



# MEMORANDUM

TO: Doug Rux, AICP  
FROM: Alex Stodtmeister, PE  
Read Stapleton, AICP  
DATE: November 22, 2022  
SUBJECT: Newberg Urban Reserve Area Expansion (CPMA21-0002)  
Addendum to Exhibit H –Comparative Site Analysis

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This memorandum and the attached exhibits are provided to supplement an application for a proposed amendment to the City of Newberg (City) and Yamhill County (County) Comprehensive Plans to expand the City's Urban Reserve Area (URA) to include an approximately 95.3 gross acre site. This memorandum serves as a supplement to the following two documents previously submitted:

- Exhibit H, Comparative Site Analysis (submitted May 28, 2021)
- Addendum to Exhibit H, Comparative Site Analysis (submitted March 1, 2022)

In response to comments contained within the previously issued staff report and findings, dated October 25, 2022, this memorandum provides an analysis of peripheral resource lands<sup>1</sup> within a one mile radius of the current City limits and the City's Urban Growth Boundary (UGB) for suitability as a URA. Specifically, this memorandum analyzes the feasibility of water service and gravity sanitary sewer connections to the City's existing system for areas of resource land and provides further information regarding soil composition of those areas to determine priority for URA eligibility.

## 1.0 Executive Summary

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- This application is based on a demonstrated need for approximately 397 gross acres of buildable land within the City's URA to provide a supply of land for future growth to the year 2051, which is within the 30-year growth period (2025 – 2055) allowed for URAs per OAR 660-021-0030(1).
- As part of the application, the applicant prepared and submitted a Comparative Site Analysis.<sup>2</sup> This analysis applies the criteria stated in OAR Section 660-021-0030(2-5) in order to assess all land within an approximately one mile radius from the current City limits and the City's UGB for suitability as a URA. This analysis concluded that the exception lands surrounding the City's UGB are highly constrained and provide few opportunities for urban services at a reasonable cost.
- As part of the City's initial review of the application, additional analysis of the identified exception lands was requested of the applicant to further evaluate if water and sanitary sewer services could reasonably be provided to all or portions of exception land subareas around the City through gravity and conventional infrastructure systems.
- The applicant submitted an addendum to the Comparative Site Analysis on March 1, 2022, which found that approximately 151.62 acres of exception land within a one mile radius of the City's UGB can be reasonably served by both gravity sanitary sewer and water services, and are therefore eligible for consideration as a URA.
- In the summer of 2022, the City completed an extension of the public sanitary sewer system within Highway 240 and NE Chehalem Drive to a point approximately 500 feet north of NE Chehalem Drive's intersection with Highway 240. Based on this extension, DOWL determined that

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<sup>1</sup> Per OAR 660-021-0010(2), resource lands are rural lands intended for agriculture or forest resource uses.

<sup>2</sup> Exhibit H of CPMA21-0002

an additional 62 acres of Exception Land within the Northwest A, Northwest B, and Southwest A study areas were reasonably serviceable by gravity sanitary sewer connections to the City's existing system. As the applicant's March 1, 2022 comparative site analysis addendum previously found that the entirety of the Northwest A, Northwest B, and Southwest A exception land areas could also be served by extensions of the City's existing water system, an additional 62 acres of exception land were found to be eligible for consideration as a URA.

- DOWL has determined that, in total, there are approximately 213.62 acres of exception land eligible for consideration as a URA. This means there is still a deficit of approximately 183.38 acres to satisfy a land need of 397 buildable acres to the year 2051. Per OAR 660-021-030(3), the City may consider lower priority resource lands in order to meet the identified land for the 30 year planning horizon.
- As identified in Table 1 and shown in Maps A-F of Exhibit C, approximately 513 acres of resource land within the East A, North A, and Northwest B study areas can be reasonably served by both gravity sanitary sewer and water services, including the applicant's proposed URA expansion site.
- As shown in Exhibit D, these areas of reasonably serviceable resource lands were broken into five subareas for the purpose of analyzing soil composition and presence of high-value farmland. Three subareas are within the East A study area (including the applicant's proposed URA expansion site), with the other two subareas located in the North A and Northwest B study areas. Oregon Revised Statutes (ORS) 215.710 describes "high-value farmland" within the Willamette Valley of being land compromised predominantly of Class I, II, III and IV soils.
- As identified in Table 2 and shown in Exhibit D, the two subareas with the lowest composition of high-value farmland are the applicant's proposed URA site (approximately 94% high-value farmland) and the subarea immediately north of the applicant's site (approximately 92% high-value farmland). Notably, the applicant's proposed URA site is the only subarea that completely lacks Class I soils.
- Based on soil composition and presence of high-value farmland, the applicant's proposed URA site and the subarea immediately to the north are eligible for URA consideration. Together, these two areas are approximately 130 acres<sup>3</sup>, which is within the identified deficit of approximately 183.38 acres to satisfy a land need of 397 buildable acres to the year 2051. Therefore, the applicant's proposal to include the approximately 95.3 gross acre site is justifiable and appropriate under the provisions of OAR 660-021-030(3)(c) in order to meet Newberg's identified land needs through 2051 as justified through this memorandum and the existing URA expansion application record.

## **2.0 Serviceability Methodology**

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This memorandum provides an assessment of the relative physical and practical constraints to reasonably provide sanitary sewer and water services to the resource lands immediately surrounding the City. For the purpose of this study, DOWL has analyzed and grouped the resource lands into the same study areas as those addressed and assigned in the URA Locational Analysis prepared as Part II of the City of Newberg and Yamhill County 2007 Urban Reserve Area Justification and Findings Report ("2007 URA Report"), which are also consistent with the study areas identified in the initial Comparative Site Analysis submitted with the URA expansion application. The study area for this analysis consisted of all lands within an approximately one mile radius from the current City limits and the City's UGB, which are divided into 15

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<sup>3</sup> This acreage excludes adjacent public rights-of-way along NE Corral Creek Road and NE Fernwood Road that would be included if the proposed URA expansion site is brought into the URA.

subareas, consistent with the study area identified within the 2007 URA Report's Locational Analysis and the initial Comparative Site Analysis (see Exhibit A). Each parcel within the overall study area was classified as either resource or exception lands; exception lands have already been analyzed as previously discussed, with DOWL determining there are approximately 213.62 acres of exception land eligible for consideration as a URA. Additionally, lands that are subject to certain constraints (see Exhibit B) have been removed from consideration consistent with OAR 660-008-0005(2), including:

- Lands within floodplains and floodways<sup>4</sup>;
- Lands within natural resource protection areas<sup>5</sup>;
- Lands within landslide hazard areas<sup>6</sup>;
- Lands with slopes over 25 percent<sup>7</sup>; and
- Lands identified for future public facilities (Newberg-Dundee Bypass)<sup>8</sup>.

## 2.1 Gravity Sanitary Sewer Methodology

Following the removal of resource lands subject to the constraints described above, a capacity analysis of the City's sanitary sewer system and the feasibility of gravity connections was performed for the remaining resource lands. GIS data provided by the City, including an inventory of the existing sanitary sewer system, was used to determine reasonable connection points. A capacity analysis of the most upstream pipe was performed to determine sanitary sewer volumes that could be accepted at each connection point. Once the pipe capacity was determined, a weighted development density of 6.48 dwelling units per acre was applied to determine the approximate resulting effluent volumes. This density basis is consistent with the target densities provided in the City's Comprehensive Plan<sup>9</sup> and the forecasted housing mix provided in Exhibit 49 of the *2021 Newberg Housing Needs Analysis*. An assumed effluent volume of 260 gallons-per-day (gpd) per dwelling unit was used based on an average household size of 2.61 per new dwelling unit<sup>10</sup>. These calculations formed the basis for determining a maximum acreage that could be served by the existing sanitary sewer system via gravity.

After the capacity analysis was performed, several study areas were excluded based on constrained connection capabilities to the City's existing sanitary sewer system. Additional discussion of each study area is included in Section 3.0 below and results are summarized in Tables 1. Exhibit B identifies resource lands, exception lands, and constrained lands within each study area. Exhibit C identifies the lands within each study area that are either serviceable or not serviceable via a gravity connection to the City's existing sanitary sewer system.

