _____

Daytime Phone: _____ Evening Phone: _____

E-Mail Address: _____

For which position are you applying? Canby Public transit Advisory Committee "Goal"

What are your community interests (committees, organizations, special activities)? Just Completed Ford Family Fandation Course, I am a Person whose transportation In Canby and also a High School Student

Experience and educational background: I am a high school Student and also a hisPanic Interpreter for the Canby Center.

Reason for your interest in this position: I have a vested interest In the future of transportation in Canby.

List any other City or County positions on which you serve or have served: Canby Center - Interpreter

Information on any special membership requirements: _____

Referred by (if applicable): Walt Daniels

Feel free to attach a copy of your resume and use additional sheets if necessary

THANK YOU FOR YOUR WILLINGNESS TO SERVE CANBY

Please return to: ***City of Canby***
Attn: City Recorder
182 N Holly Street
PO Box 930
Canby, OR 97013
Phone: 503.266.4021 Fax: 503.266.7961 Email: Scheaferk@ci.canby.or.us

Note: Please be advised that this information may be made available to anyone upon a public records request and may be viewable on the City's web site. *12-4-07*

M E M O R A N D U M

DATE: June 20, 2012

TO: Honorable Mayor Carson and City Council

FROM: Sue Engels, Finance Director

CC: Greg Ellis, City Administrator

RE: A RESOLUTION VERIFYING THAT THE CITY OF CANBY HAS MET THE REQUIREMENTS TO RECEIVE REVENUES FROM CIGARETTE, GAS AND LIQUOR TAXES.

Issue: Annual verification that the City has met the requirements to receive revenues from intergovernmental taxes.

Background: ORS 221.760 Prerequisites for cities in counties over 100,000 population to receive revenues from cigarette, gas and liquor taxes. (1) The officer responsible for disbursing funds to cities shall disburse such funds in the case of a city located within a county having more than 100,000 inhabitants, according to the most recent federal decennial census, only if the officer reasonably is satisfied that the city meets the requirements or if the city provides four or more of the following municipal services; (a) Police protection, (b) Fire protection, (c) Street construction, maintenance and lighting, (d) Sanitary sewers, (e) Storm sewers, (f) Planning, zoning and subdivision control, or (g) One or more utility services.

Recommendation: That council adopts Resolution No. 1132 validating that the city has met the requirements to receive revenues from cigarette, gas, and liquor taxes.

Fiscal Impact: The city estimates amounts to be received are $20,000 for cigarette taxes, $195,000 for liquor taxes, and $870,000 for gas taxes.

Attached: Resolution No. 1132

RESOLUTION NO. 1132

A RESOLUTION VERIFYING THAT THE CITY OF CANBY HAS MET THE REQUIREMENTS TO RECEIVE REVENUES FROM CIGARETTE, GAS AND LIQUOR TAXES.

WHEREAS, ORS 221.760 provides as follows:

Section 1. The officer responsible for disbursing funds to cities under ORS 323.455, 366.785 to 366.820, and 471.805 shall, in the case of a city located within a county having more than 100,000 inhabitants according to the most recent federal decennial census, disburse such funds only if the city provides four or more of the following services:

1. Police protection
2. Fire protection
3. Street construction, maintenance, and lighting
4. Sanitary sewer
5. Storm sewers
6. Planning, zoning, and subdivision control
7. One or more utility services and:

WHEREAS, City officials recognize the desirability of assisting the state officer responsible for determining the eligibility of cities to receive such funds in accordance with ORS 221.760,

NOW, THEREFORE, BE IT RESOLVED, that the City of Canby, Clackamas County, Oregon hereby certifies that it provides the following four or more municipal services enumerated in Section 1, ORS 221.760:

1. Police protection
2. Street construction, maintenance and lighting
3. Sanitary sewers
4. Planning, zoning and subdivision control
5. Storm sewers

This Resolution shall take effect on June 20, 2012.

ADOPTED by the Canby City Council at a regular meeting thereof on June 20, 2012.

_____
Randy Carson, Mayor

ATTEST:

_____
Kimberly Scheafer, MMC
City Recorder

M E M O R A N D U M

DATE: June 20, 2012

TO: Honorable Mayor Carson and City Council

FROM: Sue Engels, Finance Director

CC: Greg Ellis, City Administrator

RE: A RESOLUTION ADOPTING THE BUDGET, MAKING APPROPRIATIONS, AND IMPOSING AND CATEGORIZING TAXES FOR THE 2012-2013 FISCAL YEAR.

Issue: Oregon budget law requires adoption of an annual budget by June 30 of each year. ORS 294.453 requires the City to hold a public hearing, and ORS 294.458 requires the City to submit tax certification documents to the County Assessor by July 15th.

Background: The City of Canby passed a Tax Base of $1,250,000 on November 6, 1990. The City passed a local option levy of $0.49 per $1000.00 of assessed property value on November 08, 2011 to fund Swim Center operations. The City levies the taxes provided for in the adopted budget at the permanent rate of 3.4886 per $1000. These taxes are hereby levied upon all taxable property within the district as of 1:00 a.m. July 1, 2012. The allocation and categorization are subject to the limits of section 11, Article X1 of the Oregon Constitution.

Recommendation: We recommend City Council adopt Resolution No. 1133 as recommended by the budget committee.

Attached: Resolution No. 1133

RESOLUTION NO. 1133

A RESOLUTION ADOPTING THE BUDGET, MAKING APPROPRIATIONS, AND IMPOSING AND CATEGORIZING TAX FOR THE 2012-2013 FISCAL YEAR

WHEREAS, a public hearing for the 2012-2013 City Budget was duly and regularly advertised and held on June 20, 2012; and be it resolved that the City Council of the City of Canby hereby adopts the budget approved by the Budget Committee; and

WHEREAS, the City Council of Canby proposes to levy the taxes provided for in the adopted budget at the permanent rate of 3.4886 per $1,000 and a local option levy of 0.49 per $1,000 of assessed property value and that these taxes be levied upon all taxable property within the district as of July 1, 2012; and

WHEREAS, the following allocation and categorization subject to the limits of section 11, Article XI of the Oregon Constitution make up the above aggregate levy; now therefore:

RESOLUTION ADOPTING THE BUDGET

BE IT RESOLVED that the City Council of the City of Canby hereby adopts the budget for fiscal year 2012-13 in the total of $27,541,409. This budget is now on file at City Hall, 182 N. Holly St., Canby, Oregon.

RESOLUTION MAKING APPROPRIATIONS

BE IT RESOLVED that the amounts for the fiscal year beginning July 1, 2012, and for the purposes shown below are hereby appropriated:

GENERAL FUND

ADMINISTRATION	960,921
COURT	290,854
PLANNING	387,485
PARKS	475,429
BUILDING	76,339
POLICE	3,887,948
CEMETERY	106,371
FINANCE	488,258
TRANSFERS	1,119,482
CONTINGENCY	445,400
TOTAL	**8,238,487**

OTHER FUNDS

LIBRARY FUND

PERSONAL SERVICES	631,378
MATERIALS & SERVICES	144,600
TRANSFERS	156,403
CONTINGENCY	91,810
TOTAL	**1,024,191**

STREET FUND

PERSONAL SERVICES	402,552
MATERIALS & SERVICES	201,560
CAPITAL OUTLAY	34,000
TRANSFERS	1,323,932
CONTINGENCY	306,547
TOTAL	**2,268,591**

FLEET SERVICES FUND

PERSONAL SERVICES	223,342
MATERIALS & SERVICES	694,603
CAPITAL OUTLAY	192,789
TRANSFERS	192,680
CONTINGENCY	122,595
TOTAL	**1,426,009**

911 EMERGENCY

MATERIALS & SERVICES	170,501
TRANSFERS	600
TOTAL	**171,101**

PARKS DEVELOPMENT FUND

MATERIALS & SERVICES	5,000
CAPITAL OUTLAY	1,060,142
TRANSFERS	600
TOTAL	**1,065,742**

LIBRARY ENDOWMENT FUND

CAPITAL OUTLAY	135,415
TRANSFERS	600
TOTAL	**136,015**

CEMETERY PERPETUAL CARE

TRANSFERS	600
TOTAL	**600**

FACILITIES FUND

PERSONAL SERVICES	92,482
MATERIALS & SERVICES	106,954
CAPITAL OUTLAY	82,800
TRANSFERS	3,000
CONTINGENCY	55,695
TOTAL	**340,931**

FORFEITURE FUND

MATERIALS & SERVICES	16,118
TOTAL	**16,118**

TECH SERVICES FUND

PERSONAL SERVICES	104,085
MATERIALS & SERVICES	192,980
CAPITAL OUTLAY	172,095
TRANSFERS	2,087
CONTINGENCY	21,903
TOTAL	**493,150**

TRANSIT FUND

PERSONAL SERVICES	147,269
MATERIALS & SERVICES	825,020
CAPITAL OUTLAY	254,842
TRANSFERS	566,666
CONTINGENCY	123,471
TOTAL	**1,917,268**

SWIM CENTER LEVY FUND

PERSONAL SERVICES	435,178
MATERIALS & SERVICES	123,380
TRANSFERS	97,624
CONTINGENCY	205,863
TOTAL	**862,045**

DEBT SERVICE FUND

MATERIALS & SERVICES	115,297
DEBT SERVICE	79,020
TRANSFERS	142,980
TOTAL	**337,297**

SEWER COMBINED FUND

PERSONAL SERVICES	1,000,161
MATERIALS & SERVICES	1,032,230
CAPITAL OUTLAY	2,017,434
DEBT SERVICE	564,925
TRANSFERS	921,059
CONTINGENCY	253,875
TOTAL	**5,789,684**

STREET RESERVE

CAPITAL OUTLAY	2,356,009
TRANSFERS	600
TOTAL	**2,356,609**

CAPITAL RESERVE

CAPITAL OUTLAY	275,678
TOTAL	**275,678**

TOTAL APPROPRIATIONS, ALL FUNDS	**$26,719,516**
TOTAL UNAPPROPRIATED AMOUNTS, ALL FUNDS	$ 821,893
TOTAL ADOPTED BUDGET	**$27,541,409**

RESOLUTION IMPOSING THE TAX

BE IT RESOLVED that the following ad valorem property taxes are hereby imposed for the tax year 2012-2013 upon the assessed value of all taxable property within the district:

(1) At the rate of $3.4886 per $1,000 of assessed value for permanent rate tax;
(2) At the rate of $0.4900 per $1,000 of assessed value for local option tax; and
(3) In the amount of $ 0 for debt service for general obligation bonds;

RESOLUTION CATEGORIZING THE TAX

BE IT RESOLVED that the taxes imposed are hereby categorized for purposes of article XI section 11b as:

	General Government Limitation	**Excluded from Limitation**
Permanent Rate Tax ……..$ 3.4886/$1,000		
Local Option Tax……....$ 0.4900/$1,000		
General Obligation Debt Service Fund……..……..$ 0		

The above resolution statements were approved and declared adopted on this 20th day of June 2012.

_____
Randy Carson
Mayor

ATTEST:

_____
Kimberly Scheafer, MMC
City Recorder

M E M O R A N D U M

TO: *Honorable Mayor Carson and City Council*
FROM: *Darvin Tramel, Environmental Services Manager*
DATE: *June 7, 2012*
THROUGH: *Greg Ellis, City Administrator*

Issue: Update the Methodology and System Development Charges for Sanitary Sewer and Stormwater by adopting Resolution 1134.

Background: In order to provide the community with outstanding wastewater and stormwater services with equitable and reliable System Development Charges (SDCs). It is advisable to review the SDCs methodology and update the Capital Improvement Plan (CIP) every five to ten years. Prior to this SDC study, staff last reviewed the methodology and CIP in 2006. Since 2006 there have only been yearly inflationary adjustments based on the Engineering News Record Construction Index (ENR Index), as per Resolution 748 approved in 2001.

Based on prior resolutions, Council felt it important to review and update SDC's on a regular basis in order to avoid fee increases that double or triple to keep up with growth. It is also advisable that Council and our City be able to show that our methodology stays current with regulatory requirements and our fee structure is equitable and consistent with other municipalities in our area.

Recommendation: Staff recommends that the City Council approve Resolution 1134, a resolution amending Canby's Sanitary Sewer and Stormwater System Development Charges based on the SDC studies completed by Ray Bartlett of Economic & Financial Analysis.

Motion: "I move to adopt Resolution 1134,

A RESOLUTION ADOPTING THE METHODOLOGY AND SYSTEM DEVELOPMENT CHARGES FOR WASTEWATER AND STORMWATER BASED ON THE SDC STIUDUES COMPLETED BY RAY BARTLETT OF ECONOMIC AND FINANCIAL ANALYSIS.

Attached: Resolution 1134, Exhibit "A" and Exhibit "B"

RESOLUTION NO. 1134

A RESOLUTION AMENDING THE METHODOLOGIES AND FEES FOR SANITARY SEWER AND STORMWATER SYSTEM DEVELOPMENT CHARGES

WHEREAS, the Canby City Council has determined by Ordinance No. 867 that a charge shall be imposed upon new development for acquiring funds for capital improvements, and for reimbursement of constructed excess capacity to the City's sanitary sewer and stormwater system; and

WHEREAS, said Ordinance No. 867 provides that methodology and charges for capital acquisition, improvements, and reimbursements be established and amended by resolution; and

WHEREAS, ORS 310.145 requires that a governing body, when adopting or amending a fee resolution imposing new rates, may include a provision classifying said fees as subject to or not subject to the limitations set in Section 11 (b), Article XI of the Oregon Constitution; and

RESOLVED, that the following methodology for system development charges for the City of Canby, attached here to as Exhibit "A" AND Exhibit "B" be adopted to amend the current sanitary sewer and stormwater system development charges effective immediately.

Proposed Update of the Wastewater Systems Development Charge

Wastewater SDC			
Meter Size	Reimbursement	Improvement	**Total SDC**
⅝ x ¾	$1,916	$601	$2,517
¾	3,832	1,202	$5,034
1	6,380	2,002	$8,382
1½	12,780	4,010	$16,790
2	20,444	,414	$26,858
3	44,700	14,025	$58,725
4	76,640	24,046	$100,686
6	159,660	50,095	$209,755
8	229,920	72,139	$302,059
Multi-family Unit	$1,533	$481	$2,014

Proposed Update of the Stormwater Systems Development Charge

Type of Development	Stormwater SDC		
	Reimbursement	Improvement	Total SDC
Residential		$/DU	$/DU
Low Density	$0	$160.58	$160.58
Manufactured	$0	$78.29	$78.29
Medium/High Density	$0	$107.26	$107.26
Non-Residential		$/1,000 sf	$/1,000 sf
Residential/Commercial (mixed use)	$0	$251.70	$251.70
Convenience	$0	$173.28	$173.28
Downtown	$0	$251.70	$251.70
Highway	$0	$314.63	$314.63
Manufacturing	$0	$372.61	$487.41
Industrial	$0	$147.34	$147.34
Schools	$0	$217.67	$217.67

BE IT FURTHER RESOLVED that, except as otherwise specified in Ordinance 867, future changes to the methodology and charges resulting solely from inflationary cost impacts shall be measured and calculated annually by the City Recorder and charged according based upon changes in the Engineering News Record Construction Cost Index (ENR Index) of Portland, Oregon, with the current ENR Index as of enactment of this Resolution to be used for the basis of future calculations.

BE IT FURTHER RESOLVED that the Canby City Council hereby classifies the charges imposed herein as not being subject to the limitations imposed by Section 11 (b), Article XI of the Oregon Constitution and that the City Recorder is hereby directed to publish notice in accordance with ORS 310.145.

NOW THEREFORE, IT IS HEREBY RESOLVED by the City Council of the City of Canby, as follows:

To adopt the City of Canby Wastewater and Stormwater System Development Charges as attached hereto as Exhibit "A" and Exhibit "B".

This resolution shall take effect July 1, 2012.

ADOPTED this 20th day of June 2012, by the Canby City Council.

_____
Randy Carson
Mayor

ATTEST:

_____
Kimberly Scheafer, MMC
City Recorder

EXHIBIT A

City of Canby, Oregon

ANALYSIS & UPDATE OF THE

WASTEWATER SYSTEM DEVELOPMENT CHARGE

Fiscal Year 2011-12

Prepared by:

ECONOMIC & FINANCIAL ANALYSIS

1409 Franklin Street ▪ Suite 201
Vancouver, WA 98660

March 2012

City of Canby, Oregon

ANALYSIS & UPDATE OF THE

WASTEWATER SYSTEM DEVELOPMENT CHARGE

Fiscal Year 2011-12

Prepared by:

ECONOMIC & FINANCIAL ANALYSIS

1409 Franklin Street ▪ Suite 201
Vancouver, WA 98660

March 2012

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INTRODUCTION

The City of Canby retained Economic & Financial Analysis (EFA) to update the City's wastewater system development charge. This update accounts for capital improvements that have been made since the last SDC update in 2006, and adjusts the SDC to match each meter size with its capacity using meter equivalencies developed by the American Water Works Association (AWWA).[1] The result is an increase in the SDC for some meter sizes, and a decrease for others. All SDCs have been rounded to the nearest $1.00.

Table 1 is a comparison of the current and proposed wastewater SDCs by meter size using the AWWA meter equivalencies for a ⅝ x ¾-inch turbine meter. A comparison of Canby's SDCs to those of 12 other nearby or similarly-sized Oregon cities is attached as Appendix A.

Table 1 Comparison of Current & Proposed Wastewater SDCs

	Wastewater SDC		Change	
Meter Size	Current	Proposed	$	%
⅝ x ¾	$2,571	$2,517	($54)	-2.1%
¾	$2,571	$5,034	$2,463	95.8%
1	$5,142	$8,382	$3,240	63.0%
1½	$12,855	$16,790	$3,934	30.6%
2	$25,710	$26,858	$1,148	4.5%
3	$64,275	$58,725	($5,550)	-8.6%
4	$89,985	$100,686	$10,701	11.9%
6		$209,755		
8		$302,059		
Multi-family Unit	$2,056	$2,014	($43)	-2.1%

WASTEWATER SDC METHODOLOGY

Calculation & Assumptions

The current SDC consists of a reimbursement fee and an improvement fee. The reimbursement fee is based on the current cost of replacing existing improvements, and the improvement fee is based on the current cost of constructing future improvements. These costs are used to determine the wastewater treatment plant's cost per gallon of average capacity.

[1] American Water Works Association, "Table 5-3: Test Requirements for New, Rebuilt, and Repaired Cold-Water Water Meters." *Water Meters—Selection, Installation, Testing, and Maintenance* (4th Ed, 1999)

The cost per gallon of capacity for each of the existing and proposed improvements is applied by meter size based on the number of equivalent households using a ⅝ x ¾-inch meter—*i.e.*, a ⅝-inch inlet from the main water line and a ¾-inch outlet to the building. This is the smallest and most commonly used meter for a single-family residence.

The current methodology assumes an average of 2.83 persons per household[2] and an average sewage flow of 80 gallons per capita per day (gcd) based on the City's historical averages for households on a ⅝ x ¾-inch meter. This brings the average daily sewage for a single-family household to 226 gallons per day (2.83 persons x 80 gallons), and provides the basis for determining meter equivalencies and SDCs.

Meter Equivalencies

The City currently installs only turbine-type meters, and the ⅝ x ¾-inch meter equivalents in Table 2 are based on the AWWA standard equivalencies for turbine meters. The ⅝ x ¾-inch meter serves as the base unit. For larger meters, the meter equivalency becomes the multiplier for determining the SDC.

Table 2 Meter Capacities & Equivalencies

Meter Size	Current ⅝ x ¾ Equivalent	Safe Maximum Operating Capacity (gpm)	AWWA^ ⅝ x ¾ Equivalent
⅝ x ¾	1	15	1.00
¾	1	30	2.00
1	2	50	3.33
1 ½	5	100	6.67
2	10	160	10.67
3	25	350	23.33
4	35	600	40.00
6		1250	83.33
8		1800	120.00
Multi-family Unit	0.8		0.8

^ American Water Works Association, "Table 5-3: Test Requirements for New, Rebuilt, and Repaired Cold-Water Water Meters." *Water Meters—Selection, Installation, Testing, and Maintenance* (4th Ed, 1999)

Meter Size & Meter Equivalents

The City's current SDCs are based on the history of *actual* water usage and sewage production for the size meter installed. The proposed SDCs are based on the *capacity* of each meter size and the number of equivalent ⅝ x ¾-inch meters. For example, 1½-inch turbine meters can pass as much water as 6.67 ⅝ x ¾-inch meters. Although the City currently has no meters larger than 4 inches (nor are the SDCs for larger meters defined), our SDC schedule includes calculations for meters up to 8 inches in diameter.

[2] 2010 U.S. Census: City of Canby, Oregon, *Average Household Size of Renter-Occupied Units*

Multi-family Units

The SDC for multi-family housing units is based on usage rather than meter size. Multi-family housing units that share a common water meter and sewer connection historically use approximately 80% of the amount of water used by a single-family residence, and the SDC per unit is therefore based on a meter equivalent of 0.8. The actual SDC, however, is the higher of the SDC per unit (multiplied by the number of units) or the SDC per meter size.

WASTEWATER SDC UPDATE

Reimbursement Fee

The City has made $1,863,360 in capital improvements to its wastewater system (2011 dollars) since the last SDC update in 2006. The system's current average load is 1.1 million gallons per day (mgd), and the City is in the process of increasing the system's overall capacity from 2.0 to 2.8 mgd Average Dry Weather Flow (ADWF). This is being accomplished by increasing the capacity of each component to 2.8 mgd upon replacement. The replacement cost for all components is therefore based on a 2.8 mgd capacity.

