

11100 SE MCLOUGHLIN BLVD.

Informal Assessment of Recommended Mitigation for Development

Prepared for

April 2016

City of Milwaukie



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1.0 INTRODUCTION

The City of Milwaukie (City) is exploring options for developing the Cash Spot site at 11100 SE McLoughlin Boulevard (Figure 1, Appendix A; tax map 1S1E35AD, tax lots 1100, 1300, 1301, and 1302). To assist the City with development feasibility, ESA verified the location and condition of a Water Quality Resources (WQR) on-site - Kellogg Lake and associated 50-foot vegetated corridor - and a Habitat Conservation Areas (HCA) in the southern portion of the property (Figure 2, Appendix A; ESA, 2016). HCA mapping generally reflected current site conditions with the exception of a few areas that overlap with existing pavement. These HCA areas are recommended for removal from the NR Map (See the Conditions Survey, Sheet 2 of 3, Appendix B). Through site survey, we also verified the elevation of the 100-year floodplain of Kellogg Lake. To further the assist the city with site development options, this report builds on the results from Task A and evaluates the WQR and HCA mitigation requirements of redeveloping the site within the existing pavement footprint.

We evaluated the following questions posed by the City:

1. If the site were to be redeveloped within a similar footprint as the existing pavement, i.e. with the building located 1 to 2 feet from top of bank, would restoration and planting of the sloped bank above Kellogg Lake be sufficient mitigation?
2. If not, what would be sufficient mitigation to justify Development Scenario 1?
3. If development close to top of bank is not justifiable, how close to the top of bank could new development be located, with restoration/replanting of the remaining water quality resource area to be considered a supportable alternative for development of the site?
4. How much does building height affect the analysis of impacts and the effectiveness of mitigation efforts?

2.0 Development Scenario 1

Development Scenario 1 involves constructing a five-story structure as allowed by the base zone in the same footprint as the existing pavement shown in Figure 3 (Appendix A). The structure would be constructed on pilings to allow parking in the 100-year floodplain on-site and would be within approximately 3 feet of the top of bank of Kellogg Lake. This scenario assumes the extent of build-out would include any sidewalks or pathways associated with the structure. A structure consistent with the base zone of a site may be allowed in a WQR through a Type III land use review and approval from the planning commission (Section 19.40 2.8). Based on a code review, it appears that a five-story building close to the top of bank could be constructed with an on-site mitigation plan that improves the condition of the WQR from poor to good.

2.1 Question 1

If the site were to be redeveloped within a similar footprint as the existing pavement, would restoration and planting of the sloped bank above Kellogg Lake be sufficient mitigation?

WQR Response: We recommend a relatively dense planting plan and installation of habitat features on the sloped bank on-site to compensate for WQR impacts.

HCA Response: No permanent HCA impacts would result from Development Scenario 1 with the proposed NR Map adjustments shown on the Conditions Survey, Appendix B. Any temporary impacts to the HCA that occur during construction could be mitigated off-site south of the property along the sloped bank above Kellogg Lake in the location identified as Mitigation Area 3 (Figure 3, Appendix B).

WQR Impact Analysis and Response Explanation: Under Development Scenario 1, a significant portion (approximately 70 percent) of the existing vegetated corridor would be developed, although the majority of this impact area is currently paved. No trees would be removed from the 50-foot vegetated corridor and only a few landscape shrubs in remnant planting strips would require removal. Because of the limited amount of existing canopy cover and understory vegetation, the vegetated corridor was determined to be in “poor” condition. Despite the degraded condition, the proposed WQR impact area of Development Scenario 1 is four times the size of the mitigation area, and while mitigation requirements are non-prescriptive and do not require a replacement ratio based on size of impacts, we recommend a relatively dense planting plan and habitat feature installation for the streambank on-site to improve WQR functions (Table 1; see Mitigation Area 1 on Figure 3, Appendix A).

