



City of Sandy

URBAN GROWTH BOUNDARY EXPANSION ANALYSIS

Prepared by the City of Sandy
Planning Department

Final Report

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Overview of Report

This report is the second part of the Urbanization Study adopted by the Sandy City Council in February, 2015 (Ordinance 2015-01). The 2015 Urbanization Study identified a need for additional residential and employment lands to meet the projected demand for the next twenty years (2014-2034). The purpose of the current study is to detail how the City of Sandy plans to address the identified land need and to identify where the city's urban growth boundary (UGB) will be expanded in compliance with Statewide Planning requirements. The study examines twenty analysis areas to identify possible expansion areas and recommends a single preferred expansion alternative. The maps contained in this study are based on information received from Clackamas County dated, January 2016.

Regulatory Framework

The State of Oregon, Clackamas County, and the City of Sandy all have policies and rules to direct when, where, and how to expand the UGB. The following lists the various pieces of this regulation framework.

▪ State of Oregon

- Goal 9: Economic Development
Oregon Administrative Rule, Division 9
- Goal 10: Housing
Oregon Administrative Rule, Division 8
- Goal 14: Urbanization
Oregon Revised Statute 197.298: Priority of land to be included within UGB
Oregon Administrative Rule 660 Division 24, Urban Growth Boundaries
- Oregon Administrative Rules 660-024

▪ Clackamas County

- Clackamas County Rural Comprehensive Plan
- Urban Growth Management Agreement (between Clackamas County and Sandy)

▪ City of Sandy

- Sandy Comprehensive Plan
- Local Factors

Need for Expansion

Statewide Planning Goals require cities to provide a twenty-year supply of buildable land within urban growth boundaries. As identified on Table S-7 of the adopted Urbanization Report, the city has an identified need for an additional 276.8 buildable acres of low density residential land, 4.5 buildable acres of medium density residential land, and 51.8 buildable acres of commercial land. This study also identified a surplus of land to accommodate the projected need in the high density residential and industrial comprehensive plan designations.

Organization of the Report

The report is organized into four chapters and three appendices. Maps associated with the study are included at the end of each chapter as referenced in the report. The following provides a summary of the chapters and appendices included in this study and how they address and relate to the expansion analysis:

Chapter 1 – Study Background, identifies the preliminary study area and explains how the study area used in this report was derived. This chapter also summarizes state law and local policies related to expanding the UGB.

Chapter 2 – Study Area Analysis, describes the methodology used to evaluate all properties within the identified study area. The chapter starts by describing each of the evaluation factors used in the analysis and then provides a detailed analysis of each of the 20 analysis areas used in this study.

Chapter 3 – Expansion Alternative, details the recommended UGB expansion alternative including recommendations for modifications within the existing UGB.

Chapter 4 – Expansion Alternative Justification and Findings, reviews relevant state laws and administrative rules related to the proposed expansion alternative and provides legal findings to address applicable Statewide Planning Goals.

Appendix A – Property Evaluation Scores, presents the property evaluation scores for all properties in the study area.

Appendix B – Evaluation of Sanitary Sewer and Water Serviceability, presents the detailed water and sewer serviceability analysis completed by the City Engineer used to evaluate the cost of providing these services.

Appendix C – Review of Public Involvement and Comments, provides a review of public involvement and comments received during development of the recommendations in this document.

Appendix D – Transportation Analysis of Proposed Rezoning, contains a memorandum prepared by the City's Traffic Consultant, Replinger and Associates, analyzing the potential traffic impacts of the proposed rezoned properties.

Chapter 1. Study Background

2015 Urbanization Analysis Summary

The 2015 Urbanization Study found that Sandy needs land for approximately 3,180 new dwelling units between 2014 and 2034. As currently configured the existing 2,436 acre Urban Growth Boundary (UGB) is estimated to provide the capacity to accommodate only 2,293 dwelling units during that time period, leaving a shortfall of 887 dwelling units. This study also found that Sandy needs land for approximately 3,719 new employees between 2014 and 2034, leaving a deficit in commercial employment lands.

Table 1.1 shows an estimate of land needs by land-use type within the existing UGB for the planning period as determined in the 2015, Urbanization Study.

Table 1.1: Estimate of Land Needs by Land Use Type, 2014-2034

Land Use Type	Gross Acres Land Need Surplus (deficit)
Low Density Residential	(276.8)
Medium Density Residential	(4.5)
High Density Residential	13.9
Commercial	(51.8)
Industrial	45.0
Total Land Needs	(333.1)

- Land Deficits: 276.8 acres of low density residential, 4.5 acres of medium density residential, and 51.8 acres of commercial land (45.7 acres of retail/service land, and 6.1 acres of government land).
- Land Surplus: 13.9 acres of high density residential and 45.0 acres of industrial land.

Identify Preliminary Study Area

OAR 660-024-0065 requires cities to establish a “preliminary study area” prior to evaluating alternative locations to include within a “study area”. The preliminary study area is required to include the following:

- All lands in the city’s existing urban reserve boundary, if any;
- All lands within one mile of the UGB (cities with a UGB population equal to or greater than 10,000); and,
- All exception lands (rural residential, commercial, and industrial lands) greater than one and one-half miles from the UGB (cities with a UGB population equal to or greater than 10,000) that are contiguous to an exception area within the one mile distance identified above.

Map 1 shows the preliminary study area based on the requirements of this administrative rule. The preliminary study area contains approximately 10,760 acres of which 2,290 acres are located in the city's adopted Urban Reserve Area (URA). As shown on this map, exception lands are scattered around the perimeter of the URA with the greatest concentration of these lands located in the eastern and northern regions of the preliminary study area.

Evaluation of Preliminary Study Area

OAR 660-024-0065 (2) allows a city that "initiated the evaluation or amendments of its UGB prior to January 1, 2016" to choose to identify a preliminary study area by applying the standard described above. This section specifies for such cities that the preliminary study area shall consist of, "all land in the city's acknowledged urban reserve..." The city of Sandy initiated the evaluation of its UGB by sending a PAPA notice to the Department of Land Conservation and Development in October 2014 and adopting an Urbanization Study in February, 2015. The city also has an urban reserve boundary acknowledged in 1997. The city believes it clearly meets the requirements of Section (2) and prefers using the acknowledged Urban Reserve Area as the study area.

If a city does not qualify for this exclusion or chooses not to identify its study area according to Section (2) described above, OAR 660-024-0065 (4) and (7) allows cities to exclude certain lands from the preliminary study area based on the following factors:

- Land that is subject to significant development hazards including landslides and flooding;
- Land that is impracticable to provide necessary public facilities or services;
- Land that is isolated from existing service networks by physical, topographic, or other impediments that makes servicing such land impracticable within the 20 year planning period;
- Land that is isolated by major rivers or water bodies that would require new bridge crossings to serve urban development;
- Land with topographic features such as canyons or ridges with slopes exceeding 40 percent and vertical relief of greater than 80 feet; and,
- Land with significant scenic, natural, cultural or recreational resources.

In order to determine which lands should be excluded from the preliminary study area, Map 2, Evaluation of Preliminary Study Area, was prepared. This map contains all lands identified in the Preliminary Study Area in addition to the following GIS layers: Landslide Deposit and Scarp Flanks (DOGAMI), Slopes 25 percent or greater (Clackamas County), Stream and Waterbodies (Clackamas County), and the location of BPA easements (BPA).

Map 2 shows that properties to the east of the existing UGB are characterized by landslide deposits, significantly steep slopes and the Sandy River which severely limit development potential in this area. Properties in this area contain significant development hazards, potential flooding from the Sandy River, potential bridge crossings to access these properties, significant scenic and natural resource amenities, and severe limitations to providing public facilities. For these reasons all properties outside the existing Urban Reserve in the eastern portion of the preliminary study area have been excluded from the final study area.

Properties to the south of the UGB are bisected by a number of drainages including Tickle Creek and its tributaries and the tributaries of Deep Creek that flow in a generally northwesterly direction. This area is also bisected by a BPA powerline easement and landslide deposits that extend across the majority of exception lands in this area. The southwestern portion of the preliminary study area is also bisected by the BPA powerline easement and landslide deposits which severely limit development potential in this area. The south and southwestern portions of the preliminary study area are also impracticable to serve with sanitary sewer within the planning period due to topographic limitations relative to existing infrastructure. Due to the considerable distance from existing facilities and the noted development hazards, all lands outside the Urban Reserve Area in the southern and southwestern portions of the preliminary study area have been excluded from the final study area.

The northern portion of the preliminary study area does not contain the same topographic and natural resource constraints as the other areas of the preliminary study area. This area is bisected by a BPA powerline easement and as shown on Map 11, it also contains a high concentration of large lot EFU zoned properties. Because of its relative gentle slopes, this area contains some of the most productive farm land within the entire preliminary study area. Other features located just outside the URA include the Ever Fresh Fruit Company recently expanded corporate headquarters and processing facility and a large existing residential subdivision (Mountain Shadows). The location of existing sanitary sewer service within the existing city limits provides a limiting factor due to the high cost of serving development in the northern area. With these factors in mind, all areas outside the URA in the northern portion of the preliminary study area have been excluded from the final study area.

Sandy River Park

OAR 660-024-0065 (3) allows cities to limit the study area if the primary purpose is to accommodate a specific public facility such as a park and only a small number of locations in the preliminary study area exist to accommodate this need. The Sandy River Park located directly to the east of the existing UGB is one such area. The city of Sandy purchased this 114.5 acre passive recreation park in 2003. The site characteristics of this property are unique in the Preliminary Study Area in that the location of this property allows for public pedestrian access from the city proper to the Sandy River. In May 2012, the voters of the city of Sandy approved annexation of this property and subsequently the property was zoned Parks and Open Space (POS) by the Sandy City Council restricting the area from further development. The City Council adopted a master plan for the Park on May 7, 2012.

Final Study Area

Based on the preliminary study area adjustment factors allowed in Sections (4) and (7) and the public parkland allowance in Section (3), a Final Study Area was identified as shown on Map 3. Section (5) requires the city to adjust the study area, if necessary, so that it includes an amount of land at least twice the amount needed to meet the identified deficiency. The study area identified in this study includes all lands within the existing URA and the Sandy River Park property and contains about 2,417 acres, approximately seven times the needed area of 333.1 buildable acres. The final study area used in the study contain a sufficient area to meet the

identified need with the planning period. The conceptual Comprehensive Plan designations adopted during the city's 2040 Plan Update are shown on this as a guide in developing a preferred alternative.

Study Area Evaluation

As outlined in OAR 660-024-0067, the next step in the process is to evaluate the suitability of all lands within the study area for inclusion in an expanded UGB. As noted above, the study area contains all land within the city's currently adopted URA and the Sandy River Park. The Sandy River Park property and a few properties between the park and the existing UGB are included in the study area, however because this area cannot be developed except for passive recreation these properties are not included as contributing to meeting the projected need. As described in detail in the next chapter, the entire Final Study Area except for the Sandy River Park was divided into smaller units of land referred to in the study as "analysis areas".

The following definitions are used throughout the remainder of this study:

- **Urban Reserve Area (URA):** The area outside the current UGB and within the adopted urban reserve boundary. The City adopted its urban reserve boundary during the 2040 Comprehensive Plan Update in 1997 (Ordinance 10-1997 adopted October 20, 1997).
- **Analysis Areas:** A grouping of tax lots and properties sharing similar characteristics and geographic proximity used in this study to evaluate the suitability of land for inclusion into the UGB.
- **Preferred Alternative:** Parcels proposed to be included in an expanded UGB including changes to comprehensive plan and zoning designations of parcels in the existing UGB to meet the identified need.

Goal 14 Location Factors

OAR 660-024-0067 details the process for evaluating land in the Final Study Area to be included in the expanded UGB. Subsection (1)(c) states, "if the amount of suitable land in a particular priority category under section (2) exceeds the amount necessary to satisfy the need deficiency, the city must choose which land in that priority to include in the UGB by applying the criteria in section (7) of this rule". Section (7) requires the city to apply the boundary location factors of Goal 14 and then apply applicable criteria in the city's Comprehensive Plan and land use regulations. As noted above, the identified study area contains more than seven times the land area required to satisfy the identified need.

The four Goal 14 location factors for evaluating properties to include in the expanded UGB include:

- Factor 1. Efficient accommodation of identified land needs;
- Factor 2. Orderly and economic provision of public facilities and services;
- Factor 3. Comparative environmental, energy, economic and social consequences; and,
- Factor 4. Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.

OAR 660-024-0067(2) identifies the priority of land for inclusion in a UGB. This includes in order of preference:

1. Urban reserve, exception land, and nonresource land;
2. Marginal lands designated pursuant to ORS 197.247;
3. Farm and forest land; and,
4. Agricultural land.

Sandy Comprehensive Plan Policies

The Sandy Comprehensive Plan is the primary local policy document guiding expansion of the UGB. The relevant policies of this document are listed below.

Goal 5 - Open Spaces, Historic Resources, and Natural Resources

Natural Resources

2. *Significant natural features within the planning area shall be identified and inventoried by the City or through the development process. These shall include:*
 - *major natural drainageways, wetlands, and flood plains*
 - *lands abutting the Sandy River*
 - *land with significant native vegetation*
 - *ecologically and scientifically significant natural areas*
 - *outstanding scenic views; and*
 - *lands that provide community identity*
3. *Natural features and areas determined to be significant shall be preserved or have their losses mitigated. The City may place conditions upon development of such lands, private non-profit efforts, and city, state, and federal government programs to achieve this objective.*

Open Space Policies

6. *Identify and inventory open space corridors within the Sandy urban growth area. Open space shall include lands useful for fish and wildlife habitat, trails, public access to natural resource lands and water, and protection of environmentally sensitive areas. Wherever possible, open space areas identified for protection shall be preserved through the application of constrained open space standards, through conservation easements, or through other similar methods.*

Stream Corridor Protection Policies

11. *Designate and map approximate areas of known stream corridors, wetlands, and associated buffers.*
13. *Require activities which use stream corridors and associated buffers to be compatible with the preservation of stream corridor functions and values. These activities include, but are not limited to, private and public development, recreation, and surface water management.*

14. *Allow development density on parcels constrained by stream corridors and associated buffers to be transferred to other portions of the development site or to immediately adjacent sites, but only for that portion of the site which is permanently dedicated as open space.*

Goal 7 – Natural Hazards

1. *Designate and map areas of steep slopes (25% or greater) and other known hazard areas.*
2. *Require development and construction activities which occur on steep slopes, hazard sites, and their required buffers to be in accordance with development standards for such sensitive areas.*
3. *Allow development density on parcels constrained by steep slopes or hazard areas to be transferred to other portions of the development site or to immediately adjacent sites, but only for that portion of the site which is permanently preserved as open space.*

Goal 9 – Economic Development

Commercial

1. *The City of Sandy shall ensure, at each periodic review, an adequate supply of land to meet the forecast 20-year commerce and service needs of the city's residents and trade area.*

Goal 10 - Housing

1. *Assure an adequate supply of developable land for low, medium, and high density housing to meet the 20-year population projections.*

Goal 11 - Public Facilities and Services

Utilities

6. *Annex no lands that cannot feasibly be served with water and sewer services.*
7. *Prohibit the use of new sanitary sewage pump stations unless:*
 - a) *Gravity sewer cannot be extended to serve the site for site-specific reasons such as topography or other physical constraints; or*
 - b) *The site is located within a drainage basin identified in the Sandy Sewer Master Plan as an area to be served with public pump stations.*

Goal 12 - Transportation

1. *Support a pattern of connected streets, sidewalks, and bicycle routes to: a) provide safe and convenient options for cars, bikes, and pedestrians; b) create a logical, recognizable pattern of circulation; and, c) spread traffic over local streets so that collector and arterial streets are not overburdened.*

Goal 14 – Land Use and Urbanization

Urbanization Policies

1. *Maintain an urban growth boundary with sufficient residential, commercial, industrial, and public use lands necessary to support forecast population and employment for a 20-year horizon. The City will evaluate and update the 20-year land supply at each periodic review plan update.*
2. *Urban growth should be directed in a generally contiguous manner consistent with the city's ability to economically maintain and extend public services and facilities.*
3. *The City of Sandy shall encourage the development of land according to the following priorities:*
 - a) *Vacant, buildable lands or underutilized lands located within developed or developing areas.*
 - b) *Lands contiguous to development areas where services can be easily and economically extended.*
 - c) *Lands which are significantly separated from developing areas by vacant land, or areas which would place an undue burden on the city's infrastructure.*

Coordination with Clackamas County

4. *An Urban Growth Boundary (UGB) and Urban Reserve Area (URA) shall be jointly adopted by the City of Sandy and Clackamas County. Procedures for coordinated management of the unincorporated lands within the UGB and URA shall be specified in an intergovernmental agreement adopted by the Sandy City Council and the Clackamas County Board of Commissioners.*
5. *The designated URA identifies the priority lands to include within the Sandy UGB to meet projected growth needs to the year 2040.*
6. *Designated URA lands will be considered for inclusion within the UGB on a phased basis, primarily at periodic review. Legislative amendments to the UGB shall be large enough to facilitate cohesive neighborhood framework planning and efficient provision of public facilities. Property owners inside the urban reserve boundary were given the opportunity to request that land within the designated URA be included or excluded from the Sandy UGB expansion alternative.*
7. *The City of Sandy shall have the lead role in designating planned land uses and densities for incorporated and unincorporated lands within the UGB and the URA. The Comprehensive Plan shall constitute the comprehensive plan for all land within the Urban Growth Boundary and Urban Reserve Area.*
8. *The City of Sandy shall have the lead role in coordinating public facility planning (streets, sanitary and storm sewers, water, parks and open space, schools) within the UGB and the URA.*
9. *County zoning shall apply to unincorporated lands within the UGB and URA until annexation to the City of Sandy.*
10. *The City of Sandy shall coordinate with Clackamas County to protect trees on property that is outside the City limit but within the City's UGB.*

11. *Clackamas County shall have the lead role in processing land use and development applications for unincorporated lands within the UGB and URA.*
12. *The City of Sandy will support development within the areas outside the city limits but within the Sandy Urban Growth Boundary or Urban Reserve Area based on the following standards and restrictions:*
 - a) *County zoning in effect at the time of adoption of the Urban Reserve Area will be frozen until the unincorporated land is included within the UGB and annexed for urban development.*
 - b) *New commercial and industrial uses will generally be discouraged outside the City limits and within the UGB or within the Urban Reserve Area.*
 - c) *Agricultural and forest uses will be allowed in accordance with Clackamas County zoning.*
 - d) *The City and County shall coordinate plans for interim rural residential development within the designated Urban Reserve Area. The following strategies will be used to ensure that interim rural development does not inhibit long-term urbanization of lands within the Sandy UGB and Urban Reserve Area:*
 - 1) *shadow plats*
 - 2) *cluster development*
 - 3) *redevelopment plans*
 - 4) *non-remonstrance agreements or deed restrictions for annexation and provision of urban facilities*

Clackamas County and the City of Sandy UGMA

The Urban Growth Management Agreement (UGMA) jointly adopted by Clackamas County and the City of Sandy in 2001 contains language related to the UGB and URA.

IV. Boundaries

- C. *Amendments to the City's and County's Comprehensive Plans which modify the Urban Growth Boundary or Urban Reserve Area shall be deemed incorporated into this Agreement. An amendment proposed to the City's UGB or URA shall be a coordinated city-county effort with adoption by both city and county. The county shall not consider adoption of any City UGB or URA amendment unless adopted by the city first. The city shall be responsible for initiating all legislative amendments.*

Efficiency Measures in Existing UGB

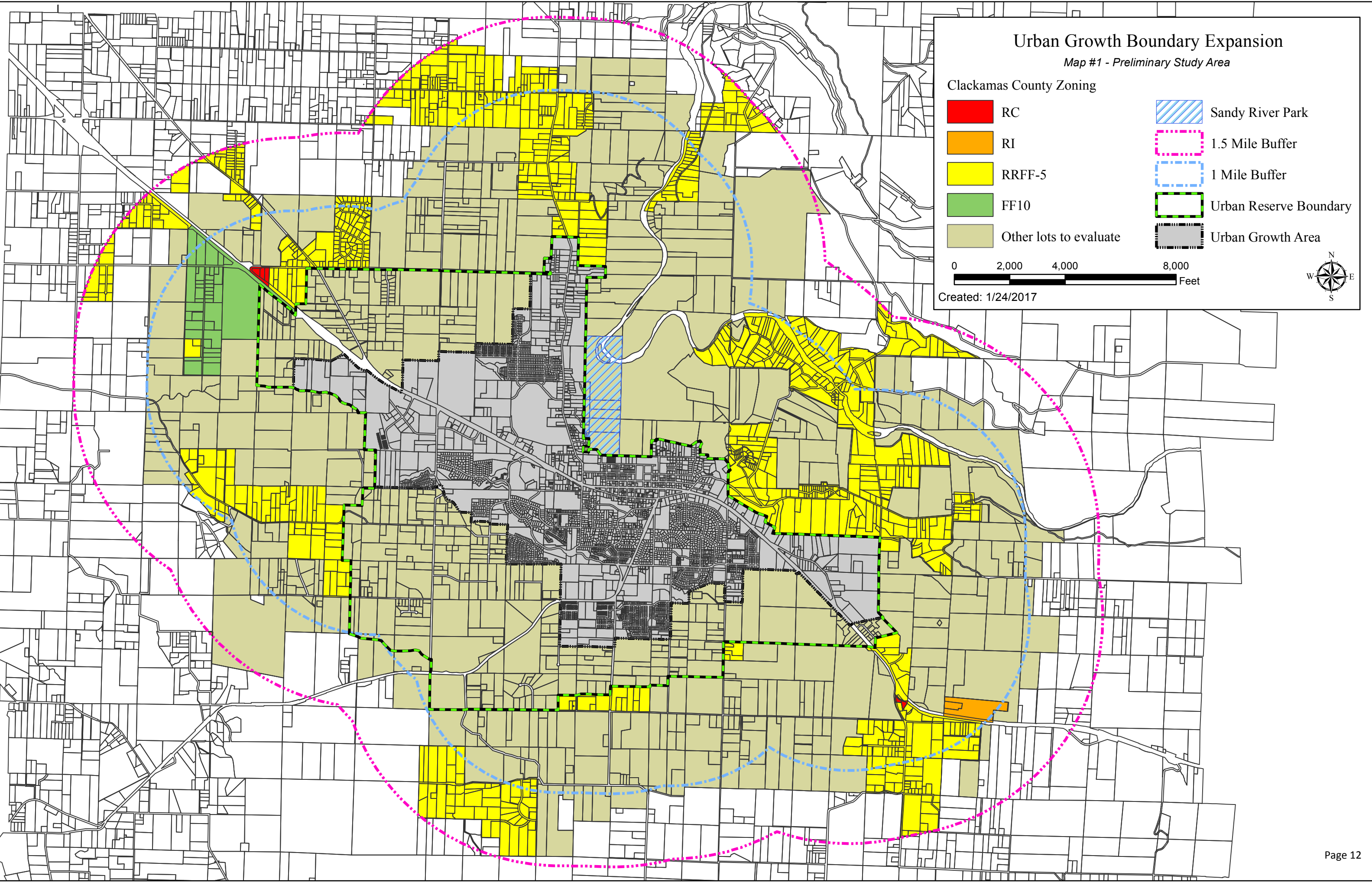
One of the organizing principles of Oregon's land use planning system is an emphasis on using land within the UGB more "efficiently" before expanding the urban growth boundary. Land use efficiency measures can address multiple issues including: meeting housing needs, utilizing existing infrastructure, conserving energy, as well as other local objectives. ORS 197.296 contains a variety of land use efficiency measures, including the following:

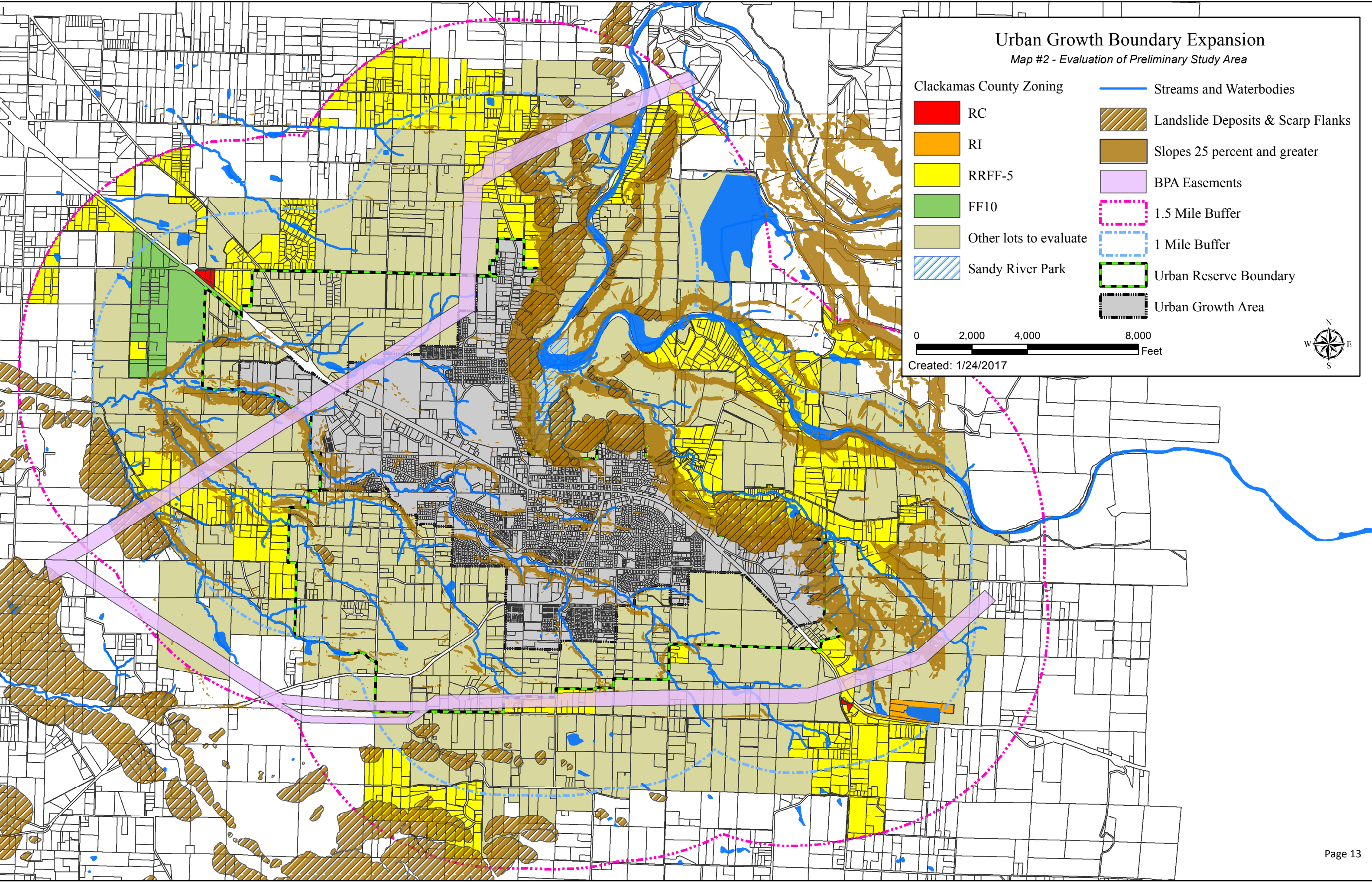
1. Increase permitted densities in residential zones
2. Provide financial incentives for higher density housing
3. Permit additional density beyond that generally allowed in the zoning district in exchange for amenities and features provided by the developer

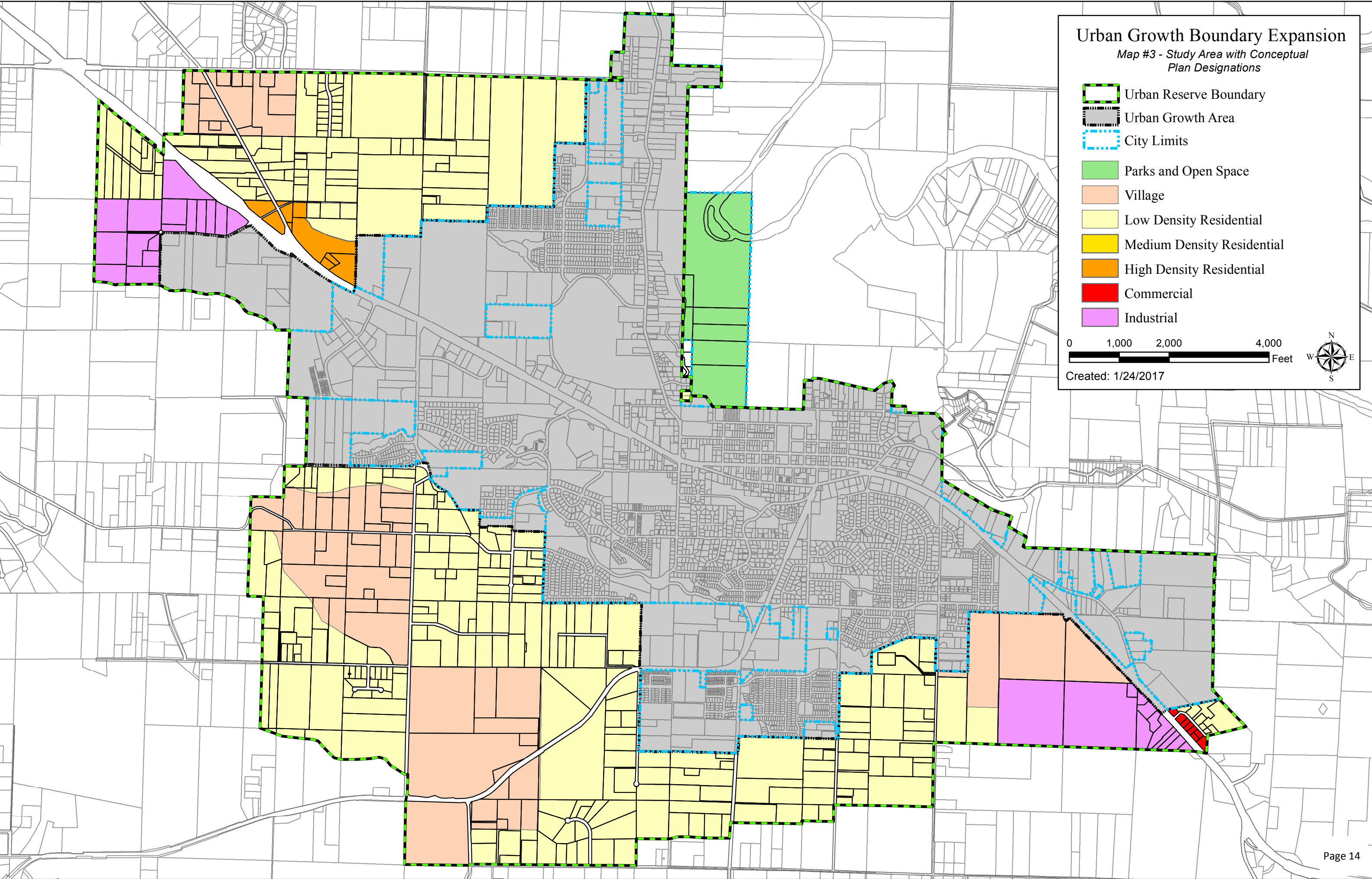
4. Removal or easing of approval standards or procedures
5. Establish minimum density ranges
6. Develop strategies for infill and redevelopment
7. Authorize housing types not previously allowed by the plan or regulations
8. Adopt an average residential density standard
9. Consider rezoning non-residential land

One of the required steps in the UGB Expansion analysis is to examine whether additional efficiency measures could be used within the existing UGB to increase residential densities and determine whether these measures will limit the City's need to expand the UGB. Sandy has previously taken steps to incorporate efficiency measures including:

- Incorporating increased densities in the residential zones, by allowing duplex units, row homes, and zero lot line dwellings in the low density residential zone, and including both medium (8-14 units/acre) and high density (10-20 units/acre) zoning districts;
- Allowing accessory dwellings units in all residential zoning districts;
- Providing a Planned Development process that can allow for increased flexibility in design, including lot size flexibility, as long as the density established in the Comprehensive Plan is not exceeded;
- Establishing minimum density standards in all residential zoning districts;
- Creating an adjustment process to allow modification of certain provisions without a requirement for a variance;
- Allowing residential dwellings attached to a commercial business in the C-1 and C-3 zones; and,
- Allowing multi-family development in the C-1 zone as a conditional use.



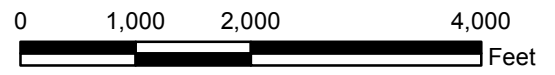




Urban Growth Boundary Expansion

Map #3 - Study Area with Conceptual
Plan Designations

- Urban Reserve Boundary
- Urban Growth Area
- City Limits
- Parks and Open Space
- Village
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Industrial



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Chapter 2. Study Area Analysis

This chapter describes the methodology used to evaluate properties within the final study area to determine the suitability of these properties to meet the identified need. The chapter starts by describing each of the evaluation factors used in the analysis and then provides a detailed analysis of each analysis area used in this study.

Evaluation Methodology

By combining the boundary location factors found in Goal 14 with those derived from the city's Comprehensive Plan and other local factors, eight factors were developed to evaluate properties in the study area. Each factor was assigned a weighed score (3, 2, 1, 0, or -1) based on the priority of the factor and whether the factor is considered of primary or secondary importance. The property evaluation factors used in the study are shown in Table 2.1 below.

Table 2.1: Property Evaluation Factors

Primary Evaluation Factors	High Score (3)	Medium Score (2)	Low Score (1)	No Effect (0)	Negative Factor (-1)
Cost to Provide Sewer Service	Least Cost		Moderate Cost		High Cost
Proximity to Existing Water Service	< 1,500 ft.		1,500-3,000 ft.		>3,000 ft.
Lot Size	>5 acres	2-5 acres	<2 acres		
Adjacent to Future Transportation Routes		Yes		No	
Adjacent to Existing Street Stub		Yes		No	
Contiguous to Existing UGB		Yes		No	
Secondary Evaluation Factors	High Score (3)	Medium Score (2)	Low Score (1)	No Effect (0)	Negative Factor (-1)
Existence of Constraints (BPA, streams, wetlands)			No constraints		Constraints Present
Compatibility with Ag./Forest Activities			Not Adjacent to Ag./Forest		Adjacent to Ag./Forest

Primary Evaluation Factors

- **Factor 1:** *Cost to provide sanitary sewer service.* Property development cost will be much less when a property can be served by gravity sanitary sewer service connected to existing mainlines. Pump stations to 'lift' sewage to a gravity pipe are expensive to

construct and maintain. Sanitary sewer service is identified as a priority primary evaluation factor since provision of this service is essential for urban development. The property evaluation factor gives a preference to those properties that can be served by a gravity sanitary sewer system due to development costs and long-term maintenance costs of operating pump station facilities. See Appendix B for an evaluation of this sanitary service feasibility completed by the City Engineer. This factor evaluates Goal 14, Factor 2.

- **Factor 2:** *Proximity to existing water service.* Properties closer to an existing water main line are presumed to be more likely to develop than a property further away as the cost to extend water service is considerably less for properties located near this service. The analysis in this report establish three distance categories for evaluating this factor: less than 1,500 feet, 1,500 feet to 3,000 feet, and greater than 3,000 feet. The ability to serve a property with water service is identified as a priority primary evaluation factor. Water service was also evaluated by the City Engineer as shown in Appendix B. This factor evaluates Goal 14, Factor 2.
- **Factor 3:** *Lot size.* Larger lots are given priority as a primary evaluation factor since they can accommodate larger subdivisions and are typically more likely to develop as the value of the land far exceeds existing improvement value. When existing improvement value is low compared to the overall property value existing structures are more likely to be removed in preparation for a subdivision. The analysis in this report uses the following three property size categories: less than two acres, two acres to five acres, and greater than five acres. This factor evaluates Goal 14, Factors 1 and 3.
- **Factor 4:** *Adjacent to future transportation routes.* Expansion of transportation routes identified in the Sandy Transportation System Plan (TSP) is important to increasing street connectivity and creating alternative routes of travel. Properties abutting streets identified in the TSP are given a preference over parcels that are not located adjacent to these facilities. This factor evaluates Goal 14, Factor 2.
- **Factor 5:** *Adjacent to existing street stubs.* Extending dead-end street stubs is an important factor for improving pedestrian and vehicular connectivity, enhancing emergency services access and creating alternative routes of travel. Parcels located adjacent to existing street stubs are valued higher than parcels that are not located adjacent to a street stub. This factor evaluates Goal 14, Factor 2.
- **Factor 6:** *Contiguous to existing UGB.* Properties contiguous to the existing UGB boundary are typically located closer to existing utilities and transportation networks and are more likely to annex into the city limits and develop than parcels not located contiguous to the UGB. This factor evaluates Goal 14, Factor 1.

Secondary Evaluation Factors

- **Factor 7:** *Existence of constraints (BPA easement, streams, and wetlands).* Constraints make property more expensive and time consuming to develop. Although mitigation techniques can lessen the impacts to existing wetlands and streams, the additional cost associated with mitigating impacts generally makes the property less desirable

compared to a property without these constraints. This factor evaluates Goal 14, Factor 3.

- **Factor 8:** *Compatibility with Agricultural and Forest Activities.* Properties adjacent to property zoned agricultural (EFU) or forest (TBR) have the highest potential to be incompatible with such uses. Because Sandy has an established Urban Reserve Boundary, agricultural and forest activities within the Urban Reserve Area are considered to already be committed to long-term urban use. For this evaluation, properties with a Clackamas County Zoning designation of Timber (TBR) and Exclusive Farm Use (EFU) were mapped outside the Urban Reserve Area and properties within the Urban Reserve Area where identified if they were adjacent to these mapped properties. This factor evaluates Goal 14, Factor 4.

Analysis Areas

As noted above, the study area was divided into 20 analysis areas. The analysis areas shown on Map 4 are generally numbered in a counter clockwise direction, beginning with Analysis Area 1, located at the far eastern edge of the UGB north of Highway 26 and ending with Analysis Area 20 at the northern portion of the UGB south of Kelso Road. The analysis areas range in size from 19.55 acres (Analysis Area 1) to 221.86 acres (Analysis Area 2) as summarized on Table 2.2.

The following considerations were useful in developing logical analysis area boundaries:

- Property lines/ownership patterns based upon Clackamas County Assessor Maps defining tax lot boundaries.
- Natural Features, such as wetlands, streams, 100-year floodplains, and other constraints.
- Streets and roads.
- Fundamental understanding of water and sanitary sewer service infrastructure.

Table 2.2: Summary of Analysis Areas

Analysis Areas	Location Description	Size (acres)
1. Highway 26 - Luzon Lane	North side of Highway 26, east of Johnson RV. Accessible directly from Highway 26 and Luzon Lane.	19.55
2. Knapp Farms	Bordered on north by UGB, east by Highway 26, west by Langensand Road, and south by the UR Boundary.	221.86
3. Timberline Trails South	Bordered on the north by UGB, east by Langensand Road, west by Jacoby Road, and south by the UR Boundary.	137.70
4. Cascadia Village South	Bordered on the north by UGB, east by Jacoby Road, west by Bornstedt Road, and south by the UR Boundary.	79.20
5. Bornstedt Village South	Bordered on the north by UGB, east by Bornstedt Road, west by Arletha Court, and south by UR Boundary.	76.96
6. Seibert Lane	South of Highway 211, west of Arletha Court, and bordered on the south by the UR Boundary.	153.36
7. Bornstedt Village West	West of Arletha Court spanning both sides of Highway 211.	120.73
8. Nicolas Glen South	Bordered on the south and east by UGB, south of Nicolas Glen Subdivision, east of 370 th extension.	100.11
9. Hwy 211 - 362 nd Drive East	East of 362 nd Ave., north of Highway 211	146.93
10. South Colorado Road - 362 nd Drive East	South of Colorado Road, east of 362 nd Ave., west of 370 th extension.	114.24
11. North Colorado Road - 362 nd Drive East	Bordered on the north by UGB, south by Colorado Road, west by 362 nd Ave.	32.85
12. Gunderson Road South - 362 nd Drive West	Bordered on the south and west by UR Boundary, east by 362 nd Ave. and north by Gunderson Road.	116.02
13. Gunderson Road North - 362 nd Drive West	Bordered on the south by Gunderson Road, north by Colorado Road, east by 362 nd Ave., and west by UR Boundary.	190.84
14. Colorado Road North - Skogan Road South	Bordered on the south by Colorado Road, north by UGB, east by 362 nd Ave., and west by UR Boundary.	92.83
15. Jarl Road - Highway 26 South	Bordered on the north by Highway 26, east by UGB, and south and west by UR Boundary.	144.19
16. Highway 26 North - Orient Drive West	Bordered on the south by Highway 26, north by Orient Drive, and west by UR Boundary.	70.36
17. Highway 26 North - Orient Drive East	Bordered on the south by Highway 26, north by Kelso Road/UR Boundary, and west by Orient Drive.	181.08
18. Highway 26 North - 362 nd Drive West	Bordered on the south by UGB, north by Kelso Road/UR Boundary, and east by 362 nd Ave.	106.96
19. Highway 26 North - 362 nd Drive East	Bordered on the south by UGB, north by Kelso Road/UR Boundary, and west by 362 nd Ave.	88.15
20. Sandy Bluff North	Bordered on the south and east by UGB and north by Kelso Road/UR Boundary.	95.95

Evaluation Assumptions

Not all lands within the analysis areas are appropriate for development. Local and state policies require development to generally avoid constrained areas (wetlands, floodplains, stream corridors, steep slopes, and high voltage powerline easements). As shown on Map 5, the study area contains various development constraints including stream corridors, floodplains, wetlands, and steep slopes. These resources are regulated by Chapter 17.60 of the Sandy Development Code and may be subject to regulations imposed by the Army Corps of Engineers and Division of State Lands. The study area also contains several high voltage powerlines

owned by the Bonneville Power Administration which limits development within recorded easements for these facilities as shown on this map.

As explained in the adopted Urbanization Study (Page 3-5), redevelopment of land often results in existing homes being demolished and removed. A portion of the land with the existing housing unit is not counted as vacant land and therefore does not contribute to fulfilling the land deficits. For the purposes of this study each existing dwelling unit equates to 1/4-acre of existing developed land.

Residential land that is impractical to subdivide or commercial/industrial land containing significant improvements cannot be counted as vacant land to fulfill the land needs as these lands are counted as developed. However, in some cases it may make sense to include developed land. This will be discussed further in Chapter 3 below.

The difference between gross acres and net acres in this Study depends on the area of developable land, removal of constrained acres, removal of dwelling unit acres, and removal of developed acres. Table 2.3 details this calculation for each analysis area.

Table 2.3: Analysis Areas Details

	Analysis Areas									
	1	2	3	4	5	6	7	8	9	10
Tax Lots	16	17	31	13	16	30	13	24	7	30
Total Acres (gross)	19.55	221.86	137.70	79.20	76.96	153.36	120.73	100.11	146.93	114.24
Total Acres (net)	14.56	205.31	110.68	70.94	64.12	97.47	107.77	87.99	137.70	97.15
Restricted Lands										
Constrained Acres	0.00	9.66	20.27	5.51	9.34	48.89	10.46	9.12	7.48	10.34
Dwelling Unit Acres	1.50	1.25	6.75	2.75	3.50	7.00	2.50	3.00	1.75	6.75
Developed Acres	3.49	5.64	0	0	0	0	0	0	0	0

	Analysis Areas									
	11	12	13	14	15	16	17	18	19	20
Tax Lots	14	28	34	24	35	25	64	8	14	3
Total Acres (gross)	32.85	116.02	190.84	92.83	144.19	70.36	181.08	106.96	88.15	95.95
Total Acres (net)	26.43	103.12	167.43	72.97	112.01	56.65	136.25	99.47	70.63	52.31
Restricted Lands										
Constrained Acres	3.67	4.99	14.66	12.86	9.58	7.96	22.49	5.99	15.02	43.14
Dwelling Unit Acres	2.75	2.50	8.75	7.00	5.00	4.25	9.00	1.50	2.50	0.50
Developed Acres	0	5.41	0	0	17.60	1.50	13.34	0	0	0

Evaluation Factors Applied

Every property in each Analysis Area was evaluated relative to the eight evaluation factors discussed above. The potential score range was a maximum of 17 and a minimum of -3. Properties received total scores ranging from a high of 14 to a low of -2. Properties receiving a score of 4 or less were not considered for further consideration, with the exception of two commercial properties in Analysis Area 1 and two commercial properties in Analysis Area 17 as discussed below.

Primary Evaluation Factors

Factor 1: *Cost to provide sanitary sewer service.* As shown on Map 6, Analysis Areas 2, 3, 4, 19, 20, and a portion of 18 are the least costly to serve with sanitary sewer and Analysis Areas 1, 6, 9, 12, and 13 would be the most expensive to serve with sanitary sewer.

Factor 2: *Proximity to existing water service.* The majority of Analysis Areas 2, 3, 4, 8, 11, 14, 18, 19, and 20 are within 1,500 feet of existing water main lines. Analysis Areas 6, 9, 12, 13, 15, and 16 are the furthest from existing water service. The results of this factor are shown on Map 7.

Factor 3: *Lot size.* As explained above, this factor uses one of three categories to evaluate this factor: less than two acres, two acres to five acres, and greater than five acres. Analysis Areas 2, 4, 7, 9, 12, 18, 19, and 20 have the greatest percentage of large properties and Analysis Areas 1, 3, 8, 11, 14, 16, 17 have the greatest percentage of small properties. Map 8 shows the results of this factor.

Factor 4: *Adjacent to future transportation routes.* Analysis Areas 2, 5, 17, 18, and 19 contain the majority of properties adjacent to arterial and collector streets identified in the adopted TSP. Map 9 shows this factor.

Factor 5: *Adjacent to existing street stubs.* Analysis Areas 2, 4, 8, 11, 19, and 20 contain the most properties adjacent to an existing street stub. The results of this factor are also shown on Map 9.

Factor 6: *Contiguous to existing UGB.* Analysis Areas 1, 2, 3, 4, 5, 7, 8, 11, 14, 15, 16, 17, 18, 19, and 20 contain parcels contiguous to the existing UGB and are most likely to develop as utility extensions are less expensive. Analysis Areas 6, 9, 10, 12, and 13 are not contiguous to the existing UGB. Map 10 shows the results of this factor.

Secondary evaluation factors

Factor 7: *Existence of constraints (BPA, streams, and wetlands).* Analysis Areas 3, 7, 10, 13, 14, 15, and 17 have the greatest percentage of riparian areas identified and Analysis Areas 6, 19, and 20 have the greatest percentage of Bonneville Power Administration (BPA) constraints identified. Map 5 shows identified constraints for all properties in the analysis areas.

Factor 8: *Compatibility with Agricultural and Forest Activities.* Analysis Areas 1, 2, 3, 4, 6, 9, 12, 14, 15, 17, 18, 19, and 20 contain parcels adjacent to agricultural (EFU) and forest (TBR) zoned properties outside the Urban Reserve. The properties identified adjacent to

agricultural and forest zoned properties have the highest potential to be incompatible with such uses. Map 11 shows the results of this factor.

Analysis Area Detailed Description

ANALYSIS AREA 1 (Highway 26 – Luzon Lane):

Analysis Area 1 includes land on the north side of Highway 26, east of Johnson RV.

Analysis Area 1 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
19.55	0.00 (0%)	3.49 (17.9%)	1.50 (7.7%)	14.56
Advantages: <ul style="list-style-type: none"> ▪ Borders the existing UGB ▪ Employment potential for properties adjacent to Highway 26 ▪ No wetlands, creeks, or riparian areas ▪ Prominent location as eastern gateway to Sandy 				
Disadvantages: <ul style="list-style-type: none"> ▪ Severe slopes make sanitary sewer costly ▪ High percentage of property already developed ▪ High percentage of smaller properties ▪ Existing structures not to City code 				

ANALYSIS AREA 2 (Knapp Farms):

Analysis Area 2 includes land on the south side of the UGB to the east of Langensand Road.

Analysis Area 2 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
221.86	9.66 (4.4%)	5.64 (2.5%)	1.25 (0.6%)	205.31
Advantages: <ul style="list-style-type: none"> ▪ Analysis area borders the existing UGB ▪ High employment potential as some property is located on Highway 26 ▪ North half of Analysis Area is important for transportation network ▪ Large lot sizes preferred for development ▪ Good livability potential with close network of streets and park land ▪ Relatively flat land ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ High amount of agricultural acreage removed ▪ High amount of forest acreage removed ▪ Moderate percentage of land with riparian areas identified ▪ Existing employment properties not to City code 				

ANALYSIS AREA 3 (Timberline Trails South):

Analysis Area 3 includes lands south of the Timberline Trails subdivision, to the west of Langensand Road, and to the east of Jacoby Road.