Table 3 is a list of existing wastewater improvements, the current replacement cost for each, and the cost per gallon of capacity (replacement cost divided by 2.8 million gallons). The total cost per gallon of all existing improvements is $8.48.

Table 3 Value of Existing Wastewater Improvements

No.	Description	Replacement Cost (2011 $)	$/gal
1	Land Values		
(a)	WWTP Site Land, 13.17 ac at $100k /ac	$1,317,000	$0.470
(b)	Willamette River Wayside, (26 of 34 ac at $30k /ac)	$780,000	$0.279
2	Primary Clarifier	$800,000	$0.286
3	Decant Treatment Basin	$200,000	$0.071
4	WASH Tank	$200,000	$0.071
5	SS Holding Tank	$200,000	$0.071
6	Old Blower Bld & Flammable Storage	$140,000	$0.050
7	Lab Building	$220,000	$0.079
8	Sludge Holding Ponds (3)	$420,000	$0.150
9	Disinfection Contact Basin	$100,000	$0.036
10	1994 WWTP Expansion	$5,450,000	$1.946
11	Odor Control (96)	$140,000	$0.050
12	Screen & Compacting (96)	$60,000	$0.021
13	UV Basin Covers (97)	$520,000	$0.186
14	Site Piping / Outfall	$240,000	$0.086
15	Retained site improvements	$60,000	$0.021

No.	Description	Replacement Cost (2011 $)	$/gal
16	1998 Aeration Basin Construction	$3,600,000	$1.286
17	2002 Dewatering & Filtration Improvements	$3,000,000	$1.071
18	2010 Drier & UV Improvements	$2,500,000	$0.893
Subtotal: Existing Land & WWTP Improvements		$19,947,000	$7.12
19	Collection System Improvements		
(a)	Redwood Interceptor (89)	$1,560,000	$0.557
(b)	Collection System Pumping Stations & Force Mains (7)	$2,100,000	$0.750
(c)	Oversizing: Township, South Pine, Territorial Rd	$130,000	$0.046
Subtotal: Existing Collection System Improvements†		$3,790,000	$1.35
TOTAL VALUE OF ALL EXISTING IMPROVEMENTS		$23,737,000	
$/gallon of capacity			**$8.48**

Source: *Curran-McLeod,* September 2011

Table 4 compares the current and proposed reimbursement fee by meter size. The proposed fee for a ⅝ x ¾-inch meter is $1,916 ($8.48 *x* 226 gallons)—a decrease of $2.00 over the current reimbursement fee of $1,918.

Table 4 Wastewater Reimbursement Fee

	Reimbursement Fee		Change	
Meter Size	Current	Proposed	$	%
⅝ x ¾	$1,918	$1,916	($2)	-0.1%
¾	$1,918	$3,832	$1,914	99.8%
1	$3,836	$6,380	$2,544	66.3%
1½	$9,590	$12,780	$3,190	33.3%
2	$19,180	$20,444	$1,264	6.6%
3	$47,950	$44,700	($3,250)	-6.8%
4	$67,130	$76,640	$9,510	14.2%
6		$159,660		
8		$229,920		
Multi-family Unit	$1,534	$1,533	($1)	-0.1%

Improvement Fee

Table 5 lists the capital improvements to be constructed at the expense of the City's ratepayers. The various components of the existing wastewater system have capacities ranging from 2.0 mgd to 2.8 mgd. The proposed improvements will increase the capacity of the entire system to 2.8 mgd. We use the total future capacity of 2.8 mgd to determine the cost per unit.

Using the methods described above, the combined cost per gallon of capacity for all future improvements is $2.66. As shown in Table 6, this results in an improvement fee of $601 for a ⅝ x ¾-inch meter ($2.66 *x* 226 gallons)—a decrease of 7.9% over the current fee of $653.

Table 5 Cost of Future Wastewater Improvements

No.	Description	Capacity (mgd ADWF)	Yrs 1-5 (FY 2012-2016) Cost Estimate	$/gal	Yrs 6-10 (FY 2017-2021) Cost Estimate	$/gal	Yrs 11-20 (FY 2022-2031) Cost Estimate	$/gal	Totals Cost Estimate	$/gal
1	Secondary Scum Pump Station	2.8	$60,000	$0.02					$60,000	$0.02
2	Effluent Filtration	2.8	$350,000	$0.13					$350,000	$0.13
3	Odor Control Improvements	2.8	$600,000	$0.21					$600,000	$0.21
4	Sludge Conditioning Basin, 600,000g	2.8	$800,000	$0.29					$800,000	$0.29
5	SCADA System Improvements	2.8	$150,000	$0.05					$150,000	$0.05
6	RV Septic Receiving Station	2.8			$125,000	$0.04			$125,000	$0.04
7	Headworks Screening	2.8			$750,000	$0.27			$750,000	$0.27
8	Outfall Diffuser Improvements	2.8			$250,000	$0.09			$250,000	$0.09
9	Dried Sludge Storage Building	2.8	$80,000	$0.03					$80,000	$0.03
10	New Lab Building Construction	2.8			$600,000	$0.21			$600,000	$0.21
11	Employee Support Building	2.8			$420,000	$0.15			$420,000	$0.15
12	Additional Primary Clarifier	2.8					$800,000	$0.29	$800,000	$0.29
13	Effluent Irrigation System	2.8			$450,000	$0.16			$450,000	$0.16
14	Power Distribution System Upgrades	2.8					$600,000	$0.21	$600,000	$0.21
15	Collection System Upsizing/Oversizing									
(a)	South 2nd Trunk, MH R-26 to O-39	2.8					$160,000	$0.06	$160,000	$0.06
(b)	NW Territorial Road Trunk Oversizing	2.8					$20,000	$0.01	$20,000	$0.01
(c)	Mulino Pump Station & Force Main	2.8					$360,000	$0.13	$360,000	$0.13
(d)	North 22nd Pump Station & Force Main	2.8					$280,000	$0.10	$280,000	$0.10
(e)	North Birch Pump Station & Force Main	2.8					$280,000	$0.10	$280,000	$0.10
(f)	System Oversizing	2.8					$50,000	$0.02	$50,000	$0.02
16	System Planning, SDC & Rates	2.8					$250,000	$0.09	$250,000	$0.09
TOTAL COST OF ALL IMPROVEMENTS (2011 $)			$2,040,000		$2,595,000		$2,800,000		$7,435,000	
	$ / gallon of capacity			$0.73		$0.92		$1.01		**$2.66**

Source: *Curran-McLeod,* February 2011

Table 6 Wastewater Improvement Fee

Meter Size	Improvement Fee		Change	
	Current	Proposed	$	%
⅝ x ¾	$653	$601	($52)	-7.9%
¾	$653	$1,202	$549	84.1%
1	$1,306	$2,002	$696	53.3%
1½	$3,265	$4,010	$745	22.8%
2	$6,530	$6,414	($116)	-1.8%
3	$16,325	$14,025	($2,300)	-14.1%
4	$22,855	$24,046	$1,191	5.2%
6		$50,095		
8		$72,139		
Multi-family Unit	$522	$481	($41)	-7.9%

Total Wastewater SDC

The wastewater SDC is the sum of the reimbursement fee and improvement fee, as shown in Table 7. The proposed reimbursement and improvement fees result in a total SDC of $2,517 for a ⅝ x ¾-inch water meter—a decrease of 2.1% over the current fee of $2,571 (Table 1). This reduction is due primarily to the creation of a separate stormwater SDC. The reimbursement fee has decreased because the current SDC included assets used for the stormwater system, which have been removed from the proposed SDC. The improvement fee decreased in part because the current SDC includes stormwater improvements, but also because the list of capital improvements has been reduced.

Table 7 Proposed Wastewater SDC

Meter Size	Proposed SDC		
	Reimbursement	Improvement	Total SDC
⅝ x ¾	$1,916	$601	$2,517
¾	3,832	1,202	$5,034
1	6,380	2,002	$8,382
1½	12,780	4,010	$16,790
2	20,444	,414	$26,858
3	44,700	14,025	$58,725
4	76,640	24,046	$100,686
6	159,660	50,095	$209,755
8	229,920	72,139	$302,059
Multi-family Unit	$1,533	$481	$2,014

ANNUAL ADJUSTMENT FOR INFLATION

As provided in ORS 223.304(7)(b), the City may adjust the SDC periodically using the Construction Cost Index (CCI) published by McGraw Hill, Inc. in its weekly periodical, *ENR*. This publisher's construction (and building) cost index is widely accepted in the engineering and construction industry. *ENR* updates the CCI monthly and provides annual summaries in the July edition.

EFA recommends the City update the SDC annually, effective July 1 of each year to correspond with the City's fiscal year.

The formula for updating the SDC is as follows:

$$SDC_{current\ year} = SDC_{last\ year} \times (CCI_{current\ year} / CCI_{last\ year})$$

where:

$CCI_{current\ year}$ = Construction Cost Index for the current year
$CCI_{last\ year}$ = Construction Cost Index for the last year the SDCs were updated
$SDC_{current\ year}$ = the SDC updated by the CCI
$SDC_{last\ year}$ = the SDC to be updated

APPENDIX

Comparison of Canby's Wastewater SDCs with Select Oregon Cities

SDC is per Single-family Residence, rounded to the nearest $1.00

Sorted By Rank

Jurisdiction	Wastewater SDC/DU	Rank
Dundee	$5,856	1
Gresham	$5,056	2
West Linn	$4,856	3
Silverton	$4,505	4
Clean Water Services^	$4,500	5
Forest Grove	$4,500	5
Portland	$4,335	7
Corvallis	$4,196	8
Wilsonville	$4,153	9
Sherwood	$4,106	10
Oregon City	$3,727	11
Tualatin	$3,600	12
Stayton	$3,528	13
Woodburn	$2,977	14
Canby, proposed	**$2,517**	**15**
McMinnville	$2,402	16
Lake Oswego	$2,344	17
Eugene	$2,053	18
Aurora	$2,032	19
Milwaukie	$893	20
Average	$3,607	

Sorted Alphabetically

Jurisdiction	Wastewater SDC/DU	Rank
Aurora	$2,032	19
Canby, proposed	**$2,517**	**15**
Clean Water Services^	$4,500	5
Corvallis	$4,196	8
Dundee	$5,856	1
Eugene	$2,053	18
Forest Grove	$4,500	5
Gresham	$5,056	2
Lake Oswego	$2,344	17
McMinnville	$2,402	16
Milwaukie	$893	20
Oregon City	$3,727	11
Portland	$4,335	7
Sherwood	$4,106	10
Silverton	$4,505	4
Stayton	$3,528	13
Tualatin	$3,600	12
West Linn	$4,856	3
Wilsonville	$4,153	9
Woodburn	$2,977	14
Average	$3,607	

Source: *Economic & Financial Analysis*, 2011-12 Survey

^CWS serves Beaverton, Cornelius, Forest Grove, Hillsboro, Sherwood, Tigard, Tualatin

EXHIBIT B

City of Canby, Oregon

ANALYSIS & UPDATE OF THE

STORMWATER SYSTEM DEVELOPMENT CHARGE

Fiscal Year 2011-12

Prepared by:

ECONOMIC & FINANCIAL ANALYSIS

1409 Franklin Street ▪ Suite 201
Vancouver, WA 98660

March 2012

City of Canby, Oregon

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March 2012

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INTRODUCTION

The City of Canby retained Economic & Financial Analysis (EFA) to update the City's stormwater system development charge (SDC), which was developed in 1994 by the City's consulting engineer, Curran-McLeod, Inc., and last updated in 2006.

The list of capital improvements was revised by Curran-McLeod in 2011 and provides the basis for updating the SDC, along with data from the *2011 Transportation Plan*.[1] The costs and values of the variables have been adjusted using the current methodology, which is based on transportation concepts discussed below.

Table 1 is a comparison of the current and proposed stormwater SDCs. Residential uses are measured in dwelling units (DU). Non-residential uses are measured in units of 1,000 square feet of building area. The current SDCs are rounded to the nearest $1.00, while the proposed SDCs are rounded to the nearest $0.01. A comparison of Canby's single-family residential stormwater SDCs to those of other nearby or similarly-sized Oregon cities is attached as Appendix A.

Table 1 Comparison of Current & Proposed Stormwater SDCs

	Stormwater SDC		Change^	
Type of Development	Current	Proposed	$	%
Residential	$/DU		$/DU	
Low Density	$100.00	$160.58	$60.58	60.6%
Manufactured	$40.00	$78.29	$38.29	95.7%
Medium/ High Density	$60.00	$107.26	$47.26	78.8%
Non-Residential	$/1,000 sf		$/1,000 sf	
Residential/Commercial (mixed use)	$160.00	$251.70	$91.70	57.3%
Convenience	$100.00	$173.28	$73.28	73.3%
Downtown	$160.00	$251.70	$91.70	57.3%
Highway	$190.00	$314.63	$124.63	65.6%
Commercial/Manufacturing	$230.00	$487.41	$257.41	111.9%
Industrial	$90.00	$147.34	$57.34	63.7%
Schools	$130.00	$217.67	$87.67	67.4%

^ The variance in % change among types of development is the result of rounding. The current SDC is rounded to the nearest $1.00/ADT; the proposed SDC is rounded to the nearest $0.01/ADT.

[1] *DKS Associates,* January 2011

STORMWATER SDC METHODOLOGY

The current SDC methodology was developed in 1994 by the City's consulting engineer, Curran-McLeod, Inc., using the City's no-discharge stormwater ordinance as a guide. For much of the City, only roadways contribute stormwater (and stormwater pollutants) to the stormwater collection and treatment system. The only areas permitted to discharge to the stormwater system are the downtown area, which has zero-setback developments, and the area along North Redwood Street, which has a high groundwater table. For this reason the methodology was based on transportation concepts.

EFA uses the current methodology for this SDC update. Once the City's stormwater master plan is completed, however, the City may want to switch to the more common methodology of impervious surface area per development.

To update the SDC, we rely on the stormwater CIP and data provided in the 2011 Transportation Plan. The SDC is calculated using a unit of Equivalent Length New Daily Trips (ELNDT), which is comprised of two elements: (1) the total number of Average Daily Trips (ADT), and (2) a Trip Factor derived from the number of Average Daily Trips by type of development, adjusted for length and linked trips (*e.g.*, a trip from home to store to work and home again).

This update is based on the *2011 Canby Transportation Plan*, which measures PM Peak-hour Trips rather than Average Daily Trips. Two adjustments to the data were necessary in order to update the Equivalent Length New Daily Trips:

(1) Convert 2011 *PM Peak-hour Trips* to *Average Daily Trips* using data provided by the City's transportation planners (Table 2); and

(2) Apply the *Trip Factor*[2] to the 2011 *Average Daily Trips* to derive *Equivalent Length New Daily Trips* (Table 3).

The result: *ADT x Trip Factor = ELNDT*.

[2] Institute of Transportation Engineers, *Trip Generation Handbook* [October 1998], Chapter 5, Pass-by, Primary, and Diverted Linked Trips

Table 2 Current & Future Average Daily Trips (ADTs)

Type of Development	# Units 2009	Growth	2030	# Trips / Unit PM Peak	ADT^	Total Trips 2009	2030	Change # ADTs	%
Residential	Dwelling Units								
	6,127	4,403	10,530	0.75	7.5	45,953	78,975	33,023	72%
Non-Residential	Employees								
Retail	624	715	1,339	4.10	41.0	25,584	54,899	29,315	115%
Service	1,004	644	1,648	2.20	22.0	22,088	36,256	14,168	64%
Educational	409	257	666	1.64	16.4	6,708	10,922	4,215	63%
Other Uses	1,928	3,007	4,935	0.30	3.0	5,784	14,805	9,021	156%
Total Average Daily Trips (ADT)						106,116	195,857	89,741	85%

Source: DKS Associates, Chris Maciejewski, PE, et al, *Numbers of Households & Employees and PM Peak Trip Rates*, Tech Memo #3, [submitted as part of the *Canby Transportation System Plan* update], p. 6/13, Table 2.

^ The ADT Trip Rate is 10 times the PM Peak rate, as recommended by DKS Associates.

Table 3 Calculation of Equivalent Length New Daily Trips (ELNDTs)

Type of Development	# ADTs	Trip Factor^ Length	*x* Link	= Trip Factor	# ELNDTs
Residential	per DU		per DU		per DU
Low Density	9.57	1.00	1.00	1.000	9.57
Manufactured	4.81	0.97	1.00	0.970	4.67
Medium/High Density	6.59	0.97	1.00	0.970	6.39
Non-Residential	per 1,000 sf		per 1,000 sf		per 1,000 sf
Residential/Commercial (mixed use)	30.00	0.50	1.00	0.500	15.00
Convenience	368.80	0.08	0.35	0.028	10.33
Downtown	30.00	0.50	1.00	0.500	15.00
Highway	100.00	0.25	0.75	0.188	18.75
Commercial/Manufacturing	38.00	0.91	0.84	0.764	29.05
Industrial	7.84	1.12	1.00	1.120	8.78
Schools	12.00	1.08	1.00	1.081	12.97

^ The *Trip Factor* is the product of the *Length* multiplied by the *Link*. The ADT multiplied by the total Trip Factor equals the ELNDT. The Institute of Transportation Engineers (ITE) defined these factors in its *Trip Generation Handbook*. The factors require the reader to determine the primary destination of a particular trip and its length, and whether a trip to the store, for example, is between home (origin) and work (primary destination), or whether the trip to the store is the primary destination. The data to support the factors includes only 22 of the 178 land uses contained in the ITE *Trip Generation Manual* (8th Ed.). Only one new use has been added since 1998, and the factors were not used in the City's current transportation plan.

STORMWATER SDC UPDATE

Reimbursement Fee

Construction of the City's existing stormwater system was funded by developers as land was developed. The use of tax or user fee revenues was not required, and the reimbursement fee is therefore zero.

Table 4 Stormwater Reimbursement Fee

Type of Development	Reimbursement Fee		Change	
	Current	Proposed	$	%
Residential	$/DU		$/DU	
Low Density	$30.00	$0	($30.00)	-100%
Manufactured	$10.00	$0	($10.00)	-100%
Medium/High Density	$20.00	$0	($20.00)	-100%
Non-Residential	$/1,000 sf		$/1,000 sf	
Residential/Commercial (mixed use)	$50.00	$0	($50.00)	-100%
Convenience Store	$22.00	$0	($22.00)	-100%
Downtown	$25.00	$0	($25.00)	-100%
Highway	$41.00	$0	($41.00)	-100%
Manufacturing	$53.00	$0	($53.00)	-100%
Industrial	$17.00	$0	($17.00)	-100%
Schools	$30.00	$0	($30.00)	-100%

Improvement Fee

New regulations on stormwater management and treatment will require significant revisions to the existing stormwater system, and additional and larger detention facilities. The City plans to update the current stormwater master plan in the next few years. The projects include long-range planning and permitting, and construction of regional detention facilities for major storm runoff. The City will have to invest tax and user fee revenues in these planned improvements to the stormwater system.

Table 5 shows the known capital projects for the stormwater system and the allocation of costs to existing and future development. With the exception of the *System Oversizing* project, all of the improvements listed in Table 5 will benefit both current and future development. The cost per ADT for these projects equals the project cost divided by the total number of ADTs (195,857) forecast in the year 2030 (Table 2). For example, the improvement fee for the first project listed below, *WPCF/NPDES Permitting*, is $0.26 per ADT—or $50,000 ÷ 195,857 ADTs, rounded to the nearest $0.01.

The *System Oversizing* project, however, benefits only future development. Its purpose is to increase the capacity of the City's stormwater facilities in order to meet future growth requirements, and the cost per ADT is therefore calculated by dividing the project cost by the *new* ADTs only (87,741). This equals $1.11 per ADT—or $100,000 ÷ 89,741 ADTs.

Table 5 Cost of Future Stormwater Improvements

No.	Description	Cost Estimate	$/ELNDT^
1	WPCF/NPDES Permitting	$50,000	$0.26
2	Planning		
(a)	Stormwater Master Plan	$40,000	$0.20
(b)	UIC Decommissioning Plan	$40,000	$0.20
(c)	Stormwater Management Plan	$40,000	$0.20
3	UIC Decommissioning/BMP Implementation	$500,000	$2.55
4	Regional Detention Facility – NW 3rd & Baker	$1,200,000	$6.13
5	Regional Detention Facility – NE Territorial Rd	$1,200,000	$6.13
6	System Oversizing	$100,000	$1.11
	Total Improvements / Cost per Trip	$3,170,000	$16.78

Source: *Curran-McLeod,* February 2011

^The cost per ADT is based on the total existing and future ADTs with the exception of *System Oversizing,* which benefits only future development and is therefore based on the number of new (future) ADTs only.

The sum of the improvement fees per project multiplied by the Trip Factor in Table 3 equals the improvement fee per ELNDT, as shown in Table 6. For example, the improvement fee for a mixed Residential/Commercial use equals the number of ADTs per 1,000 square feet of building area (30.0), multiplied by the Trip Factor (0.50), multiplied by the Cost per Trip ($16.78)—or 30.0 x 0.50 x $16.78, which results in an improvement fee of $251.70 per 1,000 square feet of building area.