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<sup>4</sup> Yamhill County GIS floodplain data was used to identify lands in floodways and 100-year floodplains.

<sup>5</sup> Natural resource protection areas consist of wetlands, and stream corridors with 60-foot buffers. Yamhill County GIS wetlands data was used to identify wetland areas. Stream data from the City of Newberg and the Oregon Geospatial Data Library were also used, with a 60-foot buffer applied to include the required 50-foot riparian buffer and estimated 10-foot wide stream.

<sup>6</sup> Oregon Department of Geology and Mineral Industries (DOGAMI) Statewide Landslide Information Data for Oregon (SLIDO) data sets were used to identify lands with landslide hazards. DOWL included lands with "very high" or "high" susceptibility to landslides in the constrained areas.

<sup>7</sup> Lands with slopes over 25 percent are considered unsuitable for residential development. These areas were calculated using DOGAMI Light Detection and Ranging (LIDAR) data.

<sup>8</sup> Per GIS data provided by the City of Newberg.

<sup>9</sup> Section I (Housing), Policy 1(b).

<sup>10</sup> 2014-2018 American Community Survey

## 2.2 Water Service Methodology

To analyze the feasibility of water service to the remaining resource lands, elevations of these lands were compared to the water service zones identified in the City's Water Master Plan (WMP). Four service zones are identified in the WMP. The majority of the City falls within Zone 1. However, a small area can be served by the Oak Knoll pump station. This area is identified as Zone 2. Zone 3 consists of lands within the existing North Hills URA between 310 feet and 440 feet of elevation. Zone 4 consists of lands within the North Hills URA that are above 440 feet. Per the WMP, these lands are not expected to be served within the WMP's 20 year planning period, which extends through the year 2035.

DOWL's analysis used the same elevation bands to determine the feasibility of providing water service with adequate pressure to the various study areas. Lands below 310 feet are shown in Zone 1, and are capable of being served with adequate system pressure without the inclusion of additional pump stations or reservoir tanks. Lands above 310 feet but below 440 feet are shown in Zone 3 and are capable of being served with the addition of pumps and/or reservoir tanks to the City's water service system, with only certain areas being adjacent to improvements identified in the WMP. Lands above 440 feet are shown in Zone 4, and are not expected to be served within the planning period identified in the WMP. Additional discussion of each study area is included in Section 3.0 below and results are summarized in Table 1. Exhibit B identifies resource lands, exception lands, and constrained land within each study area. Exhibit C identifies the anticipated water service zone(s) for each study area.

Following the serviceability analysis for both gravity sanitary sewer and water services, the total acreage of resource lands that can be reasonably served by both was calculated and is summarized in Table 1 below. As shown, approximately 513 acres of resource land within the North A, East A, and Northwest B study areas can be reasonably served by sanitary sewer and water services. Exhibit C further identifies the lands that can be reasonably served by both sanitary sewer and water.

**Table 1: Summary of Reasonably Serviceable Resource Land Area**

Study Area	Total Resource Land Area, Gross (ac., approx.)	Resource Land Area Excluded due to Constraints (ac., approx.)	Resource Land Area Remaining (ac., approx.)	Combined Gravity Sanitary Sewer & Water Service Area (ac., approx.)
North A	488.89	166.83	322.06	126
North B	56.35	24.69	31.66	0
Northeast B	134.62	31.58	103.04	0
East A	539.08	79.54	459.54	262
Southeast B	294.09	75.08	219.01	0
Southeast C	99.88	6.03	93.85	0
Northwest A	390.73	44.23	346.5	0
Northwest B	273.13	15.69	257.44	125
<b>Total Area Reasonably Serviceable:</b>				<b>513 acres</b>

## 3.0 Technical Findings

### 3.1 North A

#### Sanitary Sewer

Portions of the North A study area are considered topographically constrained because of the elevation of the tributaries to Chehalem Creek, which precludes gravity sanitary sewer service. Topographically constrained lands would require a lift station or sanitary sewer siphon in order to provide service. In total,

approximately 155 acres of North A resource lands are gravity serviceable (see Map E of Exhibit C). Further, North A resource lands can only be served following the inclusion of Northwest B resource lands and the provision of a sewer service through these areas to the south.

## Water

Water service to the North A resource lands are limited by the existing elevations of the study area, with approximately 126 acres of land falling within Zone 1 and capable of being served by the existing system (see Map E of Exhibit C). Approximately 29 acres of land fall within Zone 3, and are capable of being served with the addition of reservoir tanks or pumps to the system, but the necessary adjacent improvements are not currently identified in the WMP, and these lands are not expected to be serviceable within the WMP's identified planning period (see Map E of Exhibit C). The remaining approximately 3 acres of land are above 440 feet and fall within Zone 4, with no expectation of service with the near future (see Map E of Exhibit C).

As identified in Table 1 and Map E of Exhibit C, approximately 126 acres of North A resource land can be reasonably served by both gravity sanitary sewer and water services and are, therefore, eligible for consideration as a URA.

### **3.2 North B**

As all North B resource lands are above 440 feet and fall within water service Zone 4, there is no expectation of water service within the near future per the WMP (see Map D of Exhibit C). Therefore, no portion of North B's resource lands are eligible for consideration as a URA.

### **3.3 Northeast A**

There are no resource lands within the Northeast A study area.

### **3.4 Northeast B**

## Sanitary Sewer

The entirety of the Northeast B study area is considered constrained due the elevation of Spring Brook, which crosses through the western portion of the study area, which precludes gravity sanitary sewer service. Topographically constrained lands would require a lift station or sanitary sewer siphon in order to provide service. The elevation of Spring Brook's thalweg is approximately 160 feet at the proposed sewer crossing, which is approximately 12 feet lower than the proposed connection point, which has an invert elevation of approximately 171.61 feet (see Map C of Exhibit C).

## Water

Water service to the Northeast B resource lands are limited by the existing elevations of the study area, with approximately 84 acres of land falling within Zone 1 and capable of being served by the existing system (see Map C of Exhibit C). Approximately 17 acres of land fall within Zone 3, and are capable of being served with the addition of reservoir tanks or pumps to the system, but the necessary adjacent improvements are not currently identified in the WMP, and these lands are not expected to be serviceable within the WMP's identified planning period (see Map C of Exhibit C). The remaining approximately 1 acre of land are above 440 feet and fall within Zone 4, with no expectation of service with the near future (see Map C of Exhibit C).

As identified in Table 1X and Map C of Exhibit C, there are no resource lands within the Northeast B study area that can be reasonably served by both gravity sanitary sewer and water services. Therefore, resource lands within the Northeast B study area were found to be ineligible for URA expansion consideration.

### **3.5 East A**

#### *Sanitary Sewer*

Portions of the East A study area are considered topographically constrained because of the elevation of Spring Brook, which crosses the western portion of the study area. Topographically constrained lands would require a lift station in order to provide service. The elevation of Spring Brook's thalweg is approximately 110 feet at the proposed sewer crossing, which is approximately 57 feet lower than the proposed connection point, which has an invert elevation of approximately 166.79 feet (see Maps A and B of Exhibit C). In total, approximately 242 acres of East A resource lands are gravity serviceable (see Maps A and B of Exhibit C). Area of East A resource land that are gravity serviceable include the entirety of the applicant's proposed URA expansion site.

#### *Water*

Water service to the East A resource lands are limited by the existing elevations of the study area, with approximately 242 acres of land falling within Zone 1 and capable of being served by the existing system (see Maps A and B of Exhibit C). Approximately 21 acres of East A resource land fall within Zone 3, approximately 20 acres of which fall within the applicant's proposed URA expansion site where elevations are above 310 feet. DOWL engineers have determined two possible approaches to providing water service to these areas:

1. Construction of a local Zone 2 area within the applicant's proposed URA expansion site with a dedicated pump system feeding an isolated portion of the water distribution system to service the higher elevation areas. While costs to develop this portion of the study area would be more expensive than lower areas that fall within Zone 1 (below 310 feet), it would ultimately be less expensive than a potential expansion of the City-wide Zone 3 network to serve this area of the study area, or other areas that require service from Zone 3 as identified through this memorandum.
2. Extension of the City's Zone 3 service area. The City's WMP anticipates future establishment of a Zone 3 service area which would be served by additional water lift stations and a future reservoir located at the higher elevations north of the City. Zone 3 could significantly expand the City's water service area. Based on the most recent WMP, all infrastructure for Zone 3 is planned to be located in northern parts of the City, generally northwest of Highway 99W. With the closest Zone 3 water main planned within NE Zimri Drive, approximately 2.5 miles northwest of the study area, extension of service from this source, while feasible, would be prohibitively expensive.