Table 1. Proposed Mitigation Planting Concept for Development Scenario 1

Mitigation Area 1: 1,820 ft. ²		
Plant Type	Density	Number
Tree	10' o.c.	18
Shrub	4' o.c.	132
Groundcover	3' o.c.	202
Habitat features such as large wood (conifer) installation	--	2-3 pieces

2.2 Question 2

If the sloped bank above Kellogg Lake is insufficient, what would be sufficient mitigation to justify Development Scenario 1?

WQR Response: We anticipate the City may desire less tree cover in the long term along the sloped bank on-site, therefore we recommend extending mitigation to an embankment in the eastern portion of the property (see Mitigation Area 2 on Figure 3, Appendix A).

HCA Response: N/A, see response to Question 1.

WQR Response Explanation: The code for mitigating WQR impacts requires planting trees at a density of 8 to 12 o.c., which we anticipate may be too dense for preserving views of Kellogg Lake based on past

environmental reviews with the City. Therefore, a more balanced planting approach would be to also enhance an on-site embankment in the eastern portion of the property (Table 2; see Mitigation Area 2 on Figure 3, Appendix A).

A third potential area for mitigating WQR impacts is south of the study site along the sloped bank above Kellogg Lake (Mitigation Area 3, Figure 3, Appendix A). While we did not investigate this area in great detail, it appears from a cursory desktop analysis and reconnaissance observations from Task A that the vegetated corridor would benefit from invasive species removal and native plantings. City code does not allow WQR mitigation off-site, but the mitigation would benefit the same resource in the same general area and could be explored further as an option.

Table 2: Alternative Mitigation Planting Concept for Development Scenario 1

Mitigation Area 1: 1,820 ft.²		
Plant Type	Density	Number
Tree	~16' o.c.	7
Shrub	5' o.c.	82
Groundcover	3' o.c.	202
Habitat features such as large wood (conifer) installation	--	2-3 pieces
Mitigation Area 2: 3,000 ft.²		
Plant Type	Density	Number
Tree	~16' o.c.	12
Shrub	5' o.c.	60-70*
Groundcover	3' o.c.	168*

2.3 Question 3

If development close to top of bank is not justifiable, how close to the top of bank could new development be located, with restoration/replanting of the remaining water quality resource area to be considered a supportable alternative for development of the site?

WQR Response: Instead of prescribing a specific set-back distance for proposed build-out, we recommend incorporating habitat friendly development and construction techniques to increase the approvability of Development Scenario 1.

HCA Response: N/A, see response to Question 1.

WQR Response Explanation: The City of Milwaukie Downtown Design Guidelines list several character guidelines for proposed development, including considering view opportunities and integrating the environment. Additionally, Title 13 (Nature in Neighborhoods) of Metro's Urban Growth Management Function Plan lists habitat friendly development practices. Measures to implement these guidelines include:

- using cantilevered construction techniques to allow a wider vegetated corridor along the top of bank
- incorporating a green roof on the proposed five-story building
- incorporate pervious pavement within 100-year floodplain and/or vegetated corridor

We are not aware of specific development projects in the Metro area that have been successfully permitted within protected natural resource overlays relying solely on these measures, but images of cantilevered construction are provided below to illustrate the design concept.



Photo 1: Vine maples and ornamental shrubs successfully growing under a building overhang in downtown Portland.

Photo 1 demonstrates how vegetation can be incorporated into a building design in constrained urban areas. A similar design at the Cash Spot site could add 5 to 10 feet of vegetated corridor along Kellogg Lake and improve the aesthetics of a parking garage on the lowest level.

WQR benefits of establishing plans under cantilevered construction include:

- Microclimate shade;
- Bank stabilization and sediment and pollution control; and
- Organic material resources.

Plants under a building would not receive direct precipitation and irrigation would be recommended for successful establishment.



Photo 2: Cantilevered construction allows light penetration and plant growth under the overhanging structure.

Photo 2 shows a deeper overhang than Photo 1 and could further increase the width of a vegetated corridor along Kellogg Lake.

2.4 Question 4

How much does building height affect the analysis of impacts and the effectiveness of mitigation efforts?

WQR Response: There is not a mechanism in the code to incorporate the height of a structure into the impact analyses, but an analysis of the solar effect on adjacent properties could be completed. The height of the proposed building does not affect recommended mitigation because the building would be situated on the north side and would not block sun exposure needed to establish native plantings.