Table 6 Stormwater Improvement Fee

	Improvement Fee		Change^	
Type of Development	Current	Proposed	$	%
Residential	$/DU		$/DU	
Low Density	$70.00	$160.58	$90.58	129%
Manufactured	$30.00	$78.29	$48.29	161%
Medium/High Density	$40.00	$107.26	$67.26	168%
Non-Residential	$/1,000 sf		$/1,000 sf	
Residential/Commercial (mixed use)	$110.00	$251.70	$141.70	129%
Convenience Store	$70.00	$173.28	$103.28	148%
Downtown	$110.00	$251.70	$141.70	129%
Highway	$130.00	$314.63	$184.63	142%
Manufacturing	$160.00	$487.41	$327.41	205%
Industrial	$60.00	$147.34	$87.34	146%
Schools	$90.00	$217.67	$127.67	142%

^ The variance in % change among types of development is the result of rounding: the current SDC is rounded to the nearest $10.00/DU or per 1,000 sq while the proposed SDC is rounded to the nearest $0.01/ DU or per 1,000 sq.

Total Stormwater SDC

The sum of the reimbursement fee and improvement fee comprises the total stormwater SDC, as shown in Table 7.

Table 7 Proposed Stormwater SDC

Type of Development	Stormwater SDC		
	Reimbursement	Improvement	Total SDC
Residential	$/DU		$/DU
Low Density	$0	$160.58	$160.58
Manufactured	$0	$78.29	$78.29
Medium/High Density	$0	$107.26	$107.26
Non-Residential	$/1,000 sf		$/1,000 sf
Residential/Commercial (mixed use)	$0	$251.70	$251.70
Convenience	$0	$173.28	$173.28
Downtown	$0	$251.70	$251.70
Highway	$0	$314.63	$314.63
Manufacturing	$0	$372.61	$487.41
Industrial	$0	$147.34	$147.34
Schools	$0	$217.67	$217.67

ANNUAL ADJUSTMENT FOR INFLATION

As provided in ORS 223.304(7)(b), the City may adjust the SDC periodically using the Construction Cost Index (CCI) published by McGraw Hill, Inc. in its weekly periodical, *ENR*. This publisher's construction (and building) cost index is widely accepted in the engineering and construction industry. *ENR* updates the CCI monthly and provides annual summaries in the July edition.

EFA recommends the City update the SDC annually effective July 1 of each year to correspond with the City's fiscal year.

The formula for updating the SDC is as follows:

$$SDC_{current\ year} = SDC_{last\ year} \times (CCI_{current\ year} / CCI_{last\ year})$$

where:

$CCI_{current\ year}$ = Construction Cost Index for the current year
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APPENDIX

Comparison of Canby's Stormwater SDC with Select Oregon Cities

SDC is per Single-family Residence, rounded to the nearest $1.00

Sorted By Rank

Jurisdiction	Stormwater SDC/DU	Rank
Dundee	$2,436	1
Stayton	$1,462	2
Milwaukie	$1,057	4
West Linn	$974	5
Gresham	$824	6
Aurora	$821	7
Portland	$783	8
Oregon City	$648	9
Sherwood	$614	10
Eugene	$557	11
Forest Grove	$525	12
Clean Water Services^	$500	13
Wilsonville	$492	14
Woodburn	$275	15
Corvallis	$190	16
Canby, proposed	**$161**	**17**
Lake Oswego	$129	18
Canby, current	$70	19
Average	$736	

Sorted Alphabetically

Jurisdiction	Stormwater SDC/DU	Rank
Aurora	$821	7
Canby, current	$70	19
Canby, proposed	**$161**	**17**
Clean Water Services^	$500	13
Corvallis	$190	16
Dundee	$2,436	1
Eugene	$557	11
Forest Grove	$525	12
Gresham	$824	6
Lake Oswego	$129	18
Milwaukie	$1,057	4
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Portland	$783	8
Sherwood	$614	10
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West Linn	$974	5
Wilsonville	$492	14
Woodburn	$275	15
Average	$736	

Source: *Economic & Financial Analysis*, 2011-12 Survey

^CWS serves Beaverton, Cornelius, Forest Grove, Hillsboro, Sherwood, Tigard, Tualatin

M E M O R A N D U M

TO: *Honorable Mayor Carson and City Council*
FROM: *Darvin Tramel, Environmental Services Manager*
DATE: *June 7, 2012*
THROUGH: *Greg Ellis, City Administrator*

Issue: Should the City of Canby adopt the newly revised City of Canby Public Works Design Standards and amend the Canby Municipal Code?

Background: Prior history has been to utilize construction design standards for streets, sanitary sewer and stormwater infrastructure from other municipalities in the Metro area or as developed by our City Engineer on record. Often times these design standards were vague on how to handle stormwater or changed without being adopted through Council. Many of the regulatory requirements from the State concerning stormwater, sewer and safety for streets have evolved over the past ten years. It is important that the City public works design and construction standards be current with newly mandated regulatory requirements, construction design and changes in safety protocol.

Recommendation: In order to bring more consistency in the planning, design and construction of the City's public infrastructure, I have prepared Resolution No. 1135, included herein. I recommend adopting the newly revised City of Canby Public Works Design Standards, June 2012.

Motion: "I move to adopt Resolution 1135, A RESOLUTION ADOPTING 2012 REVISED PUBLIC WORKS DESIGN STANDARDS. THESE STANDARDS ARE FOR THE DESIGN OF PUBLIC INFRASTRUCTURE INCLUDING STREETS, SANITARY SEWER AND STORMWATER COLLECTION SYSTEMS.

Attached: Resolution 1135 and Exhibit "A"

RESOLUTION NO. 1135

A RESOLUTION ADOPTING THE 2012 REVISED PUBLIC WORKS DESIGN STANDARDS. THESE STANDARDS ARE FOR THE DESIGN OF PUBLIC INFRASTRUCTURE INCLUDING STREETS, SANITARY SEWER AND STORMWATER COLLECTION SYSTEMS.

WHEREAS, the City of Canby has previously utilized and adopted design standards from other municipalities of which some were incorporated in Chapter 12 and 13 of the Canby Municipal Code; and

WHEREAS, the existing rules, regulations and standards contained in the Municipal Code are in need of revisions to clarify current policy and procedure, increase flexibility, improve consistence in implementation, and reflect new standards necessary to ensure proper design, construction and function of streets, sanitary sewer and stormwater infrastructure; and

WHEREAS, the referenced Public Works Design Standards specifically named the Public Works Design Standards, June 2012 hereby replaces and repeals all previously adopted public works design standards for streets, sanitary sewer and stormwater; and

NOW THEREFORE, IT IS HEREBY RESOLVED by the City Council of the City of Canby, as follows:

To adopt the City of Canby Public Works Design Standards, June 2012 Manual attached hereto as Exhibit "A".

This resolution shall take effect June 20, 2012.

ADOPTED this 20th day of June 2012, by the Canby City Council.

_____
Randy Carson
Mayor

ATTEST:

_____
Kimberly Scheafer, MMC
City Recorder

Public Works Design Standards

June 2012

City of Canby
182 N. Holly Street
PO Box 930
Canby, Oregon 97013

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CITY OF CANBY
PUBLIC FACILITY IMPROVEMENTS

DESIGN MANUAL AND STANDARD SPECIFICATIONS

Revised June, 2012

CHAPTER 1 - GENERAL

1.100 REQUIREMENTS FOR PUBLIC INFRASTRUCTURE IMPROVEMENTS

1.101 Public infrastructure improvements are conditioned through the development review process, City ordinances and other policies adopted by the City. No public street improvements or utility construction shall commence prior to the City of Canby, Canby Utility or other owning agency (such as ODOT, Clackamas County, etc.) approval of the construction plans. Designs submitted for approval shall be stamped by a Registered Professional Engineer licensed to practice in the State of Oregon.

1.102 Submittal requirements consist of design plans, grading plans, erosion control plans and other information as required for street or utility construction, including paving, curbs and sidewalks, sanitary sewer, water system and storm drainage. Other information required may include a transportation study, storm water report, and geotechnical report. Developers shall be responsible for preparation of plans and specifications to comply with all conditions of approval from the City of Canby, and requirements from other owning and regulatory agencies.

1.103 Developers shall be responsible to coordinate with City staff and all utility providers prior to preparation of preliminary design drawings. The Developer shall be responsible for amending the design plans such that the review agencies accept the documents.

1.104 The current revision of the APWA/ODOT Standard Specifications for Construction and Drawings for Public Works Construction are hereby adopted and incorporated as part of this document by reference except as modified herein.

1.105 Prior to any construction activity within a public right-of-way, the Contractor shall apply for a street opening permit which must be approved by the City administrator. Contractors shall post a 100% performance bond or equivalent with the City of Canby for the duration of the work, which shall be released upon satisfactory completion. The Contractor shall be responsible for a 12-month maintenance bond equal to 5% of the construction value for 1 year after acceptance of all work in the public-right-of-way.

1.106 These design standards are intended for standard development projects and therefore do not provide for all situations such as pump stations, bridge crossings, railroad crossings, retaining walls, bridges and similar improvements. Deviations to these guidelines may be allowed by the City on a case by case basis if a specific need can be demonstrated.

1.107 These design standards are for streets, sanitary sewer and storm drainage. For water system design standards contact Canby Utility.

1.108 Where there are discrepancies between the design standards and the standard details, the design standards take precedence. In particular, the standard details have not been updated with regard to the new street right-of-way and pavement widths.

1.109 Where sections are referenced from the Canby development code it shall be defined as the referenced section or the updated section/location within the code.

1.200 DESIGN PLAN FORMAT

1.201 The plans shall be submitted on 22-inch x 34-inch plan sheets.

1.202 Vicinity Maps shall be located on the first sheet of all plans and shall show the location of the project with respect to the nearest major street intersection.

1.203 A north arrow shall be shown on each plan view sheet of the plans and adjacent to any other drawing which is not oriented the same as other drawings on the sheet.

1.204 Plan scales shall be 1" = 1'V, 1" = 10'H: I" = 2'V, 1" = 20'H; 1" = 4'V, 1" = 40'H; or 1"= 5'V, 1"= 50'H for all drawings except details.

1.205 Letter size shall not be smaller than 0.10 inch high.

1.206 The location and elevation of a National Geodetic Survey, United States Geological Survey, State Highway or Clackamas County bench mark shall be shown. No other datum shall be used without permission of the City of Canby or Canby Utility. Temporary bench marks and elevations shall be shown on the plans.

1.207 A title block shall appear on each sheet of the plan set and shall be placed in the lower right-hand corner, of the sheet, across the bottom edge of the sheet or across the right-hand edge of the sheet. The title block shall include the names of the project, the engineering firm, the owner, the sheet title and the sheet number.

1.208 The seal of the Registered Professional Engineer responsible for preparation of the plans shall appear on the each sheet.

1.209 The description and date of all revisions to the plans shall be shown on each sheet affected, and shall be approved and dated by a Registered Professional Engineer as evidenced by signature or initial.

1.210 General Sheets shall include the following:

a. A title sheet with the vicinity map, index of sheets, legend and general construction notes. The general notes should include at least general construction notes, construction execution, material types and testing requirements.
b. A site plan showing the entire development including streets, utilities and lots. The boundaries of this map should extend at least 150-feet past the development. This map may be provided at a scale of 1" = 100', or 1" = 200'.
c. A grading plan showing the existing and proposed grading. This would also show the location of any retaining walls.
d. An erosion control plan and details.

1.211 Plan views shall show the following:

a. Right-of-Way, property, tract, and easement lines.
b. Subdivision name, lot numbers, street names and other identifying labels. Developer's name, address and phone number. Subdivision and street names are subject to approval of the City Planning Department.
c. Location and stationing of existing and proposed street centerline and faces of curb.
d. Horizontal alignment and curve data of street centerline and curb returns including Radius, Delta and Length.
e. Existing underground utilities and vegetation in conflict with the construction or operation of the street.
f. Match lines with sheet number references.
g. Street stationing to be noted at 100 foot intervals.
h. Top of curve elevations along curb returns at quarter-deltas.
I. Location of the low points of street grades and curb returns.
j. Sidewalk ramp locations.
k. Crown lines along portions of streets transitioning from one typical section to another.
l. Centerline stationing of all intersecting streets.
m. Location and description of existing survey monuments, including but not limited to, section corners, quarter corners and donation land claim corners.
n. Legend.
o. Location of proposed utilities including pipes, manholes, clean-outs, valves, fire hydrants, vaults, water meters and other features. The pipes and manholes shall be stationed, and the manholes shall be numbered.
p. Show the location of the water and sanitary sewer service lines. Standard sizes can be established in the construction notes or details. Other than standard size should be noted on the plans.
q. The location of driveways and street trees should be shown to determine if there are conflicts with utilities.

1.212 Profile views shall show the following:

a. Stationing, elevations, vertical curve data and slopes for center of streets or top of curbs. For offset or super-elevation cross sections, both curbs shall be profiled. Where curbs are not to be constructed, centerline of street and ditch inverts shall be shown.
b. Original ground along the centerline and if necessary at the edges of the right-of-way if grade differences are significant.

c. Centerline of existing streets for a distance of at least one hundred fifty (150) feet each way at intersections with proposed streets and past the limits of construction.
d. Vertical alignment of streets.
e. The top of curve for all cul-de-sacs, eyebrows and curb returns.
f. For sewer and storm lines show the pipe size, slope and length. Provide the manhole number, station, rim elevation and inverts. Also show the backfill type, and the surface material.
g. For water lines show the pipe size and location of fittings. Also show the backfill type, and the surface material.
h. Show all other known underground facilities such as gas lines, power, cable etc.

1.213 Detail sheets shall include the following items:
a. All details required for the work shall be included on the construction drawings including standard details. These may be modified with notes to cover slight changes required to unique circumstances.
b. Show unique details that are not covered by standard details.
c. Show details of manufacturer designed items such as gravity block retaining walls. Also provide the design criteria.

1.300 REVIEW PROCEDURE

1.301 Ten (10) sets of complete plans shall be submitted for review by the City of Canby and Canby Utility. This review is to check that all required information has been submitted, that the plans meet the City design standards, that plans are in accordance with City master planning, and that they are reasonable.
a. The plan submittal should include the construction documents and final reports as required such as storm water, geotechnical and transportation.
b. Construction documents must be submitted as a single package to the City.
c. The developer is responsible for submitting the plans to other review agencies. The only exception is that the City will coordinate with Canby Utility.
d. Before construction documents can be approved a copy of all required permits or approvals from other agencies must be sent to the City. These may be submitted separately, but the construction documents will be reviewed again with regard to the permit requirements.

1.302 Upon completion of the detailed review by the City, the City will provide the developer the design review comments. This may be in the form of one (1) set of plans with "Red Line" comments, and/or a design review memo.

1.303 After the design engineer has completed all revisions, ten (10) revised plans and the original "Red Line" plans (and/or review memo with reply) shall be returned to the City for review. This process shall continue until the plans are accepted.

1.400 RECORD DRAWINGS

1.401 Following completion of construction, the design Engineer shall submit to the City of Canby and Canby Utility Board as applicable, two (2) sets of record drawing blue lines, and one (1) set on electronic media in AutoCAD format.

1.402 Record drawings shall be labeled as such on each sheet whether there were changes on that sheet or not.

1.403 As-built drawings shall describe any and all revisions to the previously approved construction plans, shall indicate the limits of any surplus material placed as fill on building sites, and shall be accompanied by a certification letter from the design engineer, indicating that the record drawings are accurate.

1.404 Final plat signatures or occupancy permits will not be issued prior to receipt of record drawings.

CITY OF CANBY
PUBLIC FACILITY IMPROVEMENTS

DESIGN MANUAL AND STANDARD SPECIFICATIONS

Revised June, 2012

CHAPTER 2 – STREETS

2.100 GENERAL

2.101 All street designs shall provide for the safe and efficient travel to the public. Streets shall be designed to carry the recommended traffic volumes identified for each street classification. Street classifications are set forth in the Canby Transportation System Plan as updated.

2.102 Streets shall be designed to meet or exceed minimum guidelines. These guidelines are set forth in the "AASHTO Policy on Geometric Design of Highways and Streets" (latest edition). Traffic Control Devices shall conform to the "Manual on Uniform Traffic Control Devices for Streets and Highways," Federal Highway Administration, with Oregon Supplements, Oregon Department of Transportation (latest edition).

2.103 A transportation impact study (TIS) may be required.

a. If a transportation impact study was required during land use planning, then it shall be finalized as part of the design. This should take into account any changes to the development, existing conditions or agency requirements since the time the draft report was done.
b. If a transportation study was not required during land use planning, it shall be required during design if the proposed development creates more than 1,000 trips per day based upon the ITE Trip Generation Manual, if the development appears to have a significant impact upon local transportation, or if the development will negatively affect an existing traffic concern.
c. The scope of the TIS shall be determined by the City as detailed in the Canby development code section 16.08.150 E and F. At a minimum the traffic report shall evaluate nearby intersections as identified by the City and shall determine existing conditions (service level, v/c ratio, cueing) during average day conditions, PM peak and AM peak; projected conditions, identify changes and impacts, and recommend potential solutions. The potential solutions should also be evaluated.
d. The scope of the TIS shall also be verified with ODOT or Clackamas County if their facilities may be affected by the development.
e. The TIS shall be conducted by a registered traffic or civil engineer in the State of Oregon.

2.104 A geotechnical report may be required for the streets or general site grading. The report shall be conducted by a registered engineer in the State of Oregon. The report shall include a site specific investigation including a description of existing conditions based upon existing data and site investigations, slope stability, groundwater location, design criteria and construction recommendations. The report shall be required under certain conditions such as:

a. If there are suspect ground conditions such as potentially poor soil, unstable ground or slide conditions on the site or nearby,
b. If there will be significant cut of fill,
c. If there will be structures that are public, or are supporting infrastructure such as retaining walls over 48 inches high or bridges.

2.105 Refer to the adopted transportation system plan (TSP) for functional classifications, required upgrades to existing facilities, alternative transportation systems and routes.

2.200 STREET DESIGN

2.201 Street Sections

a. The street sections design standards shall be as outlined in the City of Canby Transportation Systems Plan and any revisions thereof. Please refer to Attachment A for the street sections as shown in the Canby TSP.
b. Alternative Requirements – On a case by case basis the City Administrator or designee and Planning Director may allow alternative right-of-way and pavement widths for local streets and neighborhood routes. These may be considered in the following conditions.

1. In sensitive lands such as wetlands, floodplains or slope hazard areas.
2. In areas designated as steep slopes (slopes greater than 20%).
3. Infill development that occurs in otherwise fully developed neighborhoods.
4. Street improvements in fully developed neighborhoods.
5. Other exceptional circumstances.

Street Classification	Right-of-Way	Pavement Width	Sidewalk Width
Cases 1, 2 & 5			
Neighborhood Routes	30-50’	20’ minimum	5’
Industrial Collector		46’	6’
Industrial Local		32’	6’
Cases 3, 4* & 5			
Local	Match existing, 28’ minimum	Match existing, 20’ minimum	Match existing

* Where sidewalks are installed they must be a minimum of 4-feet wide. Curb may not be required. The ROW width will be modified based upon the street width, sidewalk and storm drainage requirements.

2.202 Pavement Design

a. Pavement design shall in no case be less then provided in the design standards. Heavier sections may be required depending upon soil conditions, or the amount of traffic and in particular truck traffic anticipated. Pavement sections for industrial streets, arterials and highways shall be specifically designed.
b. Perpetual pavement design will be considered in lieu of standard pavement design.
c. Local and collectors streets shall be a minimum of 4 inches of asphalt in two lifts, over 12 inches of base rock. The sub-base shall be proof rolled at the time of construction. The city shall inspect the sub-base as it is proof rolled and determine if the sub-base needs to be improved.
d. Arterial streets shall be a minimum of 5 inches of asphalt in two lifts, over 12 inches of base rock. The sub-base shall be proof rolled at the time of construction. The city shall inspect the sub-base as it is proof rolled and determine if the sub-base needs to be improved.
e. Specific designs shall be used for designated truck routes, but in no case shall the section be less than the minimum for arterial streets.

2.203 Horizontal Alignment

a. Centerline alignment of improvements should be parallel to the centerline of the right-of-way.
b. Centerline of a proposed street extension shall be aligned with the existing street centerline.
c. The following are <u>guidelines</u> for minimum centerline horizontal curve radius:

Arterial Streets	-	450 feet
Collector & Neighborhood Streets	-	270 feet
Local Streets	-	165 feet

2.204 Vertical Alignment

a. Minimum tangent street gradients shall be one-half (0.5) percent along the crown and curb.
b. Maximum street gradients shall be fifteen (15) percent for collector, and local streets, and ten (10) percent for arterials. Grades in excess of the standards must be approved by the City Administrator or designee on an individual basis based upon the following criteria.
    1. There is no practical access to property being developed through adjacent properties.
    2. The cut/fill required to maintain the standard slopes may cause destabilization of soils.
c. Local streets intersecting with a collector or greater functional classification street or streets intended to be posted with a stop sign shall provide a landing averaging two (2) percent or less. Landings are that portion of the street within fifty (50) feet of the edge of the intersecting street at full improvement.

d. Grade changes of more than one (1) percent shall be accomplished with vertical curves. Vertical curves shall be designed per the "AASHTO Policy on Geometric Design of Highways and Streets". "K" values shall be shown on the plans.
   1. Vertical curves may be shortened at intersections where there is a stop sign or a "tee" intersection.
e. At street intersections, the crown of the major (higher classification) street shall continue through the intersection. The roadway section of the minor street will flatten to match the major street at the quarter panel.
f. Street grades, intersections and super elevation transitions shall be designed to not allow concentrations of stormwater to flow over the pavement.
g. The standard street cross-slope shall be to match centerline with top of curb. The minimum cross slope shall be 2%. The maximum cross slope shall be 3.6%.