Given the option to construct a local Zone 2 service network within the applicant's proposed URA expansion site, which is considerably cheaper than extensions of the City's Zone 3 service area to locations where the WMP does not identify planned water service infrastructure, providing water service to these 20 acres is considerably more reasonable considering the area is also serviceable by gravity sanitary sewer.

As identified in Table 1 and Maps A and B of Exhibit C, approximately 262 acres of East A resource land can be reasonably served by both gravity sanitary sewer and water services and are, therefore, eligible for consideration as a URA.

### **3.6 East B**

There are no resource lands within the East B study area.

### **3.7 Southeast A**

There are no resource lands within the Southeast A study area.

### **3.8 Southeast B**

#### *Sanitary Sewer*

The entirety of the Southeast B study area is considered constrained due to topographical constraints which preclude gravity sanitary sewer service. Topographically constrained lands would require a lift station in order to provide service given Southeast B resource lands are below 170 feet and adequate grades do not exist to allow for gravity flow to the connection point (see Map A of Exhibit C).

#### *Water*

As none of the resource lands within the Southeast B study area are limited by existing elevations, and fall within Zone 1, the entirety of the study area (approximately 219 acres) is capable of being served by the existing water system (see Map A of Exhibit C).

As identified in Table 1 and Map A of Exhibit C, there are no resource lands within the Southeast B study area that can be reasonably served by both gravity sanitary sewer and water services. Therefore, resource lands within the Southeast B study area have been removed from further URA eligibility consideration.

### **3.9 Southeast C**

#### *Sanitary Sewer*

The entirety of the Southeast C study area is considered constrained due the elevation of Spring Brook, which crosses through the western portion of the study area, which precludes gravity sanitary sewer service. Topographically constrained lands would require a lift station in order to provide service. The elevation of Spring Brook's thalweg is approximately 110 feet at the proposed sewer crossing which is approximately 57 feet lower than the proposed connection point, which has an invert elevation of approximately 166.79 feet (see Map A of Exhibit C).

#### *Water*

Water service to the Southeast C resource lands are limited by the existing elevations of the study area, with approximately 90 acres of land falling within Zone 1 and capable of being served by the existing system (see Map A of Exhibit C). Approximately 4 acres of land fall within Zone 3, and are capable of being served with the addition of reservoir tanks or pumps to the system, but the necessary adjacent improvements are not currently identified in the WMP, and these lands are not expected to be serviceable within the WMP's identified planning period (see Map A of Exhibit C).

As identified in Table 1 and Map A of Exhibit C, there are no resource lands within the Southeast C study area that can be reasonably served by both gravity sanitary sewer and water services. Therefore, resource lands within the Southeast C study area have been removed from further URA eligibility consideration.

### **3.10 Southwest A, B, C, and D**

There are no resource lands within the Southwest A, B, C, or D study areas.

### **3.11 Northwest A**

#### *Sanitary Sewer*

The entirety of the Northwest A study area is considered topographically constrained because of the elevation of the tributaries to Chehalem Creek, which precludes gravity sanitary sewer service. Topographically constrained lands would require a lift station/sanitary sewer siphon in order to provide service.

## Water

As none of the resource lands within the Northwest A study area are limited by existing elevations, and fall within Zone 1, the entirety of the study area (approximately 347 acres) is capable of being served by the existing water system (see Maps E and F of Exhibit C).

As identified in Table 1 and Maps E and F of Exhibit C, there are no resource lands within the Northwest A study area that can be reasonably served by both gravity sanitary sewer and water services. Therefore, resource lands within the Northwest A study area have been removed from further URA eligibility consideration.

### **3.12 Northwest B**

#### Sanitary Sewer

Portions of the Northwest B study area are considered topographically constrained because of the elevation of tributaries to Chehalem Creek, which precludes gravity sanitary sewer service. Topographically constrained lands would require a lift station/sanitary sewer siphon in order to provide service. In total, approximately 125 acres of Northwest B resource lands are gravity serviceable (see Maps E and F of Exhibit C).

#### Water

As none of the resource lands within the Northwest B study area are limited by existing elevations, and fall within Zone 1, the entirety of the study area (approximately 258 acres) is capable of being served by the existing water system (see Maps E and F of Exhibit C).

As identified in Table 1 and Maps E and F of Exhibit C, approximately 125 acres of Northwest B resource land can be reasonably served by both gravity sanitary sewer and water services and are, therefore, eligible for consideration as a URA.

### **4.0 Soil Composition Analysis**

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In order to further assess eligibility of potential resource lands for consideration as a URA, areas of reasonably serviceable resource lands have been broken into five subareas for the purpose of analyzing soil composition and the presence of high-value farmland. The five subareas are provided below and are shown on Exhibit D:

- The applicant's proposed URA expansion site (approximately 92 acres, which excludes adjacent rights-of-way associated with NE Corral Creek Road and NE Fernwood Road that would be included within the proposed URA expansion site's boundaries);
- East A North, which includes reasonably serviceable resource lands within the East A study area that are generally located north of the proposed URA expansion site and south of Highway 99W (approximately 38 acres);
- East A South, which includes reasonably serviceable resource lands within the East A study area that are generally located south of NE Fernwood Road (approximately 136 acres);
- North A, which includes all reasonably serviceable resource lands within the North A study area (approximately 126 acres); and
- Northwest B, which includes all reasonably serviceable resource lands within the Northwest B study area (approximately 125 acres).



ORS 215.710 describes “high-value farmland” within the Willamette Valley as being land predominantly composed of Class I, II, III and IV soils. Using soil classification data provided by Yamhill County, each subarea’s soil composition by percentage of soil classification was determined as identified in Table 2 and shown on Exhibit D. As identified in Table 2, the two subareas with the lowest percentage of high-value farmland are the applicant’s proposed URA expansion site (94%) and the East A North subarea (92%). All other subareas are comprised of more than 98% high-value farmland.

Further, the applicant’s proposed URA expansion site is the only subarea that completely lacks Class I soils. Given the lower composition of high-value farmland, both the applicant’s proposed URA expansion site and the East A North subarea should be prioritized for consideration as a URA over other areas of reasonably serviceable resource land within the East A South, North A, and Northwest B subareas.

**Table 2: Soil Composition for Reasonably Serviceable Resource Land Areas**

Subarea	Soil Classification										High Value Farmland %
	Class I		Class II		Class III		Class IV		Class VI		
	Area (ac.)	%	Area (ac.)	%	Area (ac.)	%	Area (ac.)	%	Area (ac.)	%	
Proposed URA Expansion Site	0	0	58.2	63	12.3	13	16.4	18	5.6	6	94
East A – North	6.8	18	12.4	33	15.4	41	0.21	1	3.1	8	92
East A – South	6.9	5	96.2	71	30.3	22	0	0	2.4	2	98
North A	0.8	1	90.1	71	17.4	14	16.6	13	1.6	1	99
Northwest B	69.2	55	29.9	24	25.7	21	0	0	0	0	100

## 5.0 Conclusion

As concluded in the 2051 Buildable Lands Inventory & Lands Need Assessment, the City requires an addition of approximately 397 gross acres of buildable land within its URA to provide for a land supply to the year 2051, which falls within the 30-year land supply horizon (2055) allowed for URAs consistent with OAR 660-021-0030(1). After considering possible URA expansion(s) into exception lands, the City would continue to have a deficit of approximately 183.38 acres of land to satisfy land needs through 2051. Therefore, per OAR 660-0021-030(3)(c), the next appropriate step for the City is to consider resource lands to meet land needs for the 30 year planning horizon.

