RESOLUTION NO. 2014-3155

A RESOLUTION APPROVING THE UPDATED CITY'S 2014 STORMWATER MASTER PLAN

RECITALS:

1. On May 2, 2013, the city executed a professional services agreement with Brown and Caldwell, Inc. (B&C) in the amount of $198,698.00, as authorized by Resolution No. 2013-3038 passed by council on April 1, 2013, to perform the stormwater master plan update. A month earlier, the city hired Pacific Habitat Services, Inc. in advance, to collect storm drainage flow data in existing creeks in Newberg, and to provide the flow data to B&C for the stormwater master plan update.

2. On April 21, 2014, the consultant gave a working progress update for the stormwater master plan to the City Council. The work to update the master plan is completed, and the master plan update meets its original goals as noted below:

   (a) To provide an assessment of the current stormwater system;
   (b) To sustain construction, operation, and maintenance of essential stormwater facilities by a structured financial and management methodology;
   (c) To identify and incorporate regulatory requirements for compliance; and
   (d) To prioritize system needs within the urban growth boundary (UGB).

3. The updated stormwater master plan provides recommendations for:

   (a) Small projects to address minor areas of erosion and to reduce potential future stream channel impacts;
   (b) Maintenance and program enhancements where staff resources are dwindling;
   (c) A total of 23 capital improvement projects that have a combined value of just over $8.1M (2014 dollars) that will address existing and predicted future conditions flooding problems, integrate water quality elements in stormwater runoff, and replace deteriorating pipe segments in the existing stormwater conveyance system.

4. One of the recommendations would be to perform the system development charge (SDC) rate consultant study, and this SDC rate study is included in the fiscal year 2014-2015 budget for Council consideration. The SDC rate study will provide a timely review of the fundings required for the implementation of the stormwater master plan recommendations and projects that meet the future stormwater infrastructure needs.

5. The executive summary for the updated stormwater master plan is attached as Exhibit "A", and by this reference incorporated.

THE CITY OF NEWBERG RESOLVES AS FOLLOWS:

The Newberg City Council does hereby approve the updated 2014 stormwater master plan, which is hereby attached as Exhibit A and by this reference adopted.

- **EFFECTIVE DATE** of this resolution is the day after the adoption date, which is: July 8, 2014.

ADOPTED by the City Council of the City of Newberg, Oregon, this 7th day of July, 2014.

Norma I. Alley

Norma I. Alley, MMC, City Recorder

ATTEST by the Mayor this 10th day of July, 2014.

Bob Andrews

Bob Andrews, Mayor

Exhibit A to
Resolution No. 2014-3155

City of Newberg
Stormwater Master Plan

Prepared for
City of Newberg, Oregon
June 5, 2014

Exhibit A to
Resolution No. 2014-3155

City of Newberg
Stormwater Master Plan

Prepared for
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This document was prepared solely for the City of Newberg in accordance with professional standards at the time the services were performed and in accordance with the contract between the City of Newberg and Brown and Caldwell dated April 29, 2013. This document is governed by the specific scope of work authorized by the City of Newberg; it is not intended to be relied upon by any other party except for regulatory authorities contemplated by the scope of work. We have relied on information or instructions provided by the City of Newberg and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.

Brown AND Caldwell

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List of Abbreviations

CIP	capital improvement project
City	City of Newberg
cfs	cubic feet per second
CRRC	Citizen Rate Review Committee
DEQ	Oregon Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
GIS	geographic information system
HDPE	high density polyethylene
H/H	hydrologic and hydraulic
IDDE	Illicit Discharge Detection and Elimination
LID	low impact development
Master Plan	stormwater master plan
MS4	Municipal Separate Storm Sewer System
NAD83	North American Datum of 1983
NAVD88	North American Vertical Datum of 1988
NGVD29	National Geodetic Vertical Datum of 1929
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
Hwy 99W	Oregon Highway 99W
RCP	reinforced concrete pipe
SWMM	Surface Water Management Model
TMDL	Total Maximum Daily Load
UGB	urban growth boundary
URA	urban reserve area
WQ	water quality

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Executive Summary

In 2013, the City of Newberg (City) initiated development of a multi-objective Stormwater Master Plan (Master Plan) to provide a clear understanding of the existing stormwater system and provide a capital improvement project (CIP) program to address deficiencies in the system. The main objectives of this plan are as follows:

- Update the City's stormwater system's hydrologic and hydraulic models to evaluate system capacity.
- Develop an integrated stormwater system capital improvement program to address storm system capacity needs and water quality.
- Evaluate stream channel conditions with respect to erosion and impacts from future development.
- Continue to comply with water quality regulations.
- Review the City's stormwater management program and make recommendations on activities and staffing where applicable.
- Identify implementation priorities and impacts to the program budget.
- Develop a Master Plan document that is useful and easy to read, reference, and update.

Master Plan Technical Analyses

Development of the Master Plan involved four primary technical analyses to evaluate the stormwater infrastructure and programs.