2.205 Intersections

a. The interior angle at intersecting streets shall be kept as near to ninety (90) degrees as possible and in no case shall it be less than seventy-five (75) degrees.
b. Offset intersections shall not be allowed. For intersections where the centerline of the streets does not align, the minimum spacing shall be as follows:

Street Class	Intersection Spacing (Ft.)
Arterial	660 - 1,000*
Collector	250 - 600*
Neighborhood Route	150 - 600
Local/Cul-de-sac	150 - 600

*The City Administrator or designee may permit a minimum spacing of not less than 300 feet (Arterial), 200 feet (Collector), when findings are made to establish that:

1. Without the change, there could be no public street access from the parcel(s) to the existing street, or
2. The change is necessary to support local pedestrian, bicycle circulation and access, and
3. The change is necessary due to topographic constraints, and
4. All other provisions of the street design requirements can be met.

c. The following shall be used as a guideline for curb radii at intersections for the various classifications. The right-of-way radii at intersections shall be sufficient to maintain at least the same right-of-way to curb spacing as the higher classified street.

Arterial Streets	R = 40 feet
Collector Streets	R = 30 feet
*Local Streets	R = 25 feet

**In accordance with the Oregon Fire Code*

2.206 Cul-de-sacs and Eyebrows

a. Cul-de-sacs shall only be allowed per the Canby Development Code Chapter 16.64.010. Cul-de-sacs and eyebrows shall be allowed only on local streets.
b. Cul-de-sacs shall not be more than four hundred (400) feet in length, and shall serve no more than 25 dwellings. The length of a cul-de-sac shall be measured along the centerline of the roadway from the near side right-of-way of the nearest through traffic intersecting street to the farthest point of the cul-de-sac right-of-way.
c. The minimum radius for a cul-de-sac bulb right of way shall be 54 feet with a minimum curb radius of 48 feet.
d. The minimum curb radius for transitions into cul-de-sac bulbs shall be twenty-eight (28) feet minimum and the right-of-way radius shall be sufficient to maintain the same right-of-way to curb spacing as in the adjacent portion of the road.
e. When cul-de-sacs are allowed, provisions for connectivity of other public facilities shall be made. Specifically, pedestrian connections as called for in the Canby Development Code Chapter 16.64.010, and looping of the water distribution system.

2.207 Half Street Improvements

a. Half-street construction is generally not acceptable. Where such a street is justified, the right-of-way and pavement width will be approved by the City Administrator or designee. In no case shall the pavement width required be less than that required to provide two lanes of traffic to pass at a safe distance. For a 32-foot local street, the half-street pavement width will be 20-feet. Half-streets will only be approved when the abutting or opposite frontage property is undeveloped and the full improvement will be provided with development of the abutting or opposite (upon right-of-way dedication) frontage property.
b. A development on an unimproved substandard street shall be responsible for constructing a continuous, 20' wide half street to a connection with the nearest publicly owned right-of-way.
c. In cases where an existing street is to be improved, the improvement shall be to at least the centerline of the street or 20' wide whichever is more.

2.208 Pavement Transitions and Tapers

a. In the direction of vehicular traffic where the street width transitions from narrower to wider the taper shall be three (3) to one (1).
b. In the direction of vehicular traffic where the street width transitions from wider to narrower the length of the transition taper shall be determined as follows:

$L = S \times W$ for S = 45 mph or greater

$L = S \times S \times W/60$ for S less than 45 mph

L – length of taper in feet

S – design speed in mph

W – offset width in feet

c. Delineator may be required at tapers.

2.209 Sidewalks

a. Sidewalks shall be a minimum of 4 inches of concrete over 2 inches of base rock.
b. The maximum cross slope shall be 2-percent.
c. With regard to obstructions such as mailboxes, sign posts, power poles, etc., the minimum horizontal clearance on a sidewalk shall be 32 inches for a maximum length of 24". Minimum clear width of an accessible route is 36". The vertical clearance shall be a minimum of 7-feet.
d. Sidewalks are intended to be within the right-of-way. In special circumstances the City may allow them to be outside of the right-of-way, but they then must be within a dedicated easement.
e. Handrails or fences may be required should there be vertical drops next to the sidewalk of 6-inches or more, or there are steep slopes next to the sidewalk.
f. One sidewalk ramp meeting Americans with Disabilities Acts (ADA) requirements shall be located at each corner. In areas with greater than 1,000 trips per day, two sidewalk ramps meeting (ADA) standards shall be located at each corner. Mid-block sidewalk ramps may be required where there are pedestrian facilities. Other factors may dictate the location of ramps.

2.210 Curb & Gutter

a. A standard curb shall be used. It shall be 16-inches deep and have a 6-inch face with a 1-inch radius, 6-inches wide at the top and 9-inches wide at the bottom.
b. Mountable curbs will not be used unless approved by the City Administrator or designee in special circumstances such as developments with townhouses where 90% of the frontage is driveway.
c. Monolithic curb and gutters are not required, but may be used.

2.211 Driveways

a. Access to private property shall be permitted with the use of driveway curb cuts. The access points with the street shall be the minimum necessary to provide access while not inhibiting the safe circulation and carrying capacity of the street. Driveways shall meet all applicable guidelines of the Americans with Disabilities Act (ADA).
b. Driveways shall be limited to one per property except for certain uses which include large commercial uses such as large box stores, large public uses such as schools and parks, drive through facilities, property with a frontage of over 250-feet and similar uses.
c. Double frontage lots and corner lots may be limited to access from a single street, usually the lower classification street. Single family residential shall not have access onto arterials, and shall have access onto collectors only if there is no other option.
d. If additional driveways are approved by the City Administrator or designee, a finding shall be made that no eminent traffic hazard would result and impacts on through traffic would be minimal. Restrictions may be imposed on additional driveways, such as limited turn movements, shared access between uses, closure of existing driveways, or other access management actions.

e. Within commercial, industrial, and multi-family areas, shared driveways and internal access between similar uses are encouraged to reduce the access points to the higher classified roadways, to improve internal site circulation, and to reduce local trips or movements on the street system. Shared driveways or internal access between uses will be established by means of common access easements at the time of development.

f. Driveway widths shall be as shown on the following table.

Driveway Widths (Minimum/Maximum, Ft.)

Street Classification	Res.	Comm.	Ind.
Arterial:	NA (1)	12/36	12/36
Industrial:	NA (1)	12/36	12/36
Collector:	12/24 (2)	12/36	12/36
Neighborhood Route:	12/24 (2)	12/36	12/36
Local:	12/24 (2)	12/36	12/36
Cul-de-sac:	12/24 (2)	12/36	12/36
Public Alley	12/24 (2)	NA	NA

Res. = Residential Zone
Comm. = Commercial Zone
Ind. = Industrial Zone

Notes: (1) Special conditions may warrant access.
(2) 28' maximum with 3-car garage.

g. Driveway spacing shall be as shown in the following table.

Minimum Driveway Spacing

Street Classification	Intersection	Driveway
Arterial (2)	330' (1)	330' (1)
Industrial Streets (2)	100' (1)	100' (1)
Collector (2)	100' (1)	100' (1)
Neighborhood Route	50' (1)	10'
Local (all)	50' (1)	10'
Cul-de-sac	50' (1)	10'
Public Alley	50' (1)	

Notes: (1) Minimum distance or no closer than 60% of parcel frontage unless this prohibits access to the site, in which case City Administrator or designee may approve a deviation.
(2) Direct access to this street will not be allowed if an alternative exists or is planned.

* Driveways shall not be constructed within the curb return of a street intersection.

h. Curb cuts shall be a minimum of five feet from the property line, unless a shared driveway is installed. Deviation may be approved by the City Administrator or designee.

i. For roads with a classification of Collector and above, driveways adjacent to street intersections shall be located beyond the required queue length for traffic movements at the intersection. If this requirement prohibits access to the site, a driveway with restricted turn movements may be permitted.

j. Multi-family access driveways will be required to meet the same access requirements as commercial driveways if the multi-family site generated 100 or more trips per day.

2.212 Bikeways

a. General - The City has adopted a Transportation System Plan, which includes a Bicycle/Pedestrian Plan. This plan summarizes the City's policy and implementation strategies for bikeways within the City. The City will use both AASHTO and ODOT standards and criteria as the minimum guidelines for bikeway design, construction, and control.

The guidelines for bikeways consist of the following:

1. AASHTO, "Guide to Development of Bicycle Facilities," latest edition.
2. ODOT, "Oregon Bicycle & Pedestrian Plan", latest edition.
3. Manual on Uniform Traffic Control Devices with Oregon supplements by Oregon Transportation Commission, latest edition.

b. Location - Bikeway location and widths for on-street bike lanes are shown on the street section table in paragraph 2.201 of these standards. Bikeways that are outside of street sections will be considered two-way See paragraph 2.201 for the width. These shall have a minimum of 2-foot wide gravel shoulders on both sides.

c. Design Criteria – Design shall meet the criteria per AASHTO and ODOT, but shall also meet the following criteria:

1. All bikeways shall have a minimum cross-slope of two percent (2%) and a maximum cross-slope of five percent (5%).
2. Bikeway curvature will be based on a minimum design speed of 20 MPH.
3. Bikeway grades shall be limited to a maximum of five percent (5%). Where topography dictates, grades over five percent (5%) are acceptable when a higher design speed is used and additional width is provided.
4. Off-street bikeways shall be constructed for limited maintenance vehicle use. Subgrade preparation will require removal of existing organic material and compaction.

Bikeway Thickness

Use	Asphalt	Aggregate
Limited	3"	6"

5. When drainage such as side ditches is required parallel with the bikeway, the ditch centerline shall be at least five feet (5') from the edge of the pavement. Ditch side slope adjacent to the bikeway shall be no steeper than 2:1 when measuring the horizontal distance to the vertical distance.
6. When culverts cross bikeways, the ends of the pipe shall be no closer than five feet (5') from the edge of the bikeway.

2.213 Parking

a. Location – On street parking location and widths are shown on the street section table in paragraph 2.201 of these standards.
    1. On street parking is considered optional on one way arterials and collector streets. Both parallel and diagonal parking are options for the one way arterials. The requirements for on street parking in these locations are at the City's discretion.
    2. Neighborhood routes and local street shall have parallel parking. Parking may be deleted in special circumstances such as conserving major trees, streets are located in sensitive lands, or hazardous conditions at the City's discretion.
    3. On street parking is not allowed on two way arterials and industrial streets (local and collector).

2.214 Street Signs & Stripping

a. A street signing and stripping plan shall be included in plan submittals for new streets. Street stripping and signing shall be in accordance with ODOT standards and guidelines.

2.215 Street Lighting

a. A street lighting plan shall be included in plan submittals for new streets. Street lighting shall be for the safety of pedestrians as well as traffic safety.

2.216 Traffic Calming

a. Traffic calming measures are encouraged and are supported as shown in the following table.

Allowed Traffic Calming Measures by Roadway Functional Classification

Traffic Calming Measure	**Is Measure Supported? (per Roadway Classification)**[a]		
	Arterial	*Collector*	*Neighborhood Route/ Local Street*
Curb Extensions	Supported	Supported	Calming measures are supported on roads that have connectivity (more than two accesses) and are accepted and field tested by the Canby Fire District.
Roundabouts	Supported	Supported	
Medians and Pedestrian Islands	Supported	Supported	
Pavement Texture	Supported	Supported	
Speed Hump	Not Supported	Not Supported	
Raised Crosswalk	Not Supported	Not Supported	
Speed Cushion (provides emergency pass-through with no vertical deflection)	Not Supported	Not Supported	
Choker	Not Supported	Not Supported	
Traffic Circle	Not Supported	Not Supported	
Diverter (with emergency vehicle pass through)	Not Supported	Supported	
Chicanes	Not Supported	Not Supported	

NOTES:

a. Traffic calming measures are supported with the qualification that they meet Canby Fire District guidelines including minimum street width, emergency vehicle turning radius, and accessibility/connectivity.

2.217 Temporary Dead end Streets

a. Temporary dead end streets more than 150-feet long shall have a temporary turn-around that meets the requirements of the Canby Fire District.
b. Appropriate easements shall be provided for the temporary turn-around

2.300 MOBILITY STANDARD

2.301 The mobility standard for City of Canby streets is measure as the level of service (LOS) and is as follows:

a. Signalized intersections or four-way stops: LOS D.
b. Two way stop controlled: LOS E.

2.302 The mobility standard for Clackamas County and ODOT shall be per their respective standards.

CITY OF CANBY
PUBLIC FACILITY IMPROVEMENTS

DESIGN MANUAL AND STANDARD SPECIFICATIONS

Revised June, 2012

CHAPTER 3 – SANITARY SEWER DESIGN

3.100 GENERAL

3.101 Sanitary sewer design shall comply with all requirements of the Oregon Department of Environmental Quality design guidelines and be approved by DEQ prior to beginning any construction, as well as comply with the City of Canby's master planning requirements.

3.102 Sanitary sewer systems shall, in general, be designed to provide gravity service to all areas of development. Approval by the City Administrator or designee shall be obtained prior to design of any sewer which cannot provide gravity service.

3.103 Sanitary sewer system capacity shall be designed for ultimate development density of the tributary area. The system shall allow for future system extension and for future development based on current or proposed land use designations.

3.104 Sanitary sewers shall be designed to remove the domestic sewage and industrial wastes from basements of houses, where practical, commercial or industrial buildings, and all public and private establishments where possible.

3.105 Storm water, including street, roof, or footing drainage, shall not be discharged into the sanitary sewer system but shall be removed by a system of storm drains or by some other method separate from the sanitary sewer system.

3.106 All public sewer pipelines shall be located within the public right-of-way whenever possible. These lines are placed in the public streets and right-of-way for ease of maintenance and access, control of the facility, operation of the facility, and to provide required replacement and/or repair. Under special topographical conditions the placing of public sewers outside of public right-of-way may be approved by the City Administrator or designee.

3.107 Sanitary sewer lines shall be extended to the edge of the property being developed to facilitate future extension of the collection system.

3.108 Refer to the adopted wastewater master plan and facility plan for required upgrades to existing facilities.

3.200 DESIGN CALCULATIONS –

3.201 All pipeline design submittals shall include the following capacity and general information:

a. Flow based upon an average design flow at 100 gallons per capita per day (gpcd), with three (3) persons per household average.
b. Design peak hourly contributions of three (3) times average flow.
c. Pumping head and flow calculations for pumping stations. Pump station shall be designed for peak flows.
d. Off-site contribution for future connections from within the UGB.
e. Receiving pipeline capacity review.

3.300 DESIGN GUIDELINES

3.301. Pipe Size - Minimum pipeline size shall be 8" diameter on mainlines and 6" diameter on public portion of service laterals;

3.302 Pipe Cover - Depth shall be sufficient to serve adjacent areas with considerations of receiving pipeline grades, future extensions, and potential of basement construction. Depths shall be at a minimum the following:

a. Sewer Mainline - Six feet (6') at Right-of Way for level or upward sloping lots
b. Trunk and Collector Sewer – Eight feet (8') in roadways and easements
c. Ductile iron pipe shall be used when cover is less than three feet from subgrade and approved by the City Administrator or designee.
d. Deviation from the above standards will be considered on a case-by-case basis when one of the following circumstances exist:
    1. Underlying rock strata - required: A request in writing to the City Administrator or designee, together with submittal of a soils report, with a plan and profile certifying that bed rock exists three feet (3') or less below the undisturbed ground surface at all investigated alignments.
    2. A ditch or stream must be crossed - required: A plan and profile; horizontal scale 1" = 20', vertical scale 1" = 2'.
    3. Connecting to an existing sanitary sewer that does not meet the depth requirements.

3.303 Velocity –

a. The slopes on pipes shall be set to maintain a minimum velocity when the pipe is flowing 2/3 full at 2 feet per second.
b. Minimum pipeline slope shall be according to the following table to maintain minimum resuspension and transport velocities:

DIAMETER	MINIMUM SLOPE
8"	0.0040 ft/ft
10"	0.0028 ft/ft
12"	0.0022 ft/ft
15"	0.0015 ft/ft
18"	0.0012 ft/ft

c. All pipelines shall be laid at uniform slope between manholes.

3.304 Manholes

a. Manholes shall conform to ASTM C-478. They shall be concrete and shall include a sloped shelf, channel, access rungs, manhole rim and cover, grade rings as required, kor-n-seal boots or similar pipe connection, and shall be water tight.
b. Manholes shall be placed at all locations where the pipeline changes grade, size or horizontal alignment.
c. They shall have a maximum spacing of 500-feet, and shall also be placed at the end of pipe lines where there is the potential for future development.
d. The minimum angle between an incoming and outgoing pipe shall be 90-degrees.
e. The elevation drop through a manhole when the pipe goes straight through is 0.1-feet. The elevation drop through a manhole when the pipe changes directions through the manhole is 0.2-feet. Where the algebraic grade change between an incoming and outgoing pipe is greater than 10, the grade through the manhole shall be the average of the two pipe grades.
f. Pipes of unequal diameters must be aligned at the 0.8 depth elevation in accordance with DEQ standards.
g. Manholes shall be a minimum of 4-feet in diameter for pipe up to 27-inches in diameter. Pipe from 30 to 36-inch shall require a minimum of 6-feet diameter manhole. Larger pipe shall require larger manholes.
h. Manholes shallower than 6-feet shall require a flat top.
i. Manholes located in right-of-ways shall be level with the grade. Manholes located outside of right-of-ways shall extend 1-foot above grade and shall be tamperproof covers.
j. Beaver slides may be used in manholes up to an elevation change of 2-feet. Drop connections are discouraged, and may only be used with approval by the City Administrator or designee.
h. All manhole covers shall be watertight at or below the 100-year flood elevation.

3.305 Cleanouts on main lines may only be used on dead end lines that will never be extended which are shorter than 250-feet and serve less than 8 homes (or the equivalent of 8 homes). A 4" cleanout shall be installed within the public utility easement as shown.

3.306 Service Lines

a. There shall be a single service line for each lot served.
b. The service line shall be at 90-degrees to the mainline except in cul-de-sacs.
c. Service lines shall not connect at manholes except in cul-de-sacs.
d. Service lines shall be constructed at a minimum of a 2-percent grade. In special circumstances the grade may be lowered with sufficient justification and a variance from the regulatory agency. The maximum grade is 45-percent.
e. Tees for service lines shall be angled up at 45-degrees from the main line. Connecting to existing pipe may be done with inserta-tees.
f. Service lines shall be extended to the right-of-way line, or if there is a utility easement it shall be extended past the easement.
g. The end of the service line shall be plugged and marked with a 2"x4" wood marker that extends 12-inches above ground. The marker shall be painted white and be marked with the depth of the service line.

h. The curb shall be stamped with an "S" on the face or top where the service line crosses.
i. There shall be a 4-inch clean out located at the right-of-way line on service lines.
j. In special cases where a lot may not be able to be served by gravity, individual pumping facilities may be used. These may only be used with the approval of the City Administrator or designee. The pumping facility will be considered private, and it should be noted on the design plans.

3.307 Toning Wire

a. Where non-metallic pipe is used both for the main lines and services lines there shall be a toning wire. It shall be laid along the pipe and shall be extended into the manholes and clean outs.

3.308 Materials

a. Sanitary sewer pipelines and services shall be PVC SDR 35, complying with the requirements of ASTM D-3034.
b. Where additional pipe strength is required two pipe materials are acceptable. Pressure rated ductile iron (DI) may be used, or PVC C-900.
c. Stream crossing shall be made with DI pipe. If approved by the City Administrator or designee fusion butt-welded HDPE pipe may be used for stream crossings.
d. Toning wire shall be a minimum of 18 gauge copper wire with green insulation.

3.400 CONNECTION TO EXISTING SEWERS

3.401 Connections to, and extensions of, existing sewers may occur to facilitate new development.

3.402 Connections to existing manholes is the preferable method for extending main lines.

a. Connection to an existing stub out is preferred.
b. Where there is no stub out, the existing manhole may be core drilled at the top of the shelf. A core-n-seal boot or similar water tight connection method shall be used. The shelf shall be rechanneled as needed to accommodate the new pipe.
c. Where there is insufficient depth to connect to an existing manhole at the top of the shelf, the connection may be made lower. This will require reconstruction of the channel and shelf. Note that the crown elevation of the new pipe must be no lower than the crown of the outgoing pipe. The base of the manhole may need to be rebuilt.
d. Drop connection may only be made in special circumstances such as intervening structures that prevent the appropriate slope. Depth of sewer alone does not warrant a drop connection.

3.403 Connection to Main Line

a. When there is not an existing manhole for a main line to connect to, a new manhole may be constructed over an existing pipe. The manhole base may be poured around the existing pipe, and the top cut out of the existing pipe. The shelf will be formed around the existing pipe, and the new pipe shall enter the manhole no lower than where the existing pipe is cut.
b. The manhole should be tested prior to cutting the existing pipe.

3.404 Connection to Clean Outs

a. When sewers are extended from cleanouts, the entire cleanout assembly, including the wye, shall be removed. The new pipe shall be installed at the same grade as the existing pipe.
b. The new pipe will need to be tested prior to connection to the existing pipe.

3.405 Service Connections

a. New building service laterals will be made at existing tees where possible.
b. When tees do not exist on the Public Sanitary Sewer System, the new lateral sewer will enter the collection system through a "cored" opening with an approved connector such as inserta tee.

3.500 EASEMENTS

3.501 Public Easements

a. Easements for public sewers less than or equal to 12-inches in diameter shall be a minimum of 15-feet wide. Easements for public sewers greater than 12-inches in diameter shall be a minimum of 20-feet wide.
b. Easements for sewer greater than 24-inches in diameter or more than 8-feet deep shall require wider easements in increments of 5-feet.

3.502 Private Easements

a. Private easements for service lines are the responsibility of the private owners. However, if the design plans for a development require a service line to cross another property the private easements shall be shown on the plans and must be included in the plat.
b. Private easements shall not be permitted within the public right-of-way.