As identified in Table 1 and shown in Maps A through F of Exhibit C, approximately 513 acres of resource land within a one mile radius of the City’s UGB can be reasonably served by both gravity sanitary sewer and water services. As demonstrated within Table 2 and Exhibit D, the proposed URA expansion site (92 acres) and areas immediately to the north (East A – North subarea, 38 acres) have a lower overall composition of high-value farmland (Class I-IV soils); therefore, of the reasonably serviceable resource land areas, these two subareas, totaling approximately 130 acres, should be prioritized for consideration as a URA based on the reduced impact to high-value farmlands as compared to other reasonably serviceable resource lands.

As demonstrated in this memorandum and the existing URA expansion application record, the applicant’s proposal to include approximately 95.3 gross acres of resource land adjacent to the City’s current UGB is justifiable and appropriate under the provisions of OAR 660-021-0030 and is a prudent expansion of the City’s URA to ensure an adequate supply of land options for future City expansion. As further identified through this memorandum, there are no reasonable alternative sites that will have less impact on resource land because resource land is required to meet the identified land need as there is not a sufficient

supply of reasonably serviceable exception lands. In compliance with OAR 660-021-0030(2), the lands identified for URA consideration have the least effect upon resource land adjacent to Newberg.

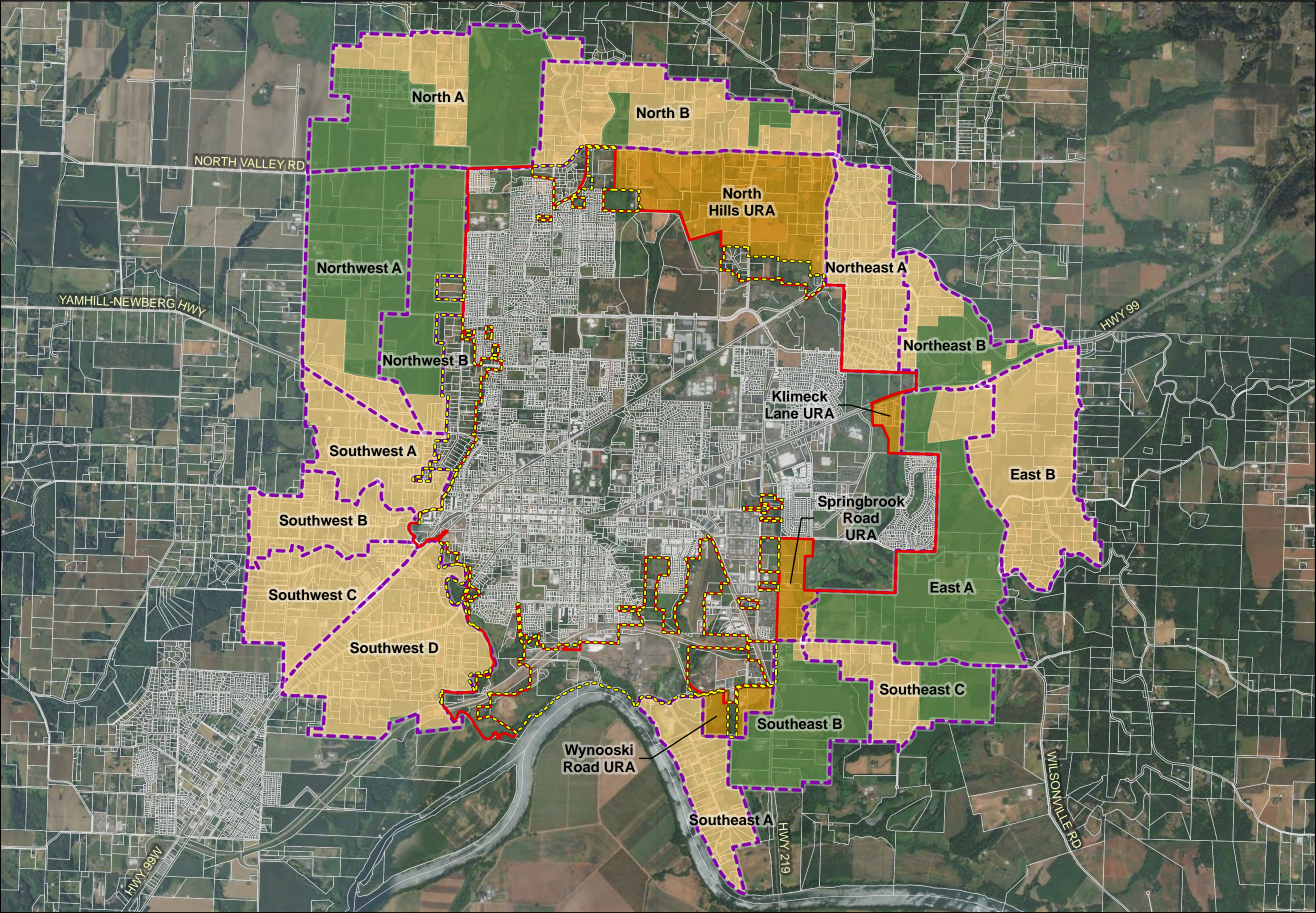
**Exhibits:**

- A. Study Area Map
- B. Study Area Constraints Maps
- C. Study Area Sanitary Sewer & Water Serviceability Maps
- D. Soil Composition Map for Reasonably Serviceable Resource Land Areas

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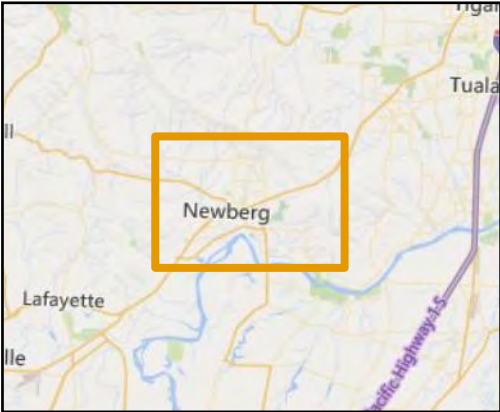
**EXHIBIT A**  
**Study Area Map**





**Legend**

- Study area
- Exception Areas within Study Area
- Resource Areas within Study Area
- Current Urban Reserve Area
- Urban Growth Boundary
- Newberg City Boundary
- Tax Lots



**DOWL**

0 1,500 3,000 6,000 Feet

North arrow pointing up.

Source: City of Newberg, DOGAMI SLIDO 3.2 database, DOWL calculations, Oregon Spatial Data Library, Oregon Spatial Explorer – statewide FEMA FIRM database, Yamhill County Assessor, Yamhill County Planning & Development; 2020.