Analysis Area 3 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
137.70	20.27 (14.7%)	0 (0%)	6.75 (4.9%)	110.68
Advantages: <ul style="list-style-type: none"> ▪ Analysis area borders the existing UGB ▪ Easy to serve with utilities ▪ Easy connection to Cascadia Village subdivision to the west ▪ Bisected by the future extension of the Tickle Creek Trail ▪ Land owners willing to be included in UGB expansion ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ High percentage of land with riparian areas identified ▪ High percent of smaller properties on the south side of the analysis area not preferred for development 				

ANALYSIS AREA 4 (Cascadia Village South):

Analysis Area 4 includes lands south of the Cascadia Village subdivision, west of Jacoby Road, and east of Bornstedt Road.

Analysis Area 4 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
79.20	5.51 (7.0%)	0 (0%)	2.75 (3.5%)	70.94
Advantages: <ul style="list-style-type: none"> ▪ Analysis area borders the existing UGB ▪ Easy to serve with utilities ▪ Large lot sizes preferred for development ▪ Good livability potential with close network of streets and park land ▪ North half of Analysis Area is important for transportation network ▪ Easy connection to Cascadia Village subdivision to the north ▪ Land owner willing to be included in UGB expansion ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ High amount of forest acreage removed 				

ANALYSIS AREA 5 (Bornstedt Village South):

Analysis Area 5 includes lands south of Bornstedt Village, west of Bornstedt Road, and east of Arletha Court.

Analysis Area 5 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
76.96	9.34 (12.1%)	0 (0%)	3.50 (4.5%)	64.12
Advantages: <ul style="list-style-type: none"> ▪ Analysis area borders the existing UGB ▪ Easy to serve with utilities for northern properties ▪ North half of Analysis Area is important for transportation network ▪ Good livability potential with close network of streets and park land ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ BPA easement on numerous properties ▪ Moderate cost to extend utilities for southern properties, especially sanitary sewer 				

ANALYSIS AREA 6 (Seibert Lane):

Analysis Area 6 includes lands south of Highway 211, north of Trubel Road, and bisected by 367th Avenue and Seibert Lane.

Analysis Area 6 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
153.36	48.89 (31.9%)	0 (0%)	7.00 (4.6%)	97.47
Advantages: <ul style="list-style-type: none"> ▪ There are practically no wetlands, creeks, or riparian areas ▪ Rural setting allows for desirable tracts of land for residential subdivisions ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ Analysis area does not border the existing UGB ▪ BPA easement on numerous properties ▪ Expensive extension of utilities, especially sanitary sewer ▪ Not important for transportation connections in the 20-year planning period ▪ Additional vehicle miles driven are required to reach goods and services in Sandy ▪ Costly frontage improvements along Highway 211 				

ANALYSIS AREA 7 (Bornstedt Village West):

Analysis Area 7 includes lands west of Bornstedt Village, and bisected by Highway 211.

Analysis Area 7 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
120.73	10.46 (8.7%)	0 (0%)	2.50 (2.1%)	107.77
Advantages: <ul style="list-style-type: none"> ▪ Analysis area borders the existing UGB ▪ Land owner willing to be included in UGB expansion ▪ Poised for housing development ▪ Large lot sizes preferred for development 				
Drawbacks: <ul style="list-style-type: none"> ▪ High amount of agricultural acreage removed ▪ High percentage of land with riparian areas identified ▪ Moderate cost to extend utilities, especially sanitary sewer to the west of Arletha Court ▪ Costly frontage improvements along Highway 211 				

ANALYSIS AREA 8 (Nicolas Glen South):

Analysis Area 8 includes lands south of Nicolas Glen, and east of 370th Avenue.

Analysis Area 8 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
100.11	9.12 (9.1%)	0 (0%)	3.00 (3.0%)	87.99
Advantages: <ul style="list-style-type: none"> ▪ Analysis area borders the existing UGB ▪ Properties are important for transportation network ▪ Easy connection to Nicolas Glen subdivision to the north ▪ Land owner willing to be included in UGB expansion ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ High amount of agricultural acreage removed ▪ High percent of smaller properties on the west side of the analysis area not preferred for development ▪ Land owner resistant to be included in UGB expansion ▪ Moderate cost to extend utilities, especially sanitary sewer 				

ANALYSIS AREA 9 (HWY 211 – 362nd Drive East):

Analysis Area 9 includes lands north of Highway 211, and east of 362nd Drive.

Analysis Area 9 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
146.93	7.48 (5.1%)	0 (0%)	1.75 (1.2%)	137.70
Advantages: <ul style="list-style-type: none"> ▪ Large lot sizes preferred for development ▪ Land owner willing to be included in UGB expansion ▪ Rural setting allows for desirable tracts of land for residential subdivisions ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ Analysis area does not border the existing UGB ▪ High amount of agricultural acreage removed ▪ Expensive extension of utilities, especially sanitary sewer ▪ Costly frontage improvements along Highway 211 				

ANALYSIS AREA 10 (South Colorado Road – East 362nd Drive):

Analysis Area 10 includes lands south of Colorado Road, east of 362nd Drive, and bisected by Deming Road.

Analysis Area 10 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
114.24	10.34 (9.1%)	0 (0%)	6.75 (5.9%)	97.15
Advantages: <ul style="list-style-type: none"> ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ Analysis area does not border the existing UGB ▪ Moderate cost to extend utilities, especially sanitary sewer ▪ High amount of forest acreage removed ▪ High percentage of land with riparian areas identified ▪ Land owners resistant to be included in UGB expansion 				

ANALYSIS AREA 11 (North Colorado Road – East 362nd Drive):

Analysis Area 11 includes lands south of the Sleepy Hollow subdivision, north of Colorado Road, east of 362nd Drive, and west of 370th Avenue.

Analysis Area 11 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
32.85	3.67 (11.2%)	0 (0%)	2.75 (8.4%)	26.43
Advantages: <ul style="list-style-type: none"> ▪ Analysis area borders the existing UGB ▪ Land owner willing to be included in UGB expansion ▪ Easy connection to Sleepy Hollow subdivision to the northeast ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ High amount of forest acreage removed ▪ Moderate cost to extend utilities, especially sanitary sewer ▪ High percent of smaller properties not preferred for development ▪ Sight distance issues at the curve in 362nd Drive 				

ANALYSIS AREA 12 (Gunderson Road South – 362nd Drive West):

Analysis Area 12 includes lands south of Gunderson Road, west of 362nd Drive, and including Hertrick Court.

Analysis Area 12 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
116.02	4.99 (4.3%)	5.41 (4.7%)	2.50 (2.2%)	103.12
Advantages: <ul style="list-style-type: none"> ▪ Large lot sizes preferred for development ▪ There are practically no wetlands, creeks, or riparian areas ▪ Rural setting allows for desirable tracts of land for residential subdivisions ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ Analysis area does not border the existing UGB ▪ High amount of forest acreage removed ▪ Expensive extension of utilities, especially sanitary sewer ▪ Not important for transportation connections in the 20-year planning period ▪ Additional vehicle miles driven are required to reach goods and services in Sandy 				

ANALYSIS AREA 13 (Gunderson Road North – 362nd Drive West):

Analysis Area 13 includes lands north of Gunderson Road, south of Colorado Road, and west of 362nd Drive.

Analysis Area 13 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
190.84	14.66 (7.7%)	0 (0%)	8.75 (4.6%)	167.43
Advantages: <ul style="list-style-type: none"> ▪ Rural setting allows for desirable tracts of land for residential subdivisions ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ Analysis area does not border the existing UGB ▪ High percentage of land with riparian areas identified ▪ Expensive extension of utilities, especially sanitary sewer ▪ Land owner resistant to be included in UGB expansion ▪ Not important for transportation connections in the 20-year planning period 				

ANALYSIS AREA 14 (Colorado Road North – Skogan Road South):

Analysis Area 14 includes lands north of Colorado Road, south of Skogan Road, and west of 362nd Drive.

Analysis Area 14 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
92.83	12.86 (13.9%)	0 (0%)	7.00 (7.5%)	72.97
Advantages: <ul style="list-style-type: none"> ▪ Analysis area borders the existing UGB ▪ Land owners willing to be included in UGB expansion ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ High percentage of land with riparian areas identified ▪ Ridgeline on the north portion of the analysis area creates transportation connection and utility connection difficulties ▪ Moderate cost to extend utilities, especially sanitary sewer ▪ Not important for transportation connections in the 20-year planning period ▪ High percent of smaller properties not preferred for development ▪ Sight distance issues at the intersection of Skogan Road and 362nd Drive 				

ANALYSIS AREA 15 (Jarl Road – Highway 26 South):

Analysis Area 15 includes lands south of Highway 26, and north of Jarl Road.

Analysis Area 15 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
144.19	9.58 (6.6%)	17.60 (12.2%)	5.00 (3.5%)	112.01
Advantages: <ul style="list-style-type: none"> ▪ Analysis area borders the existing UGB ▪ High employment potential as some property is located on Highway 26 ▪ Borders the future extension of the Tickle Creek Trail ▪ Primary transportation option, Jarl Road, connects to a signalized intersection on Highway 26 ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ High percentage of land with riparian areas identified ▪ Moderate cost to extend utilities, especially sanitary sewer ▪ Not important for transportation connections in the 20-year planning period 				

ANALYSIS AREA 16 (Highway 26 North – Orient Drive West):

Analysis Area 16 includes lands north of Highway 26, south of Kelso Road, and west of Orient Drive.

Analysis Area 16 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
70.36	7.96 (11.3%)	1.50 (2.1%)	4.25 (6.0%)	56.65
Advantages: <ul style="list-style-type: none"> ▪ Analysis area borders the existing UGB ▪ High employment potential as some property is located on Highway 26 ▪ Relatively flat land ▪ Land owner willing to be included in UGB expansion ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ Moderate cost to extend utilities, especially sanitary sewer ▪ High percent of smaller properties not preferred for development ▪ Existing employment properties not to City code 				

ANALYSIS AREA 17 (Highway 26 North – Orient Drive East):

Analysis Area 17 includes lands north of Highway 26, south of Kelso Road, and east of Orient Drive.

Analysis Area 17 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
181.08	22.49 (12.4%)	13.34 (7.4%)	9.00 (5.0%)	136.25
Advantages: <ul style="list-style-type: none"> ▪ Analysis area borders the existing UGB ▪ High employment potential as some property is located on Highway 26 ▪ Properties are important for transportation network ▪ Relatively flat land ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ BPA easement on one property ▪ High percentage of land with riparian areas identified ▪ High percent of smaller properties not preferred for development ▪ High amount of agricultural acreage removed 				

ANALYSIS AREA 18 (Highway 26 North – 362nd Drive West):

Analysis Area 18 includes lands south of Kelso Road, north of Highway 26, and west of 362nd Drive.

Analysis Area 18 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
106.96	5.99 (5.6%)	0 (0%)	1.50 (1.4%)	99.47
Advantages: <ul style="list-style-type: none"> ▪ Analysis area borders the existing UGB ▪ Easy to serve with utilities ▪ Excellent economic expansion potential along 362nd Drive ▪ Properties are important for transportation network ▪ Excellent transportation opportunities along 362nd Drive and Kelso Road ▪ Large lot sizes preferred for development ▪ Relatively flat land ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ BPA easement on one property ▪ High amount of agricultural acreage removed ▪ Land owner resistant to be included in UGB expansion 				

ANALYSIS AREA 19 (Highway 26 North – 362nd Drive East):

Analysis Area 19 includes lands south of Kelso Road, north of Highway 26, and east of 362nd Drive.

Analysis Area 19 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
88.15	15.02 (17.0%)	0 (0%)	2.50 (2.8%)	70.63
Advantages: <ul style="list-style-type: none"> ▪ Analysis area borders the existing UGB ▪ Easy to serve with utilities ▪ Properties are important for transportation network ▪ Easy connection to Sandy Bluff subdivision to the east ▪ Excellent transportation opportunities along 362nd Drive and Kelso Road ▪ Close to Sandy High School which allows alternative modes of transportation for staff and students ▪ Large lot sizes preferred for development ▪ Relatively flat land ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ BPA easement on numerous properties 				

ANALYSIS AREA 20 (Sandy Bluff North):

Analysis Area 20 includes lands north of the Sandy Bluff subdivision, south of Kelso Road, and west of Jewelberry Avenue.

Analysis Area 20 Gross Acres	Constrained Acres/ (%)	Developed Acres/ (%)	Replacement Dwelling Acres/ (%)	Net Acres
95.95	43.14 (45.0%)	0 (0%)	0.50 (0.5%)	52.31
Advantages: <ul style="list-style-type: none"> ▪ Analysis area borders the existing UGB ▪ Easy to serve with utilities ▪ Easy connection to Sandy Bluff subdivision to the south and east ▪ Large lot sizes preferred for development ▪ Close to Sandy High School which allows alternative modes of transportation for staff and students ▪ Relatively flat land ▪ Poised for housing development 				
Drawbacks: <ul style="list-style-type: none"> ▪ BPA easement on numerous properties ▪ Moderate amount of forest acreage removed 				

Goal 14 Location Factors

This section evaluates each of the four Goal 14 location factors as they relate to the analysis areas in this study.

- **Factor 1:** *Efficient accommodation of identified land needs.* Given the projected population and employment forecasts, lands in any of the UGB analysis areas could be justified to meet Factor 1. LUBA has generally used the term “*efficiency*” to mean “*contiguous or adjacent to existing development.*” Analysis Areas 6, 9, 10, 12, and 13 are not contiguous to the existing UGB and therefore not as “efficient” for immediate development. While Analysis Areas 15 and 16 are contiguous to the existing UGB, these areas are not within the current city limits and therefore are not contiguous to developed areas. Areas 3, 4, 19, and 20 probably have the greatest ability to meet the intent of this factor due to their proximity to the existing UGB and existing developed lands within the UGB. Areas 19 and 20 have the highest potential to increase livability due to their close proximity to the Sandy High School, Sandy River Park, and future commercial amenities on 362nd Drive.
- **Factor 2:** *Orderly and economic provision of public facilities and services.* The City engineer (See Appendix B) performed an analysis for the study area to determine the feasibility of providing water and sanitary sewer service for each of the analysis areas. A detailed cost estimate was not included in the analysis, nor are such estimates included in the City’s water and sanitary sewer masterplans. Instead, a general estimate of relative costs of providing sanitary sewer service was used as shown in Table 2.4.

Table 2.4: Cost of Providing Sanitary Sewer Service

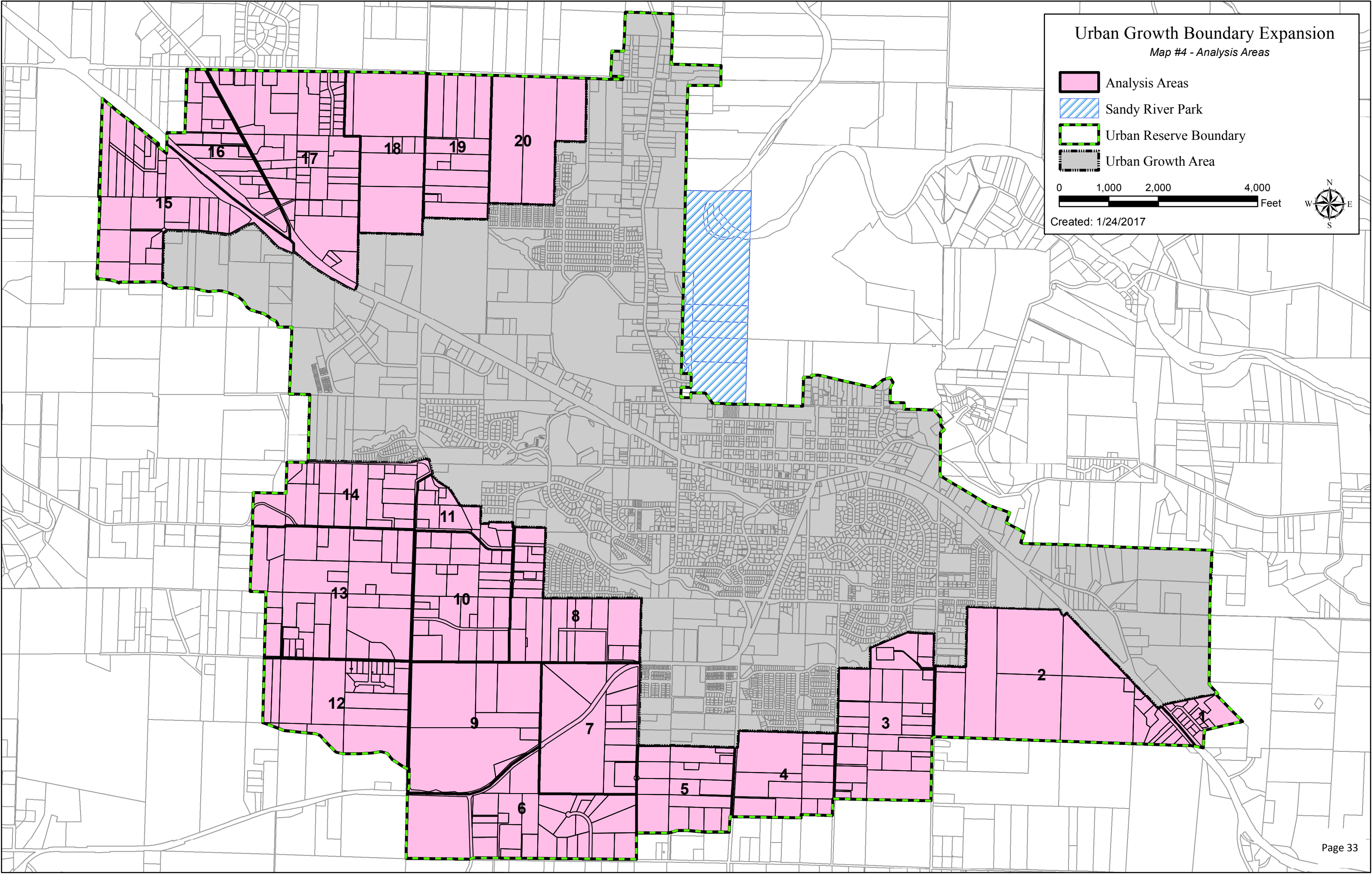
(\$\$\$ = greatest cost; \$ = least cost)

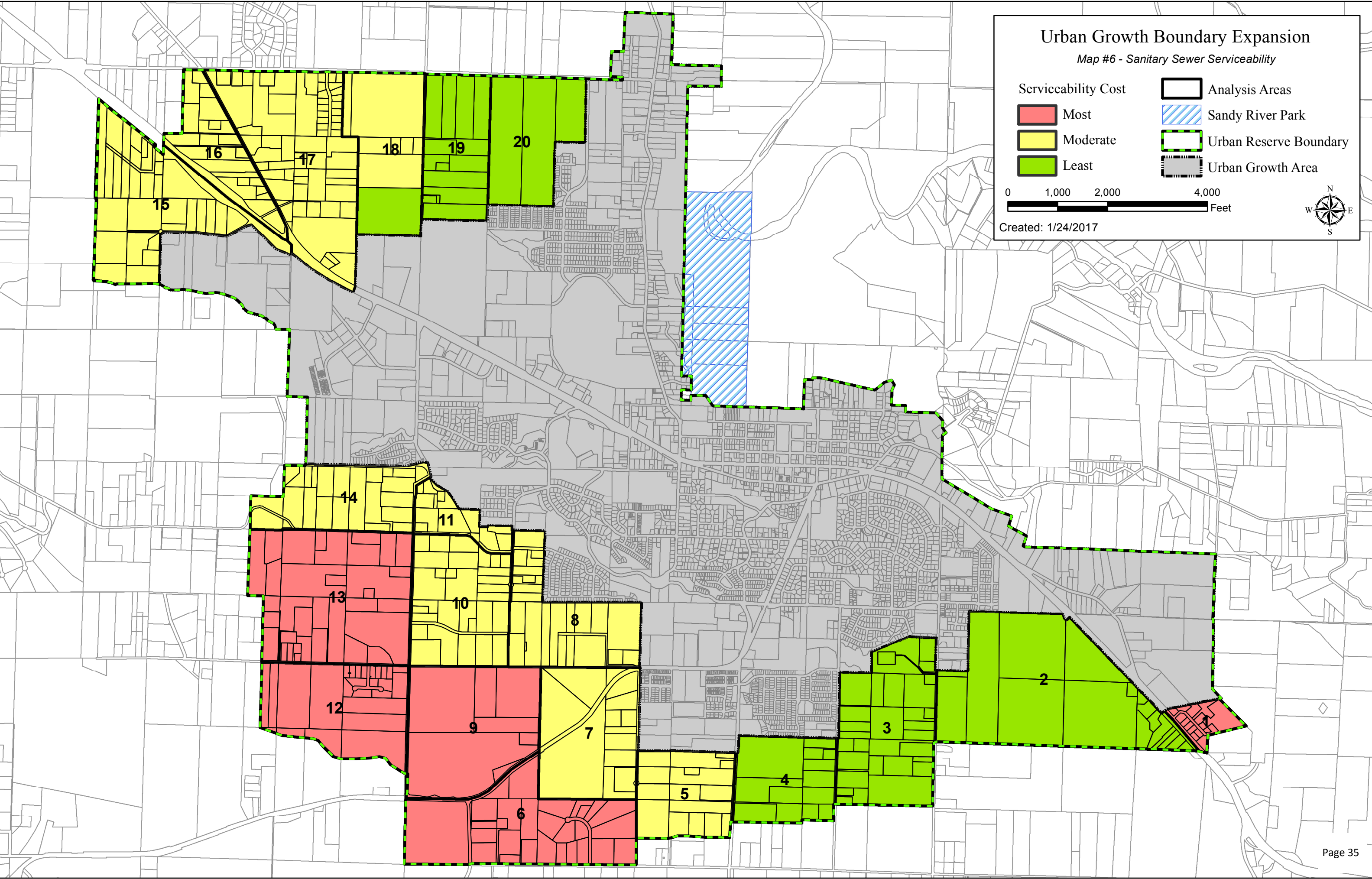
Analysis Area	Cost	Analysis Area	Cost
1	\$\$\$	11	\$\$
2	\$	12	\$\$\$
3	\$	13	\$\$\$
4	\$	14	\$\$
5	\$	15	\$\$
6	\$\$\$	16	\$\$
7	\$\$	17	\$\$
8	\$\$	18	\$
9	\$\$\$	19	\$
10	\$\$	20	\$

- **Factor 3:** *Comparative environmental, energy, economic and social consequences.* Analysis Areas 3, 7, 10, 13, 14, 15, and 17 have the greatest potential for negative environmental consequences given the amount of wetlands and riparian areas in these areas. Areas 3, 4, 19, and 20 probably have the least energy consequences from a transportation and service delivery perspective because of their location relative to the

UGB. Properties that increase housing opportunities, increase street connectivity, and increase recreation opportunities have the greatest potential for positive economic and social impacts.

- **Factor 4:** Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB. Analysis Areas 2, 6, 19, and 20 have the highest percentage of land adjacent to existing agricultural and forest zoned lands outside the Urban Reserve and therefore could have a negative impact on those existing activities. Analysis Areas 5, 7, 8, 10, 11, 13, and 16 do not contain any properties adjacent to existing agricultural and forest zoned lands outside the Urban Reserve and therefore have a higher compatibility rating. Map 11 shows properties adjacent to agricultural and forest lands outside the Urban Reserve Area.