3.600 SEPARATION FROM WATER LINES

3.601 Water mains shall be installed a minimum clear distance as defined in OAR Chapter 333, Public Water Systems. However, in no case shall the distance be less than five feet (5') horizontally from sanitary sewers.

3.602 Water lines shall be installed to go over the top of such sewers with a minimum of 18 inches of vertical clearance at the intersections of these pipes.

3.603 Exceptions shall first be approved by the City Administrator or designee. In all instances the distances shall be measured surface to surface.

3.700 RELATION TO WATERCOURSES

3.701 Generally, the top of all sanitary sewers entering, crossing or adjacent to streams shall be at a sufficient depth below the natural bottom of the streambed to protect the sewer line. One foot (1') of cover is required where the sewer is in solid rock; three feet (3') of cover is required in other materials. In paved channels, the top of the sewer line shall be placed at least six inches (6") below finish grade of the bottom of the channel, except as provided above.

3.702 Sewers located along or parallel to streams shall be located outside of the streambed and sufficiently removed there from to provide for future, possible stream channel widening.

3.703 Sewers crossing streams or drainage channels shall be designed to cross the stream as nearly perpendicular to the stream channel as possible, and shall be free from change of grade.

3.704 The pipe material shall be ductile iron with an 18-foot length of pipe centered on the stream or drainage channel centerline or continuous High Density Polyethylene. The ductile iron or High Density Polyethylene pipe shall extend to a point where a one-to-one slope begins at the top of the bank and slopes down from the bank away from the channel centerline and intersects the top of the pipe.

3.705 Concrete encasement will be required when the above cover requirements cannot be met. Each deviation from the above requirements will be reviewed and approved by the City Administrator or designee on a case-by-case basis.

3.800 TESTING

3.801 Pipe Lines

a. All pipelines shall be tested for leakage per the criteria identified in the current APWA Standards. This shall include low pressure air testing.
b. Flexible pipe shall be deflection tested per APWA standards with a mandrel sized at 95% of the pipe diameter.
c. Following acceptable testing, the Contractor shall flush the lines and provide complete pipeline TV inspection to verify grade and condition.

3.802 Manholes

a. Manholes shall be vacuum tested in accordance with the National Association of Sewer Service Companies (NASSCO) standards.

3.900 SPECIAL FACILITIES

a. Special facilities shall be approved on a case by case basis by the City Administrator or designee. This includes facilities such as pump stations and force mains, bridge crossings, river crossings, inverted siphons and similar facilities.

3.901 Pump Stations

a. Pump station designs shall include a design report that includes the following items at a minimum: full service area size, calculation of peak flows for the existing development and the for the full service area, pump sizing and design criteria such as pump type/capacity/HP/number, overflow location, control elevations and equipment, wet well sizing, alarm type, transfer switch type, force main size, hydrogen sulfide control, discharge manhole protection, downstream capacity analysis.
b. In general pump station shall be designed to meet peak design flows with full pumping redundancy, and the wet wells shall have a minimum of four (4) hours storage above the alarm elevation.

c. Features that are required in a pump station design include: pumps (a minimum of two), wet well, valves, valve vault, associated piping, level control, electrical, control panel and weatherproof enclosure, instrumentation, pressure gages, alarms, telemetry, access road, parking, fencing, landscaping, potable water supply, lighting, power outlets, and standby power.
d. The following features may be required on a case by case basis: odor control, downstream discharge point hydrogen sulfide, air relief valves on the force main.
e. Standby power with an automatic transfer switch will be required and approved by the City Administrator or designee.
f. Additional requirements include an operation and maintenance manual, a minimum of two hours of training, and spare parts for parts such as gaskets, bearings and mechanical seals.
g. Pump stations shall utilize submersible pumping systems unless approved by the City Administrator or designee.

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Revised June, 2012

CHAPTER 4 – STORM DRAINAGE DESIGN

4.100 GENERAL

4.101 Performance Standards - Storm drainage design within a development area must include provisions to adequately control run-off from all public streets and limited private property runoff from areas identified in the City Stormwater Master Plan. The design must ensure future extension of the drainage system to the entire drainage basin in conformance with the adopted Stormwater Master Plan and these Design Standards.

4.102 Discharge Location: Surface or subsurface drainage, caused or affected by changing the natural grade of the existing ground or removal of natural ground cover or placement of impervious surfaces, shall not be allowed to flow over adjacent public or private property in a volume or location materially different from that which existed before development occurred, but shall be collected and conveyed, in an approved manner, to an approved point of disposal.

4.103 Discharge Location: Surface water entering the subject property shall be received at the naturally occurring locations and surface water exiting the subject property shall be discharged at the natural locations with adequate energy dissipaters within the subject property to minimize downstream damage and with no diversion at any of these points.

4.104 Discharge Location: The approved point of disposal for all storm water may be a storm drain, existing open channel, creek, subsurface, detention or retention pond or facility approved by the City Administrator or designee. Acceptance of suggested systems will depend upon the prevailing site conditions, capacity of existing downstream facilities, and feasibility of the alternate design.

4.105 Underground Injection Control: New Underground Injection Control (UIC) devices shall not be approved for public storm water facilities unless there is no other method for discharging storm water. New UIC's may only be used as a source of stormwater discharge if they are Registered and Rule Authorized by DEQ.

4.106 Low Impact Development (LID): The City encourages the use of LID methods for storm water. For specific design criteria and design standards for LID the City refers to the latest LID manual developed by Clean Water Services. [Low Impact Development Approaches Handbook, July 2009]

4.107 Private Drainage: Design for private storm drainage, where permitted by the Stormwater Master Plan, shall meet the same requirements as the public facilities. The design of these facilities shall be included in the public improvement plans including facilities for individual lots.

4.108 Peak Discharge Rate: Unless adequate capacity is available, the peak discharge from the subject property, for all applicable design storms, may not be increased from conditions existing prior to the proposed development. Detention and/or retention will be required to obtain this result. Where it can be satisfactorily demonstrated by the applicant that there is already detention and there are no adverse impacts to the downstream system, additional detention/retention may not be required.

4.109 Treatment: Stormwater quality facilities or Best Management Practices may be required to control the discharge of pollutants from development and redevelopment, to the municipal storm drainage system, UIC's or natural watercourse. Where required by DEQ or the City Administrator, the City will encourage the use of LID standards. Please refer to the Clean Water Services Low Impact Development Approaches Handbook July 2009.

4.110 Flow Through Capacity: All storm drain system designs shall make adequate provisions for collecting all storm water run-off. The system shall accommodate all run-off from upstream tributary areas whether or not such areas are within the proposed development. The amount of run-off to be accommodated shall be based upon ultimate development of all upstream tributary areas.

4.111 Downstream Capacity: Proposed storm drain systems shall not discharge flows into inadequate downstream systems unless approved by the City Administrator or designee.

4.112 System Location: Public storm lines shall be located within the public right-of-way if feasible. These lines are placed in the public right-of-way for ease of maintenance and access, control of the facility, operation of the facility, and to provide required replacement and/or repair. Any storm lines not placed in the public right-of-way shall be located in a public utility easement.

4.113 Only public right-of-ways runoff shall, by design, be collected and disposed of within the public storm drainage system. Upon development, runoff from private properties shall not be permitted to discharge to public storm sewer facilities except as identified in the City Stormwater Master Plan.

4.200 STORM DRAINAGE REPORT

a. If a storm drainage report was required during land use planning, then it shall be finalized as part of the design. This should take into account any changes to the development, existing conditions or agency requirements since the time the draft report was done.
b. If a storm drainage report was not required during land use planning, it shall be required during design.
c. A storm drainage report shall include the following items.

4.201 Existing Drainage Plan - Provide a topographical contour map defining existing conditions to include the following minimum information:

a. Two-foot (2') contour intervals; slopes over 10% may use 5-foot (5') intervals; very flat sites may need contour interval of one-foot (1') or even one-half foot(1/2'); extend contours a minimum of 100 feet beyond property.

b. All structures, buildings, parking lots, and utilities on the property.
c. Location of all existing drainage facilities and water courses, including wetlands and floodplain areas.
d. Locations of all subsurface water outlets (e.g., springs).
e. Show arrows to indicate direction of flow for all drainage information.

4.202 Proposed Drainage Plan - Show proposed site grading and drainage facilities on a topographical contour map. Unless the detail for proposed improvements will obscure the conditions shown on the existing drainage plan, proposed site grading and drainage may be shown on the existing drainage plan. The following minimum information shall also be shown:

a. Finished contours of the property, after development, at two-foot (2') or five-foot (5') intervals as required.
b. Percent grade for graded slopes; elevations, dimensions and locations for all graded slopes.
c. Cut/fill areas; structural fill placement areas; erosion/sedimentation control methods; reseeding areas.
d. All proposed drainage facilities - public and private systems; paved areas, curbs, sidewalks; drainage ditches, culverts.

4.203 Drainage Calculations - The storm drainage report shall provide the following information at a minimum.

a. Pre and post development conditions with regard to basin boundary maps, pervious and impervious area, flow routing, discharge rates for design storms, discharge velocity, and time of concentration calculation. They shall also include a general description of the proposed facilities, soils identification, curve number (CN) (and calculation of composite CN's), design storms, detention sizing, treatment sizing, downstream analysis, and infiltration rate with supporting data. Provide references for soils type, and CN. Use ODOT Zone 8 Rainfall Intensity-Duration Frequency curve.
b. The discharge rates to be evaluated include the 2, 5, 10 and 25 year storm events. The conveyance system shall be designed to pass the 10 year storm events without surcharge, and a 25 year event with surcharge but keeping the hydraulic grade line below the manhole lids.

4.204 Geotechnical Report -

a. If subsurface disposal of the storm water is proposed as the discharge method, then a site specific geotechnical investigation is required to define the infiltration rate of the existing soil. All tests shall be done during periods when the groundwater table is expected to be at its maximum. This investigation shall include background data from existing soils mapping, but it shall also include a field test of the infiltration rate at the site in question. Nearby field tests on other properties are not acceptable.
    1. For the test an excavation shall be made to the bottom elevation of the proposed infiltration system. The maximum infiltration rate shall be determined using either the EPA falling head percolation test procedure (Design Manual – Onsite Wastewater Treatment and Disposal Systems, EPA, 1980) or the double ring infiltrometer test (ASTM D3385).
    2. The test hole or apparatus shall be filled with water and maintained at depths above the test elevation for a period of not less than 4 hours. This represents the saturation period.

3. Following the saturation period, the infiltration rate shall be determined in accordance with one of the test procedures specified above, with a head of 6 inches of water.
4. The Engineer shall perform at least 1 test per contributing acre to determine a representative infiltration rate for the site.
5. A factor of safety of 2 shall be applied to the field measured infiltration rate.
6. The test shall be witnessed by a representative of the City.
    a) The infiltration rate of the medium used for various LID technologies such as infiltration swales shall also be documented.
    b) The maximum groundwater table shall also be identified.

4.205. Downstream Analysis Report

a. The downstream analysis will show what impacts, if any, a project will have on the hydraulic conveyance system(s) downstream of the project site. The analysis is to be divided into three parts that are followed sequentially. The three parts include: review of resources, inspection of the affected area, and analysis of downstream effects.
    1. During the review of resources, the designer will review any existing data concerning drainage of the project area. This data will commonly include area maps, floodplain maps, wetland inventories, stream surveys, habitat surveys, engineering reports concerning the entire drainage basin, inventories of known drainage problems, and previously completed downstream analyses. The City may be able to provide some of this information. Other sources of information include, Oregon Department of Environmental Quality, Oregon Division of State Lands, Department of Fish and Wildlife, and other local agencies.
    2. The Designer will physically inspect the drainage system at the project site and downstream of the site. During the inspection, the designer should investigate any problems or areas of concern that were noted during the review of resources. The designer should also identify any existing or potential capacity problems in the drainage system, any existing or potential areas where flooding may occur, any existing or potential areas of channel destruction (including erosion and sedimentation), and existing or potential areas of significant destruction of aquatic habitat.
    3. The information that has been gathered is analyzed to determine if construction of the project will create any drainage problems downstream or will make any existing problems worse. Often, if the other minimum requirements are met, the project will not negatively impact the downstream drainage system. There are however some situations that, although minimum requirements have been met, will still have negative impacts. Whenever a situation is encountered where it has been determined that there will be negative impacts resulting from the project, mitigation measures must be included in the project to correct for the impacts.

4.206. Stormwater Flows - Several methods are available to design engineers for estimating peak runoff rates. Three of these are the "Rational Method", the SCS "Curve Number" method, and the Santa Barbara Urban Hydrograph (SBUH) method. These methods will be acceptable for estimating the peak runoff rates to be used in sizing storm drainage conveyance improvements in those areas for which there are no specific Master Plan recommendations.

4.207. Detention/Retention Volumes - Several methods are available for the calculation of run-off rate volumes for the purpose of calculating detention/retention storage volume requirements. Detention volume estimates shall be based on hydrographs developed for the storm duration specified by the City for the applicable return frequencies. A method shall be used which routes the design hydrograph through the proposed detention system. Unless specified otherwise, noted the standard design storm duration shall be 24 hours. For development of the appropriate hydrograph(s) the SCS Type 1A 24-hour rainfall distribution is, currently, being accepted for all development submittals.

4.300 MINIMUM DESIGN STANDARDS

4.301 Minimum Design Criteria

a. Storm Frequency - All public storm drain systems shall be designed for the design storm recurrence interval in the following table:

DRAINAGE SYSTEM DESIGN CAPACITY

Drainage System Element	Description	Design Storm Recurrence Interval, Years
Minor:	Streets, curbs, gutters, inlets, catch basin and connector drains	10
Major:	Laterals (collectors) <250 tributary acres	10
	Trunk >250 tributary acres	25*
	Arterial Streets and the Drainage System in or under Arterial Streets	10*
Watercourses:	Without designated floodplain	25
	Within designated floodplain	100
Bridges:		100
Detention Facilities:	Storage volume (on site)	25
	Discharge rate	Function of down-stream capacity[(a)]
Retention Facilities:	Infiltration capacity	25
	Detention capacity	25
Infiltration Facilities	UIC, LID elements	10

NOTES

(a) Typically this will mean designing for the 2,5,10 and 25-year storm events.

* Surcharged conditions for pipe systems and culverts and bank full conditions for open ditches and channels are acceptable only for demonstrating the adequacy of the conveyance system to convey the peak run-off for the 25 year design storm (as required), provided that:

a. run-off is contained within defined conveyance system elements; AND
b. the hydraulic grade line does not exceed the elevation of the roadway subgrade; AND
c. no portions of a building will be flooded.

b. Velocity and Slope - All storm drains shall be on a grade which produces a mean velocity, when flowing full, of at least three (3') feet per second.
c. Velocity in Natural Channels - Control of discharge from developed areas to natural channels shall be such that the average velocity resulting from all design storms less than or equal to the 25-year event remains below the erosive velocity of the channel.
d. Manning Equations - When calculating minimum pipe slopes and velocities, the design engineer shall use the Manning pipe friction formula.
e. Pipe Coefficient - The storm-drain pipe roughness coefficient to be used in the Manning formula shall be not less than 0.013.
f. Slope - All pipelines shall be laid at uniform slope between manholes.

4.302 Pipe Materials and Size

a. All public storm drains shall be constructed with either ribbed PVC or HDPE smooth interior, corrugated exterior pipe (Hancor ADS N-12, PVC C-900, or –equal). Where required, for added strength, Class 50 Ductile Iron pipe will be used.
b. Corrugated aluminum pipe or concrete pipe may be used for culvert applications only, if the material is specified as having a 75-year design life. Submittal of the manufacturer's specifications, testing results and warranty will be required for City review prior to approval.
c. Private storm-drain pipe shall meet the appropriate sections of applicable building and plumbing codes.
d. All public storm-drain main lines shall be a minimum of twelve inches (12") in diameter, and lateral lines to catch basins and other inlet structures shall be a minimum of ten inches (10") in diameter.
e. Drywells (UIC's) shall be constructed of perforated concrete pipe conforming to ASTM-478. The upper portion of the drywell shall be constructed meeting the requirements of a standard manhole with rim and lid.
f. Catch basins shall be cast-in-place or precast concrete conforming to the City of Canby standard drawing or ODOT Type G2 inlet with minimum 18 inch sump.
g. Manholes shall be concrete and shall conform to ASTM C-478. They shall be concrete and shall include a sloped shelf, channel, access rungs, manhole rim and cover, grade rings as required, kor-n-seal boots or similar pipe connection, and shall be water tight.

4.303 Minimum Cover

a. Minimum cover shall be thirty inches (30") above the top of the pipe in paved areas and thirty-six inches (36") at all other locations. Catch basin leader lines shall have a minimum of 18" cover if feasible. Lines with less than 18" cover shall be constructed of ductile iron or PVC C-900.
b. If minimum cover cannot be attained due to uncontrollable circumstances, such as elevation of the existing system, then alternatives may be approved by the City Administrator or designee. These alternatives include use of ductile iron pipe, or use of control density fill.
c. In areas of relatively flat terrain, the design engineer must show that sufficient depth is provided at the boundary of the development to properly drain the remainder of the upstream basin area tributary to the site.

4.304 Manholes

a. Manholes shall be located at all changes in slope, alignment, pipe size, and at all pipe junctions with present or future storm drains.
b. Manhole spacing shall not be greater than 500 feet.
c. Manholes are required at all pipe junctions, except where private service laterals are "t'ed" in to a municipal main storm line in areas defined in the City Stormwater Master plan.
d. Flat-top manholes shall be used when rim to crown of pipe elevations are less than six feet (6').
e. When the downstream pipe size increases, the crown of all upstream pipes shall not be lower than the crown of the larger downstream pipe.
f. Inside drops on manholes shall not exceed four (4) feet. Drops of less than two (2) feet shall have beaver slides.
g. Manholes shall not have open grate lids except in special circumstances approved by the City Administrator or designee.
h. Manhole rims shall be level with the ground surface where the ground is covered by improved surfaces (asphalt, concrete, crushed rock). In unimproved areas the manhole rim shall be one foot above finished grade.
i Manholes shall have sixteen (16) hole lids. Tamper proof lids are required outside of vehicle or pedestrian travel ways.
j. Pollution control (PC) manholes shall be located just prior to storm water detention/retention and treatment facilities. A pollution control manhole shall have a sump for sedimentation to occur, and shall be located such that there is access by a vactor truck.

4.305 Catch Basins

a. Catch basins shall be located in streets at the curb line to receive storm water run-off and convey it to the main storm drain or treatment facility.
b. Catch basins shall be located at the following locations, but in no case be spaced further than 400 feet. Any single catch basin shall not receive storm water from more than 400 feet of street.
    1. At curb returns on the upstream side of an intersection.
    2. Where geometry dictates the need for a catch basin, such as large curves in the street.
    3. When street slopes are less than one percent (1%), maximum catch basin spacing should be decreased to 300 feet.
    4. When street slopes are greater than six percent (6%), maximum catch basin spacing should be decreased to 300 feet. When street slopes are greater than fifteen percent (15%), maximum catch basin spacing should be decreased to 200 feet.
    5. At the ends of all dead-end streets with a descending grade.
    6. At intermediate locations so that storm flows at the curbline do not exceed three feet (3') in width (measured from the curb face) or three inches (3") in depth (measured at the curb face), whichever is less.
    7. At the downstream end of the street improvements which abut unimproved roads or undeveloped property.
    8. At the upstream end of the street improvements which abut unimproved roads or undeveloped property.
    9. Additional inlet capacity is required at sag veritical curves. This may be accomplished in one of three ways:
    10. A single unit double catch basin at low point of the sag vertical curves.
    11. A single catch basin with the standard inlet plus a curb inlet.

12. Three catch basins may be used: one at the bottom and one to either side part way up the sag curve.
13. This requirement may be waived by the City Administrator or designee where the drainage area is small or the vertical curve is minimal.
14. Catch basins shall be capable of intercepting completely the design storm flow at the curb.

4.306 Culverts

a. Culverts at road crossings in natural, perennial channels shall be designed to pass the peak discharge for the 50 year design storm such that the headwater water surface elevation:
   1. Does not exceed 1.5 times the culvert diameter; OR
   2. Remains at least 1 foot below the roadway subgrade, whichever is less.
b. In waters federally designated as critical habitat, tribute to, or have endangered or threatened listed fish species, water-crossing structures shall be constructed and maintained so as to not impede or eliminate a listed species' access to habitat or ability to migrate.
c. Proposed culvert crossings, regardless of Tributary size, intermittent or perennial, shall address Oregon Department of Fish & Wildlife and National Marine Fisheries Service's regulations and stream crossing guidelines.

4.307 Bridges

a. New and replacement bridges over natural, perennial channels shall be designed to pass the 100 year peak discharge from the tributary area assuming full development. Vertical clearance between the design water surface and the bottom of any part of the bridge shall be a minimum of two feet, or 25% of the mean channel width between ordinary high water marks at the crossing, whichever is greater.

4.308 Site Grading

a. Site grading shall be done such that it does not redirect surface drainage onto neighboring properties.
b. Site grading shall be done such that it does not impede surface water drainage on neighboring properties causing ponding.
c. Where it appears that off site impacts cannot be avoided, private drainage systems shall be designed and constructed to mitigate the affect. The design shall be submitted as part of the development design plans. This shall include appropriate private easements.