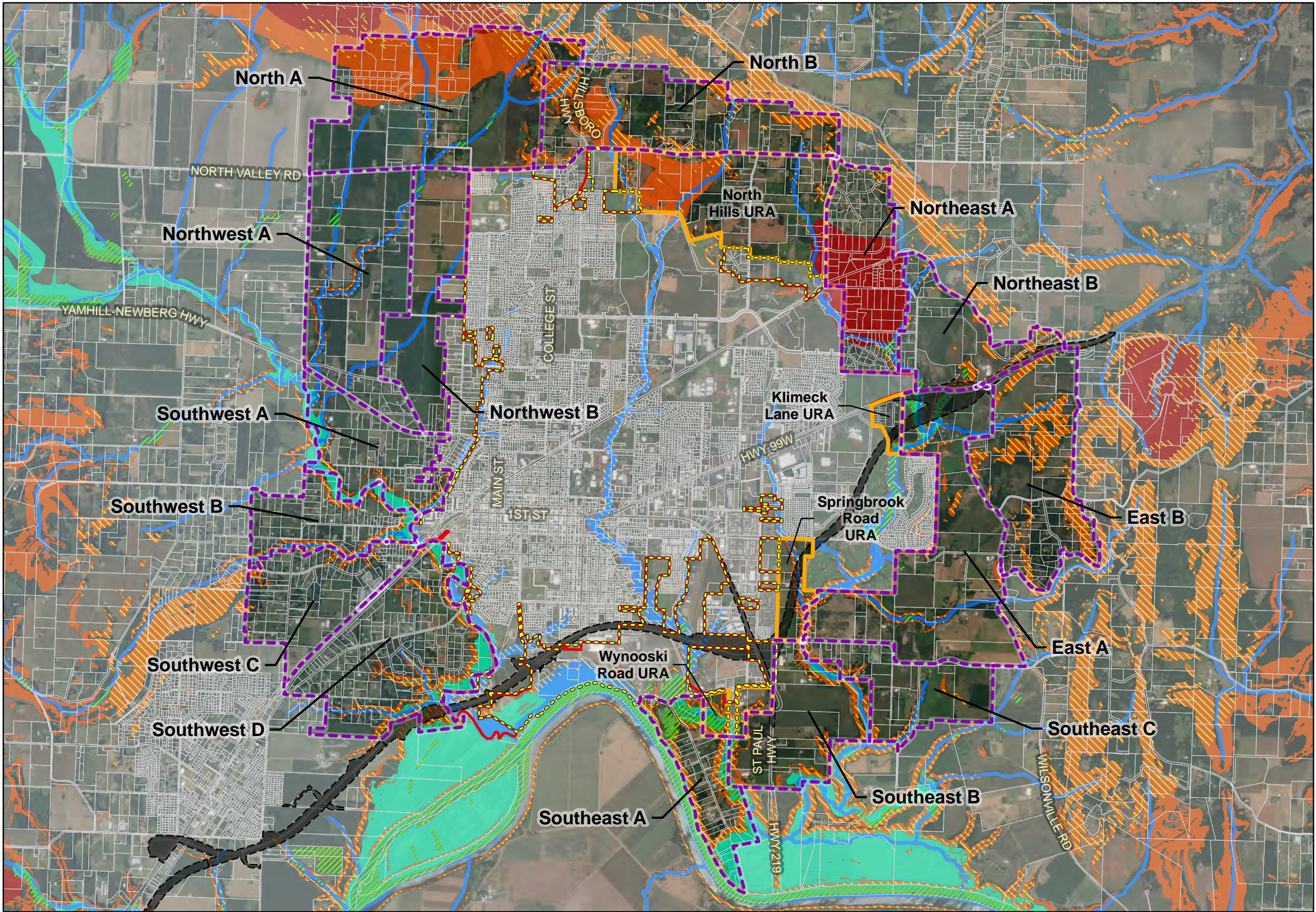
**Newberg Urban Reserves Area**  
**Map A: Comparative Site Analysis Study Area Map**



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**EXHIBIT B**  
**Study Area Constraints Map**





**Legend**

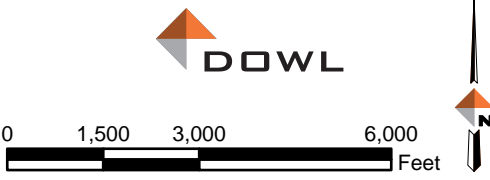
- Study area
- Current Urban Reserve Area
- Newberg City Boundary
- Urban Growth Boundary
- Tax Lots

**Constraints**

- Stream Corridor
- Floodplain
- Wetlands
- ODOT Bypass
- Slopes > 25%

**Statewide Landslide Susceptibility**

- High
- Very High



Source: City of Newberg, DOGAMI SLIDO 3.2 database, DOWL calculations, Oregon Spatial Data Library, Oregon Spatial Explorer – statewide FEMA FIRM database, Yamhill County Assessor, Yamhill County Planning & Development; 2020.

# Newberg Urban Reserves Area

## Map B: Buildable Lands Inventory Constraints Map

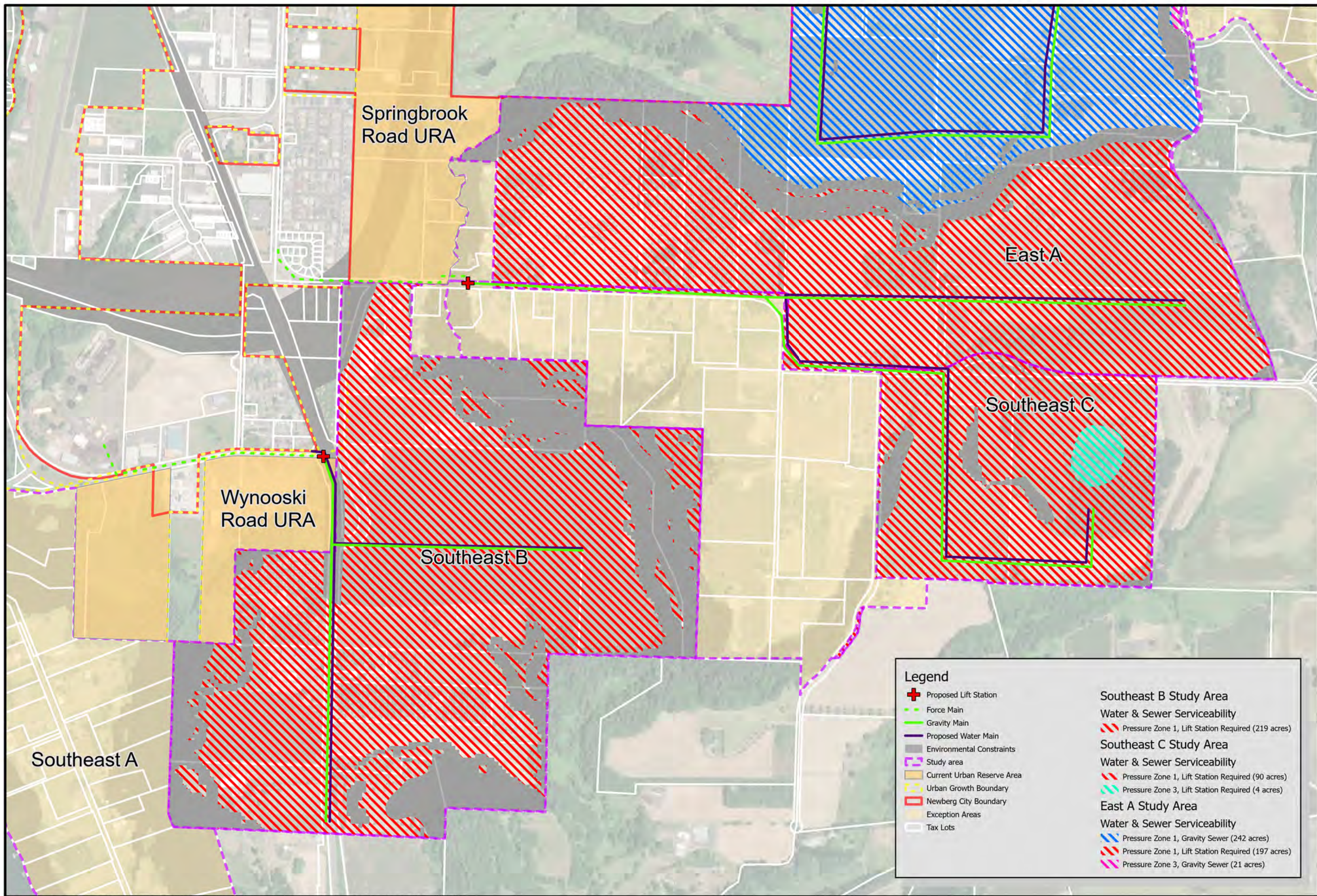


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## **EXHIBIT C**

### **Study Area Sanitary Sewer & Water Serviceability Maps**





**Newberg Urban Reserves Area**  
**Map A: Sanitary Sewer and Water Serviceability**  
**Analysis - Southeast B, C, & East A Study Area**