Urban Growth Boundary Expansion

Map #6 - Sanitary Sewer Serviceability

Serviceability Cost

Most

Moderate

Least

Analysis Areas

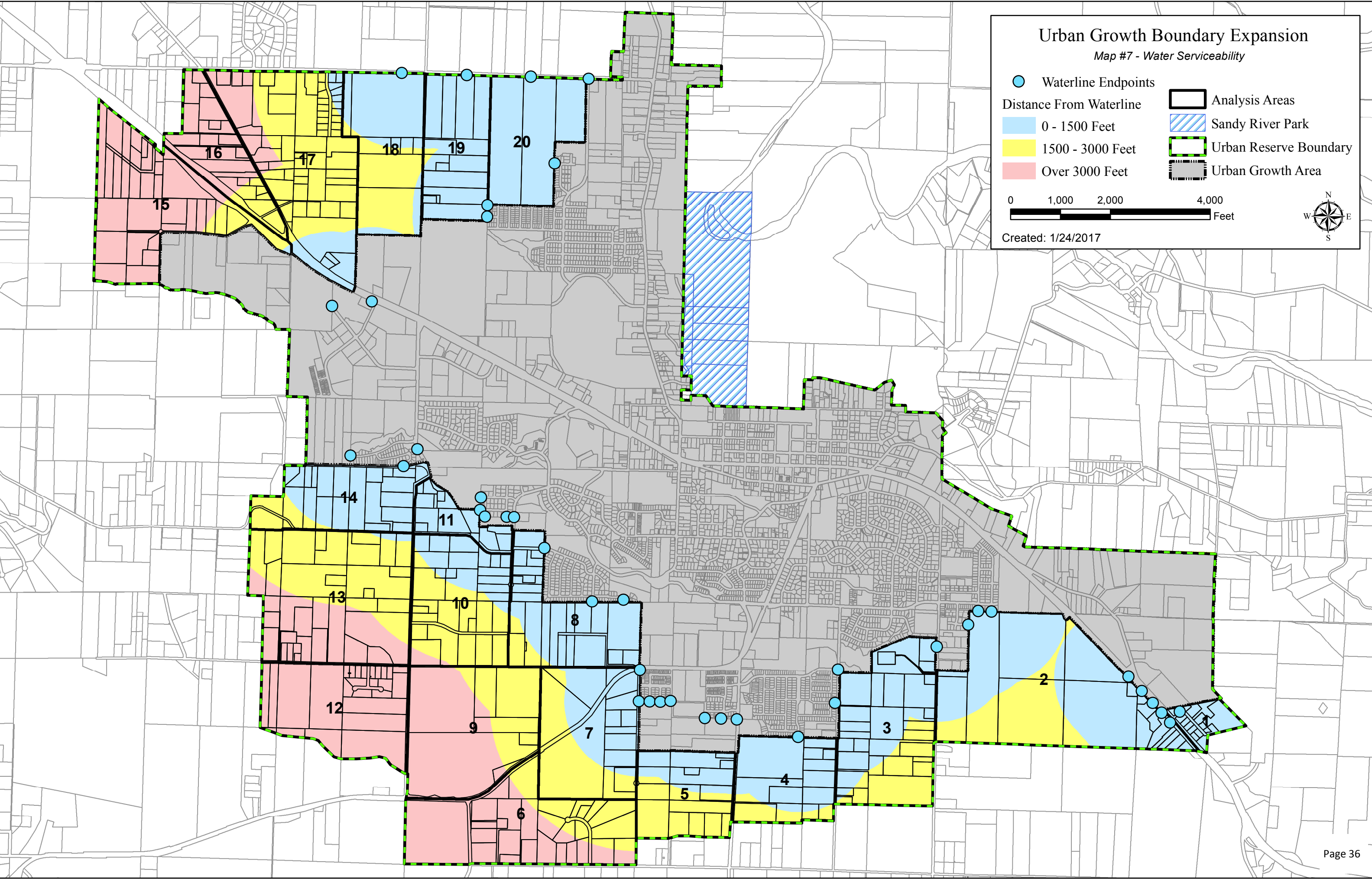
Sandy River Park

Urban Reserve Boundary

Urban Growth Area

0 1,000 2,000 4,000 Feet

Created: 1/24/2017



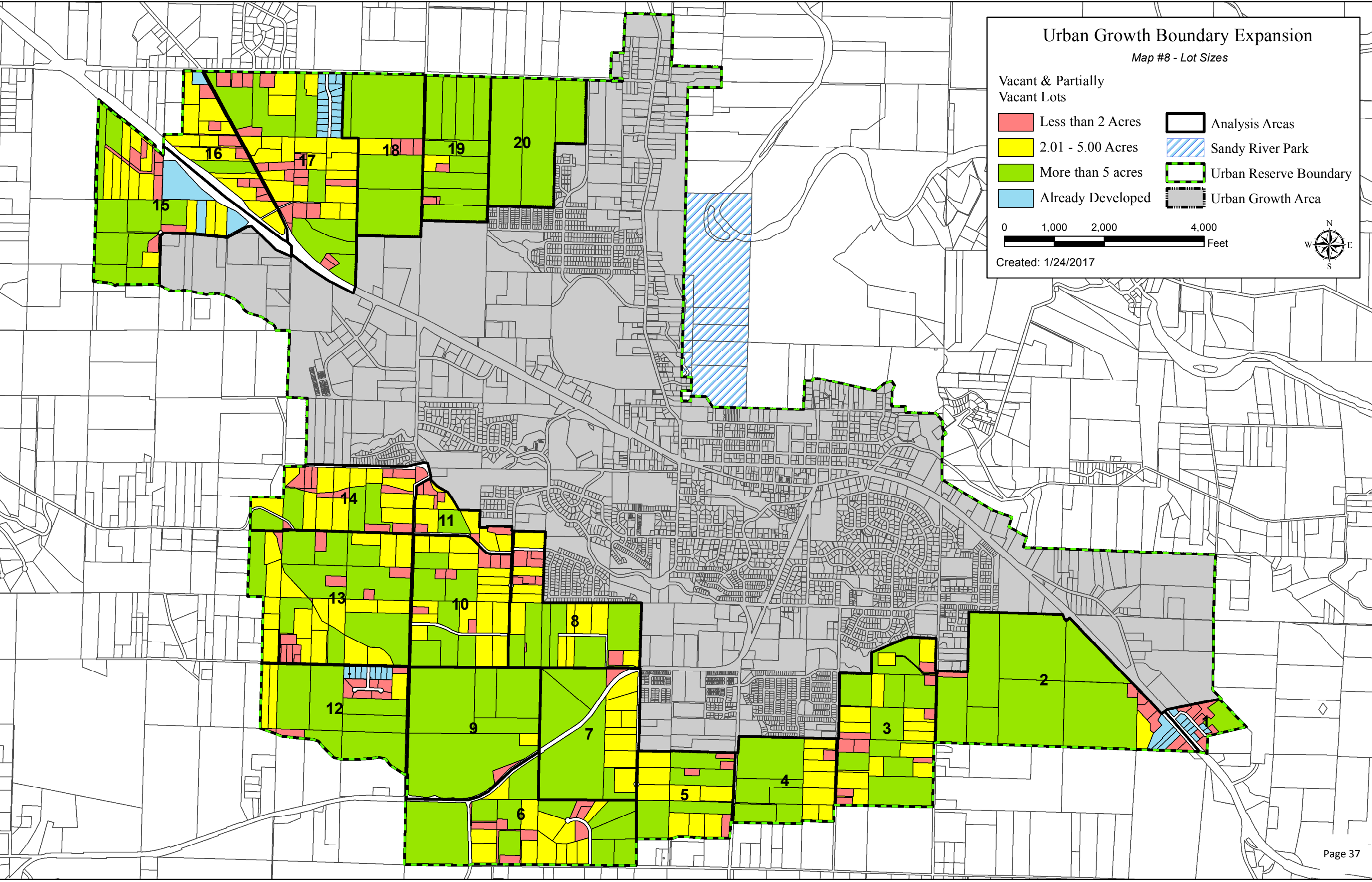
Urban Growth Boundary Expansion

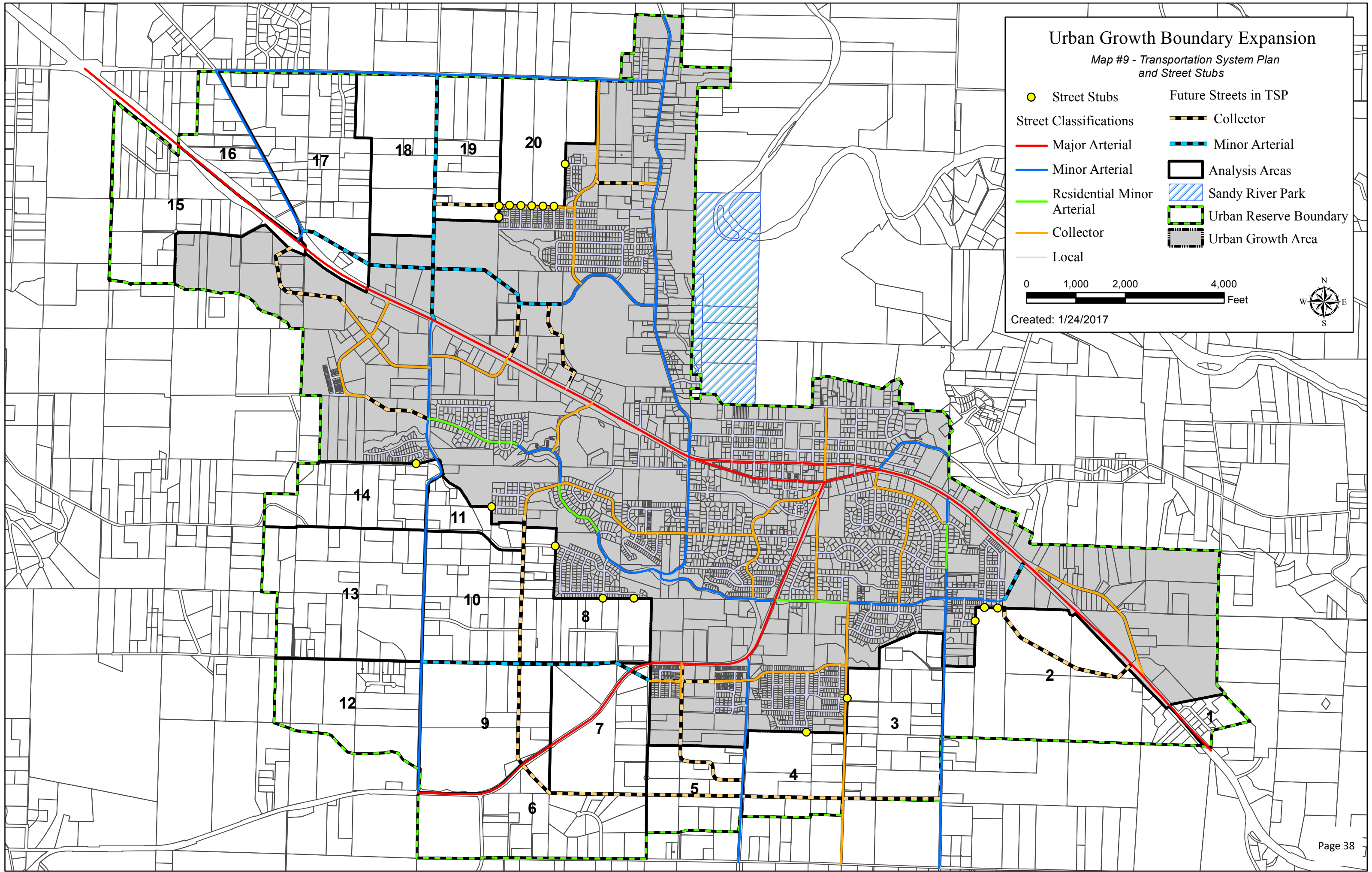
Map #7 - Water Serviceability

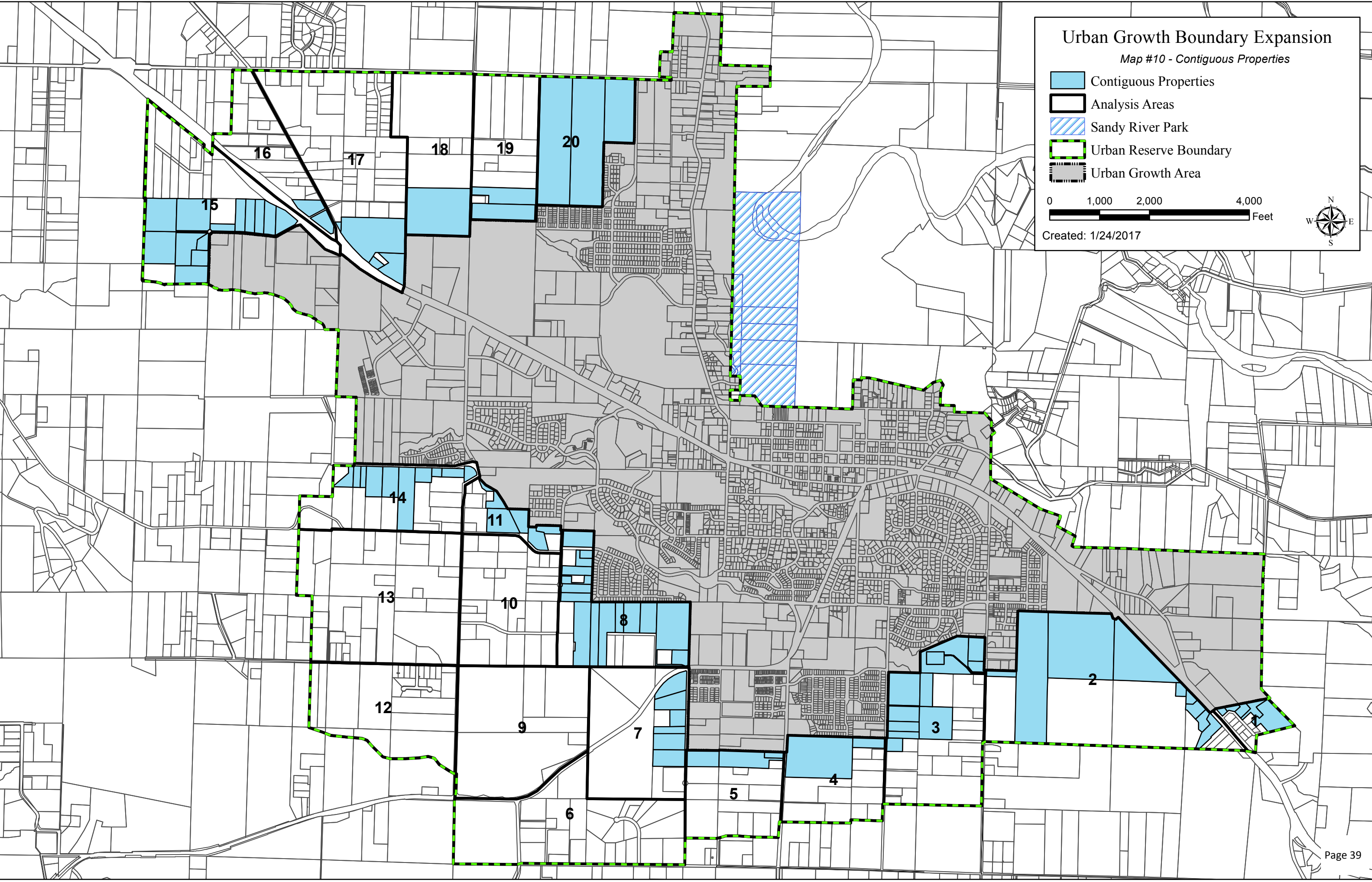
- Waterline Endpoints
- Distance From Waterline
 - 0 - 1500 Feet
 - 1500 - 3000 Feet
 - Over 3000 Feet
- Analysis Areas
- Sandy River Park
- Urban Reserve Boundary
- Urban Growth Area

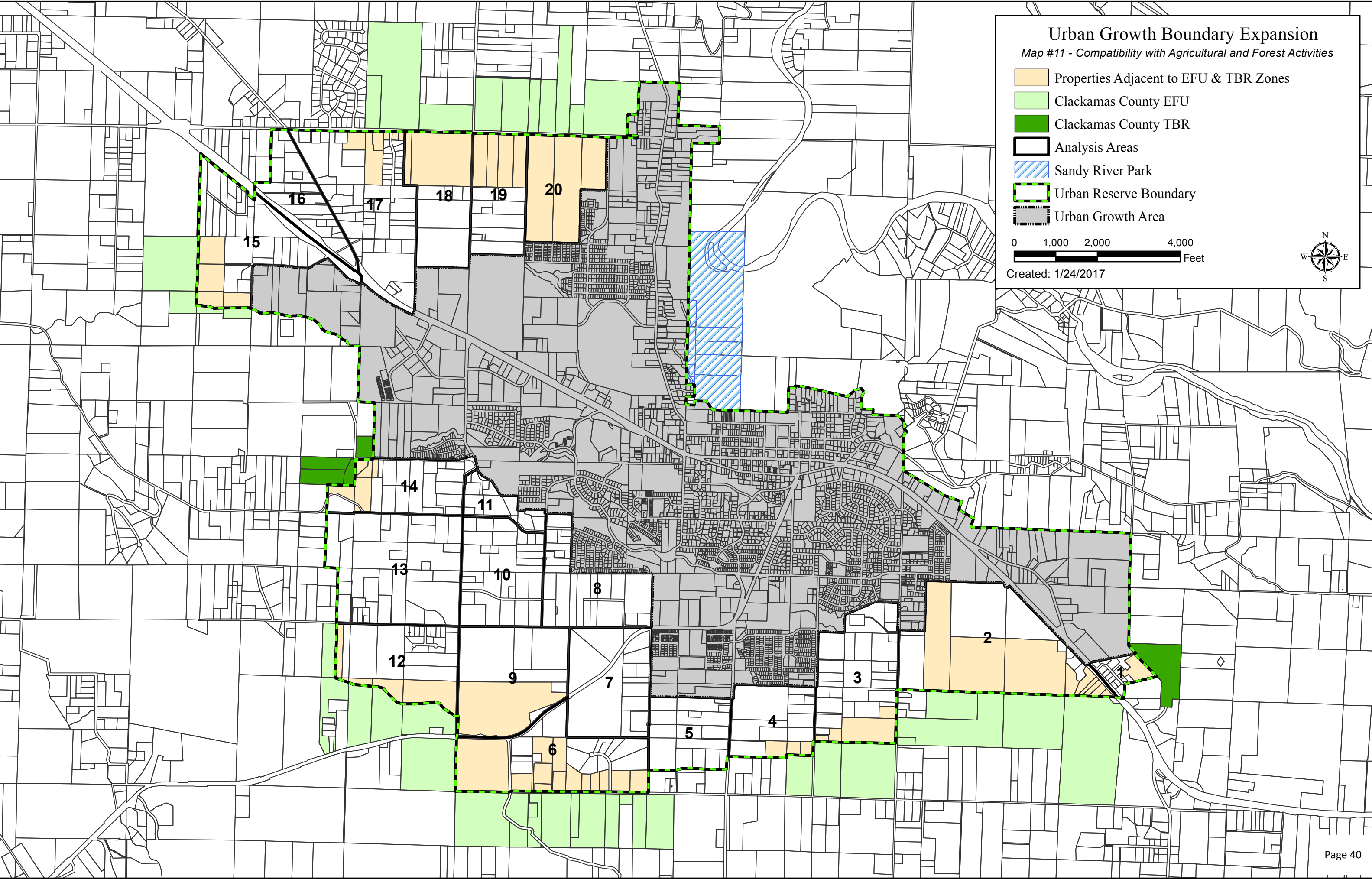
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Urban Growth Boundary Expansion

Map #11 - Compatibility with Agricultural and Forest Activities

- Properties Adjacent to EFU & TBR Zones
- Clackamas County EFU
- Clackamas County TBR
- Analysis Areas
- Sandy River Park
- Urban Reserve Boundary
- Urban Growth Area

0 1,000 2,000 4,000 Feet

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Chapter 3. Expansion Alternative

The purpose of this chapter is to present the preferred alternative to address the identified land deficits identified in the 2015 Urbanization Study. Following evaluation of the 20 Analysis Areas as analyzed in Chapter 2 there was a determination that including only entire analysis areas was not necessarily in the best interest of the expansion project. Rather, it was determined that the preferred alternative needed to consider individual properties as this approach would lead to a more efficient and cost effective alternative. In addition to making recommendations for expanding the UGB to meet the identified needs, this chapter also details recommendations for achieving efficiency measures in the existing UGB.

Property Specific Analysis

To conduct this refined analysis, each property in the UGB was scored in accordance with the eight 'Factors' described above. Properties received scores ranging from 15 to -3 as shown on Map 12. Appendix A includes the evaluation score for every property in the study area. Properties receiving a score of 4 or less were then taken out from further consideration with a few exceptions: two commercial properties in Analysis Area 1 and two properties in Analysis Area 17. The two commercial properties in Analysis Area 1 are proposed to be included to create a logical extension of the UGB, while the two properties in Analysis Area 17 are proposed to be included to accommodate the future extension of Bell Street to properly intersect with Orient Drive.

Efficiency Measures Inside UGB

As discussed above, identifying properties within the existing UGB that can be rezoned to address the identified land deficits is a requirement of the expansion analysis. Rezoning existing properties along major transportation routes or closer to the city core to satisfy the identified need is a cost effective and sensible approach. Employment lands are most suited near highways and clustered with existing businesses. Higher density residential lands are most suited near existing transit amenities, pedestrian and bicycle networks, and park land. The preferred alternative therefor proposes rezoning several properties from a less inclusive zone (i.e. Light Industrial (I-2)) to a more inclusive and flexible zone, such as Industrial Park (I-1) or General Commercial (C-2). The recommendation also proposes rezoning several properties from a lower density zoning designation (i.e. Single Family Residential (SFR)) to a higher density zoning designation, such as Medium Density Residential (R-2). Table 3.1 identifies the properties recommended to be rezoned in the existing UGB. These properties are shown on Map 13.

Table 3.1: Efficiency Measure Properties

Map Number	Map & Tax Lot	Gross Acres	Net Acres	Existing Zoning	Proposed Zoning
1	24E13DD01201	1.19	1.19	SFR	R-2
2	24E13DB02100	0.36	0.36	C-1	R-3
3	24E13CA06500	0.09	0.09	R-3	C-1
	24E13CA06600	0.07	0.07	R-3	C-1
4	24E14AD03500	0.73	0.73	R-3	C-2
	24E14AD03600	0.16	0.16	R-3	C-2
	24E14AD03700	0.32	0.32	R-3	C-2
	24E14AD03800	0.32	0.32	R-3	C-2
5	24E15AD00100	9.27	7.87	SFR	R-2
6	24E15AD00200	9.97	9.97	SFR	R-2
7	24E15 00801	2.52	2.52	SFR	R-2
8	24E15A 00205	1.69	1.69	I-2	I-1
9	24E10 05100	24.03	12.60	I-2	C-2
10	24E10 05700*	6.88	6.88	I-2	I-1
11	24E14 01120	1.00	1.00	I-2	I-1

*Half of 24E1005700 (3.44 acres) is already developed

Efficiency Measure Adjustments

As explained in the 2015 Urbanization Study, code amendments in December 2013 modified the permitted and conditional use sections in the C-2 and I-1 zoning districts to make the two districts mirror each other in regards to permitted and conditional uses. With this in mind, the study identified an adjustment factor that is applied to these zones specifying the projected split between commercial and industrial uses when these properties are developed. For the purposes of this study and as in the 2015 Urbanization Study properties in the C-2 zone will be assumed to develop with 90 percent commercial uses and 10 percent industrial uses and the I-1 zone are assumed to develop with 85 percent commercial uses and 15 percent industrial uses. These adjustments are shown on Table 3.2 below.

Table 3.2: Efficiency Measure Adjustments

Land Use Type	Original Zone	Proposed Zone	C-2/I-1 Adjustments	Zone Change Total Net
LDR	21.55	0.00		(21.55)
MDR	0.00	21.55		21.55
HDR	1.70	0.36		(1.34)
C-2 (90/10 % mix)	0.00	14.14		
Commercial	0.36	0.16	17.94	17.74
I-1 (85/15% mix)	0.00	6.13		
Industrial	18.73	0.00	2.33	(16.40)

Table 3.3, Effect of Efficiency Measures, shows the effect to the land deficit need as a result of the above identified zone changes. With these changes the deficit in the Medium Density Residential category will be eliminated and the Commercial category deficit is nearly reduced by half. However, these changes also result in an increase in the Low Density Residential deficit and slight decreases to the acreage surpluses of High Density Residential and Industrial land.

Table 3.3: Effect of Efficiency Measures

Land Use Type	Efficiency Measures	Existing Land Needs	Adjusted UGB
LDR	(21.55)	(276.8)	(298.4)
MDR	21.55	(4.5)	17.1
HDR	(1.34)	13.9	12.6
Commercial	17.74	(51.8)	(34.1)
Industrial	(16.40)	45.0	28.6

Residential Expansion Recommendation

As shown on Table 3.3 above, the proposed zone changes to the 15 identified properties within the existing UGB resolve the land deficit in the MDR category but also result in an increase in the LDR category deficit. As such, expanding the UGB is still necessary in order to satisfy the identified low density residential need. The properties recommended to be included in an expanded UGB are generally those receiving high serviceability scores and are located such that they are readily serviced by existing facilities and accessible to transportation facilities. As discussed in detail below, the preferred expansion alternative includes 57 tax lots totaling 418.7 acres in gross area and 317.5 acres in net area.

The preferred Residential Expansion alternative shown on Map 14 consists of two primary expansion areas referred to in this study as the Northern and Southern Residential Expansion Areas. This expansion alternative provides for an efficient, orderly and economically viable expansion of the UGB providing for logical annexation of properties into the city limits. The specific properties included in this alternative are identified in Tables 3.4 and 3.5 below.

Northern Expansion Area - The Northern Expansion Area (NEA) includes 13 properties totaling 163.4 gross acres. Approximately 64.84 acres of the NEA is constrained, resulting in 98.56 net acres of buildable land. An easement associated with the Bonneville Power Administration high voltage line corridor is the primary constraint in this area. All properties in the NEA are rated high for sanitary sewer and water service and the majority of the area is close to existing transportation connections. A portion of this expansion area is identified to include the extension of a collector street as identified on the Transportation System Plan and the majority of the parcels in this area are greater than five acres in size.