HCA Response: N/A, see response to Question 1.

3.0 Summary and Other Considerations

Development Scenario 1 or build-out of the Cash Spot site in the existing footprint of pavement within a few feet of top of bank appears allowable by the city code through a Type III land-use process. In order to justify intrusion into the WQR, we recommend a relatively dense planting plan and habitat feature installation along the sloped, degraded bank above Kellogg Lake. No impacts to the HCA would result

from Development Scenario 1 with an NR Map adjustment to remove HCA from areas that are currently paved. If the City prefers a less dense planting concept that summarized in Table 1, an alternative mitigation scheme would be to improve the embankment in the eastern portion of the property which is contiguous with the on-site WQR and Dogwood Park.

Green roof construction is recommended as a means of incorporating the environment into Development Scenario 1, but green roofs only provide water quality treatment of stormwater and do not address quantity or detention requirements. Additional stormwater management would likely be required for the site outside of the floodplain if a green roof is incorporated into the building design.

4.0 LIMITATIONS

The 100-year base flood elevation of 36 feet (NAVD 88) shown on the site survey is from FEMA's floodplain database. Other than professional land survey and verification of the 36-foot contour, no site-specific flood assessment was conducted for the property.

5.0 PREPARERS AND CONTRIBUTORS

The evaluation described in this report was conducted by professional natural resources staff of ESA. The following individuals contributed to this assessment and report:

Sarah Hartung, Senior Environmental Scientist: Mitigation Analysis and Report Writing

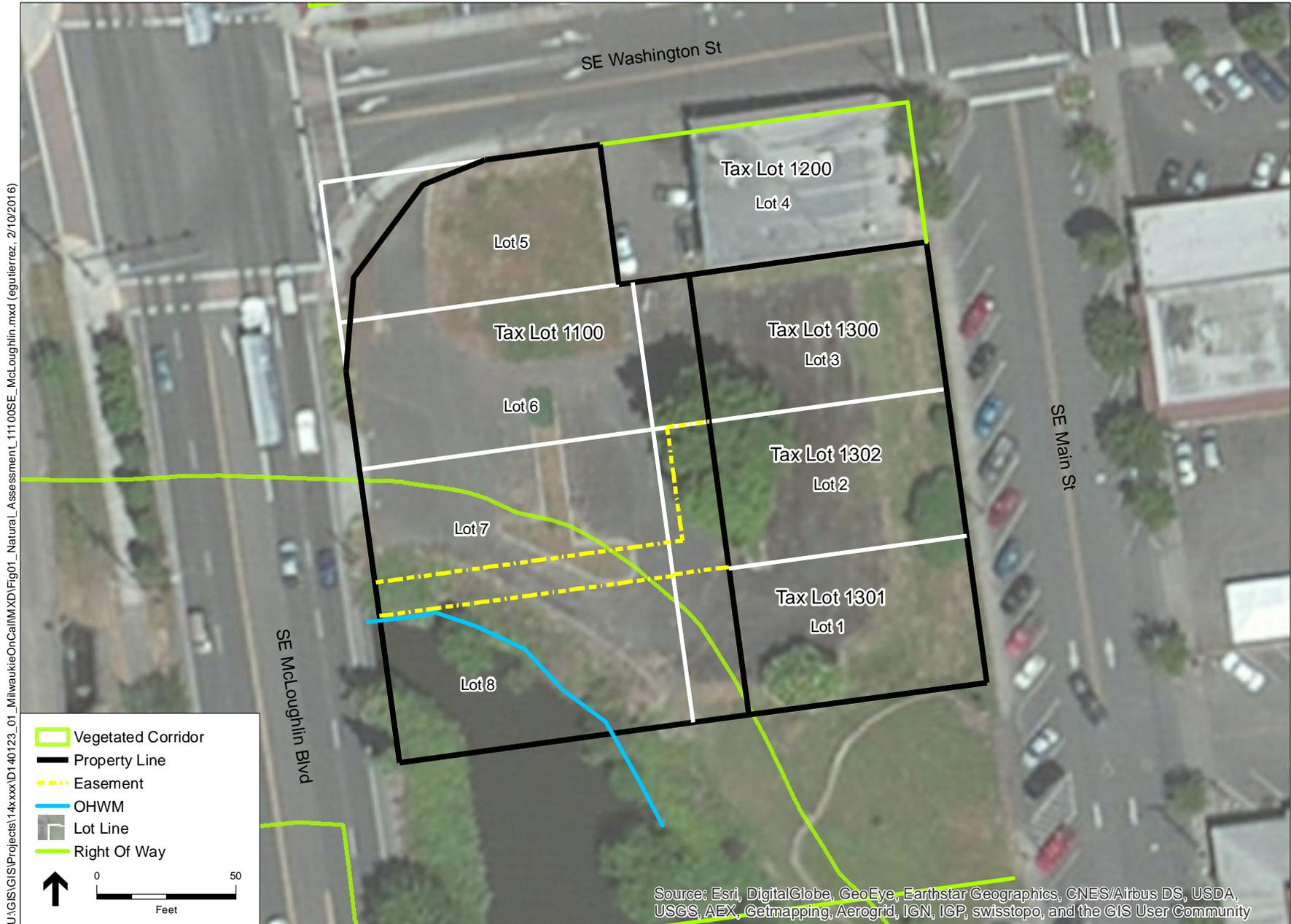
Susan Cunningham, Biological Resources Manager: Principal Review