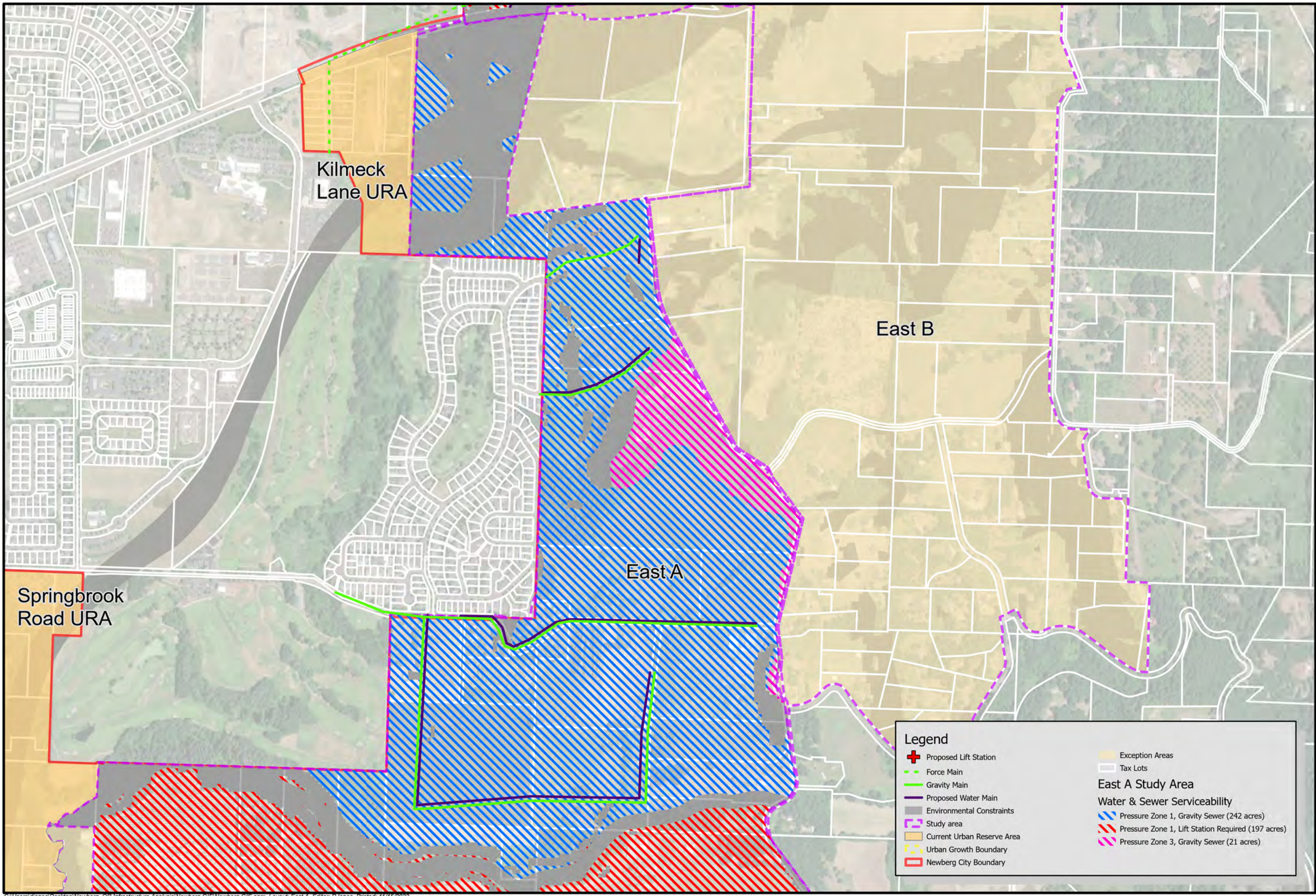
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1" = 750'

The data contained herein does not represent survey delineation and should not be construed as a replacement for the authoritative source. No liability is assumed by Farr West Engineering as to the sufficiency or accuracy of the data.





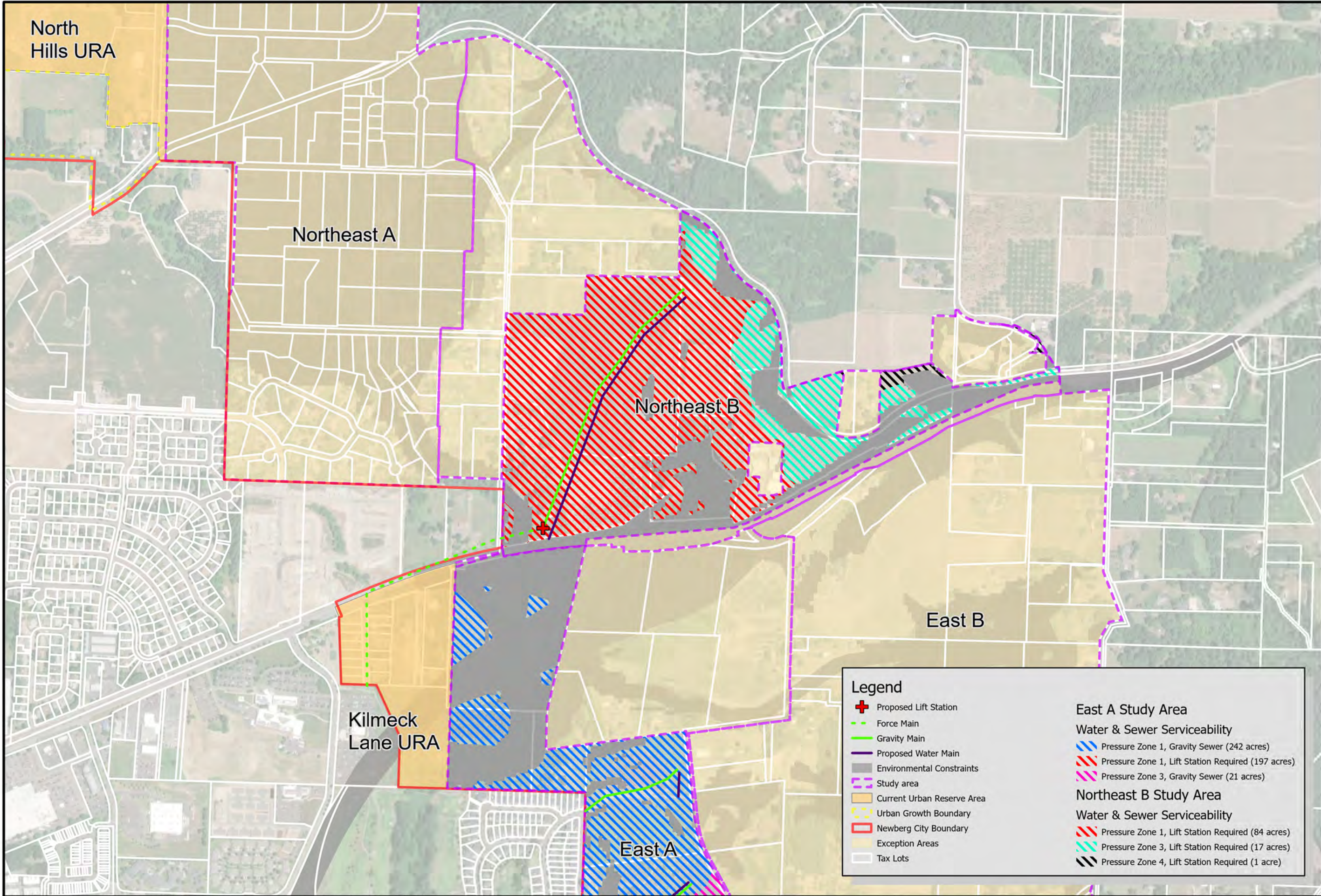
**Newberg Urban Reserves Area**  
**Map B: Sanitary Sewer and Water Serviceability**  
**Analysis - East A Study Area**