Table 3.4: Northern Residential Expansion Properties

Map & Tax Lot	Gross Acres	Net Acres
24E10 00200	28.14	23.48
24E11 02200	38.95	26.60
24E11 02300	38.96	25.41
24E11 02900	5.92	5.64
24E11 02901	0.99	0.74
24E11 02902	2.96	2.46
24E11 03000	9.88	7.37
24E11 03100	8.52	2.69
24E11 03101	1.00	0.75
24E11 03102	0.36	0.32
24E11 03200	0.45	0.34
24E11 03202	9.55	2.76
24E11AB00600	17.72	0.00
Total	163.40	98.56

Southern Expansion Area - The Southern Expansion Area (SEA) contains 44 properties totaling 255.27 gross acres. Approximately 36.37 acres of the SEA is constrained, resulting in 218.9 net acres of buildable land. The primary constraint in this area is a portion of the Tickle Creek stream corridor. Most properties in the SEA are rated high for sanitary sewer and water service and the majority of the area is close to existing transportation connections. The SEA contains parcels in a range of sizes with the majority of parcels greater than two acres with a number greater than five acres in size.

Table 3.5: Southern Residential Expansion Properties

Map & Tax Lot	Gross Acres	Net Acres	Map & Tax Lot	Gross Acres	Net Acres
24E15 03700	1.85	1.60	24E24A 00801	6.22	3.73
24E23 00200	15.19	14.94	24E24A 00900	10.04	7.65
24E23 00501	4.36	4.11	24E24A 01000	2.80	1.36
24E23 00506	4.80	4.55	24E24A 01100	1.00	0.00
24E23 00507	4.86	3.53	24E24A 01200	2.60	2.35
24E23 00508	4.76	4.51	24E24A 01300	2.83	2.58
24E23 00514	2.05	2.05	24E24A 01400	2.00	1.75
24E23 00515	2.45	2.45	24E24A 01900	2.98	2.73
24E23 00516	2.41	2.16	24E24A 02000	4.40	4.15
24E23 00518	4.60	4.35	24E24A 02300	9.64	8.34
24E23 00800	2.36	2.36	24E24C 00100	25.35	21.68
24E23 00801	4.66	4.66	24E24C 01900	1.04	0.79
24E23 00802	4.75	4.75	24E24C 02000	1.05	0.80
24E23 00803	9.07	9.07	24E24C 02100	7.80	7.80
24E23 00804	2.34	2.34	24E24D 01400	4.86	4.60
24E24A 00400	11.90	9.72	24E24D 01700	3.28	3.03
24E24A 00401	2.36	2.11	24E24D 01800	2.20	1.95
24E24A 00500	3.65	2.54	24E24D 01900	1.17	0.92
24E24A 00501	1.49	1.24	24E24D 02200	3.04	2.79
24E24A 00600	1.00	0.75	25E19 01000	37.90	33.33
24E24A 00700	8.55	4.77	25E19 01800	17.97	14.46
24E24A 00800	4.00	2.16	25E19BB02500	1.64	1.39
			Total	255.27	218.90

Additional Residential Properties

In order to create a logical expansion boundary, 13 additional properties totaling 19.41 gross acres are proposed to be included in the preferred UGB residential expansion alternative. These properties are clustered in three separate locations near properties to be included in the residential expansion alternative and the Sandy River Park. Three of the properties are contiguous to the Southern Expansion Area just north of Highway 211 at Ponder Lane. Although relatively small in size and unlikely to have much additional development potential, including these properties in the UGB expansion alternative are needed to help facilitate development of the 15 acre property proposed to be included in the UGB expansion to the north of these properties. Eight properties proposed to be included are located adjacent to the Eastern Commercial Expansion Area (discussed below) at the far eastern boundary of the existing UGB. This area consists of residential properties located behind an area of mostly developed commercial properties along Highway 26 at Luzon Lane. Not including these properties would isolate a small group of residential properties at the far eastern border of the URA. The other two properties are located between the existing UGB and the Sandy River Park

to the south of Marcy Street. Including these two properties adds an island under one acre in size that has slope and access constraints. Table 3.6 lists the specific additional residential properties to be included in the preferred UGB expansion.

Table 3.6: Additional Residential Properties

Map & Tax Lot	Gross Acres
24E13BB00600	0.45
24E13BB00700	0.48
25E19AD00300	0.75
25E19AD00400	0.34
25E19AD00501	0.69
25E19AD00500	0.25
25E19AD00100	1.94
25E19AD00200	1.15
25E19AD01100	0.63
25E20 00900	6.59
24E23 00502	1.79
24E23 00201	2.35
24E23 00202	2.00
Total	19.41

Residential Land Expansion Summary

As described above, the preferred alternative for addressing the residential land need shown on Map 14 includes three types of properties: 1) efficiency measures to change Comprehensive Plan and Zoning designations for selected properties within the existing UGB; 2) developable land to add to the UGB; and, 3) additional properties to add to the UGB necessary to form a logical expansion boundary. In total, 70 properties representing 438.1 gross acres are proposed to be added to the UGB to address residential land needs.

Employment Expansion Recommendation

As noted on Table 3.3 above, with implementation of the efficiency measures discussed above a 34.1 net acre deficit of commercial land still exists in the UGB. For this reason the UGB will need to be expanded to include additional commercial land. The preferred Employment Expansion alternative consists of two primary expansion areas referred to in this study as the Eastern and Western Commercial Expansion Areas. The employment land expansion alternative as shown on Map 15 provides for an efficient, orderly and economically viable expansion of the UGB providing for logical annexation of properties into the city limits. The specific properties included in this alternative are identified in Table 3.7 below.

Eastern Expansion Area - The Eastern Expansion Area (EEA) includes eight properties totaling 12.67 gross acres which are adjacent to already development commercial properties. No portion of the EEA is constrained, resulting in 12.67 net acres of buildable land. Most properties in the EEA are rated high for water service and the majority of the area is close to existing transportation connections.

Western Expansion Area - The Western Expansion Area (WEA) contains 13 properties totaling 45.25 gross acres. Approximately 16.08 acres of the WEA is constrained, resulting in 29.17 net acres of buildable land. The primary constraint in this area is a tributary of the Tickle Creek stream corridor. Most properties in the WEA received high scores for sanitary sewer and water serviceability and the majority of the area is close to existing transportation connections. The WEA contains parcels in a range of sizes with about half of the parcels greater than two acres and one parcel greater than five acres in net area.

Table 3.7: Employment Expansion Properties

Western Expansion Area			Eastern Expansion Area		
Map & Tax Lot	Gross Acres	Net Acres	Map & Tax Lot	Gross Acres	Net Acres
24E10 04200	3.28	1.86	25E19AD00600	0.41	0.41
24E10 04300	0.44	0.00	25E19AD01300	1.00	1.00
24E10 04400	1.66	1.15	25E19AD01400	1.72	1.72
24E10 04500	2.54	2.54	25E19AD01401	4.19	4.19
24E10 05300	5.53	1.14	25E19AD01500	1.96	1.96
24E10 05301	0.93	0.93	25E19AD01900	1.50	1.50
24E10 05302	0.75	0.75	25E19AD02000	0.88	0.88
24E10 05400	20.32	12.95	25E20 01000	1.01	1.01
24E10 05490	0.29	0.29	Total	12.67	12.67
24E10 05500	2.57	1.81			
24E10 05501	1.94	1.79			
24E10 05502	2.00	1.44			
24E10 05503	3.00	2.52			
Total	45.25	29.17			

Additional Employment Properties

The preferred expansion recommendation also includes nine additional developed properties located near the Eastern Expansion Area along Highway 26 also shown on Map 15. The inclusion of these properties provides a natural extension of the UGB as the employment expansion alternative proposes including adjacent properties. Eventually the developed buildings in this area will be updated to meet City design standards or the properties will be redeveloped to meet City code for both building and site requirements. As explained above, already developed acres are not counted as vacant land to fulfill the identified land deficits. Table 3.8 list the additional employment lands proposed to be included in the UGB expansion.

Table 3.8: Additional Employment Properties

Map & Tax Lot	Gross Acres
25E19AD00601	0.39
25E19AD01000	0.64
25E19AD00900	0.45
25E19AD00800	0.46
25E19AD00700	0.45
25E19AD01101	0.50
25E19AD01700	1.20
25E19AD01800	1.37
25E19AD01403	3.07
Total	8.53

Sandy River Park Expansion Area

As noted in Chapter 1, the Final Study Area includes the 114.5 acre Sandy River Park property owned by the City of Sandy. This property was annexed into the city limits in 2012 but the property remains outside the UGB. The property is contiguous to the existing UGB and is designated Parks and Opens Space (POS) limiting development. The Sandy River Park annexation area also includes one inland consisting of six small properties totaling 3.38 acres located between the Sandy River Park boundary and the existing UGB. These properties have limited development potential due to steep slopes, limited access, and Development Code restrictions (Chapter 17.60). Table 3.9 lists the specific properties in this expansion area. The total area of the entire Sandy River Park Annexation Area is about 125 acres.

Table 3.9: Sandy River Park Properties

Map & Tax Lot	Gross Acres	Map & Tax Lot	Gross Acres
24E12 00602	9.53	24E13BB00100	19.45
24E14AA02100	1.13	24E12 00600	50.60
24E14AA02200	1.07	24E12 00700	8.60
24E14AA02490	0.51	24E12 00701	8.31
24E14AA02200	0.03	24E11DD00100	2.72
24E14AA02300	0.30	24E11DD03300	2.77
24E14AA02300	0.34	Sandy River	7.18
24E13BB00101	12.51	Total	125.06

Preferred Expansion Alternative Summary

As shown in Table 3.10, the preferred expansion alternative addresses all of the land needs identified in the 2015 Urbanization Study and the preferred alternative results in a slight surplus in all land use types. The alternative identifies both specific properties proposed to be to re-designated (efficiency measures) in the existing UGB and new properties to be included in an expanded UGB.

Table 3.10: Area of Land Surplus (deficit) of the Preferred UGB Expansion Alternative

Land Use Type	Existing Land Needs	Efficiency Measures	Expansion Alternative	Adjusted UGB
LDR	(276.8)	(21.55)	317.50	19.2
MDR	(4.5)	21.55		17.1
HDR	13.9	(1.34)		12.6
Commercial	(51.8)	17.74	37.66	3.6
Industrial	45.0	(16.40)	4.18	32.8

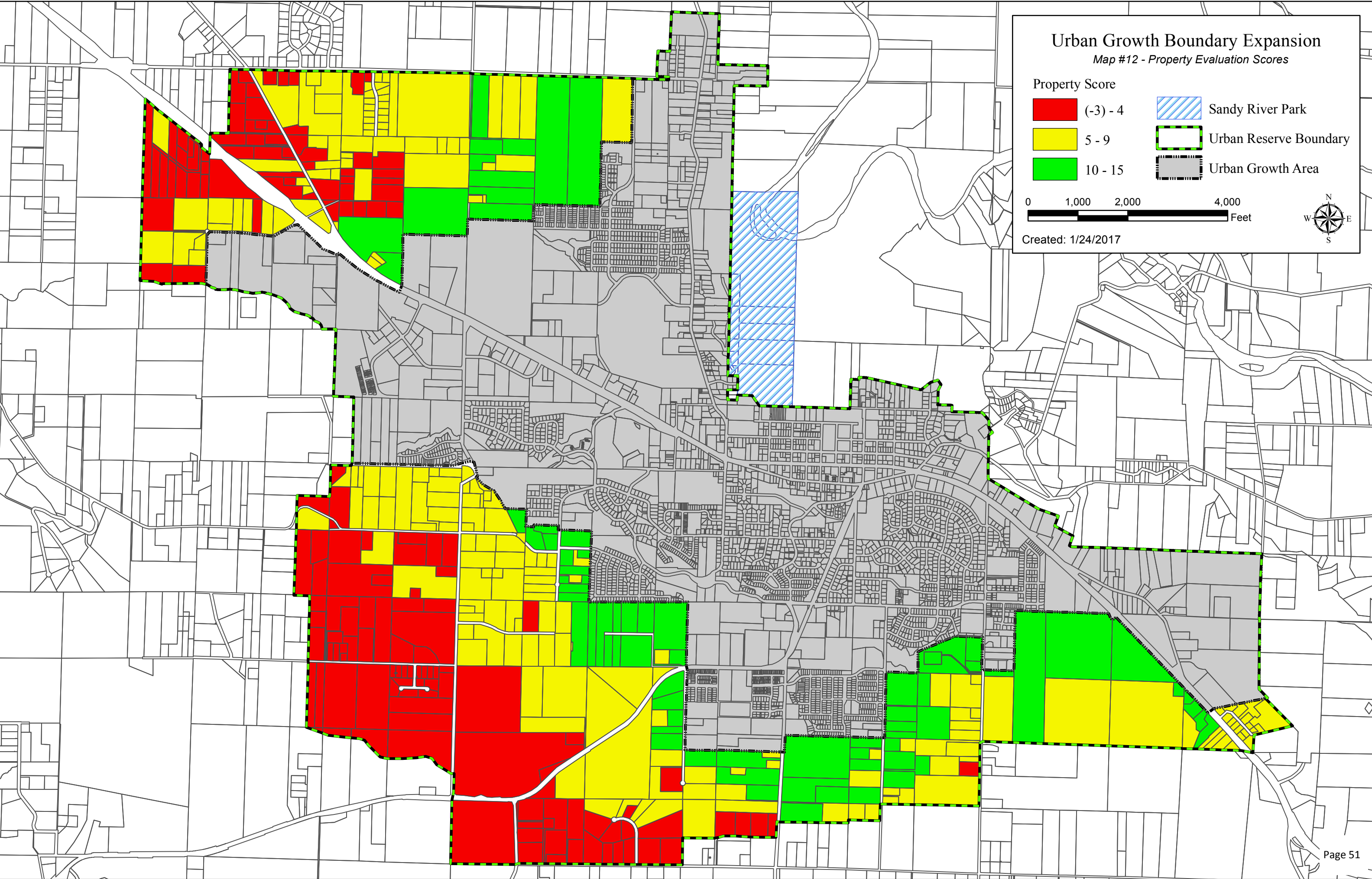
In addition to including properties in the preferred expansion alternative necessary to satisfy the identified land needs, additional residential and commercial properties with limited additional development potential have been included to provide a natural extension of the UGB. These properties include additional residential properties north of Highway 211 at Ponder Lane, residential properties east of Luzon Lane, developed commercial properties at the east edge of the UGB, and properties by the Sandy River Park. Map 16 shows all properties proposed to be included in the expanded UGB with the area of each property type shown on Table 3.11. 'Other Areas' as listed in Table 3.11 include existing rights-of-way and a portion of the Sandy River.

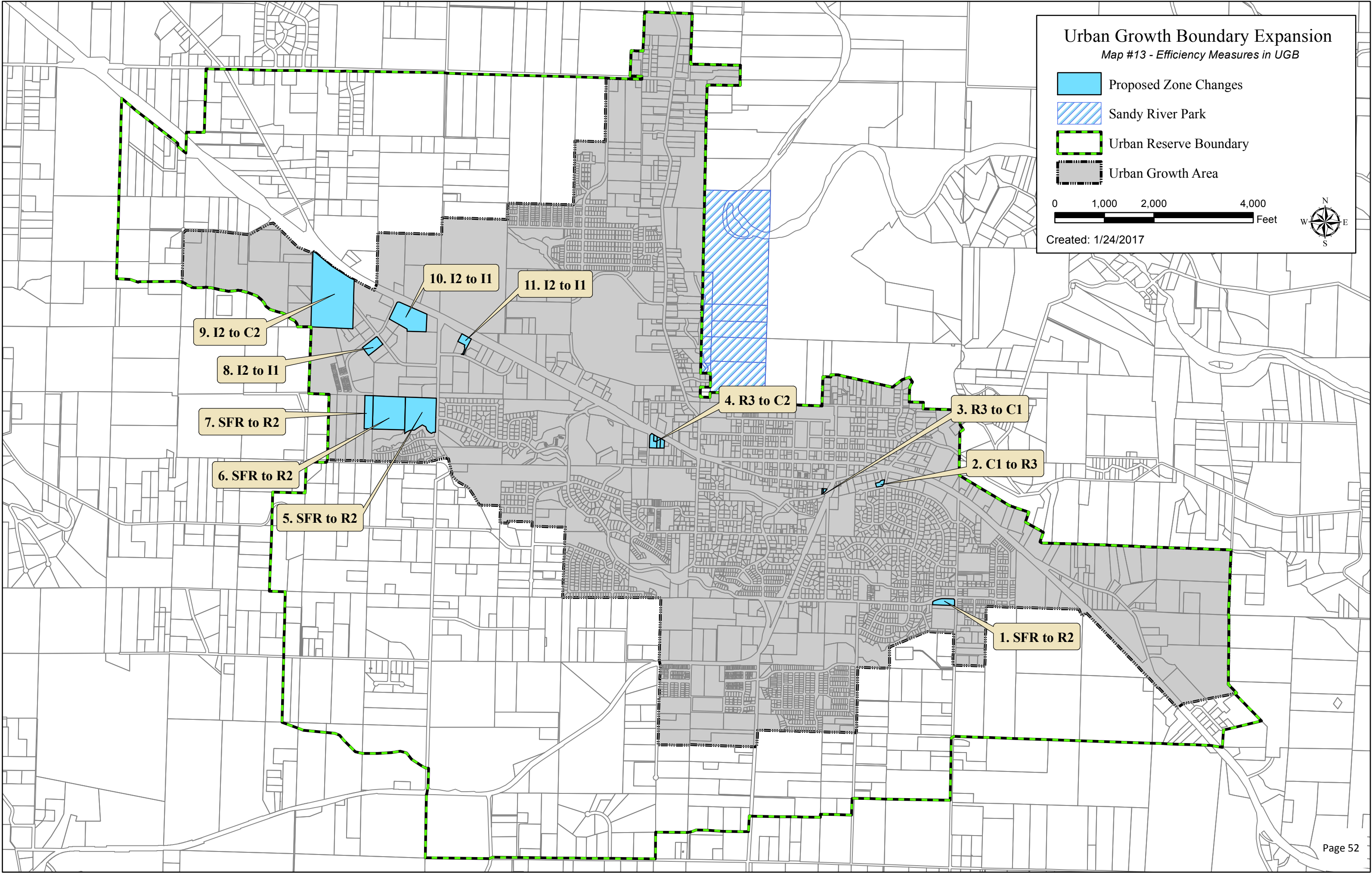
Table 3.11: Summary of UGB Expansion

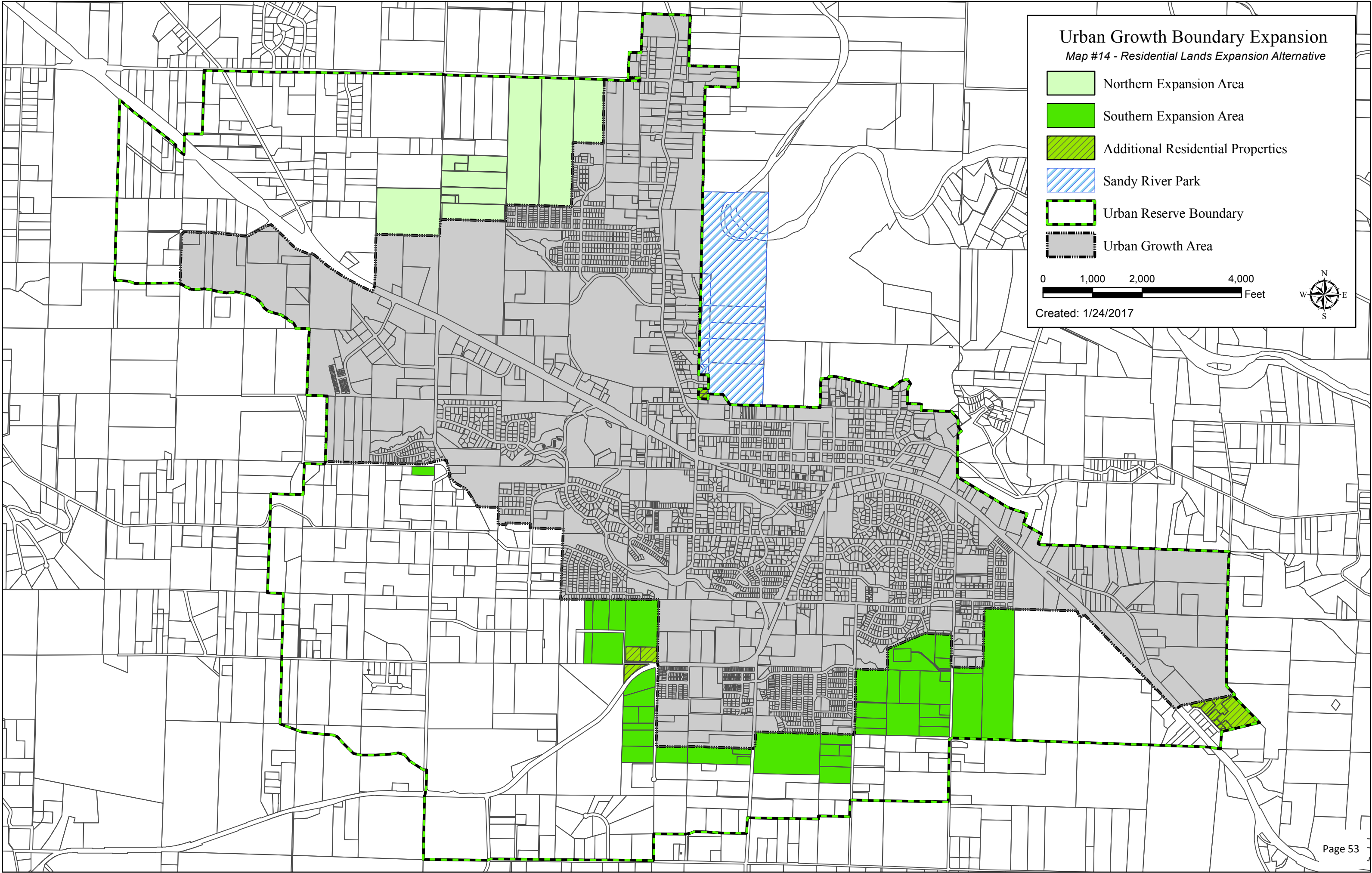
Land Use Type	Taxlots	Gross Acres	Net Acres
Residential	57	418.7	317.5
Additional Residential	13	19.4	19.4
Residential Total	70	438.1	336.9
Employment	21	57.9	41.8
Additional Employment	9	8.5	8.5
Employment Total	30	66.5	50.4
Sandy River Park	14	117.9	117.9
Other Areas	n/a	45.8	45.8
Total	114	668.2	550.9

Map 17 shows the preferred alternative identifying all properties to be included in an expanded UGB and the efficiency measure properties within the existing UGB. Map 18 shows the

proposed zoning for all properties in the preferred alternative and Map 19 shows these same properties in addition to the zoning designations for all properties within the existing UGB. Map 20 shows the Comprehensive Plan designations for all properties in the preferred alternative and within the existing UGB.