Stormwater System Capacity Evaluation – Chapter 3 documents the development of a hydrologic and hydraulic model to simulate rainfall and runoff characteristics within Newberg. The model simulates stormwater flows through pipe networks, drainage ditches, and culverts to identify areas that are over capacity. The model considered both current conditions and the impacts of future development on stormwater flows. Stormwater infrastructure capacity concerns are presented in Table 3.7.

Problem Areas Survey – Surveys of City staff, compilation of public complaints, and review of past reports were used to identify additional problem areas within the stormwater infrastructure. The aim was to identify problem areas that would not be identified through hydraulic modeling, such as deteriorating pipes, frequent maintenance concerns, inadequate maintenance access, or underserved areas resulting in flooding. Problem areas are documented in Table 3.8.

Stream Channel Vulnerability Assessment – Field walks were conducted between October 15 and 17, 2013 to evaluate and assess existing and potential future channel conditions in the streams within Newberg. The City's existing stream channels are already well protected through development restrictions in the zoning code. Section 4.3 includes recommendations for small projects to address minor areas of erosion and adjustments to the City's stormwater design standards to reduce potential future channel impacts.

Maintenance and Program Evaluation – The City's stormwater management program was formed around addressing drainage capacity and flooding problems. In the last decade, the program has shifted to include addressing increased water quality regulations, such as the Total Maximum Daily Load (TMDL) program. Section 5 documents the current maintenance practices and programmatic activities within the City's stormwater management program and provides recommendations for maintenance and program enhancements.

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Integrated Management Strategy

The recommendations in Chapter 6 present an integrated strategy of programs, projects, and maintenance activities to address stormwater management concerns. Recommendations include increasing staff by approximately 1.2 full-time equivalents (FTEs) to 6.60 FTEs within the stormwater program to support preventative maintenance activities and full implementation of the City's stormwater ordinance. Section 6 also identifies and recommends the following one-time projects and studies:

- Develop a Water Quality Sensitive O&M Manual at an estimated cost of $25,000.
- Conduct a System Development Charge (SDC) Rate Study at an estimated cost of $15,000.
- Plan for a future Stormwater Master Plan update in 2025 at an estimated cost of $250,000.

Capital Improvement Projects (CIPs) have been developed to address existing and predicted future conditions flooding problems, integrate water quality elements, and replace deteriorating pipe segments. The recommended CIP plan includes 15 specific projects (some divided into smaller phases) and two ongoing programs for annual pipe replacement and water quality retrofits. Section 6 documents the process used in developing the city-wide CIP plan.

Figure ES-1 shows the location of the proposed CIPs. Table ES-1 summarizes the identified CIPs, estimated costs, priority ranking, and an estimated timeline for implementation. Detailed cost estimates and scoring information are provided in Appendix D. As described in Section 7, highest priority has been given to projects that address safety and liability concerns. Short-term projects are targeted to be completed in the first 5 years of this Master Plan implementation, while the timing for mid-term and long-term projects will be dependent on available funding. Detailed fact sheets and planning level cost estimates for each CIP can be found in Appendix D.

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Table ES-1. CIP Prioritization and Implementation Timeline

Basin	CIP number	Project name	Cost, $	Prioritization score	Estimated timeline
Chehalem Creek	C-1	Blaine Street Improvements: Design	180,000	n/a[a]	Short-term
	C-1A	Highway 99W to 2nd Street Parking Lot Pipe Replacement	131,000	10.0	Short-term
	C-1B	S Blaine Street Pipe Replacement	384,000	9.0	Short-term
	C-1C	E 2nd Street to E 5th Street Pipe Decommissioning/Replacement	291,000	10.0	Short-term
	C-1D	E 6th and S Blaine Streets Pipe Replacement	176,000	6.5	Long-term
	C-2	S Center Street Improvements: Design	180,000	n/a[a]	Short-term
	C-2A	E 9th Street to S Center Street Pipe Decommissioning	294,000	10.5	Short-term
	C-2B	S Center, E 8th, and E 7th Streets Pipe Replacement	930,000	7.0	Long-term
	C-3	E Columbia Drive Improvements near Main Street	79,000	8.0	Mid-term
	C-4	Oxford Street Improvements	1,092,000	7.5	Mid-term
	C-5	N College Street Improvements, north of Foothills Drive	260,000	6.5	Long-term
	C-6	S River Street Improvements at E 11th Street	160,000	9.0	Short-term
	C-7	S College Street at Andrew Street Improvements	196,000	7.0	Long-term
	C-8	Dayton Avenue Green Streets	125,000	7.5	Mid-term
Hess Creek	H-1	N Elliot Road Improvements	239,000	5.5	Long-term[b]
	H-2	N Edwards Street Improvements from Vermillion to Sheridan	1,217,000	6.0	Long-term
	H-3	E 3rd Street Improvements: Design	142,000	n/a[a]	Long-term
	H-3A	S Church and E 1st Street Improvements	404,000	6.0	Long-term
	H-3B	E 3rd Street between S Everest Road and S Church Street	341,000	5.5	Long-term
	H-4	Villa Road Culvert Improvements	104,000	8.0	Mid-term[b]
Spring Brook	S-1	N Springbrook Road Improvements from Middlebrook to Haworth	777,000	6.5	Long-term[c]
	S-2	Libra Street Improvements at Vittoria Way	246,000	7.0	Long-term
City-wide	A-1	Stream Bank Protection Projects	190,000	8.0	Mid-term
		Total	8,137,000		