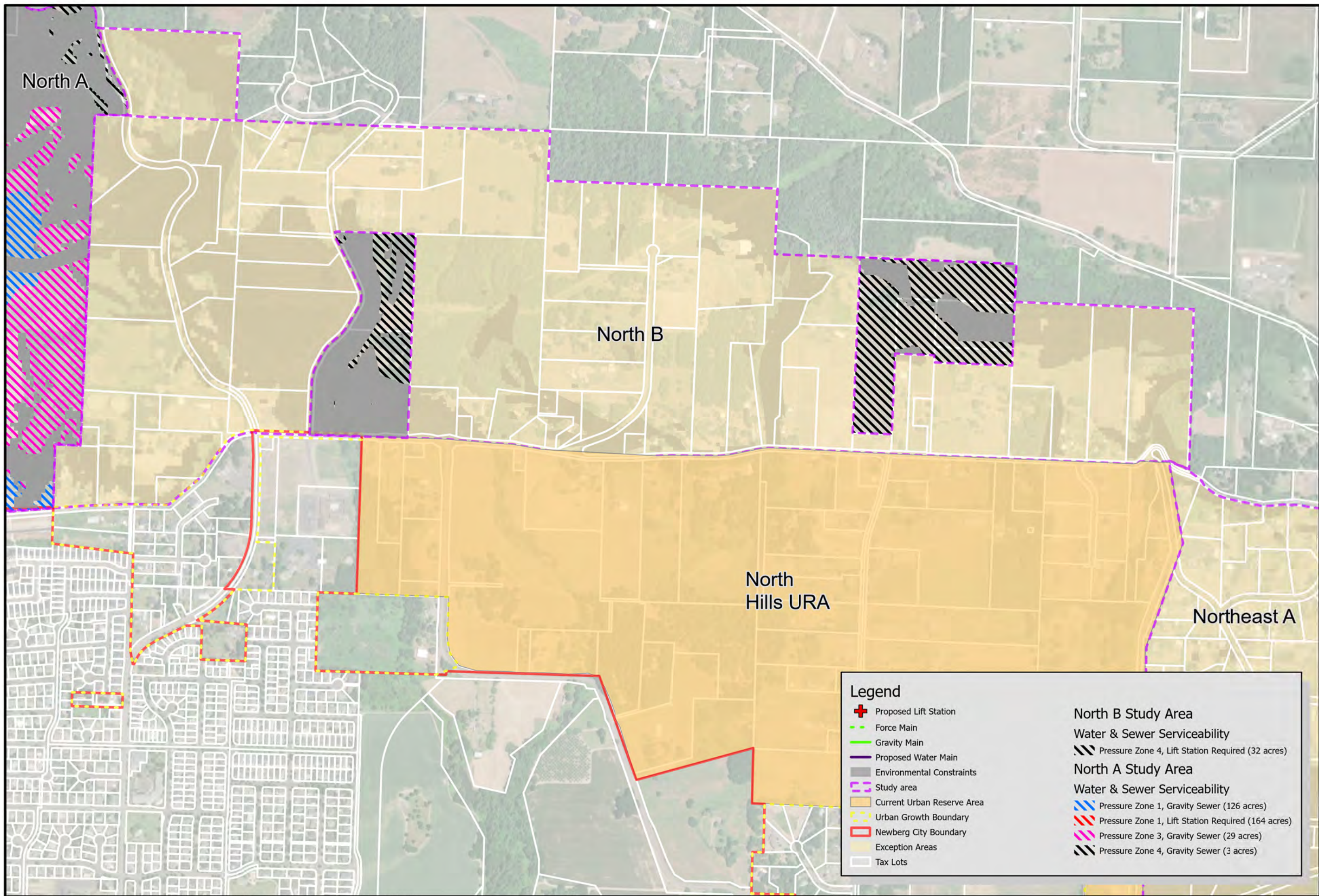
**1" = 750'**

The data contained herein does not represent survey delineation and should not be construed as a replacement for the authoritative source. No liability is assumed by Farr West Engineering as to the sufficiency or accuracy of the data.

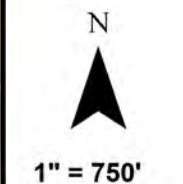








**Newberg Urban Reserves Area**  
**Map D: Sanitary Sewer and Water Serviceability**  
**Analysis - North B Study Area**



The data contained herein does not represent survey delineation and should not be construed as a replacement for the authoritative source. No liability is assumed by Farr West Engineering as to the sufficiency or accuracy of the data.

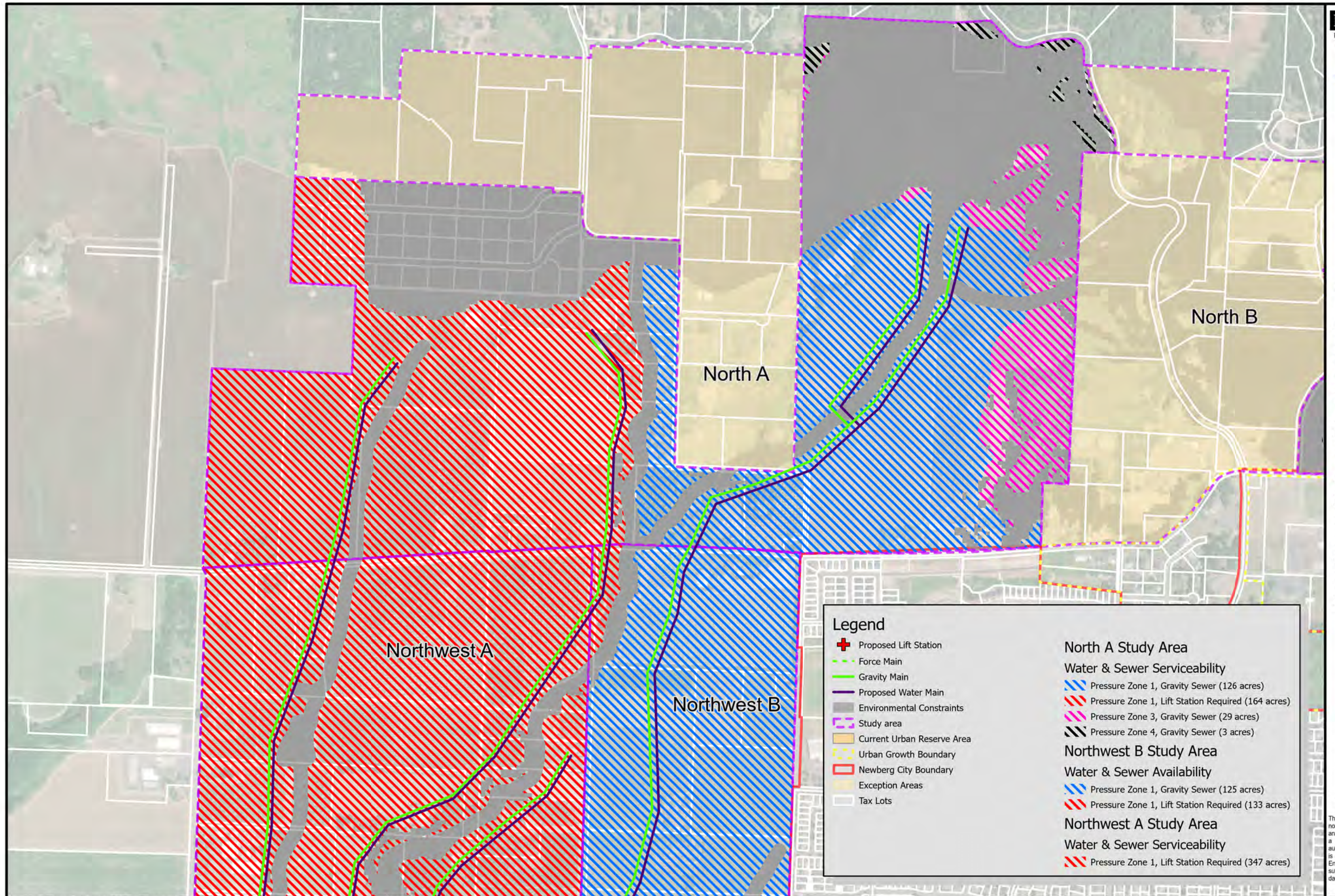


**Newberg Urban Reserves Area**  
**Map E: Sanitary Sewer and Water Serviceability**  
**Analysis - North A, Northwest A & B Study Area**