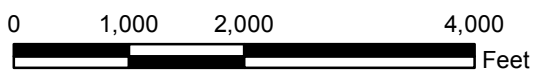




Urban Growth Boundary Expansion

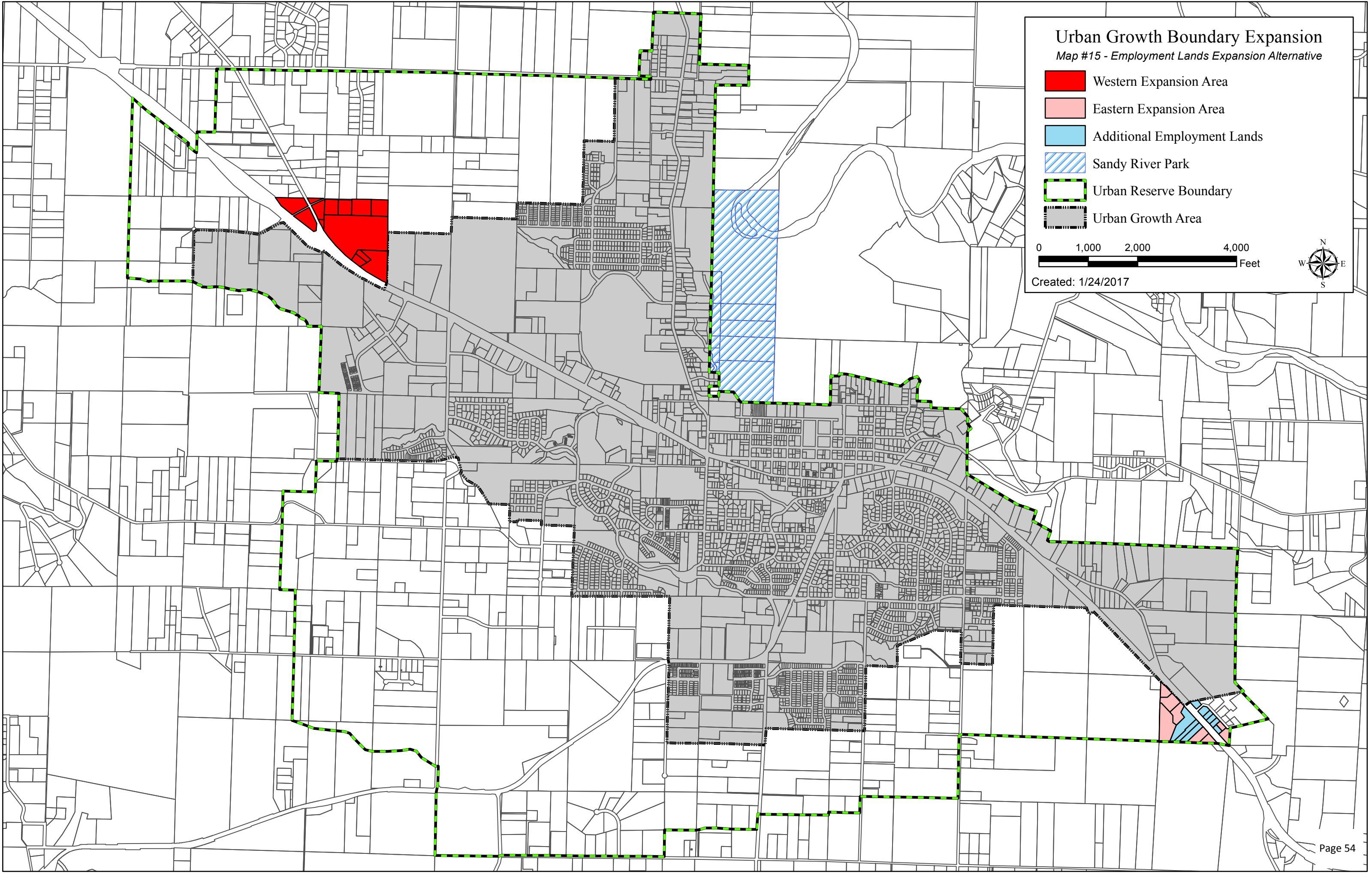
Map #14 - Residential Lands Expansion Alternative

- Northern Expansion Area
- Southern Expansion Area
- Additional Residential Properties
- Sandy River Park
- Urban Reserve Boundary
- Urban Growth Area



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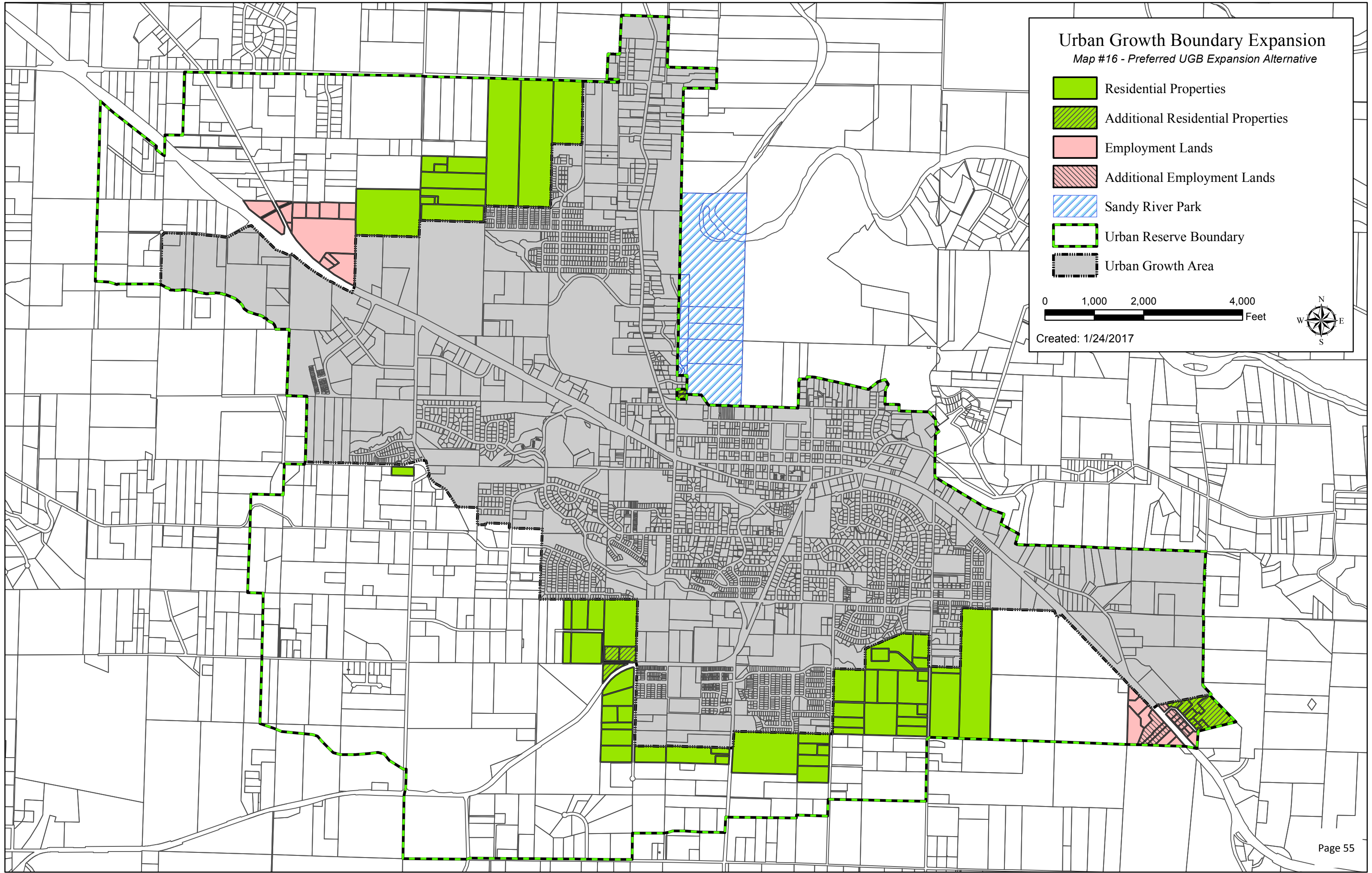
Urban Growth Boundary Expansion
Map #15 - Employment Lands Expansion Alternative

- Western Expansion Area
- Eastern Expansion Area
- Additional Employment Lands
- Sandy River Park
- Urban Reserve Boundary
- Urban Growth Area

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Urban Growth Boundary Expansion

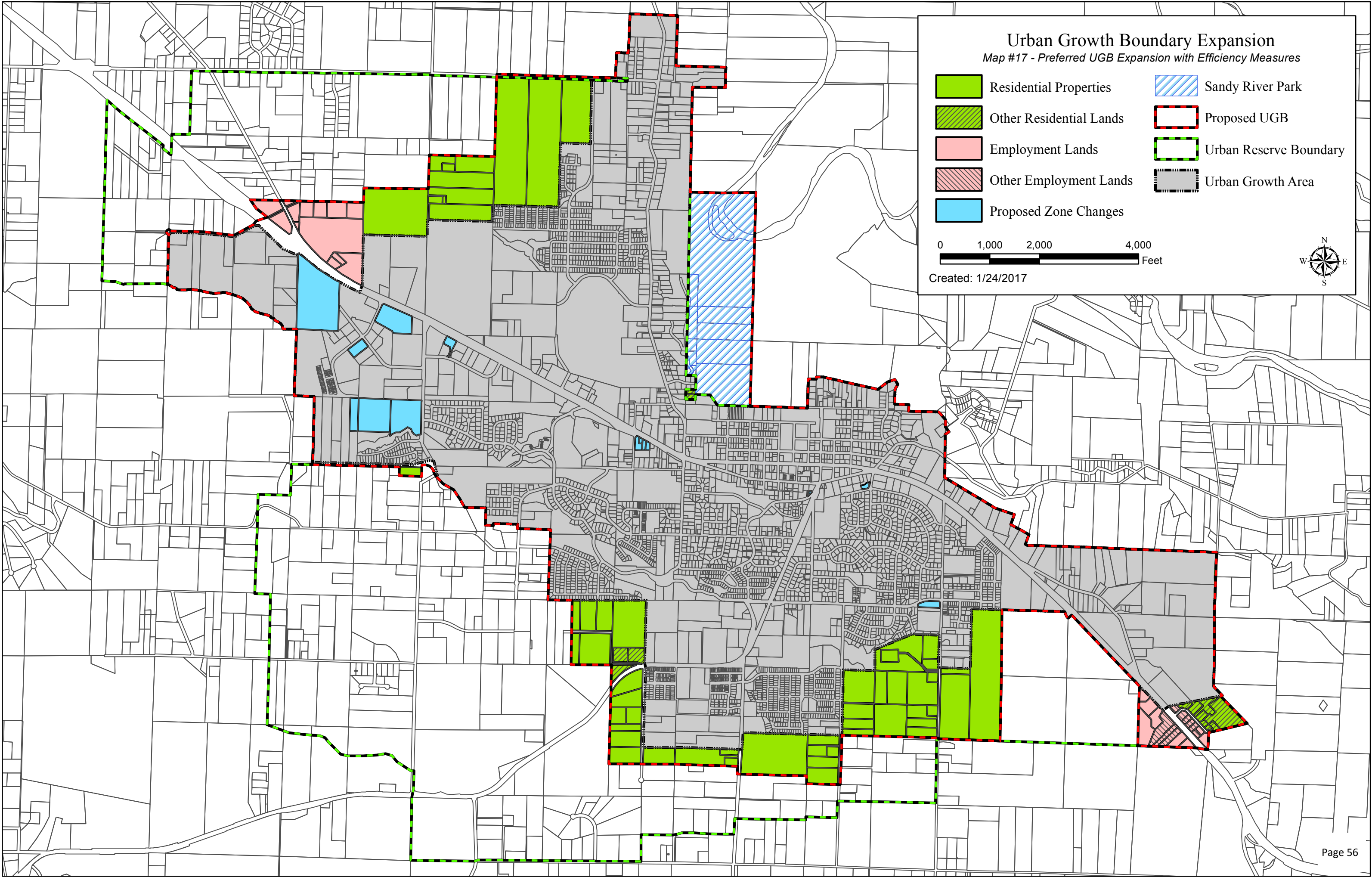
Map #16 - Preferred UGB Expansion Alternative

- Residential Properties
- Additional Residential Properties
- Employment Lands
- Additional Employment Lands
- Sandy River Park
- Urban Reserve Boundary
- Urban Growth Area

0 1,000 2,000 4,000 Feet





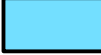
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Urban Growth Boundary Expansion

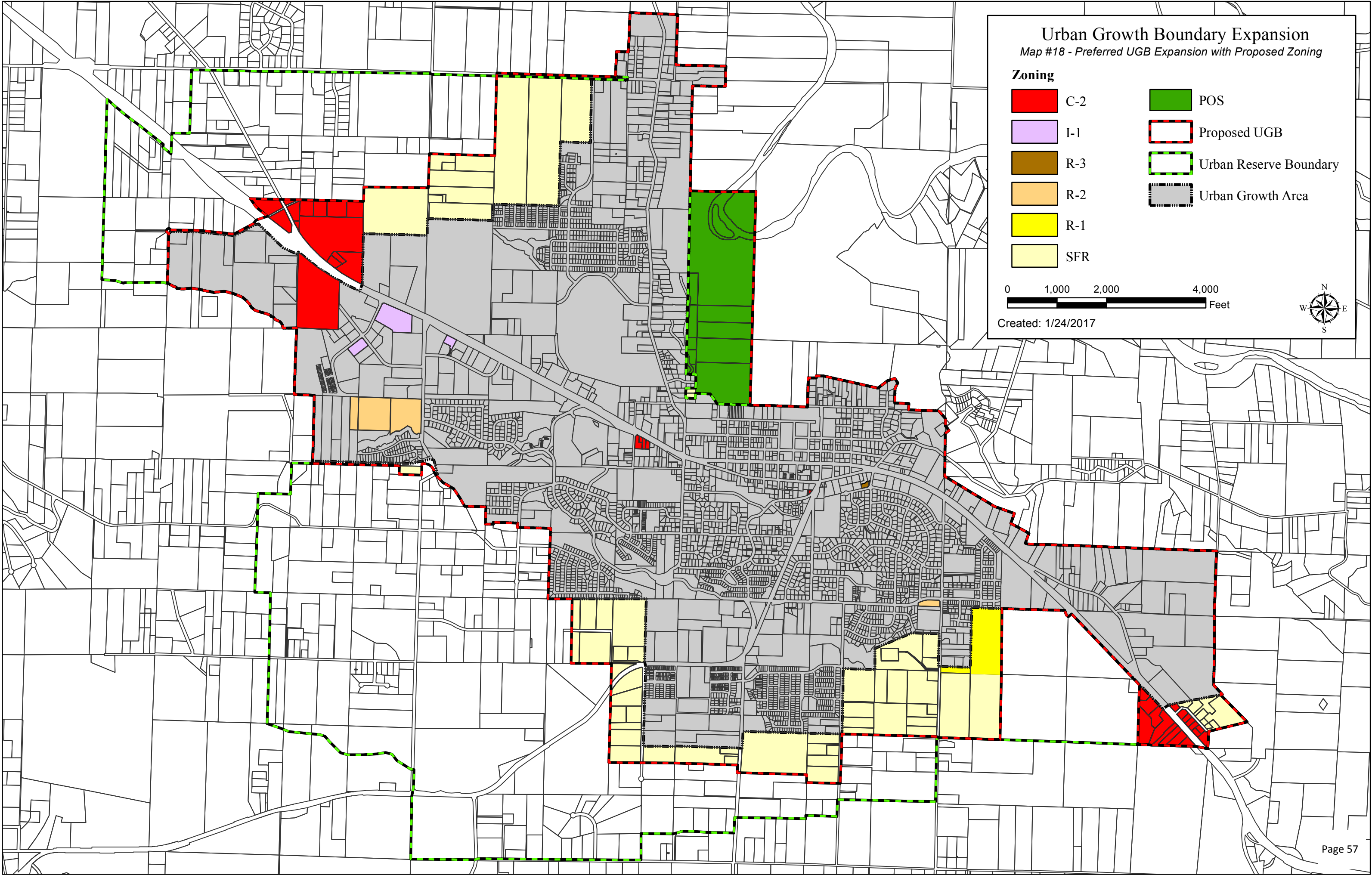
Map #17 - Preferred UGB Expansion with Efficiency Measures

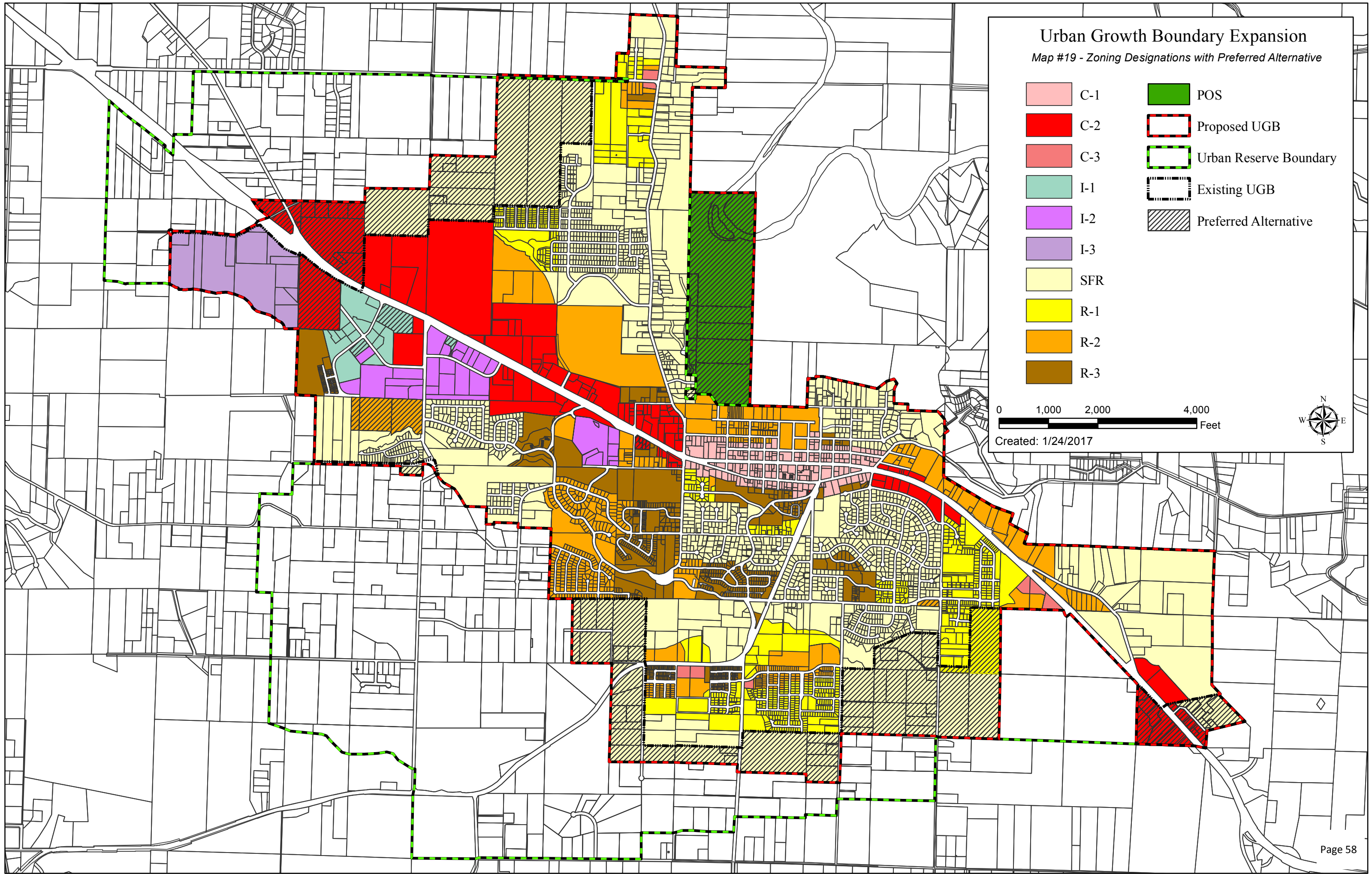
- | | |
|---|--|
|  Residential Properties |  Sandy River Park |
|  Other Residential Lands |  Proposed UGB |
|  Employment Lands |  Urban Reserve Boundary |
|  Other Employment Lands |  Urban Growth Area |
|  Proposed Zone Changes | |

0 1,000 2,000 4,000 Feet

Created: 1/24/2017










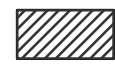











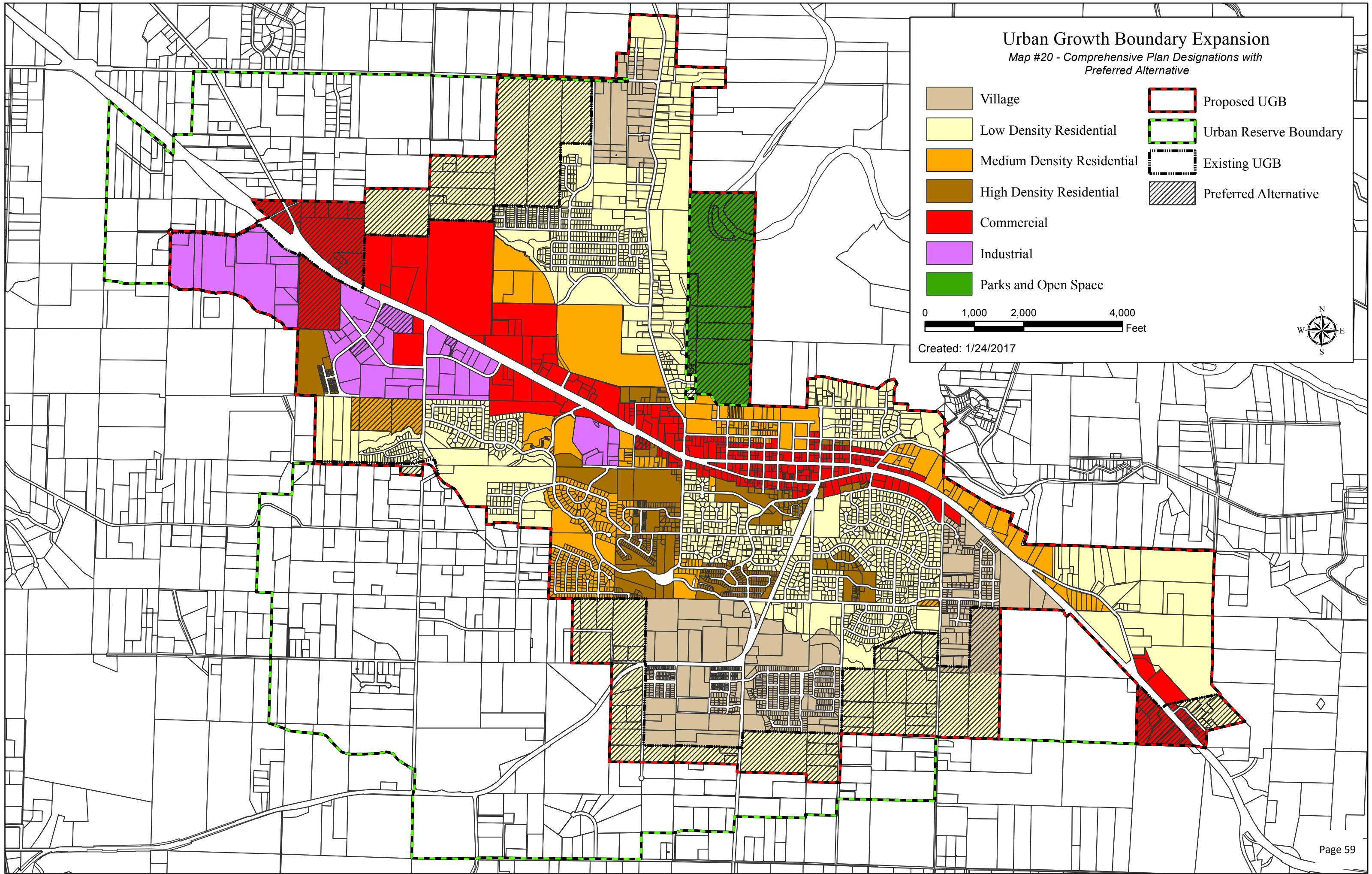
Urban Growth Boundary Expansion

Map #19 - Zoning Designations with Preferred Alternative

- | | | | |
|---|-----|---|------------------------|
|  | C-1 |  | POS |
|  | C-2 |  | Proposed UGB |
|  | C-3 |  | Urban Reserve Boundary |
|  | I-1 |  | Existing UGB |
|  | I-2 |  | Preferred Alternative |
|  | I-3 | | |
|  | SFR | | |
|  | R-1 | | |
|  | R-2 | | |
|  | R-3 | | |












0 1,000 2,000 4,000 Feet
Created: 1/24/2017

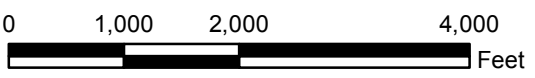




Urban Growth Boundary Expansion

Map #20 - Comprehensive Plan Designations with Preferred Alternative

- | | | | |
|---|----------------------------|---|------------------------|
|  | Village |  | Proposed UGB |
|  | Low Density Residential |  | Urban Reserve Boundary |
|  | Medium Density Residential |  | Existing UGB |
|  | High Density Residential |  | Preferred Alternative |
|  | Commercial | | |
|  | Industrial | | |
|  | Parks and Open Space | | |



Created: 1/24/2017



Chapter 4. Expansion Alternative Justification

The purpose of this chapter is to provide a review of relevant state laws and administrative rules related to expanding the urban growth boundary and legal Findings regarding applicable Statewide Planning Goals.