[a] *Design work for phased projects should be prioritized based on the highest scoring construction phase.*

[b] *Project to be constructed with roadway improvement project. Schedule dependent on transportation program priorities.*

[c] *Project to be designed and constructed with water and wastewater system improvements. Schedule based on joint priorities.*

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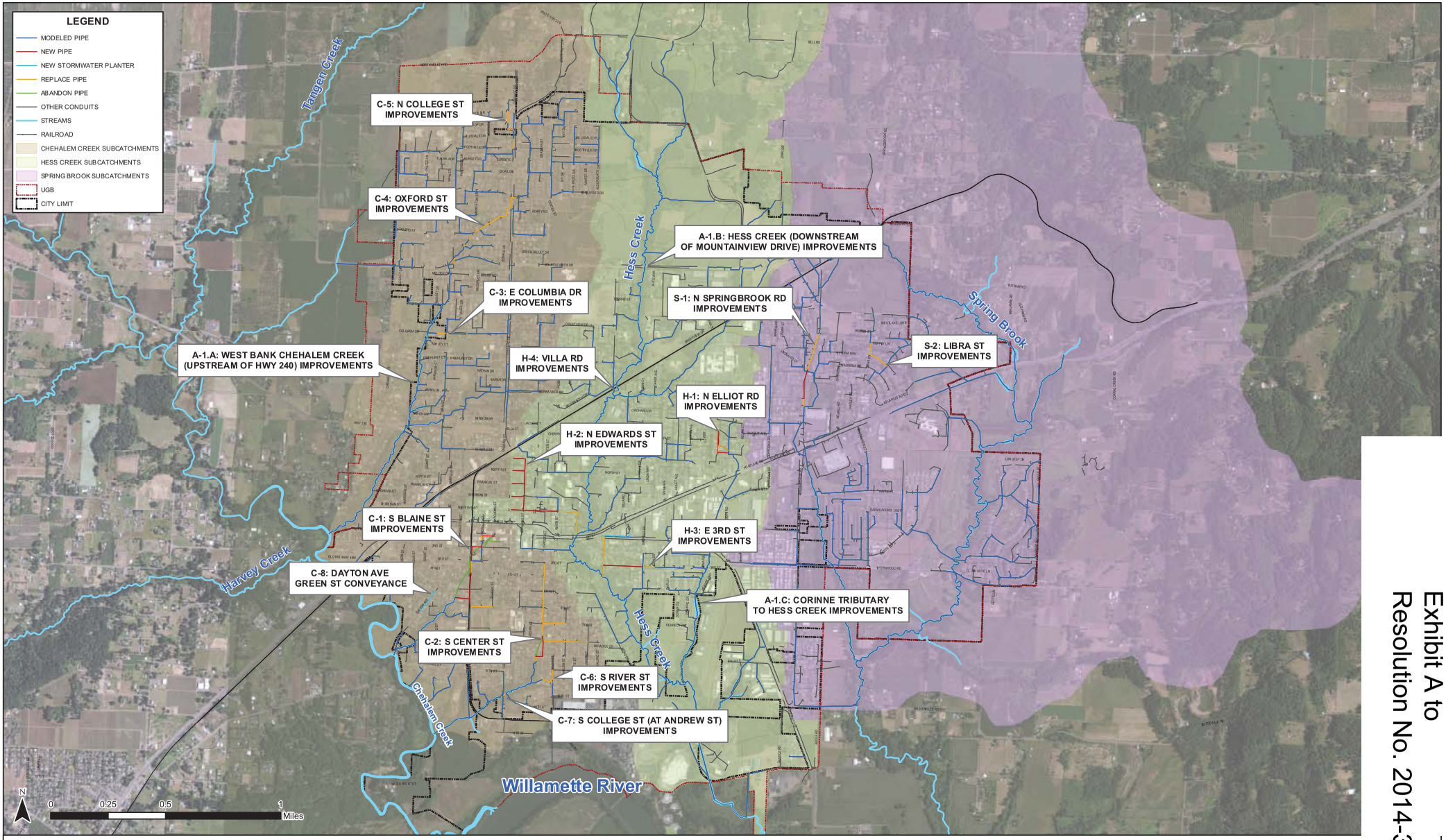

STORMWATER MASTER PLAN UPDATE

FIGURE ES-1. CAPITAL IMPROVEMENT PROJECTS

NEWBERG, OREGON

City of Newberg

Brown AND Caldwell

JUNE 2014

Exhibit A to
Resolution No. 2014-3155