6.0 REFERENCES

ESA. 2016. Natural Resource Assessment of 11100 SE. McLoughlin Boulevard. Prepared for the City of Milwaukie.

Metro Vegetative Cover Map, 2005. Urban Growth Management Functional Plan. Title 13, Nature in Neighborhoods. Adopted September 29, 2005. Amended December 8, 2005.

Appendix A:
Figures 1-3



Natural assessment for 11100 SE McLoughlin Blvd. 140123.01

SOURCE: Statewide Land Surveying, 2016; City of Milwaukie, 2014; NAIP, 2014.

Figure 1
Aerial Map
City of Milwaukie, Oregon

City of Milwaukie

Natural Resource (NR) Administrative Map

(Last updated August 16, 2011)



-  City Boundary
-  100-ft Compliance Line
-  Habitat Conservation Areas
- Water Quality Resources**
-  Rivers, Streams, and Ponds
-  Wetlands
-  Vegetated Corridor

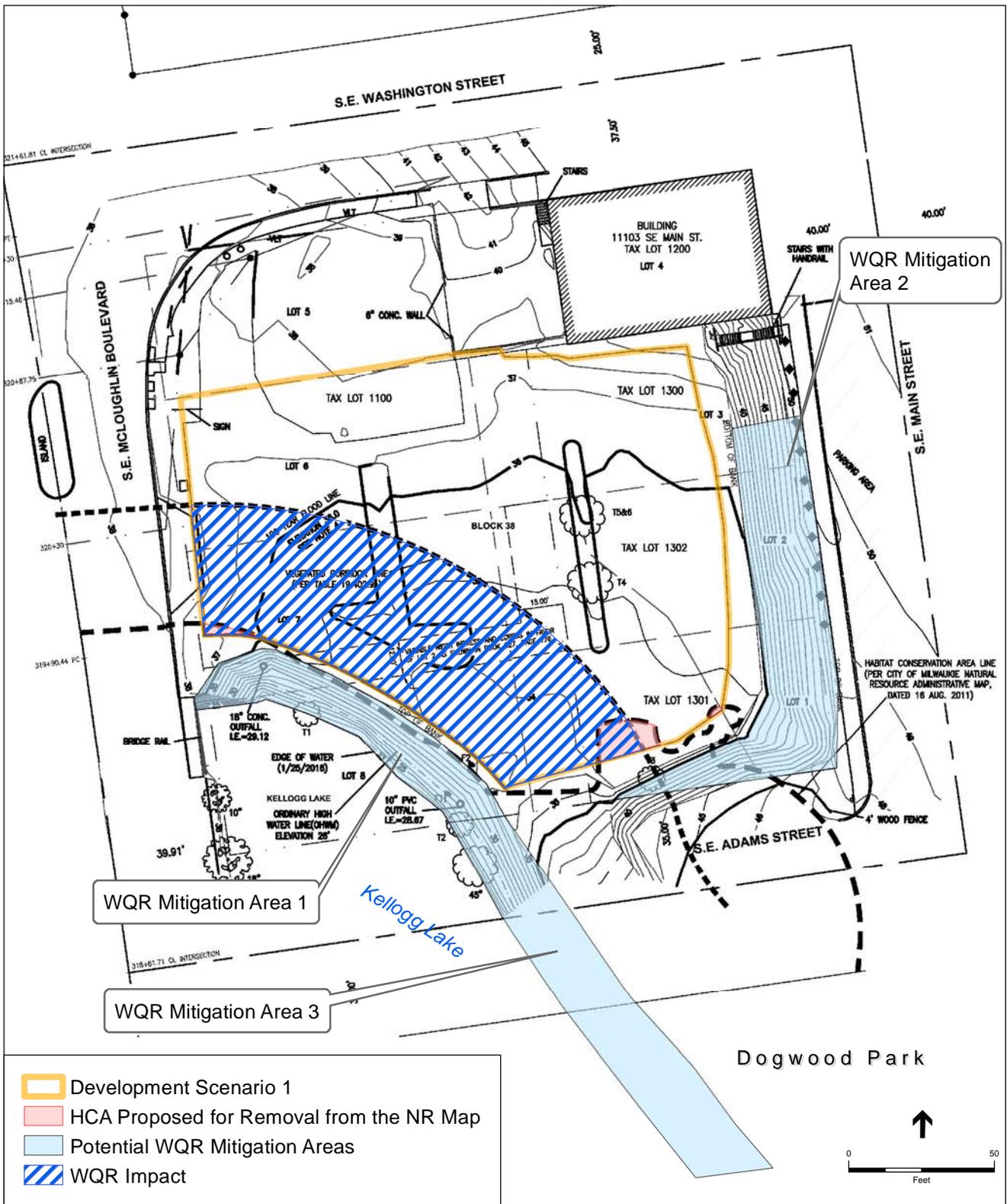
Figure 2: Natural Resource (NR) Map



Adopted by reference with Ord. 2036
August 16, 2011

Data Sources: City of Milwaukie GIS
Clackamas County GIS
Metro Data Resource Center