1. Goal 1 – Citizen Involvement. The City held three public workshops and two public hearings prior to adopting the Urban Growth Boundary Expansion Analysis (the “Analysis”). Public workshops were held on March 3 and March 8, 2016 and the City held a third workshop before the City Council on December 13, 2016. The City held one public hearing on November 28, 2016 before the Planning Commission and two public hearings were held before the City Council on January 17 and February 6, 2017. All workshops and public hearings were duly noticed in accordance with state law and the City’s code. In addition, the City applied for a comprehensive plan amendment with Clackamas County on January 4, 2017. Both the County’s Planning Commission and the Clackamas County Board of Commissioners will hold hearings to consider the parts of the Analysis pertinent to the County. Goal 1 is satisfied.
2. Goal 2 – Land Use Planning. With respect to the Analysis and its related amendments, Goal 2 requires that the City’s decision be coordinated with other governmental entities and be supported by an adequate factual base. The City adopted the Analysis in coordination with Clackamas County as described above. In addition, the City adopted the Analysis in coordination with the Oregon Department of Land Conservation and Development (“DLCD”) and the Oregon Department of Transportation (“ODOT”). Evidence of the City’s coordination with DLCD and ODOT is in the record. Once Clackamas County approves an amendment to the County’s plan consistent with the Analysis, the City will submit the Analysis to the Oregon Land Conservation and Development Commission (“LCDC”) for approval pursuant to ORS 197.626(1)(b) (requiring UGB expansions greater than 50 acres to follow the process for periodic review).

The decision is supported by an adequate factual base as demonstrated in the record, the Analysis and these findings. An “adequate factual base” requires that substantial evidence exist in the entire record to support the decision – that is, evidence that reasonable persons would rely on in making day-to-day decisions. *1000 Friends of Oregon v. City of North Plains*, 27 Or LUBA 372 (1994). The evidence relied upon by the Council in adopting the Analysis was collected by City of Sandy staff, in accordance with procedures and practices formulated and endorsed by DLCD and DLCD’s Goal 14 rules. Goal 2 is satisfied.

3. Goal 3 – Agricultural Lands. Pursuant to OAR 660-024-0020(1)(b), Goal 3 is not applicable to the decision.
4. Goal 4 – Forest Lands. Pursuant to OAR 660-024-0020(1)(b), Goal 4 is not applicable to the decision.

5. Goal 5 – Natural Resources. Goal 5 is not applicable to the decision. The decision does not affect a Goal 5 resource under OAR 660-023-0250(3)(a)-(c) because:
 - a. The decision does not “create[] or amend[] a resource list or a portion of an acknowledged plan or land use regulation adopted in order to protect a significant Goal 5 resource or to address specific requirements of Goal 5;”
 - b. The decision does not “allow[] new uses that could be conflicting uses with a particular significant Goal 5 resource site on an acknowledged resource list;” and
 - c. While the decision “amends an acknowledged UGB” no “factual information [was] submitted demonstrating that a resource site, or the impact areas of such a site, is included in the amended UGB area.”
6. Goal 6 – Air Water and Land Quality. The City’s Comprehensive Plan with respect to Goal 6 and its development regulations governing land, air and water quality are not affected by the decision. The lands brought into the UGB are all within the City’s existing Urban Reserve Area and will retain their existing zoning until annexed into the City in the future. Upon annexation and the application of City zoning designations to those lands, the City will evaluate Goal 6 to determine if any additional regulations are necessary to satisfy the goal beyond those that exist in the City’s plan and development code. Goal 6 is satisfied.
7. Goal 7 – Natural Hazards. The City’s Comprehensive Plan with respect to Goal 7 and its development regulations governing natural hazards are not affected by the decision. The City did consider constrained lands when it conducted its analysis of the UGB in 2015 (i.e. the BLA/HNP/EOA contained in the Urbanization Report). The Council adopted that report in 2015 by ordinance and that report is now deemed acknowledged under state law. As discussed in the Analysis, the City also considered various constraints on lands within the study area when it selected the final area of lands to bring into the UGB. The lands brought into the UGB are within the City’s existing Urban Reserve area and will retain their existing zoning until annexed into the City in the future. Upon annexation and the application of City zoning designations to those lands, the City will evaluate Goal 7 to determine if any additional regulations are necessary to satisfy the goal beyond those that exist in the City’s plan and development code. Goal 7 is satisfied.
8. Goal 8 – Recreational Needs. No resorts are contemplated or authorized by the decision. The City’s Comprehensive Plan with respect to Goal 8, its parks master plan and its development regulations governing recreational needs (e.g. park dedication/fee in-lieu-of requirements, open space provisions, etc.) are not affected by the decision. Goal 8 is satisfied to the extent it is applicable to the decision.
9. Goal 9 – Economy. The 2015 acknowledged Urbanization Report included an analysis and update of the City’s comprehensive plan with respect to Goal 9 and concluded the existing UGB did not contain sufficient employment lands to meet the City’s employment needs to 2034. Specifically, the Urbanization Report contains an economic opportunities analysis (“EOA”) that follows the methodology required by OAR 660-009-0015. Based on that

acknowledged EOA, the City has added approximately 38 acres of commercial land to its UGB and changed the zoning on approximately 18 acres to commercial zoning to satisfy its employment land needs through 2034. In addition, the Council relies on the study and findings contained in the Analysis to conclude that Goal 9 is satisfied.

10. Goal 10 – Housing. The 2015 acknowledged Urbanization Report included an analysis and update of the City’s comprehensive plan with respect to Goal 10 and concluded the existing UGB did not contain sufficient residential lands to meet the City’s housing needs to 2034. Specifically, the Urbanization Report contains a buildable lands inventory (“BLI”) and a housing needs projection (“HNP”), both of which follow the methodologies required by ORS 197.296, Goal 10 and OAR Chapter 660, division 8. Based on the acknowledged BLI and HNP, the City changed approximately 22 acres of low density residential land to another zoning designation to meet an identified need and added approximately 318 acres of low density residential land. To meet the identified medium density residential need, the City changed the zoning on approximately 22 acres of land zoned another designation to medium density residential. These changes satisfy the City’s housing needs through 2034. In addition, the Council relies on the study and findings contained in the Analysis to conclude that Goal 10 is satisfied.
11. Goal 11 – Public Facilities. The City’s Comprehensive Plan with respect to Goal 11, its public facility plan and its standards governing public facilities in its development code are not affected by the decision. The City’s comprehensive plan contains an acknowledged Goal 11 element that contains policies to ensure sufficient and adequate public services are available (or will be available as appropriate) to serve lands within the UGB. The Analysis prioritizes the serviceability of lands and discusses on a parcel-by-parcel basis which lands will be the easiest, least costly and least environmentally harmful to serve with public facilities. For these reasons and based upon the study and findings contained in the Analysis, the Council finds Goal 11 is satisfied.
12. Goal 12 – Transportation. For the lands that the City will bring into the UGB, the City’s Comprehensive Plan with respect to Goal 12, its transportation system plan and its standards governing transportation and transportation-related facilities are not affected by this decision. The City’s comprehensive plan has an acknowledged Goal 12 element that contains policies to ensure sufficient and adequate transportation facilities and services are available (or will be available as appropriate) to serve lands within the UGB. The City adopted a new transportation system plan in accordance with OAR Chapter 660, division 12 in December of 2011. That plan is now deemed acknowledged in accordance with state law. In addition, OAR 660-024-0020(1)(d) expressly does not require the City to conduct an analysis pursuant to the transportation planning rule (“TPR”) prior to adding lands to expand the UGB. This is because the lands that are being added to the UGB will retain their existing county zoning until the owners of the lands choose to annex into the City. At that time, the City will conduct a TPR analysis relative to those lands.

As explained in the Analysis, in addition to bringing new lands into the UGB, the City is also undertaking efficiency measures to rezone certain properties in the current UGB. State law encourages this approach and by doing so, the City is able to meet some of the needs identified in the acknowledged Urbanization Report within its existing UGB, thereby reducing the amount of land it needs to add to an expanded UGB.

For these rezoned properties, the TPR at 660-012-0060 requires the City to determine whether the rezoning would “significantly affect” an existing or planned transportation facility. If the City determines any of the rezoned properties would significantly affect an existing or planned facility, then the City must generally ensure that the allowed land uses in the new zone or zones will not exacerbate any deficiencies relative to the facility in question.

In order to address the TPR for these rezoned properties and determine whether the rezonings would result in significant effects, the City engaged a well-respected traffic engineer, John Replinger, to analyze the issues. Mr. Replinger’s analysis is attached to this study as Appendix D and is incorporated into these findings.

For one of the rezoned properties (Map Number 2), the rezoning will significantly *reduce* the trips generated by future development of the property.

For six other properties being rezoned (Map Numbers 1, 3, 5, 6, 7 and 11), Mr. Replinger’s analysis demonstrates that the rezoning of these properties will insignificantly affect relevant facilities (i.e. will *not* result in a significant effect under the TPR).

For three properties (Map Numbers 4, 8 and 10), Mr. Replinger’s analysis indicates that their rezoning will likely significantly affect relevant transportation facilities per the TPR’s criteria. In order to mitigate such effects, for these properties the City will impose trip caps on development on these properties, in accordance with the trip caps summarized in Table 2 of Mr. Replinger’s analysis. These caps will be imposed as conditions of approval on all future development of the properties identified as Map Numbers 4, 8 and 10. The TPR at OAR 660-12-0060(2)(d) expressly allows “transportation system management measures” such as trip caps as a remedy for significant effects on facilities. The City coordinated its transportation analysis of the rezoned properties with the state, including ODOT, and ODOT is satisfied with the City’s analysis, including the City’s proposed mitigation through the use of trip caps for Map Numbers 4, 8 and 10.

For these reasons, Goal 12 is satisfied.

13. Goal 13 – Energy Conservation. The City’s Comprehensive Plan with respect to Goal 13 and its standards governing energy conservation are not affected by the decision. The City’s acknowledged development code contains various criteria that implement Goal 13 (including lot size and siting controls, density considerations including opportunities to increase densities in exchange for additional open space and criteria to encourage and

maximize passive solar designs in new construction. These criteria will apply to all lands brought into the UGB in this decision upon their annexation into the City. Goal 13 is satisfied.

14. Goal 14 – Urbanization. The Analysis was prepared in strict conformance with the Goal 14 rule – OAR Chapter 660, division 24. The City initially undertook a study to evaluate its UGB and adopted the Urbanization Report by ordinance in 2015. As discussed above, the Urbanization Report found the City had needs for additional land in its UGB. The Urbanization Report is now acknowledged and served as the basis for the Analysis this decision approves.

The Analysis itself contains the rigorous analysis that OAR Chapter 660, division 24 demands and contains findings demonstrating compliance with Goal 14. It speaks for itself and therefore does not need to be restated in detail in this section of the findings.

For these reasons and based upon the Analysis' findings and conclusions, Goal 14 is satisfied.

15. Goals 15 – 19. Sandy is not subject to these Goals and thus they are not applicable.

16. SMC 17.24.70 – Comprehensive Plan Amendment Review Criteria.

- a. The need identified by the Council is the need to plan wisely for future growth within the City of Sandy. The City seeks to continue to provide sufficient residential and employment opportunities to its existing and future residents. In order to make this determination it must evaluate and analyze its anticipated future needs for residential and employment lands. Once the City adopted the 2015 Urbanization Report, it was clear that the City needed more land for employment and residential purposes.

As discussed above, Goal 14 and the Goal 14 rule govern this evaluation. In fact, with respect to future land use needs, the City believes it has little-to-no discretion to plan for future growth within Sandy without undertaking the analysis required by the rule. In response to a land shortage, the rule states the City “must amend [its] plan to satisfy the need deficiency.” The Analysis demonstrates that only a small portion of the need can be reasonably accommodated by increasing development capacity with the existing UGB. The City is meeting the remaining need by bringing Urban Reserve lands into the UGB. According to ORS 197A.320, these Urban Reserve lands are the first lands the City should consider when bringing new lands into the UGB.

- b. The decision complies with all applicable statewide planning goals as discussed in these findings and the record.

17. SMC 17.26.40 – Zoning District Amendment Procedures.

- a. This subsection addresses the relevant criteria proposed zone changes need to satisfy under the City's development code. When the City Council initiates a zone change (as it did for the 15 properties discussed in the Analysis and above in Section 12), the City must first find that sufficient cause exists to change the zoning designations. In this instance, the City finds that sufficient cause exists due to state law's desire for the City to explore efficiency measures when it undertakes a UGB expansion. That is, state law encourages jurisdictions such as Sandy to determine if they can rezone properties within an existing UGB in order to meet the needs that justify a UGB expansion in the first place. In this case, the City determined that by rezoning the ten properties, it could accommodate a portion of the housing and commercial needs the Urbanization Study identified. In doing so, the City is able to modestly reduce the amount of land it is bringing into the UGB in this decision.
- b. SMC 17.26.40(B)(1) requires the City to determine the effects of the zone changes on City facilities and services. In this instance, all of the properties are able to be served by water, sewer and transportation facilities and services. With respect to transportation facilities, as discussed above in Section 12, the City will impose trip caps on three of the properties as a condition of changing the zoning and will impose the trip caps on future development of the properties. The City finds the effects of the zone changes on facilities and services to be insignificant and finds this criterion to be satisfied.
- c. SMC 17.26.40(B)(2) requires the City to assure that the zone changes are consistent with the purposes and intent of SMC Chapter 17.26. SMC 17.26.00 describes the intent of the chapter. The zone changes will maintain sound, stable and desirable development in the City by modestly limiting the amount of additional land the City needs to bring into the UGB to meet long range needs. The development that will occur on the rezoned properties will continue to be subject to all applicable development criteria in SMC Title 17, which will ensure that such development is "desirable" and will conform to the City's requirements. The imposition of trip caps on three of the properties will ensure future development will remain sound and stable, by limiting traffic impacts that may otherwise occur in absence of trip caps. The zone changes are not being driven by private economic interests, but rather the City's interest in utilizing existing lands within the UGB more efficiently. This criterion is satisfied.
- d. SMC 17.26.40(B)(3) requires the City to assure that the zone changes are consistent with the policies of the Comprehensive Plan. The City relies on these Chapter 4 findings and the Analysis itself in finding that the zone changes are consistent with the policies of the Comprehensive Plan.
- e. SMC 17.26.040 requires the City to assure that the zone changes are consistent with applicable statewide planning goals and any other applicable policies or standards adopted by the City Council. The City relies on these Chapter 4 findings and the Analysis itself in finding that the zone changes are consistent with applicable statewide planning

goals. The City is not aware of any other applicable policies or standards that the City Council has adopted that would apply to these zone changes.

18. Relevant County Policies.

- a. Clackamas County Comprehensive Plan Chapter 4.A.2. This section requires the County to “[c]oordinate with affected cities in designating urban areas outside of Metro. Land designated as a Rural Reserve, as shown on Map 4-9, shall not be designated as an Urban Reserve or added to an urban growth boundary.” The section lists a number of issues to address when a city such as Sandy expands its UGB and designates property over which the County has jurisdiction as urban.

As discussed above and in the Analysis, the City is expanding its UGB solely into Urban Reserve areas to meet residential and employment land needs through 2034. The 2015 Urbanization Report, which is now acknowledged, demonstrates Sandy needs this land in order to continue to provide housing and employment opportunities to its residents, the County and the region.

The Urban Reserve lands added to the UGB are those that are best able to accommodate urban services in a manner that is least costly and most orderly to the City and the property owners. The Analysis contains a detailed study of this issue and is generally described in Factor 2 on page 29 of the Analysis.

The lands added to the UGB will ensure efficient utilization of land within urban areas. Factor 1 on page 29 of the Analysis addresses this issue. In essence, the City concludes the most efficient utilization will result from lands that are contiguous or adjacent to existing development. Because all of the lands are being drawn from the City’s existing Urban Reserve areas, the addition of these lands will ensure their efficient utilization.

For the reasons stated in the Analysis, the City believes the lands added to the UGB are best suited for urban uses based on consideration of environmental, energy, economic and social consequences. Factor 3 on page 29 of the Analysis describes the City’s reasoning as to why the lands it includes in the UGB expansion will have the fewest negative consequences on the environment, energy resources and economic resources and societal consequences. In essence, the lands’ immediate proximity to the existing UGB will generally lead to many positive ESEE consequences and very few negative ones.

The City is not adding any lands to the UGB that are zoned agricultural. Again, all lands being added are designated Urban Reserve. The City has considered the compatibility of the added lands with adjacent agricultural activities. Factor 4 on page 30 of the Analysis and other sections of the Analysis referred to in Factor 4 address this issue in detail. Ultimately, the City finds that the added lands are compatible with adjacent agricultural activities.

Finally, the City believes that the land it proposes to add to the UGB, all of which are within the City's Urban Reserve and abut the existing UGB, provide the best opportunities to limit commuting distances, traffic congestion and pollution. By virtue of abutting the current UGB, these lands will provide the shortest distance between the employment and recreational centers of Sandy and the homes and businesses that will locate on the added lands to the UGB.

- b. Urban Growth Management Agreement. The 2001 Urban Growth Management Agreement ("UGMA") between the City and the County assigns to the City the responsibility to initiate all legislative amendments to the City's UGB and URA. All final legislative amendments to the City's and County's plans regarding the UGB or URA are deemed incorporated into the UGMA. The UGMA states the City shall proceed with adoption of the amendment first, followed by County adoption of the amendment.

According to the UGMA, the City is responsible for all comprehensive plan designations in its UGB and its URA. Additionally, County zoning will remain in place in accordance with ORS 215.130, until the City applies a City designation. While not expressly stated in the UGMA, the City will only apply a City zoning designation at the time a property owner annexes into the City. Outside of existing exception areas, the County is prohibited from creating parcels less than 10 acres in size within the UGB or URA. The County may not upzone existing exception areas unless authorized by the City.

Appendix A. Property Evaluation Scores

This table presents the property score for each property in the study area.

Map & Tax Lot	Analysis Area	Property Score
24E09 05301	15	5
24E09 05302	15	3
24E09 05400	15	7
24E09 05401	15	1
24E09 05403	15	5
24E09 05405	15	3
24E09 05406	15	5
24E09 05407	15	6
24E09A 01300	15	3
24E09A 01400	15	3
24E09A 01401	15	3
24E09A 01500	15	5
24E09A 01501	15	2
24E09A 01601	15	2
24E09A 01700	15	4
24E09A 01800	15	2
24E09A 01900	15	2
24E09A 02000	15	3
24E09A 02100	15	3
24E09A 02200	15	4
24E09A 02300	15	3
24E09A 02400	15	3
24E09A 02500	15	2
24E09A 02600	15	3
24E09A 02700	15	3
24E09A 02701	15	3
24E09A 02702	15	1
24E10 00100	18	9
24E10 00200	18	11
24E10 00200	17	3
24E10 00201	18	6
24E10 00202	18	7
24E10 00203	18	9
24E10 00203	18	7
24E10 00204	18	7

Map & Tax Lot	Analysis Area	Property Score
24E10 01201	18	7
24E10 01300	17	5
24E10 01301	17	4
24E10 03400	15	5
24E10 03401	15	6
24E10 03402	15	6
24E10 03403	15	5
24E10 03404	15	4
24E10 03405	15	6
24E10 04100	15	6
24E10 04200	16	6
24E10 04300	17	3
24E10 04400	17	3
24E10 04500	16	8
24E10 05300	17	11
24E10 05301	17	9
24E10 05302	17	7
24E10 05400	17	11
24E10 05490	17	9
24E10 05500	17	4
24E10 05501	17	3
24E10 05502	17	4
24E10 05503	17	4
24E10AB00100	17	3
24E10AB00200	17	5
24E10AB00300	17	5
24E10AB00400	17	5
24E10AB00500	17	5
24E10AB00600	17	5
24E10AB00700	17	7
24E10AB00800	17	7
24E10AB00900	17	7
24E10AB01000	17	5
24E10AB01100	17	5
24E10AB01200	17	5
24E10AB01300	17	5
24E10AB01400	17	5
24E10AB01500	17	7
24E10AB01600	17	5
24E10AB01700	17	5

Map & Tax Lot	Analysis Area	Property Score
24E10AB01800	17	5
24E10AB01900	17	5
24E10AC00100	17	4
24E10AC00101	17	6
24E10AC00200	17	6
24E10AC00300	17	5
24E10AC00400	17	4
24E10AC00500	17	5
24E10AC00600	17	3
24E10AC00700	17	3
24E10AC00800	17	4
24E10AC00900	17	5
24E10AC01000	17	4
24E10AC01100	17	3
24E10AC01200	17	4
24E10AC01300	17	5
24E10B 00101	17	5
24E10B 00102	17	7
24E10B 00103	17	6
24E10B 00104	17	7
24E10B 00200	17	3
24E10B 00201	17	3
24E10B 00300	17	3
24E10B 00400	16	3
24E10B 00500	16	4
24E10B 00700	16	3
24E10B 00701	16	4
24E10B 00800	16	3
24E10B 00801	16	4
24E10B 00802	16	3
24E10B 00803	16	4
24E10B 00804	16	3
24E10B 00900	17	3
24E10B 00901	17	5
24E10B 01000	16	3
24E10B 01001	16	4
24E10B 01002	16	4
24E10B 01200	16	3
24E10B 01300	16	4
24E10B 01301	16	4

Map & Tax Lot	Analysis Area	Property Score
24E10B 01400	16	3
24E10B 01500	15	3
24E10B 01600	16	5
24E10B 01601	16	4
24E10B 01700	16	4
24E10B 01800	16	3
24E10B 01900	16	5
24E10B 02000	16	5
24E10B 02100	16	3
24E10B 02200	17	4
24E10B 02300	17	6
24E10B 02400	17	5
24E10B 02500	17	3
24E10B 02600	17	5
24E10B 02700	17	4
24E10B 02800	17	6
24E10B 02900	17	6
24E10B 03000	17	4
24E11 02200	20	11
24E11 02300	20	11
24E11 02400	19	9
24E11 02500	19	9
24E11 02600	19	9
24E11 02700	19	11
24E11 02800	19	13
24E11 02801	19	13
24E11 02900	19	9
24E11 02901	19	9
24E11 02902	19	12
24E11 03000	19	11
24E11 03100	19	13
24E11 03101	19	9
24E11 03102	19	9
24E11 03200	19	12
24E11 03202	19	15
24E11AB00600	20	9
24E14C 01100	11	11
24E14C 01200	10	8
24E14C 01300	10	8
24E14C 01600	10	6

Map & Tax Lot	Analysis Area	Property Score
24E14C 01700	10	9
24E14C 01701	10	6
24E14C 01800	10	5
24E14C 01801	10	7
24E14C 01900	10	7
24E14C 02000	10	5
24E14C 02300	11	10
24E14C 02400	11	10
24E14C 02500	8	14
24E14C 02600	8	11
24E14C 02700	8	9
24E14C 02701	8	10
24E14C 02800	10	5
24E14C 02801	10	5
24E14C 02802	10	7
24E14C 02900	10	8
24E14C 03000	8	10
24E14C 03100	8	9
24E14C 03200	8	11
24E14C 03300	10	8
24E14C 03500	10	8
24E14C 03600	10	8
24E14C 03700	8	12
24E14C 03800	8	10
24E14C 03900	11	7
24E14CB00300	14	9
24E14CB00400	11	5
24E14CB00401	11	5
24E14CB00600	11	6
24E14CB00700	11	5
24E14CB00800	11	5
24E14CB00801	11	8
24E14CB01100	11	9
24E14CB01101	11	10
24E14CB01200	11	8
24E14CB01300	11	7
24E15 01700	14	4
24E15 01800	14	5
24E15 02500	13	2
24E15 02502	13	3

Map & Tax Lot	Analysis Area	Property Score
24E15 02505	13	3
24E15 02600	13	3
24E15 02601	13	4
24E15 02700	13	3
24E15 02701	13	5
24E15 02800	13	3
24E15 03000	14	3
24E15 03000	14	3
24E15 03001	14	6
24E15 03101	14	7
24E15 03102	14	5
24E15 03103	14	4
24E15 03104	14	6
24E15 03200	14	8
24E15 03300	14	8
24E15 03400	14	8
24E15 03401	14	8
24E15 03500	14	9
24E15 03600	14	8
24E15 03700	14	9
24E15 03701	14	9
24E15 03800	14	8
24E15 03801	14	6
24E15 03802	14	6
24E15 03900	14	7
24E15 04000	14	7
24E15 04100	14	7
24E15 04200	13	4
24E15 04201	13	4
24E15 04300	13	2
24E15 04400	13	3
24E15 04500	13	5
24E15 04501	13	4
24E15 04600	13	3
24E22 00100	13	1
24E22 00101	13	0
24E22 00102	13	1
24E22 00103	13	4
24E22 00104	13	4
24E22 00200	13	1