4.309 Low Impact Development

a. The City encourages low impact development approaches (LIDA) to reduce impervious area, reduce run-off, provide detention, provide treatment and provide alternative discharge options. Refer to CWS LIDA Handbook, July 2009 for options and design criteria.
b. The options identified include:
    1. Porous pavement – this may not be used in driving lanes on streets, but may be used as approved by the City Administrator or designee for certain on-street parking applications. Other uses as identified in the LIDA handbook are acceptable.
    2. Green Roofs
    3. Infiltration Planters/Rain Gardens
    4. Flow through Planters
    5. Swales
    6. Vegetated Filter Strips
    7. Vegetated Swales
    8. Extended dry basins
    9. Wetlands

4.310 Water Quality Facilities

Where water quality facilities are required by DEQ/EPA, the City Administrator or his designee, the following standards will apply:

a. In lieu of constructing new facilities, the City Administrator or designee may permit a development to upgrade an existing public treatment facility if the affect of the improvement will improve the overall storm water treatment to the same extent as a new facility.
b. Treatment processes that are accepted include:
    1. Vegetated Swale
    2. Extended Dry Pond
    3. Wetlands
    4. LIDA treatment facilities
    5. Proprietary treatment devices as approved by the City Administrator or designee.
c. It is presumed that water quality requirements will be met if the water quality processes listed are used and designed using the appropriate criteria. The design criteria for the water quality facilities are found in the Clean Water Services (CWS) Design Manual under Chapter 4, paragraph 4.06. The design criteria for the LIDA treatment facilities are found in the CWS LIDA Handbook, July 2009.
d. Special water quality requirements may be added based upon stormwater permits that the City may have in the future.

4.311 Detention/Retention

Where Detention/Retention facilities are required by DEQ/EPA, the City Administrator or his designee, the following standards will apply:

a. When detention is required or downstream facilities are inadequate, the volume to be detained may be up to the volume necessary to limit the developed site peak discharge to pre-developed rates for all storm events with a recurrence interval less than or equal to 25 year.

b. An emergency overflow is required for storm events from a 25 year to 100 year 24-hour storm event such that the facility does not over-top or exceed the capacity of the overflow.
c. Sufficient armoring will be required to prevent failure of the facility from erosion.
d. Detention methods, in order of preference, are the following:
    - Surface storage - off channel
    - Surface storage – on channel
    - Subsurface storage – may only be used if no other method is possible and with approval of the City Administrator or designee.

e. Control Manholes
    1. A flow control manhole shall be located at the discharge location of all detention facilities. The flow control manhole shall be located such that it is accessible by a vactor truck.
    2. A water quality manhole shall be located upstream of all detention/retention facilities. The water quality manhole shall be located such that it is accessible by a vactor truck.
f. The design criteria for the detention/retention facilities are found in the CWS Design Manual under Chapter 4, paragraph 4.04.

4.312 Infiltration facilities
a. Infiltration facilities are an acceptable discharge method. Acceptable methods include the options as outlined in the CWS LIDA Handbook, July 2009 and correctly constructed UIC's. Alternative infiltration methods should be evaluated prior to using UIC's.
b. All UIC devices must be preceded by a water quality manhole or catch basins with snouts.
c. Dry wells are considered underground injection control (UIC) devices. They must be constructed to meet the EPA regulations as administered by the Oregon DEQ. They must also be registered and Rule Authorized.
    1. Dry wells (UIC's) shall be preceded by a City approved treatment devices or facilities. This includes treatment methods such as G2 type catch basins, swales, vegetated swales, wetlands, extended dry ponds and DEQ approved proprietary devices.
    2. When there is sufficient depth to groundwater per the UIC regulations, UIC design shall be a minimum of 26 feet deep, with the bottom 10' perforated. Site specific designs will be allowed with adequate analysis submitted by a registered Engineer demonstrating adequate capacity;
    3. Drywells (UIC's) shall be located to collect up to a maximum of one half acre of runoff. Gutter flow shall be limited to 400-500 lineal feet, provided the flow does not exceed 3" in height against the curb line. Any variation from this guideline shall be based on field infiltration tests.

4.400 EASEMENTS

a. Easements for storm drain lines from 12-inches to 24-inches shall be 15-feet wide, and then up to thirty-six inches (36") shall have a minimum width of twenty feet (20'). The easement width shall be on a case by case method for pipelines greater than thirty-six inches (36"), where the pipe is excessively deep pipe or where there are impediments such as location of structures to the easement. Easement increments shall be 5-foot intervals.
b. Open channels shall have easements sufficient in width to cover the 100-year Floodplain Line when a 100-year design storm is required, or fifteen feet (15') from the waterway centerline, or ten feet (10') from the top of the recognized bank, whichever is greater.
c. Easement locations for public storm drains serving a PUD, apartment complex, or commercial/industrial development shall be in parking lots, private drives, or similar open areas which will permit unobstructed vehicle access for maintenance.
d. When private property must be crossed in order to reach an approved point of disposal, it shall be the developer's responsibility to acquire a recorded drainage easement. Drainage facilities crossing private property must be engineered to contain the storm water without causing erosion or other adverse effects to the private property.
e. All easements must be furnished to the City Administrator or designee for review and approval prior to recording.

4.500 RELATION TO WATERCOURSES

a. Storm drain lines shall enter a creek or drainage channel at 90° or less to the direction of flow.
b. The outlet shall have a head wall and scour pad or riprap to prevent erosion of the existing bank or channel bottom. An energy dissipation structure may be required depending upon the velocity of the storm flow in the pipe. The size of pipe or channel being entered will govern which protective measures are required.
c. Where rip-rap is used it shall meet the requirements of ODOT/APWA specifications. It shall be a minimum of 12-inches thick, a minimum width of 3 times the pipe diameter, and length as needed but no less than 6-feet. The minimum size will be class 100, but larger may be needed. There should also be a filter blanket beneath the rip-rap.
d. Discharges on slopes greater than 15% or greater than 20-feet tall require special consideration with regard to erosion. Energy dissipation will be required, and additional slopes stabilization may be needed. In severe cases the pipe may need to be extended to the bottom of the slope.

CITY OF CANBY
PUBLIC FACILITY IMPROVEMENTS

DESIGN MANUAL AND STANDARD SPECIFICATIONS

Revised June, 2012

CHAPTER 5 – CONSTRUCTION OBERSVATION AND SPECIFICATIONS

5.100 CONSTRUCTION OBSERVATION

5.101 All public improvement shall be inspected by an Oregon Registered Engineer or a qualified individual under the supervision of an Oregon Registered Engineer. The City will not authorize work to begin on public improvements without designation of an engineer's inspector by the owner or developer. All inspection costs including required testing shall be paid by the owner or developer.

5.102 An Engineer whose firm, or any member of the firm, has an interest in the development for which the improvements are required cannot be designated engineer's inspector unless full disclosure and prior approvals are granted. The engineer's inspector's relationship to the project must be solely that of a professional service nature.

5.103 Construction services provided by the City shall be limited to:

a. Liaison between the inspecting engineer and the City.
b. General monitoring of work progress.
c. Observation of all performance testing.
d. Participate in final inspection for acceptance of improvements.

5.104 The following minimum activities are required of the designated inspector:

a. Maintain a project log book which contains at least the following information:
    1. Job number and name of engineer and designers;
    2. Date and time of site visits;
    3. Weather conditions, including temperature;
    4. A description of construction activities;
    5. Statements of directions to change plans, specifications, stop work, reject materials or other work quality actions;
    6. Public agency contacts which result in plan changes or other significant actions;
    7. Perceived problems and action taken;
    8. General remarks;
    9. Final and staged inspections;
    10. Record all material, soil and compaction tests.
b. The inspecting engineer shall obtain and use a copy of City-approved construction plans and specifications;
c. Review and approve all pipe, aggregate, concrete, A.C. and other materials to ensure their compliance with City standards;
d. Approve all plan or specification changes in writing and obtain City approval;

e. Monitor and concur in construction activities to ensure that end products meet City specifications;
f. Perform or have performed material composition and other tests required to ensure that City specifications are met; and,
g. For pavement construction, perform the following stage inspections and record date of each:
    1. Curbs are built to line and grade;
    2. Subgrade meets grade and compaction specifications;
    3. Base rock meets grade and compaction specifications;
    4. Wearing course meets grade and compaction specifications. The City shall be given twenty-four (24) hour notice of impending stage inspections.
h. The contractor is responsible for observing the safety of the work and of all persons and property coming into contact with the work. The contractor shall conduct his work in such a manner as to comply with all the requirements prescribed by the Oregon Occupational Safety and Health Administration (OSHA).

5.105 The City Inspector's role is not one of supervision or safety management, but is one of watchful care only. Nothing contained in this section or elsewhere in this book shall be interpreted to obligate the City to act in any situation, nor shift the owner's responsibility for safety compliance to the City. No responsibility for the safety of the work or for construction means, methods, techniques, sequences or procedures shall attach to the City by virtue of its action or inaction under this section.

5.200 SPECIFICATIONS

5.201 Specifications shall per the ODOT/APWA Oregon Standard Specifications for Construction, latest edition except as modified here.
a. The maximum density of compacted materials will be determined by AASHT0 T 180. The density of compacted materials in place will be determined by AASHTO T 238, or other approved methods.
b. For the one-year period between placement of the base lift and top lift of asphalt, temporary ramps shall be placed at all grade changes. Manhole lids and valve boxes shall be set flush to the base lift and raised only at the time of placing the top lift. 1 ½" steel riser rings shall be used to adjust manhole lid elevations. Valve boxes shall be raised to finish grade.
c. Weep holes will not be allowed.

Roadway Standards

This section discusses the various roadway standards that are important to managing the transportation system. These standards include the following:

- Roadway Cross-Sections
- Industrial Area Roadway Cross-Sections
- Access Management
- Traffic Signal Spacing

Roadway Cross-Section Standards

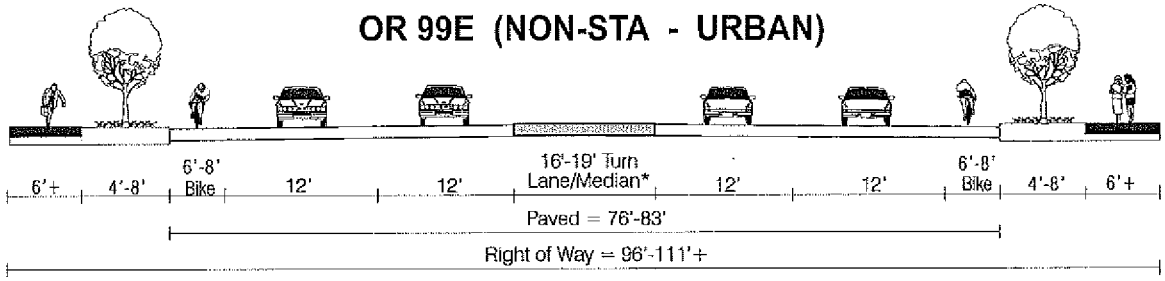
Street cross-section standards consist of minimum, maximum, and/or typical cross-sections that are required for City roadways based on their functional classification. The purposes of the cross-section standards are to ensure that the City roadways can meet the multi-modal function and demand associated with their functional classification and to provide consistency throughout the City.

Because the actual design of a roadway can vary from segment to segment due to adjacent land uses and other factors (e.g., truck routes, bike routes, pedestrian corridors, etc.), flexibility has been built in to the standards; this is why ranges of required components are provided for each functional class. In addition, because physical limitations exist for some roadways due to prior construction, "low impact" standards were also developed and may be used at the City's discretion when an existing roadway with physical limitations is being improved. Specific right-of-way needs will also need to be monitored continuously through the development review process to reflect current needs and conditions; specifically, more specific details may become evident during development review, thereby requiring improvements other than these outlined in this TSP.

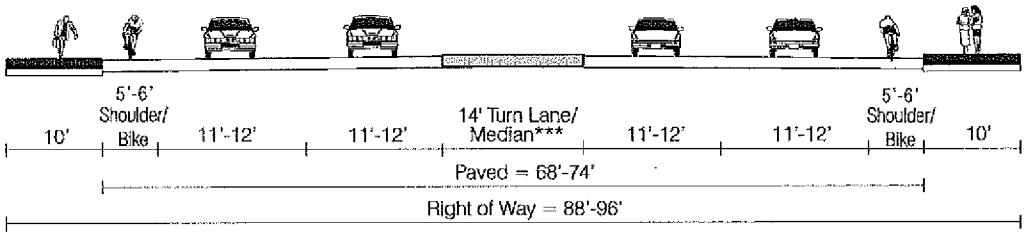
Additional design considerations are required for OR 99E. The state highway design considerations are defined in the *Oregon Highway Plan (OHP)* and in the *Highway Design Manual (HDM)*. Any deviation from these standards requires approval of a design exception. Design and future improvements to OR 99E must also address ORS 366.215 (Reduction in Vehicle Carrying Capacity) on this national freight network facility. The City also intends to conduct a future OR 99E corridor plan that will refine the cross-sections, roadway features, and cost estimates for highway improvements in Canby.

The cross-section standards are provided in Figure 7-3 for OR 99E, Figure 7-4 for arterial streets, Figure 7-5 for collector streets, and Figure 7-6 for neighborhood routes and local streets. To ensure suitability for roadway improvements, final cross-section designs must be coordinated with City of Canby staff and are subject to City Staff approval; cross-sections of state highways are also subject to ODOT approval.

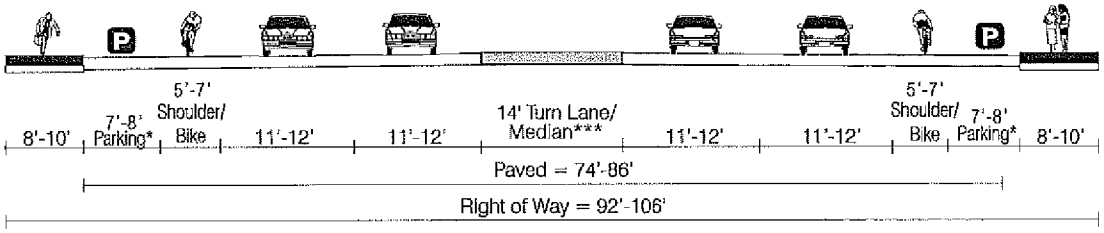
OR 99E (NON-STA - URBAN)



OR 99E (STA - TYPICAL)



OR 99E (STA - WITH ON-STREET PARKING)



Notes:

* On-Street Parking may be provided on one or both sides

** Turn lane/median is to be provided except under Molalla Forest Road Multi-Use bridge and at adjacent Oregon Pacific Railroad crossing

*** Turn Lane/Median section may consist of one of the following:

A. 14' Left-Turn Lane or Two-Way Left-Turn Lane with No Raised Median
B. 12' Raised, Landscaped Median with 1' Shy Distance on Either Side
C. 12' Pedestrian Refuge (Level with Roadway) with 1' Shy Distance on Either Side

The OR 99E Cross-Sections are shown to be consistent with ODOT Standards. Specific roadway designs will be developed through a refinement plan or project development process. Design and future improvements to OR 99E must also address ORS 366.215 (Reduction in Vehicle Carrying Capacity) on this national freight network facility.

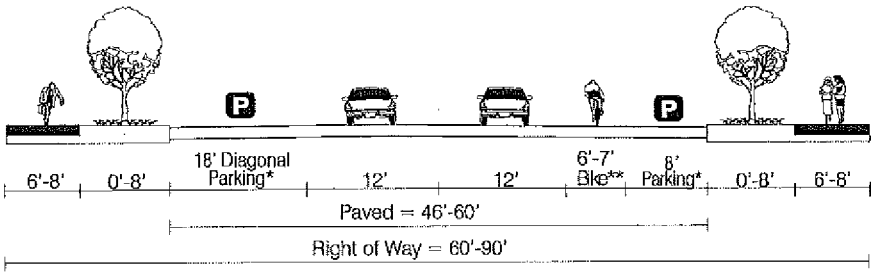
LEGEND

P - On-street Parking Lane (except at intersections)

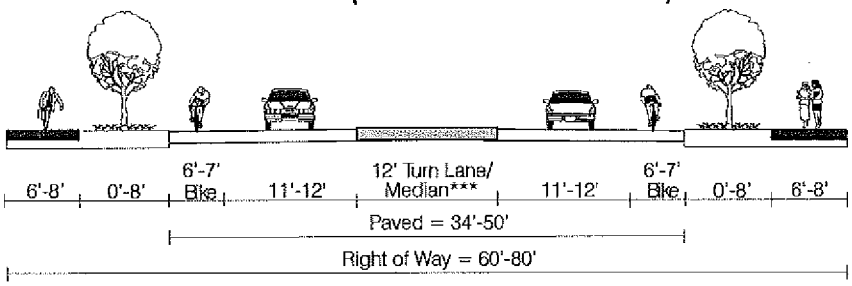
Figure 7-3

OR 99E: STANDARD CROSS-SECTIONS

ARTERIAL (ONE-WAY TRAFFIC)



ARTERIAL (TWO-WAY TRAFFIC)



Notes:

* On-Street Parking is only allowed on arterial roadways within downtown commercial district. Diagonal or parallel parking may be provided on one or both sides interchangeably.

** When on-street parking is provided, bike lanes should only be provided adjacent to parallel parking (not head-in diagonal parking). If diagonal parking is provided on both sides and speeds are 25 miles per hour or less, then bike lanes are not required.

*** Turn Lane/Median section is optional and may consist of one of the following:

A. 12' Left-Turn Lane or Two-Way Left-Turn Lane with No Raised Median
B. 10' Raised, Landscaped Median with 1' Shy Distance on Either Side
C. 10' Pedestrian Refuge (Level with Roadway) with 1' Shy Distance on Either Side

Low Impact Street Design Characteristics

Characteristic	Arterials (One-Way)	Arterials (Two-Way)
Vehicle Lane Widths	11 ft.	11 ft.
On-Street Parking	8 ft.- Only in downtown	8 ft.- Only in downtown
Bicycle Lanes (minimum)	5-6 ft. - Right side or road	5-6 ft.
Sidewalks (minimum)	6-8 ft.	6 ft.
Buffer/Planter Strip	0-8 ft	0-8 ft
Turn Lane/Median	12 ft.- Optional	12 ft. - Optional
Neighborhood Traffic Management (NTM)	Under Special Conditions	Under Special Conditions
Transit	As appropriate	As appropriate
Turn Lanes	When Warranted	When Warranted

"Low Impact" standards require demonstration of hardship or other exceptional circumstances resulting from conditions of the adjacent properties and must be approved by City Staff.

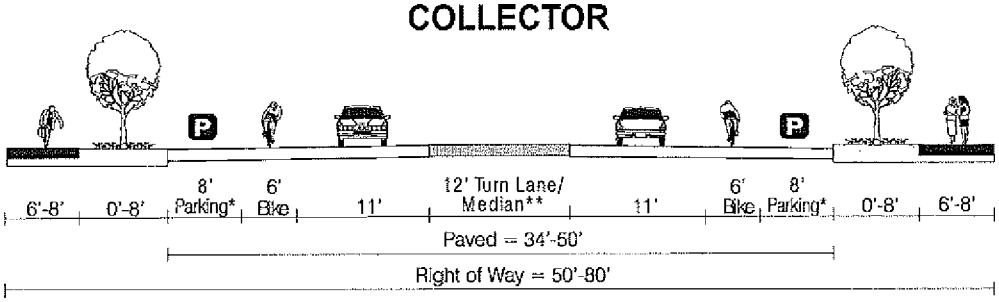
LEGEND

P - On-street Parking Lane (except at intersections)

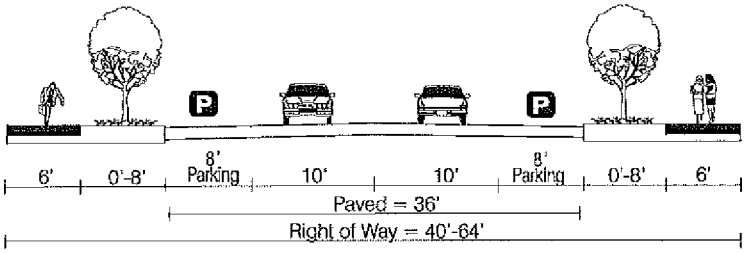
Figure 7-4

ARTERIAL: STANDARD CROSS-SECTIONS

COLLECTOR



NEIGHBORHOOD ROUTE



Notes:

* On-Street Parking may be provided on neither, one, or both sides. Where turn lanes are provided, on-street parking should not be allowed.

** Turn Lane/Median section is optional and may consist of one of the following:

A. 12' Left-Turn Lane or Two-Way Left-Turn Lane with No Raised Median
B. 10' Raised, Landscaped Median with 1' Shy Distance on Either Side
C. 10' Pedestrian Refuge (Level with Roadway) with 1' Shy Distance on Either Side

Low Impact Street Design Characteristics

Characteristic	Collectors	Neighborhood Routes
Vehicle Lane Widths	10-11 ft.	10 ft.
On-Street Parking	8 ft.-Optional	8 ft.- At least one side
Bicycle Lanes (minimum)	5-6 ft.	None
Sidewalks (minimum)	6-8 ft.	6 ft.
Buffer/Planter Strip	0-8 ft	0-8 ft
Turn Lane/Median	12 ft.-Optional	None
Neighborhood Traffic Management (NTM)	Under Special Conditions	Under Special Conditions
Transit	As appropriate	As appropriate
Turn Lanes	When Warranted	When Warranted

"Low Impact" standards require demonstration of hardship or other exceptional circumstances resulting from conditions of the adjacent properties and must be approved by City Staff.