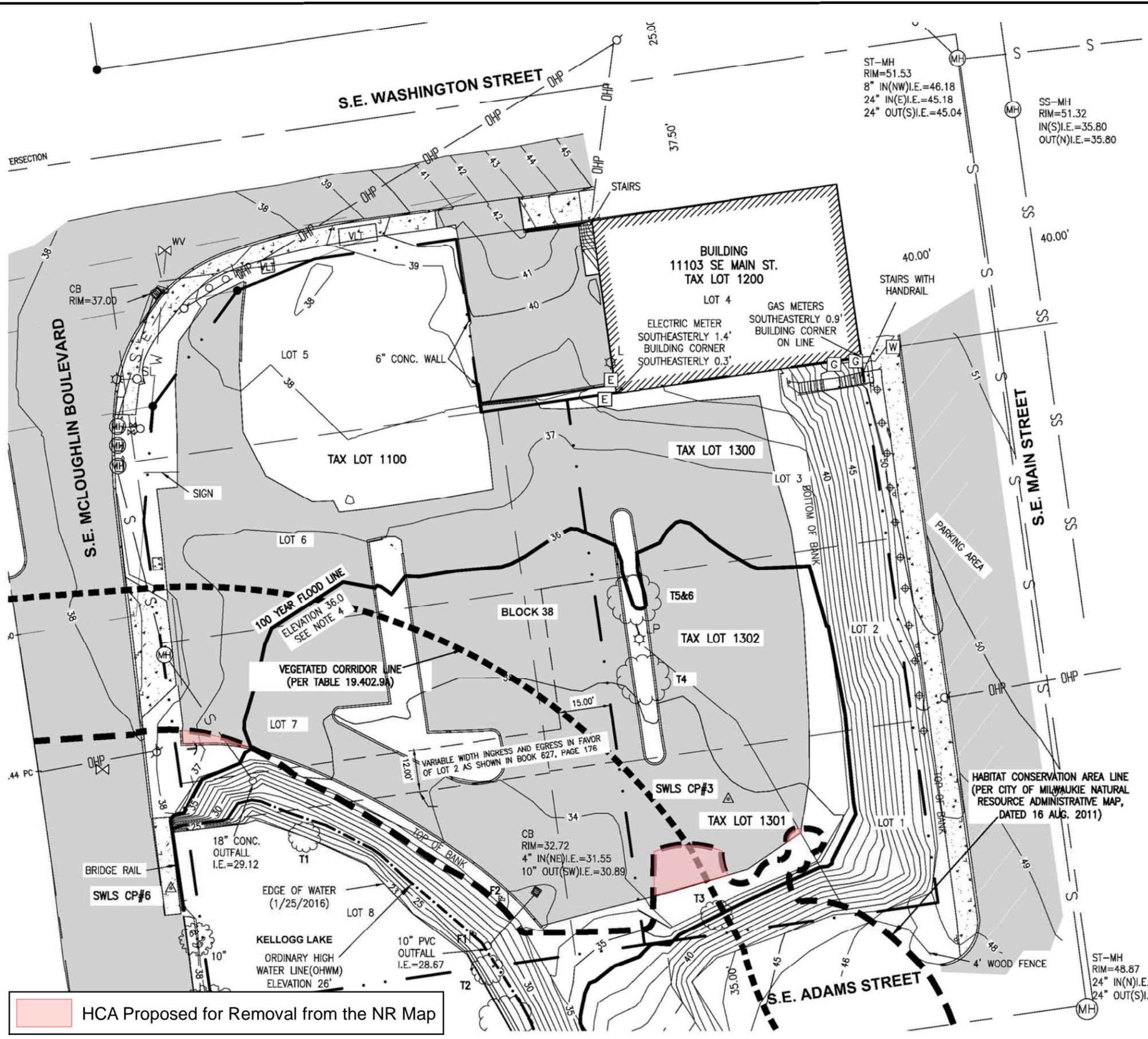
SOURCE: Statewide Land Surveying Inc., 2016.

Natural Resources Assessment 11100 SE McLoughlin . D140123.03

Figure 3

Development Scenario 1 Impacts and Proposed Mitigation Areas

Appendix B:
Conditions Survey, Sheet 2 of 3



CONDITIONS SURVEY

OF
LOTS 1, 2, 3, 5, 6, 7, AND 8, BLOCK 38,
THE PLAT OF "TOWN OF MILWAUKIE",
 SITUATED IN THE NE QUARTER OF SECTION OF SECTION 35,
 TOWNSHIP 1 SOUTH, RANGE 1 WEST OF THE WILLAMETTE MERIDIAN,
 CITY OF MILWAUKIE, COUNTY OF CLACKAMAS, STATE OF OREGON.

PROPERTY INFORMATION

OWNER: CITY OF MILWAUKIE
 ADDRESS: 11100 SE MCLOUGHLIN BLVD.
 MAP/TAX LOT: 1100, 1300, 1301, 1302/1 1E 35AD
 PARCEL NUMBER: 00019241

SURVEYED FOR

ESA VIGIL-AGRIMIS
 SARAH HARTUNG
 819 SE MORRISON STREET, SUITE 310
 PORTLAND OR. 97214

SCALE: 1"=30'



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EXPIRES: 06/30/16

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 WWW.STATEWIDESURVEYING.COM
 E.SURVEY@STATEWIDESURVEYING.COM

DRAWN K.D.C.	DATE 2/5/2016	43 NW AVA STEET GRESHAM, OR 97030 (F) 503.665.7988 (O) 503.665.7777
CHECKED G.D.S.	DATE 2/5/2016	
SCALE 1" = 30'	SHEET 2 OF 3	PROJECT NO. 2016-8

HCA Proposed for Removal from the NR Map