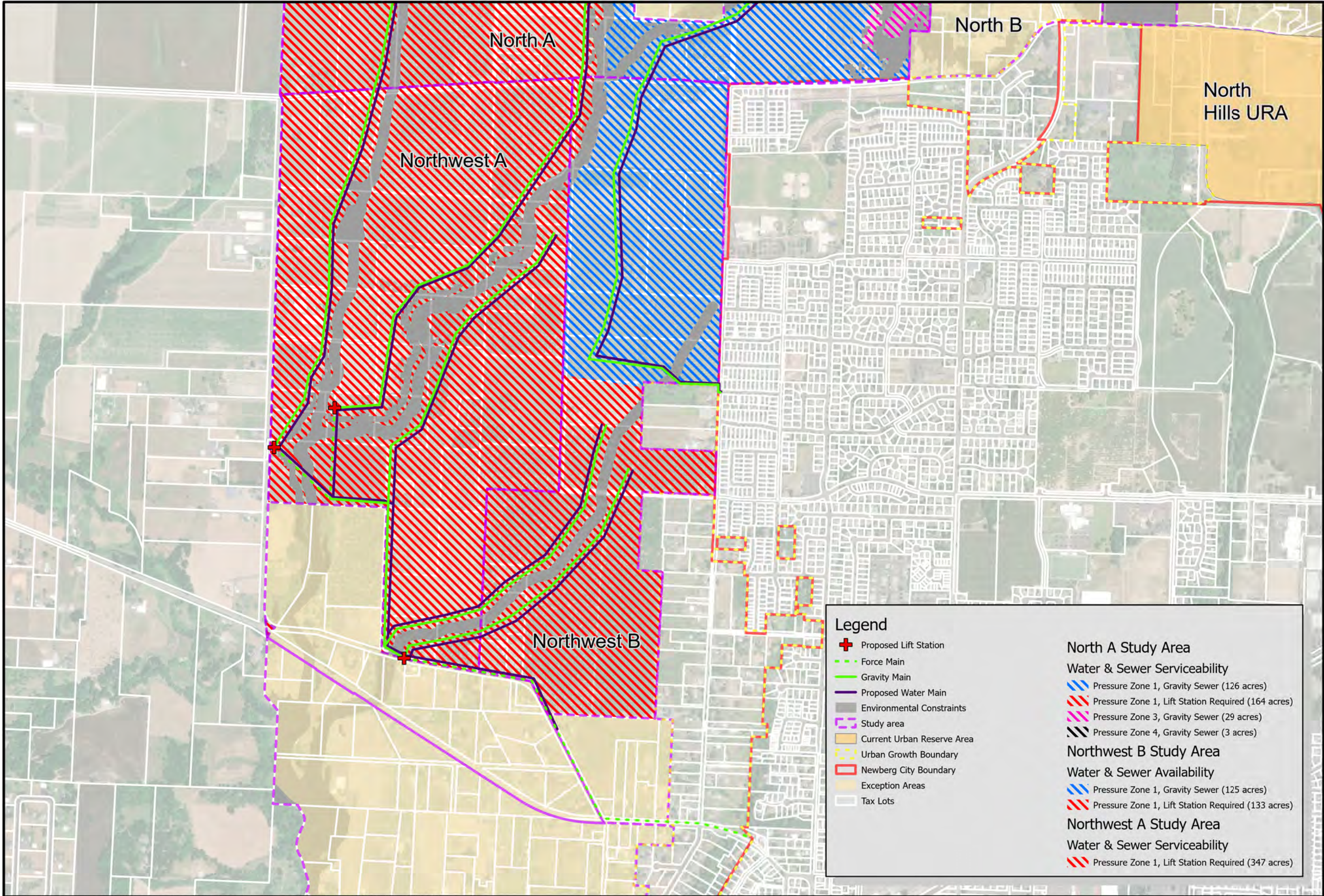


1" = 750'

The data contained herein does not represent survey delineation and should not be construed as a replacement for the authoritative source. No liability is assumed by Farr West Engineering as to the sufficiency or accuracy of the data.







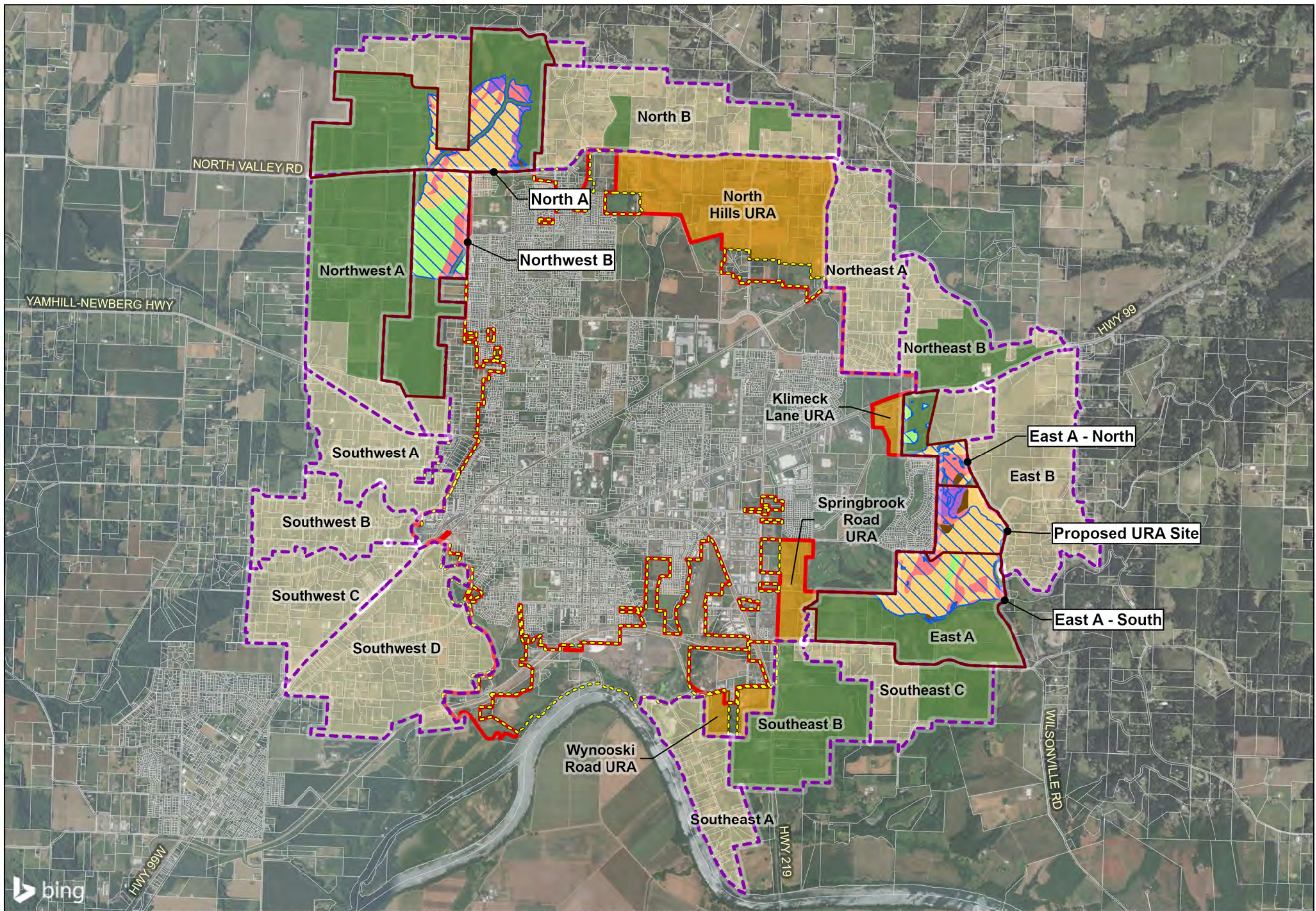


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## **EXHIBIT D**

### **Soil Composition Map for Reasonably Serviceable Resource Land Areas**





**Legend**

- Study Area
- Tax Lots
- Current Urban Reserve Area
- Urban Growth Boundary
- Resource Areas
- Exception Areas
- Sanitary Sewer and Water Availability
- Area Boundary

**Soil Classification**

- I
- II
- III
- IV
- VI



**DOWL**

0 1,500 3,000 6,000 Feet

Source: City of Newberg, DOGAMI SLIDO 3.2 database, DOWL calculations, Oregon Spatial Data Library, Oregon Spatial Explorer – statewide FEMA FIRM database, Yamhill County Assessor, Yamhill County Planning & Development; 2020.

# Newberg Urban Reserves Area Sanitary Sewer and Water Serviceable Resource Areas - Soil Classification