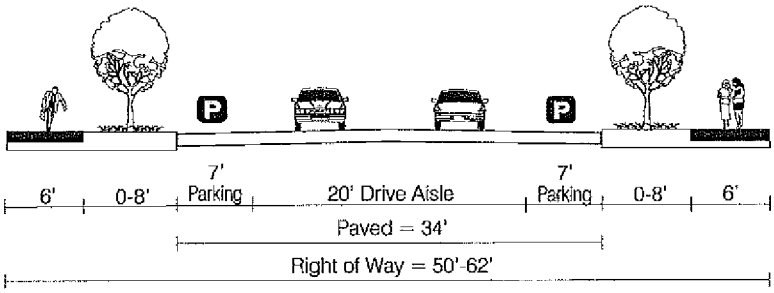
LEGEND

P - On-street Parking Lane (except at intersections)

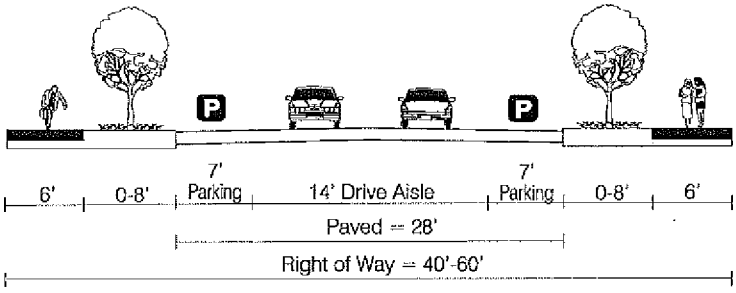
Figure 7-5

COLLECTOR/NEIGHBORHOOD ROUTE: STANDARD CROSS-SECTIONS

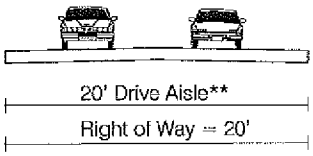
STANDARD LOCAL STREET



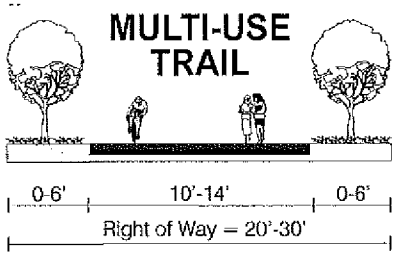
LOW-VOLUME LOCAL STREET (<500 Vehicles Per Day)



ALLEY



MULTI-USE TRAIL



Notes:

** On-Street Parking prohibited.

Low Impact Street Design Characteristics

Characteristic	Local
Drive Aisle	14 ft.
On-Street Parking	7 ft.- Both sides required
Bicycle Lanes (minimum)	None
Sidewalks (minimum)	6 ft.
Buffer/Planter Strip	0-8 ft
Turn Lane/Median	None
Neighborhood Traffic Management (NTM)	Under Special Conditions
Transit	Should not be used
Turn Lanes	None

"Low Impact" standards require demonstration of hardship, other exceptional circumstances resulting from conditions of the adjacent properties and must be approved by City Staff.

LEGEND

P - On-street Parking Lane (except at intersections)

Figure 7-6

LOCAL STREET/ALLEY: STANDARD CROSS-SECTIONS

Industrial Area Roadway Cross-Sections

In Canby, industrial uses currently play an important economic role and are expected to play an even greater role as development occurs in the Canby Pioneer Industrial Area. Having industrial area roadway cross-section standards will help the City ensure that new and improved roadways in the industrial areas are built to accommodate efficient freight movement.

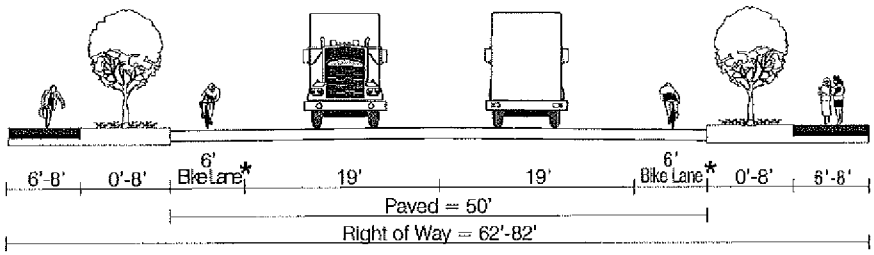
The industrial area roadway cross-section standards for Canby are shown in Figure 7-7 and were determined from geometric analysis documented in the Industrial Area Cross-Section Analysis Memorandum included as Appendix I. The identified cross-sections will allow two trucks to simultaneously make opposing turn maneuvers through intersections and not have overlapping paths. This objective for large trucks is often not applied to the general road system because a balance is desired between accommodations for all transportation modes (particularly pedestrians). However, in major industrial areas, truck movements become a higher priority and wider streets and intersections are more important.

A key component considered in the cross-section standards is the balance of street width with the required curb return radii to facilitate truck movements. Narrower roadways require larger curb returns, while wider roadways mean that smaller curb returns are needed. For Canby, narrower roadways were sought compared to smaller curb return radii to minimize the overall right-of-way and impervious area footprint of the roadways. This strategy can be compatible with the pedestrian environment by separating the sidewalks from the roadway by landscaping/swale areas, which would minimize issues with curb ramp design.

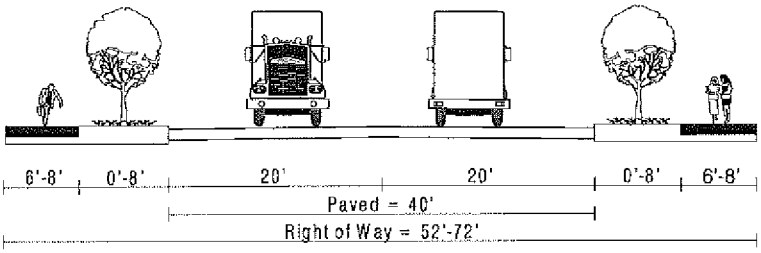
As shown in Figure 7-7, bike lanes are to be provided on collector roadways. It is expected that trucks may use the portion of the bicycle lanes adjacent to intersections when making turn maneuvers. Therefore, to make it clear to truck drivers and cyclists that there are likely to be conflicts in the turning area, bike lane stripes should be dotted instead of solid within the turning maneuver area of the trucks.

The analysis to determine street widths was focused on collector and local streets. This can be translated to required private access curb-cuts in the industrial area by applying the local street design.

COLLECTOR



LOCAL



Note:

*Adjacent to intersections, bike lane stripes should be dotted instead of solid within the turning maneuver area of the trucks.

Low Impact Street Design Characteristics

Characteristic	Collector	Local
Paved Width	46 ft.	32 ft.
On-Street Parking	None	None
Bicycle Lane	5 ft.	None
Sidewalks	6 ft.	6 ft.
Buffer/Planter Strip	0-8 ft	0-8 ft
Turn Lane/Median	12 ft.	None
Neighborhood Traffic Management (NTM)	None	None

"Low Impact" standards require demonstration of hardship or other exceptional circumstances resulting from conditions of the adjacent properties and must be approved by City Staff.

Figure 7-7

INDUSTRIAL AREA ROADWAY: STANDARD CROSS-SECTIONS

M E M O R A N D U M

TO: ***Mayor Randy Carson and City Council***
FROM: ***Sue Engels, Finance Director***
DATE: ***June 12, 2012***
THROUGH: ***Greg Ellis, City Administrator***

Issue: Adoption of Resolution 1136

Synopsis: After a review of the May 31, 2012 budget-to-actual report, staff has noted budget categories in three funds that may be overspent by June 30. In order to correct this problem, resolution transfers are proposed that will transfer appropriations from budget categories on track to spend less than budgeted, to budget categories that require larger appropriations to avoid being overspent.

Recommendation: Staff recommends that Council adopt Resolution 1136.

Attached: Resolution 1136

RESOLUTION NO. 1136

A RESOLUTION AUTHORIZING TRANSFERS OF APPROPRIATIONS FROM EXISTING CATEGORIES TO OTHER EXISTING CATEGORIES WITHIN THE GENERAL, TECHNICAL SERVICES AND SWIM CENTER LEVY FUNDS.

WHEREAS, in the General, Technical Services and Swim Center Levy funds, appropriations in certain budget categories will not be sufficient to cover anticipated expenditures in those categories through the end of the current budget year, and

WHEREAS, in all three funds, total appropriations are sufficient to cover total anticipated expenditures, and

WHEREAS, the City wishes to ensure that all expenditures are kept within authorized budget category appropriations for all funds,

NOW THEREFORE, BE IT RESOLVED THAT:

Section 1. The City Administrator shall transfer or cause to be transferred the following appropriations:

FUND/DEPT	From		To	
General - Court	Per. Serv.	$ 2,000	Mat. & Serv.	$ 2,000
General - Building	Per. Serv.	15,000	Mat. & Serv.	15,000
General - Police	Transfers	16,693	Capital	21,686
	Mat. & Serv.	4,993		
General - Contingency		10,000		
General – Cemetery			Mat. & Serv.	10,000
TOTAL GENERAL FUND		**$48,686**		**$48,686**
Technical Services	Contingency	7,500	Mat. & Serv.	7,500
Swim Center Levy	Contingency	1,000	Per. Serv.	1,000
TOTAL ALL FUNDS		**$57,186**		**$57,186**

This resolution shall take effect on June 20, 2012.

ADOPTED by the Canby City Council at a regular meeting thereof on June 20, 2012.

Randy Carson
Mayor

ATTEST:

Kimberly Scheafer, MMC
City Recorder

ORDINANCE NO. 1358

AN ORDINANCE AUTHORIZING THE MAYOR AND CITY ADMINISTRATOR TO PURCHASE TWO (2) VEHICLES FOR CANBY AREA TRANSIT FROM GILLIG LLC OF CALIFORNIA.

WHEREAS, the City of Canby/Canby Area Transit (CAT) wish to purchase two (2) Heavy Duty, Diesel, 35' Low Floor, 102" wide transit buses; and

WHEREAS, the City and Canby/Canby Area Transit (CAT) and the Public Transit Division of ODOT have determined that bus #20011 (VIN 4UZABOBV07CX85018) and bus # 20015 (VIN#1BABGBXA71E202387) in CAT's current fleet are approaching the end of their useful life and qualify for replacement; and

WHEREAS, the Federal State of Good Repair program (49 U.S.C. 5309) provides capital assistance for the purpose of supporting public transportation; and

WHEREAS, the City and Canby/ CAT received contract no. 27478 from ODOT – Public Transit Division for $630,800.00 in (49 U.S.C. 5309) funds to provide 83.00% of the funding to purchase two (2) replacement vehicles; and

WHEREAS, Federal Transit Administration grant funds and the required matching funds will be available during fiscal year 2013-2014; and

WHEREAS, the purchase will comply with ORS 279.820 - 279.855 and ODOT's Public Transit Division has approved the purchase of these vehicles utilizing the assignability provision of Contract 09-C05 between the Central Florida Regional Transportation Authority d/b/a LYNX and Gillig LLC of California for heavy duty transit buses; and

WHEREAS, Gillig LLC of California has provided a quote for two (2) Heavy Duty, Diesel, 35' Low Floor, 102" wide transit buses in the amount of $379,032.00 each, including all scheduled options; and

WHEREAS, Central Florida Regional Transportation Authority d/b/a LYNX is willing to make "Assignment" of Contract 09-C05 available to the City of Canby/Canby Area Transit for the purchase of up to (2) two buses from Gillig under the assignability provision of the Contract; and

The City Council meeting and acting as the Contract Review Board for the City of Canby has reviewed the Purchase Order and believes it to be in the best interest of the City to submit such Purchase Order for the vehicle purchase Gillig LLC of California; now therefore

THE CITY OF CANBY ORDAINS AS FOLLOWS:

Section 1. The Mayor and City Administrator are hereby authorized and directed to make, execute and declare in the name of the City of Canby (Canby Area Transit) and on its behalf, Assignment to Purchase Transit Buses Through LYNX Contract 09-C05 (contract) with Gillig LLC for two (2) Heavy Duty, Diesel, 35' Low Floor, 102" wide transit buses. A copy of the Assignment Document is attached hereto and marked as Exhibit "A" and by this reference incorporated herein.

Section 2. The Mayor and City Administrator are hereby authorized and directed to make, execute and declare in the name of the City of Canby (Canby Area Transit) and on its behalf, an appropriate Purchase Order (contract) with Gillig LLC for two (2) Heavy Duty, Diesel, 35' Low Floor, 102" wide transit buses for the quoted amount of three hundred seventy-nine thousand and thirty-two dollars ($379,032.00) each. A copy of the quote from Gillig LLC is attached hereto and marked as Exhibit "B" and by this reference incorporated herein.

SUBMITTED to the Canby City Council and read the first time at a regular meeting thereof on Wednesday, June 6, 2012 and ordered posted in three (3) public and conspicuous places in the City of Canby as specified in the Canby City Charter and to come before the City Council for final reading and action at a regular meeting thereof on Wednesday, June 20, 2012 commencing at the hour of 7:30 P.M. in the Council Meeting Chambers located at 155 NW 2nd Avenue in Canby, Oregon.

_____
Kimberly Scheafer, MMC
City Recorder

PASSED on second and final reading by the Canby City Council at a regular meeting thereof on the 20th of June, 2012 by the following vote:

YEAS _____ NAYS _____

_____
Randy Carson
Mayor

ATTEST:

_____
Kimberly Scheafer, MMC
City Recorder

ASSIGNMENT TO PURCHASE TRANSIT BUSES
THROUGH LYNX CONTRACT 09-C05

Dated as of June 21, 2012

THIS ASSIGNMENT ("Assignment") is made by and between the Central Florida Regional Transportation Authority d/b/a LYNX; a body politic and corporate created by Part II, Chapter 343 Florida Statutes ("LYNX"), whose address is 455 North Garland Avenue, Suite 500, Orlando, Florida 32801, and the City of Canby, Oregon/ Canby Area Transit (CAT), PO Box 930, Canby, OR 97013.

WHEREAS, LYNX, as the executive agent on behalf of the members of the Florida Public Transportation Association, Inc., a Florida not-for-profit corporation (the "FPTA"), issued a certain Request for Proposal 08-R01, dated June 30, 2008 (as amended) (the "RFP"), for the purchase and delivery of heavy duty transit coaches; and

WHEREAS, as a result of the RFP and evaluation of the proposals received, and by action of the LYNX Governing Board at its meeting of December 11, 2008, the LYNX Governing Board awarded a contract to Gillig LLC, a California limited liability company ("Gillig"), for the purchase and delivery of said heavy duty transit coaches; and

WHEREAS, LYNX and Gillig entered into LYNX Contract 09-C05 dated December 11, 2008 ("Contract"), which provides for the purchase of a minimum of 25 and a maximum of 1,844 buses; and

WHEREAS, paragraph 13(f) of the Contract permits LYNX, with the prior concurrence of the FPTA, to assign the right for purchases under the Contracts to others; and

WHEREAS, the Federal Transit Administration ("FTA") permits the post-award use of a contractual document or process to certain others who were not contemplated in the original procurement, when the solicitation document and the resultant contract contain an assignability clause for all or part of the specified deliverables as originally advertised, competed, evaluated, and awarded, and when the original solicitation and the resultant contract contain both a minimum and a maximum quantity, which represent the reasonably foreseeable needs of the parties to the solicitation; and

WHEREAS, LYNX and the Assignee are each governmental entities and are authorized to contract with other governmental entities; and

WHEREAS, the Assignee desires to purchase up to (2) two buses from Gillig under the assignability provision of the Contract, and LYNX has agreed to transfer to the Assignee LYNX's right to purchase up to (2) two buses under the Contract; and

WHEREAS, certain members of the FPTA have revised their vehicle requirements and have relinquished a certain number of buses to be reassigned to both members and non-members of the FPTA, and the number of buses that the Assignee desires to purchase is within the number that may be reassigned; and

WHEREAS, the Assignee has satisfied itself that LYNX has complied with all FTA third party contracting procedures in procuring the buses; and

NOW, THEREFORE, in consideration of the terms, conditions, and covenants contained in herein, LYNX and the Assignee state and agree as follows:

1. **Assignment.** Pursuant to paragraph 13(f) of the Contract, LYNX hereby assigns to the Assignee LYNX's right to purchase up to (2) two buses under the Contract.

2. **Conditions of Assignment.** The Assignee shall assume the role of "Procuring Agency" as defined in the Contract with respect to the (2) two buses that it has been assigned the right to purchase hereby. The Assignee agrees that the Assignee shall be solely liable and obligated to Gillig for the total cost of the buses that it purchases from Gillig pursuant to this Assignment, and shall make all payments directly to Gillig for such buses in accordance with the terms and conditions of the Contract. LYNX reserves all of its rights under the Contract that have not been assigned hereby.

3. **No Representations or Warranties; No Liability.** The Assignee shall look solely to Gillig with respect to the condition of any buses purchased as a result of this Assignment. LYNX MAKES NO WARRANTY OR REPRESENTATION OF ANY KIND, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE BUSES, INCLUDING, WITHOUT LIMITATION, AS TO THE FITNESS OF THE BUSES FOR ANY PARTICULAR PURPOSE. In no event shall LYNX have any liability to the Assignee for damages relating to the late or non-delivery of the buses, or for any other failures on the part of Gillig to comply with the terms of the Contract with respect to the Assignee.

4. **Payment to FTAFC.** The Assignee agrees to promptly pay $500.00 for each vehicle purchased pursuant to this Assignment to the Florida Public Transportation Association Finance Corporation, a Florida corporation (the "FPTAFC"), having a mailing address of C/O: Szymtek LLC, 800 Jeffery Street, Suite 409, Boca Raton, Florida 33487. All payments shall be made to the aforementioned mailing address or to such other address as provided to the Assignee by LYNX or the FPTAFC in writing. The assignee will be invoiced after the receipt of an executed Purchase Order by the assignee

5. **Effective Date.** This Assignment shall be effective as of the date this Assignment has been fully executed by LYNX and the Assignee, and consented to by the FPTAFC and Gillig. This Assignment shall remain in effect until December 10, 2013.

6. **Miscellaneous.** The Assignee agrees to forward a copy of its executed purchase order to Rich Bannon, Manager of Procurement and Contracts for LYNX. A copy may be faxed to 407.254.6292 or e-mailed to: RBannon@golynx.com. This Assignment shall be governed by and construed in accordance with the laws of the State of Florida, without regard to conflicts of law principles.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the parties have executed this document as of the day and year first above written.

"ASSIGNEE"
City of Canby - Canby Area Transit (CAT)
PO Box 930 (123 NW 2nd Avenue)
Canby, OR 97013

By:_____
Name: Greg Ellis
Title: City Administrator

Date:_____

"LYNX"

Central Florida Regional Transportation Authority

By:_____
Name: John M. Lewis, Jr.
Title: Chief Executive Officer

Date:_____

CONSENT

The undersigned hereby acknowledge and consent to the foregoing Assignment.

"FPTA"

Florida Public Transportation Association, Inc.

By:_____
Lisa Bacot

Date:_____

GILLIG

Post Office Box 3008
Hayward, CA 94540-3008
(510) 785-1500
FAX: (510) 785-6819

May 24, 2012

Julie Wehling
Transit Director
Canby Area Transit
123 NW 2nd Ave
Canby, OR 97013

RE: PRICE QUOTE FOR TWO (2) 35 FOOT LOW FLOOR BUSES

Dear Julie:

Thank you for your interest to purchase two (2) 35 foot Low Floor buses by "piggybacking" off the LYNX -Florida Consortium contract.

Attached you will find the Price Summary sheet for the option buses. The Price Summary sheet includes the escalation and price adjustment formula as per the contract.

Gillig is pleased to quote the following price:

TWO (2) 35' X 102" LOW FLOOR BUSES $379,032.00 EACH

This price is valid for thirty days and is FOB City of Canby, OR. Price excludes any taxes or license fees. The buses will begin production within 16 months after receipt of purchase order.

We thank you for this opportunity and appreciate your interest in Gillig and our product. We at Gillig certainly look forward to building your buses, and in so doing, building a lasting partnership. Should you have any questions, please do not hesitate to contact me at 510-867-5108.

Sincerely,

Brian Enochian
Regional Sales Manager

Thank You for Supporting American Jobs!™

PRICE SUMMARY
MAY 11, 2012
CANBY, OR PIGGYBACK ON FLORIDA CONSORTIUM
(2) 35' LOW FLOORS, SN: TBD

	ITEM	COST
	FLORIDA CONSORTIUM 35' LOW FLOOR BASE UNIT PRICE	$316,188.00

ACTION	CHANGE	COST
ADD	2010 ENGINE EPA REGULATORY CHANGES	$27,179.00
ADD	SPINNER II AUXILIARY OIL FILTER	$745.00
DELETE	FEMCO OIL DRAIN PLUG	($35.00)
DELETE	ENGINE OIL EXTRACTOR PORT - TITAN PROBALYZER	($34.00)
UPGRADE	TO MODINE ELECTRIC COOLING FAN SYSTEM W/ DELCO 450 HIGH OUTPUT ALTERNATC	$5,836.00
INCLUDED	ALLISON B400R	INCLUDED
DELETE	TRANSMISSION FLUID EXTRACTOR PORT - TITAN PROBALYZER	($34.00)
CHANGE	FRONT AXLE WHEEL SEALS TO OIL SEALS	$60.00
CHANGE	MECHANICAL GAUGES ON REAR RUN BOX	$218.00
ADD	ENGINE HOUR METER TO REAR RUN BOX	$50.00
CHANGE	DEKA GROUP 31 BATTERIES	$245.00
INCLUDED	LIFT-U 6:1 WHEELCHAIR RAMP	INCLUDED
CHANGE	THERMO KING HVAC SYSTEM W/ X426 COMPRESSOR	($1,900.00)
DELETE	HOUSTON PULLDOWN INSULATION PACKAGE	($1,500.00)
ADD	WARM WALL HEATING SYSTEM	$2,930.00
ADD	(1) DRIVERS AUXILIARY FAN	$76.00
DELETE	REAR EXIT DOOR	($860.00)
CHANGE	ALUMINUM WHEELS W/MACHINE FINISH	$1,705.00
ADD	GILLIG TO PURCHASE (7) MICHELIN XZU3 (305 / 70R / 22.5) TIRES	$4,605.00
ADD	RECARO ERGO METRO DRIVERS SEAT (FABRIC)	INCLUDED
ADD	DRIVERS SEAT RIGHT HAND ARMREST	$97.00
ADD	DRIVERS SEAT HEADREST (FABRIC)	$108.00
CHANGE	PASSENGER SEATS TO FREEDMAN DIABLO	($273.00)
ADD	HINGED REAR SETTEE	$269.00
CHANGE	PASSENGER WINDOWS TO FULL FIXED	($1,550.00)
UPGRADE	DIALIGHT LED LOWBEAM HEADLAMPS	$437.00
ADD	YIELD SIGN TO HVAC DOOR	$582.00
ADD	CEILING MOUNTED FARE BOX LAMP	$82.00
ADD	DIAMOND MODEL SV FAREBOX (2) VAULTS	$1,119.00
DELETE	REAR DESTINATION SIGN	($700.00)
ADD	HEATED FRONT DESTINATION SIGN GLAZING	$210.00
DELETE	FRONT RUN SIGN	($246.00)
CHANGE	ALTRO FLOORING	$400.00
DELETE	(1) ROOF HATCH	($250.00)
ADD	FUEL GUAGE ON DASH	$134.00
DELETE	ROOF NUMBER DECALS	($68.00)
ADD	BIKE RACK MOUNTING BRACKET	$298.00
ADD	APOLLO (7) CAMERA SYSTEM W/ 1TB HDD AND WLAN	$7,322.00

PRICE SUMMARY
MAY 11, 2012
CANBY, OR PIGGYBACK ON FLORIDA CONSORTIUM
(2) 35' LOW FLOORS, SN: TBD

ACTION	CHANGE	COST
DELETE	(3) VIDEO SURVEILLANCE CAMERAS	($1,320.00)
ADD	MEDICAL AID KIT	$37.00
ADD	BLOODBORNE PATHOGENS KIT	$37.00
	TOTAL CHANGES	$46,011.00
	DELIVERY	$407.00
	CANBY, OR 35' LOW FLOOR BASE UNIT PRICE	$362,606.00
	PPI1413 ADJUSTMENT: 223.3 (MAR'12) / 217.8 (DEC'08) = 2.53%	$9,174.00
	CANBY, OR 35' LOW FLOOR ADJUSTED BASE UNIT PRICE	$371,780.00
	SPARES AND TOOLING BUDGET	$7,252.00
	CANBY, OR 35' LOW FLOOR CURRENT PRICE	$379,032.00

ORDINANCE NO. 1359

AN ORDINANCE AUTHORIZING THE MAYOR AND CITY ADMINISTRATOR TO EXECUTE A CONTRACT WITH EAGLE-ELSNER, INC. IN THE AMOUNT OF $534,435.00 FOR CONSTRUCTION OF THE 2012 STREET MAINTENANCE PROGRAM; AND DECLARING AN EMERGENCY.

WHEREAS, the City of Canby has heretofore advertised and received six (6) bids for the 2012 Street Maintenance Program; and

WHEREAS, the notice of call for bids was duly and regularly published in the Oregon Daily Journal of Commerce on April 24, 2012; and

WHEREAS, bids were received and opened on May 9, 2012 at 2:00 pm in the City Hall Conference Room of the City of Canby and the bids were read aloud:

WHEREAS, the bidders are as listed below and a detailed tabulation of all items is attached herein as Exhibit "B" and summarized as follows:

Eagle-Elsner, Inc.	$534,435.00
Roy L. Houck Construction, LLC	$554,999.50
Brix Paving Company	$583,995.00
North Santiam Paving Company	$584,569.00
Knife River Corporation Northwest	$613,412.50
S-2 Contractors, Inc.	$637,315.00

WHEREAS, the Canby City Council, acting as the City's Contract Review Board, met on Wednesday, June 6, 2012, and considered the bids and reports and recommendations of the City staff, including the staff recommendation that the low responsive bid be selected; and

WHEREAS, the Canby City Council determined that the low responsive bid was that of Eagle-Elsner, Inc.; now therefore

THE CITY OF CANBY ORDAINS AS FOLLOWS:

Section 1. The Mayor and/or City Administrator are hereby authorized and directed to make, execute, and declare in the name of the City of Canby and on its behalf, an appropriate contract with Eagle-Elsner, Inc. for the 2012 Street Maintenance Program in the amount of $534,435.00. A copy of the contract with Eagle-Elsner, Inc. is attached hereto and marked as Exhibit "A" and by this reference incorporated herein.

2nd Reading

Section 2. Inasmuch as it is in the best interest of the citizens of Canby, Oregon, to complete this project as soon as possible, an emergency is hereby declared to exist and this ordinance shall therefore take effect immediately upon its enactment after final reading.

SUBMITTED to the Canby City Council and read the first time at a regular meeting therefore on Wednesday, June 6, 2012; ordered posted as required by the Canby City Charter and scheduled for second reading on Wednesday, June 20, 2012, after the hour of 7:30 pm at the Council Meeting Chambers located at 155 NW 2nd Avenue, Canby, Oregon.

_____
Kimberly Scheafer, CMC
City Recorder

PASSED on second and final reading by the Canby City Council at a regular meeting thereof on the 20th day of June 2012, by the following vote:

YEAS_____ NAYS_____

_____
Randy Carson, Mayor

ATTEST:

_____
Kimberly Scheafer, MMC
City Recorder

EXHIBIT "A"

CONTRACT FOR CONSTRUCTION

THIS AGREEMENT is dated as of the _____ day of _____in the year 2012 by and between

City of Canby
(hereinafter called OWNER) and

Eagle-Elsner, Inc.
(hereinafter called CONTRACTOR)

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 - WORK

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents:

City of Canby
2012 Street Maintenance Program

The scope of work consists of the following:

- Approximately 5,750 tons of asphaltic concrete pavement at 1.5", 2" and 4" thickness.
- Approximately 1,380 lineal feet of pervious pavement (8' wide section).
- Minor pavement restoration and pavement reconstruction at multiple streets.
- Approximately 3,300 square yard of Petromat geotextile fabric.
- Retrofit five ADA ramps at two (2) intersections to include approximately 100 lineal feet of concrete curbs and sidewalks.

ARTICLE 2 - ENGINEER

The Project has been designed by CURRAN-McLEOD, INC., Consulting Engineers, who is hereinafter called ENGINEER and who will assume all duties and responsibilities and will have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 3 - CONTRACT TIME

3.1 The Work will be substantially completed within 45 calendar days after the date when the Contract Time commences to run as provided in paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within 30 days after the date when the issuance of the Certificate of Substantial Completion including punch list items.

3.2 Liquidated Damages: OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not substantially complete within the time specified in paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving in a legal proceeding the actual loss suffered by OWNER if the Work is not substantially complete on time.

Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER or the OWNER may withhold from amounts due the CONTRACTOR Four Hundred Dollars ($400.00) for each day that expires after the time specified in paragraph 3.1. for Substantial Completion until the Work is substantially complete AND/OR for each day of delay beyond the deadline for Final Completion.

ARTICLE 4 - CONTRACT PRICE

4.1 OWNER shall pay CONTRACTOR for performance of the Work in accordance with the Contract Documents in current funds by check, an amount totaling

Five Hundred Thirty Four Thousand Four Hundred Thirty Five---------- Dollars

(**$534,435.00**) as shown in the attached Bid Proposal.

ARTICLE 5 - PAYMENT PROCEDURES

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

5.1 Progress Payments: OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR'S Applications for Payment as recommended by ENGINEER, on or about the 25th day of each month during construction as provided below. All progress payments will be on the basis of the progress of the Work measured by the schedule of values provided for in paragraph 14.01 of the General Conditions.

5.1.1 Prior to Substantial Completion progress payments will be in an amount equal to:

(a) 95 % of the Work completed; and

(b) 95 % of materials and equipment not incorporated in the Work but delivered and suitably stored, less in each case the aggregate of payments previously made.

5.1.2 Upon Substantial Completion, OWNER shall pay an amount sufficient to increase total payments to CONTRACTOR to 95% of the value of the Contract Work completed, less such amounts as ENGINEER shall determine in accordance with paragraph 14.02 of the General Conditions.

5.2 Final Payment: Upon final completion and acceptance of the Work in accordance with paragraph 14.07 of the General Conditions, OWNER shall pay the remainder of the value of the Contract Work completed, as recommended by ENGINEER as provided in said paragraph 14.07.

ARTICLE 6 - INTEREST

All monies not paid when due hereunder shall bear interest at the maximum rate allowed by law at the place of the Project, when requested in accordance with ORS 279C.570

ARTICLE 7 - CONTRACTOR'S REPRESENTATIONS

In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

7.1 CONTRACTOR has familiarized himself with the nature and extent of the Contract Documents, Work, locality, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the Work.

7.2 CONTRACTOR has studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which were relied upon by ENGINEER in the preparation of the Drawings and Specifications and which have been identified in the Supplementary Conditions.

7.3 CONTRACTOR has made or caused to be made examinations, investigations and tests and studies of such reports and related data in addition to those referred to in paragraph 7.2 as he deems necessary for the performance of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract

Documents; and no additional examinations, investigations, tests, reports or similar data are or will be required by CONTRACTOR for such purposes.

7.4 CONTRACTOR has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.

7.5 CONTRACTOR has given ENGINEER written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

ARTICLE 8 - CONTRACT DOCUMENTS

8.1 This Agreement

8.2 Exhibits to this Agreement.

8.3 Performance and other Bonds

8.4 Notice of Award.

8.5 General Conditions of the Construction Contract

8.6 Supplementary Conditions

8.7 Technical Specifications as listed in the Table of Contents .

8.8 Specifications bearing the following general title:

City of Canby
2012 Street Maintenance Program

8.9 Addenda numbers **-0-**.

8.10 CONTRACTOR'S Bid

8.11 Any Modification, including Change Orders, duly delivered after execution of Agreement.

There are no Contract Documents other than those listed above in this ARTICLE 8. The Contract Documents may only be altered, amended or repealed by a Modification (as defined in Article 1 of the General Conditions).

ARTICLE 9 - MISCELLANEOUS

9.1 Terms used in this Agreement which are defined in Article 1 of the General Conditions shall have the meanings indicated in the General Conditions.

9.2 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically by without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.3 OWNER and CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives to the other party hereto, his partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

9.4 In the event a suit, arbitration or other legal action is required by either the OWNER or the CONTRACTOR to enforce any provisions of this Agreement, the prevailing parties shall be entitled to all reasonable costs and reasonable attorney's fees upon trial or subsequent appeal.

IN WITNESS WHEREOF, the parties hereto have signed three counterparts of this Agreement.

This Agreement will be effective on _____, 2012.

OWNER:		CONTRACTOR:
City of Canby		**Eagle-Elsner, Inc.**
182 N Holly Street		**P.O. Box 23294**
Canby, OR 97013		**Tigard, OR 97281**
By:_____		By:_____
Name/Title:_____		Name/Title:_____
Name/Title:_____		
		Attest:_____
		Address for giving notices:

City of Canby

Project: **2012 Street Maintenance and Resurfacing Project**

Bid Date: **5/09/12**

BID TABULATION

				1	2	3	4	5	6
				Eagle-Elsner, Inc.	Roy Houck Construction, LLC	Brix Paving Company	North Santiam Paving Co.	Knife River	S-2 Contractors, Inc.
Basic Bid		Units		Unit / Total	Unit / Total	Unit / Total	Unit / Total	Unit / Total	Unit / Total
1	Mobilization	1	LS	$ 12,951.00	$ 48,694.00	$ 49,347.00	$ 45,400.00	$ 60,140.00	$ 30,000.00
				$ 12,951.00	$ 48,694.00	$ 49,347.00	$ 45,400.00	$ 60,140.00	$ 30,000.00
2	1/2' Dense Mix Asphalt Concrete Prelevel	50	Tons	$ 100.00	$ 73.50	$ 125.00	$ 120.00	$ 100.00	$ 100.00
				$ 5,000.00	$ 3,675.00	$ 6,250.00	$ 6,000.00	$ 5,000.00	$ 5,000.00
3	1.5" Lift , 1/2" Dense Mix Asphalt Concrete Pavement Overlay	3000	Tons	$ 67.75	$ 65.00	$ 71.50	$ 72.00	$ 71.00	$ 77.00
				$ 203,250.00	$ 195,000.00	$ 214,500.00	$ 216,000.00	$ 213,000.00	$ 231,000.00
4	2" Lift,1/2" Dense Mix Asphalt Concrete Pavement Overlay	2500	Tons	$ 65.00	$ 65.00	$ 68.30	$ 69.00	$ 64.85	$ 77.00
				$ 162,500.00	$ 162,500.00	$ 170,750.00	$ 172,500.00	$ 162,125.00	$ 192,500.00
5	4" Lift,1/2" Dense Mix Asphalt Concrete Pavement Overlay	200	Tons	$ 92.00	$ 103.00	$ 49.50	$ 130.00	$ 145.00	$ 100.00
				$ 18,400.00	$ 20,600.00	$ 9,900.00	$ 26,000.00	$ 29,000.00	$ 20,000.00
6	3/4" Crushed Rock Prelevel	125	Tons	$ 45.00	$ 17.50	$ 31.50	$ 25.00	$ 27.00	$ 25.00
				$ 5,625.00	$ 2,187.50	$ 3,937.50	$ 3,125.00	$ 3,375.00	$ 3,125.00
7	Grind Existing Pavement (6' Wide Panel, 2" Max. Depth)	500	LF	$ 6.00	$ 5.25	$ 8.30	$ 12.00	$ 9.00	$ 9.00
				$ 3,000.00	$ 2,625.00	$ 4,150.00	$ 6,000.00	$ 4,500.00	$ 4,500.00
8	Petromat Geo-Technical Fabric (12.5" width)	3300	SY	$ 3.10	$ 2.10	$ 2.30	$ 2.00	$ 2.90	$ 5.00
				$ 10,230.00	$ 6,930.00	$ 7,590.00	$ 6,600.00	$ 9,570.00	$ 16,500.00
9	Pervious Pavement Panel (8" Wide)	1380	LF	$ 52.00	$ 47.25	$ 46.00	$ 43.00	$ 62.50	$ 45.00
				$ 71,760.00	$ 65,205.00	$ 63,480.00	$ 59,340.00	$ 86,250.00	$ 62,100.00
10	Minor Pavement Restoration	230	SF	$ 7.70	$ 12.60	$ 27.50	$ 10.00	$ 14.50	$ 12.00
				$ 1,771.00	$ 2,898.00	$ 6,325.00	$ 2,300.00	$ 3,335.00	$ 2,760.00
11	Pavement Reconstruction	6570	SF	$ 4.40	$ 5.50	$ 5.15	$ 4.20	$ 3.75	$ 9.00
				$ 28,908.00	$ 36,135.00	$ 33,835.50	$ 27,594.00	$ 24,637.50	$ 59,130.00
12	Truncated Dome Detectable Warning Cast-In-Place	5	Ea	$ 260.00	$ 210.00	$ 460.00	$ 250.00	$ 260.00	$ 300.00
				$ 1,300.00	$ 1,050.00	$ 2,300.00	$ 1,250.00	$ 1,300.00	$ 1,500.00
13	Concrete Curb Type "C"	100	LF	$ 38.00	$ 31.50	$ 47.00	$ 55.00	$ 50.00	$ 35.00
				$ 3,800.00	$ 3,150.00	$ 4,700.00	$ 5,500.00	$ 5,000.00	$ 3,500.00
14	4" Concrete Sidewalk	60	SY	$ 73.00	$ 58.00	$ 103.50	$ 105.00	$ 93.00	$ 75.00
				$ 4,380.00	$ 3,480.00	$ 6,210.00	$ 6,300.00	$ 5,580.00	$ 4,500.00
15	12" Wide White Thermoplastict Stop Bar	60	LF	$ 26.00	$ 14.50	$ 12.00	$ 11.00	$ 10.00	$ 20.00
				$ 1,560.00	$ 870.00	$ 720.00	$ 660.00	$ 600.00	$ 1,200.00
TOTAL BASIC BID				$ 534,435.00	$ 554,999.50	$ 583,995.00	$ 584,569.00	$ 613,412.50	$ 637,315.00

*** Bold Numbers indicate a math error**

M E M O R A N D U M

DATE:	June 20, 2012
TO:	Honorable Mayor Carson and City Council
FROM:	Sue Engels, Finance Director
CC:	Greg Ellis, City Administrator
RE:	ORDINANCE DECLARING THE CITY'S ELECTION TO RECEIVE REVENUE FOR FISCAL YEAR 2012-2013.

Issue:	An ordinance declaring the City's election to receive state revenues for fiscal year 2012-2013.
Background:	State Revenue Sharing Law, ORS 221.770, requires cities to annually pass an ordinance or resolution requesting state revenue sharing money. The law mandates public hearings be held by the city, both before the budget committee to discuss possible uses of the funds and before the city council on the proposed uses of the funds in relation to the entire budget. Certification of these hearings are required. This has to be done and filed with the Office of Business Administration prior to July 31.
Recommendation:	That council adopt Ordinance No. 1360 declaring the city's election to receive state revenue for fiscal year 2012-2013.
Fiscal Impact:	The amount estimated by the city to receive is approximately $135,000.
Attached:	Ordinance No. 1360

ORDINANCE NO. 1360

AN ORDINANCE DECLARING THE CITY'S ELECTION TO RECEIVE STATE REVENUE FOR FISCAL YEAR 2012-2013.

WHEREAS, a public hearing for the use of state revenue sharing funds was held before the Budget Committee on May 24, 2012, and before City Council on June 20, 2012; now therefore,

THE CITY OF CANBY, OREGON, ORDAINS AS FOLLOWS:

Section 1 Pursuant to ORS 221.770, the City of Canby hereby elects to receive state revenues for fiscal year 2012-2013.

SUBMITTED to the Canby City Council and read the first time at a regular meeting therefore on Wednesday, June 20, 2012, and ordered posted in three (3) public and conspicuous places in the City of Canby as specified in the Canby City Charter and scheduled for second reading before the City Council for final reading and action at a regular meeting thereof on Wednesday, July 18, 2012, commencing at the hour of 7:30 pm at the Council Meeting Chambers located at 155 N.W. 2nd Avenue, Canby, Oregon.

PASSED on second and final reading by the Canby City Council at a regular meeting thereof on the 18th of July 2012, by the following vote:

YEAS_____ NAYS_____

_____
Randy Carson
Mayor

ATTEST:

_____
Kimberly Scheafer, MMC
City Recorder

CITY COUNCIL / URA MEETING FOLLOW-UP ITEMS				
ORIG. CC / URA MTG. DATE	**ITEM**	**STATUS**	**ASSIGNED TO**	**FOR CC OR URA MTG. OF**
10/12/2011 URA	Entrance Sign Power - ODOT	Contact appropriate person at ODOT	Dan	TBD
10/12/2011 URA	Other use or market for solar panels	Researching	Dan	TBD
OTHER STAFF ITEMS				
DATE	**ITEM**	**STATUS**	**ASSIGNED TO**	**TARGET DATE**
12/7/2011	Road Improvement & Sidewalk Extension on NE 4th Avenue by CC Event Center	Getting Easements & Right-of-Way; Proceeding With Design	Greg	Under Construction
	Selling Property Partitioned Next to Maple Street Park (former location of Marshall House)	Waiting for better econmic times to sell property		On-Going

Management Team Meeting Minutes
June 11, 2012
2:00 PM
City Hall Conference Room

In attendance: Greg Ellis, Sue Engels, Renate Mengelberg, Penny Hummel, Kim Scheafer, Eric Laitinen, Bryan Brown, Julie Wehling, and Darvin Tramel.

Kim Scheafer
- Reviewed Agenda for June 20 CC Meeting
- Amanda Zeiber is out this week at a conference
- Sue Ryan will be out next week at training

Greg Ellis
- WAVE Broadband is being bought out and the City will need to transfer the franchise to purchaser
- 1st Avenue construction is going smoothly
- Will be out of the office at an RDI Board Meeting this afternoon until late Wednesday afternoon

Renate Mengelberg
- Received compliment from a 1st Avenue business owner regarding Canby Excavating
- Doing outreach to businesses introducing the new Main Street Manager
- In a holding pattern for a new RARE student

Bryan Brown
- Fred Meyer Fuel Station public hearing will be on July 23
- Building Inspector will be looking at a wall between two businesses on 1st Avenue

Darvin Tramel
- Has been working on Public Works Design Standards and Energy Management Policy for WWTP
- Out of office June 14 at training

Eric Laitinen
- Summer schedule starts June 25

Sue Engels
- Suzan Duffy is out this week
- Tracy Harris is out part of the week
- Interim auditors will be here week of June 25
- Attended Finance Officers Group Meeting

Julie Wehling
- FTA Audit went well last week
- City Drug & Alcohol policy is not compliant with FTA standards
- RCShain will be selling the City's BETC credits
- Updated schedule goes into effect July 2

Penny Hummel

- Summer reading starts this month for children and adults
- Replaced some chairs in the library with ones from Clackamas County Surplus
- Working on URA presentation regarding library location
- Elected Vice President/President Elect of the Oregon Library Association

Minutes taken by Kim Scheafer