Map & Tax Lot	Analysis Area	Property Score
24E22 00300	13	0
24E22 00301	13	0
24E22 00400	13	1
24E22 00401	13	0
24E22 00402	13	1
24E22 00403	13	1
24E22 00404	13	2
24E22 00405	13	1
24E22 00406	13	1
24E22 00407	13	1
24E22 00500	13	2
24E22 00501	13	2
24E22 00502	13	2
24E22 01200	12	0
24E22 01201	12	-2
24E22 01300	12	1
24E22 01400	12	3
24E22 01700	12	-1
24E22 01900	12	-1
24E22 01901	12	-2
24E22 02100	12	-3
24E22AD00100	12	-1
24E22AD00200	12	0
24E22AD00300	12	1
24E22AD00400	12	1
24E22AD00500	12	1
24E22AD00600	12	1
24E22AD00601	12	1
24E22AD00800	12	1
24E22AD00900	12	1
24E22AD01000	12	1
24E22AD01100	12	1
24E22AD01200	12	1
24E22AD01300	12	1
24E22AD01400	12	1
24E22AD01500	12	1
24E22AD01600	12	1
24E22AD01700	12	1
24E22AD01800	12	3
24E22AD01900	12	3

Map & Tax Lot	Analysis Area	Property Score
24E23 00200	8	13
24E23 00201	8	10
24E23 00202	8	8
24E23 00501	7	10
24E23 00502	7	9
24E23 00504	7	7
24E23 00506	5	12
24E23 00507	7	8
24E23 00508	7	10
24E23 00509	5	6
24E23 00510	7	4
24E23 00513	5	6
24E23 00514	7	10
24E23 00515	7	8
24E23 00516	7	10
24E23 00518	7	12
24E23 00600	7	7
24E23 00700	7	5
24E23 00701	7	9
24E23 00800	8	10
24E23 00801	8	12
24E23 00802	8	12
24E23 00803	8	11
24E23 00804	8	10
24E23 00805	8	11
24E23 00806	8	11
24E23 00807	8	10
24E23 00900	8	5
24E23 00901	8	11
24E23 01001	10	4
24E23 01002	10	6
24E23 01003	8	8
24E23 01100	8	7
24E23 01200	10	8
24E23 01202	10	8
24E23 01300	10	9
24E23 01301	10	9
24E23 01400	10	7
24E23 01401	10	6
24E23 01402	10	6

Map & Tax Lot	Analysis Area	Property Score
24E23 01403	10	6
24E23 01404	10	5
24E23 01405	10	5
24E23 01500	10	6
24E23 01600	10	7
24E23 01700	9	3
24E23 01800	9	7
24E23 01801	9	7
24E23 01803	9	7
24E23 01900	9	1
24E23 01901	9	4
24E23 02000	9	3
24E23 02100	6	7
24E23 02200	6	2
24E23 02300	6	1
24E23 02300	6	-1
24E23 02400	6	3
24E23 02500	6	1
24E23 02501	6	-2
24E23 02502	6	2
24E23 02503	6	1
24E23 02504	6	-1
24E23 02505	6	1
24E23 02506	6	-1
24E23 02507	6	-1
24E23 02600	6	-2
24E23 02700	6	-3
24E23 02800	6	-2
24E23 02802	6	-2
24E23 02803	6	-2
24E23 02804	6	0
24E23 02805	6	0
24E23 02806	6	7
24E23 02807	6	5
24E23 02808	6	5
24E23 02809	6	3
24E23 02810	6	-1
24E23 02811	6	-1
24E23 02812	5	7
24E23 02813	6	-2

Map & Tax Lot	Analysis Area	Property Score
24E23 02814	6	3
24E23 02815	6	6
24E23 02820	6	1
24E24A 00400	3	11
24E24A 00401	3	12
24E24A 00500	3	10
24E24A 00501	3	11
24E24A 00600	3	9
24E24A 00700	3	9
24E24A 00800	3	10
24E24A 00801	3	9
24E24A 00900	3	11
24E24A 01000	3	8
24E24A 01100	3	7
24E24A 01200	3	6
24E24A 01300	3	8
24E24A 01400	3	12
24E24A 01900	3	12
24E24A 02000	3	12
24E24A 02300	3	11
24E24C 00100	4	13
24E24C 00200	4	11
24E24C 00201	4	11
24E24C 00300	4	9
24E24C 00400	4	11
24E24C 01400	5	4
24E24C 01401	5	4
24E24C 01500	5	4
24E24C 01600	5	3
24E24C 01700	5	9
24E24C 01800	5	11
24E24C 01801	5	9
24E24C 01802	5	6
24E24C 01803	5	10
24E24C 01900	5	7
24E24C 02000	5	9
24E24C 02100	5	13
24E24D 00100	3	6
24E24D 00101	3	9
24E24D 00200	3	7

Map & Tax Lot	Analysis Area	Property Score
24E24D 00300	3	4
24E24D 00400	3	7
24E24D 00401	3	10
24E24D 00500	3	7
24E24D 00800	4	8
24E24D 00900	4	8
24E24D 01000	3	8
24E24D 01100	3	7
24E24D 01200	3	9
24E24D 01300	4	10
24E24D 01400	4	8
24E24D 01500	3	10
24E24D 01601	3	11
24E24D 01700	4	10
24E24D 01800	4	10
24E24D 01900	4	9
24E24D 02000	3	9
24E24D 02100	3	11
24E24D 02200	4	12
25E19 00600	2	15
25E19 00700	2	11
25E19 00701	2	9
25E19 00800	2	5
25E19 00900	2	15
25E19 01000	2	13
25E19 01800	2	9
25E19AD00100	1	7
25E19AD00200	1	7
25E19AD00300	1	5
25E19AD00400	1	5
25E19AD00500	1	5
25E19AD00501	1	5
25E19AD00600	1	5
25E19AD00601	1	5
25E19AD00700	1	5
25E19AD00800	1	5
25E19AD00900	1	5
25E19AD01000	1	5
25E19AD01100	1	7
25E19AD01101	1	7

Map & Tax Lot	Analysis Area	Property Score
25E19AD01300	2	11
25E19AD01400	2	11
25E19AD01401	2	8
25E19AD01403	2	10
25E19AD01500	2	11
25E19AD01700	2	7
25E19AD01800	2	7
25E19AD01900	2	7
25E19AD02000	2	7
25E19BB02500	2	11
25E20 00900	1	7
25E20 01000	1	5

Appendix B. Evaluation of Sanitary Sewer and Water Serviceability

prepared by Curran-McLeod, City Engineer

CURRAN-McLEOD, INC.
CONSULTING ENGINEERS

6655 S.W. HAMPTON STREET, SUITE 210
PORTLAND, OREGON 97223

MEMORANDUM

DATE: May 8, 2015

TO: Mr. Mike Walker, Public Works Director
Mr. Tracy Brown, Planning Director
City of Sandy

FROM: Curt McLeod, PE

**RE: CITY OF SANDY
FEASIBILITY ANALYSIS FOR WATER AND SEWER
SYSTEM EXPANSION INTO URBAN RESERVES**

As a component of the master planning for expansion of the Urban Growth Boundary into the Sandy Urban Reserves, we have completed a feasibility overview of providing water and sanitary sewer service. This is intended to assist you in prioritizing expansion into these areas.

The area between the UGB and the Urban Reserve has been divided up into 20 subareas – 6 areas to the northwest, and 14 to the south. The areas have an average of 114 acres, but vary in size between 19 and 223 acres.

SANITARY SEWER COLLECTION SYSTEM

Generally speaking, the existing sanitary sewer system can provide gravity service to the areas contained within the Urban Reserves. There are some notable limitations, though. In the far southwest corner of the Urban Reserve, there is a substantial natural slope away from the existing collection system which impacts all of Area 12, and portions of Areas 6, 8, 9, 10, 13, and 14. These areas can either be pumped, or served by routing a sanitary collection line outside of the Urban Reserve and take advantage of the overall elevation drop that occurs as the hills subside to the west of the City.

There is also a small area in the southern section of Area 1 where there is a downward slope away from the Urban Reserve that would most likely require a sanitary alignment outside of the Urban Reserve, as shown on the attached drawings.

The existing sanitary infrastructure can serve all other areas of the Urban Reserves without additional pumping stations.

The results of our analysis can be seen on the four printouts titled Sanitary Sewer Feasibility Maps. The maps show the low point of service to each area as well as the alignment of the major valleys through these areas with the thick blue line. You should be able to see which areas immediately developable and which will depend upon an adjacent area before development can occur. We show the proposed connection points for each area or section of areas, but that connection point could change as more detailed planning occurs.

WATER DISTRIBUTION SYSTEM

Using the PDF data and locations of the PRVs provided by the City of Sandy, we were able to identify five pressure zones: Sandercock Reservoir, Langensand East, First Level, Second Level, and N Bluff. Our goal for this analysis was to identify the regions within the UGB Expansion Areas that would be served by each pressure zone with service pressured between 40 and 80psi. To identify the hydraulic grade line, which in turn establishes the service elevations, we used the median elevation and pressures for the PRVs that serve each zone.

For Areas 1 -14, approximately 5.8% of the total area was found to be at a lower elevation, and thus a higher pressure than any pressure zone could serve. Therefore, for these areas, located in Areas 10, 11, 13, and 14, additional PRV stations are required to meet the 40 to 80psi window.

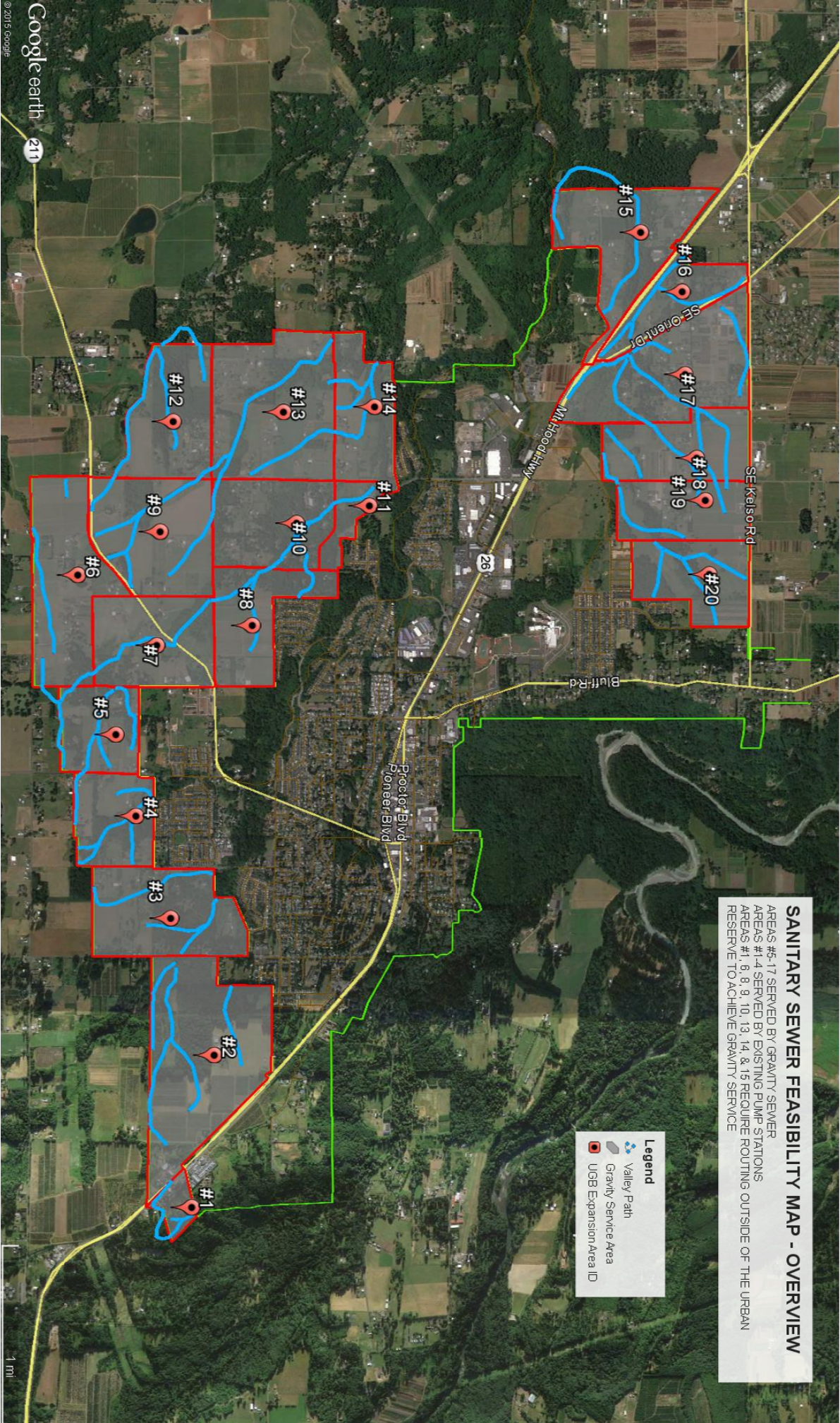
For Areas 15-20, only the far northeast portion was found to be immediately serviceable without PRVs. As you move to the west, and lower in elevation, and thus higher pressures, PRV stations will be required to stair-step the service pressures to stay in an acceptable pressure window.

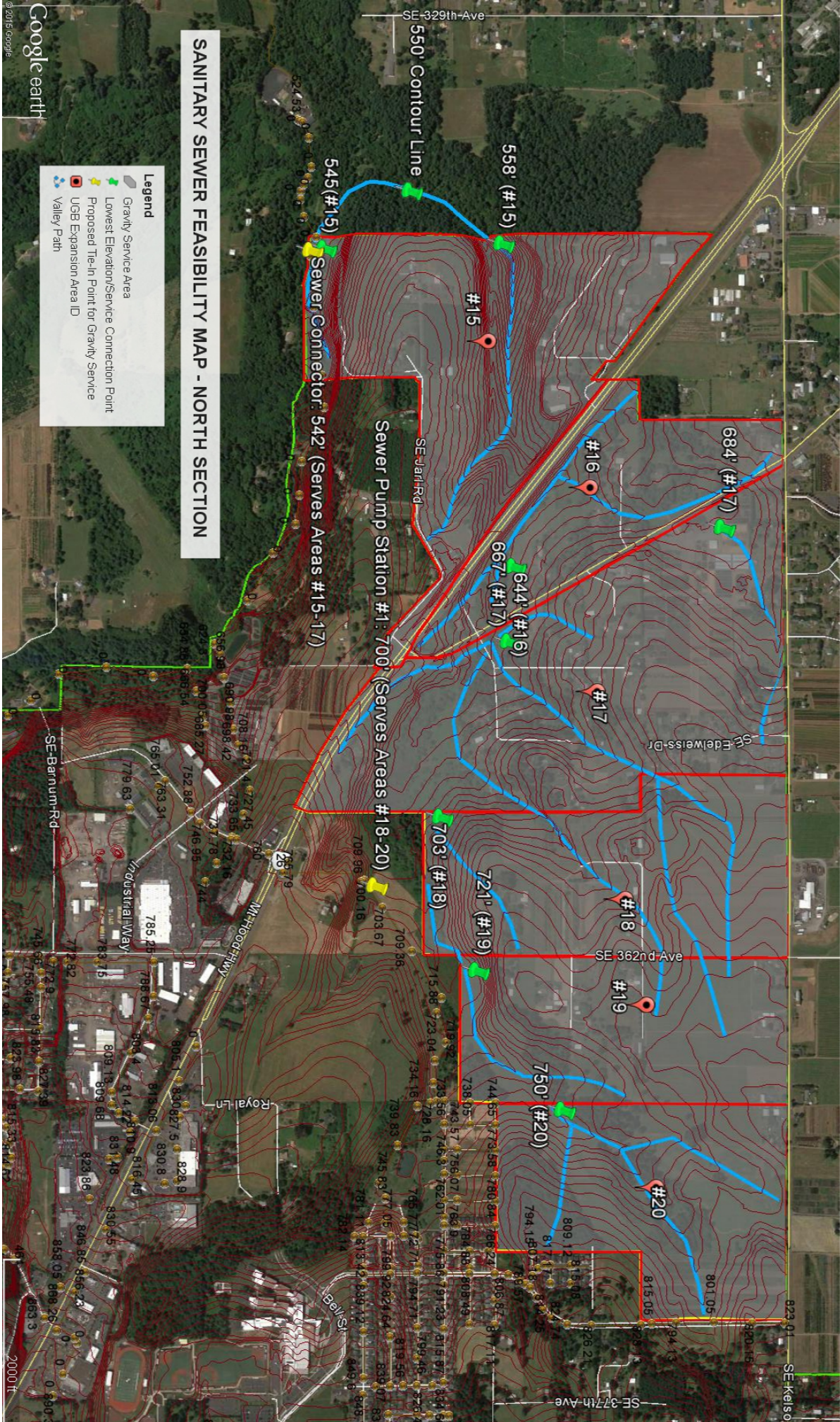
The results of our analysis can be seen on the four printouts titled Water Distribution Feasibility Map. These maps are color coded to show what pressure zones will serve each area. The pressure zones are limited to 40-80psi, but for the areas where pressures exceed the 80psi maximum, we have drawn lines and assigned differing colors at 20psi increments, i.e. 80 to 100, 100 to 120, 120 to 140, etc. You will be able to see precisely the areas at the west end, both north and south of the highway, where PRVs will be required.

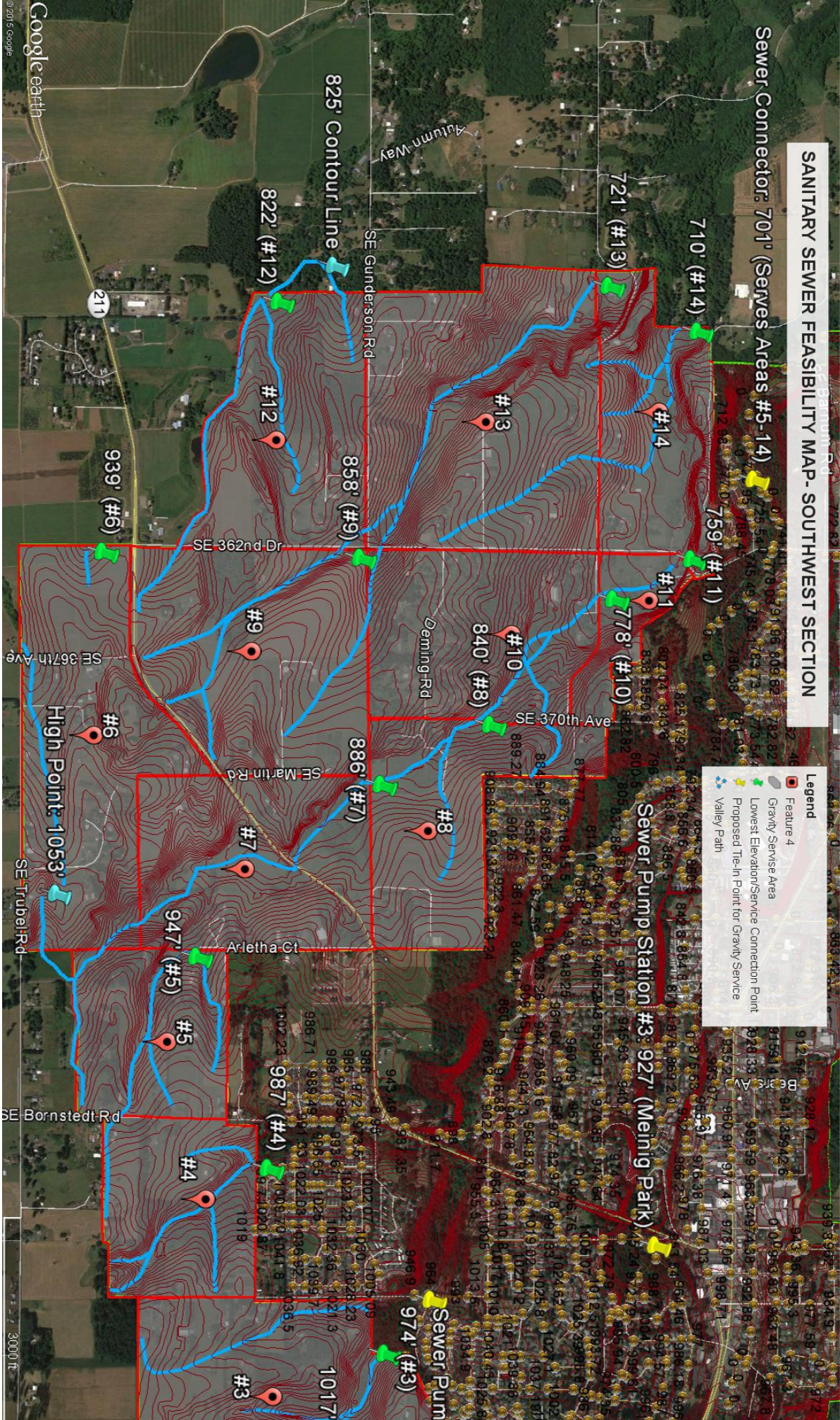
DELIVERABLES

We are supplying these maps to you via a link to our FTP site at HighTail, where you can download and view all eight jpegs for the water and sanitary analysis, as well as a PDF document, the raw .kmz (Google Earth) file, an Excel file with the raw data for the pressure zone analysis, and the PDFs from the city that we used in our analysis.

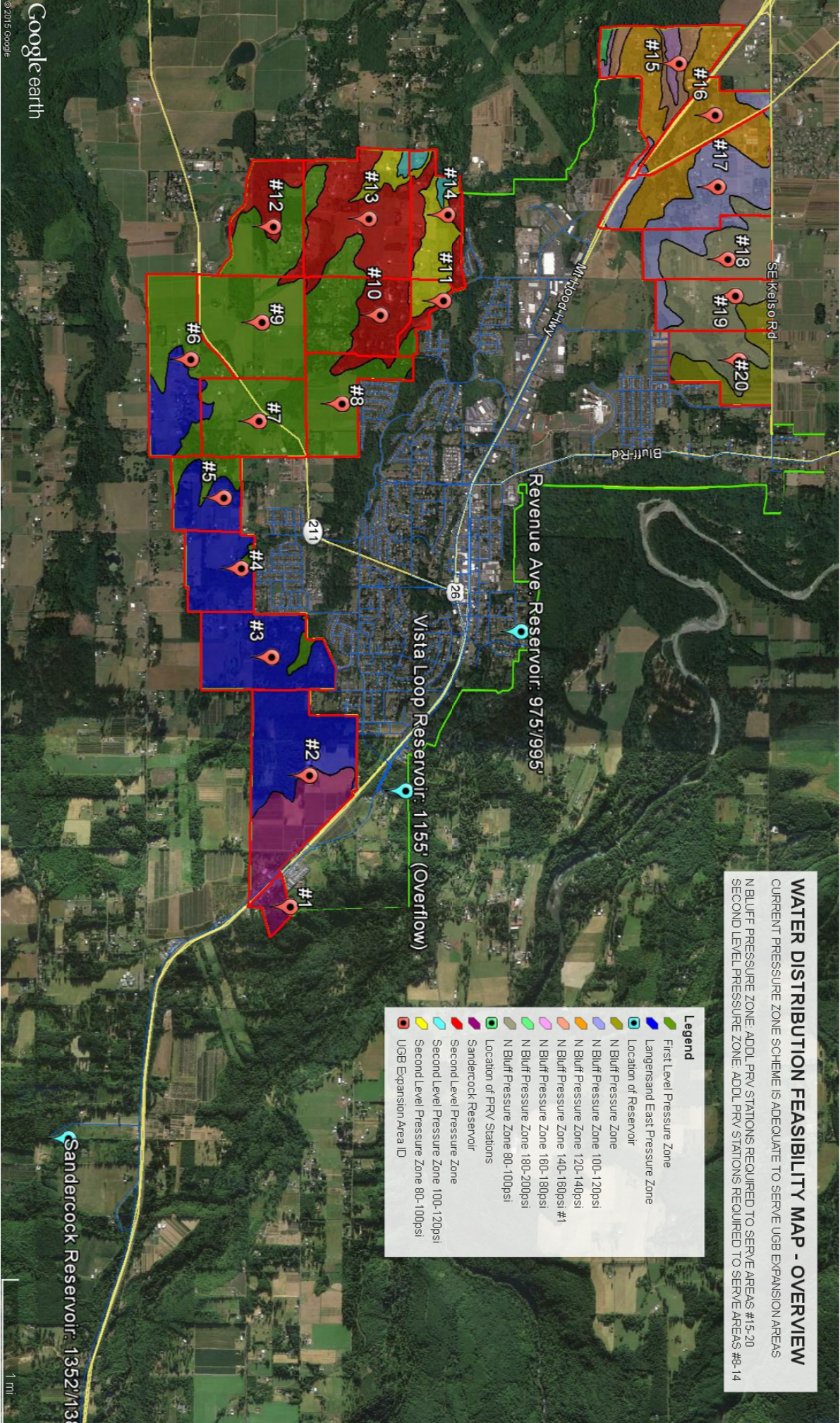
Let me know if you have questions and or concerns or what additional information will assist in your efforts.

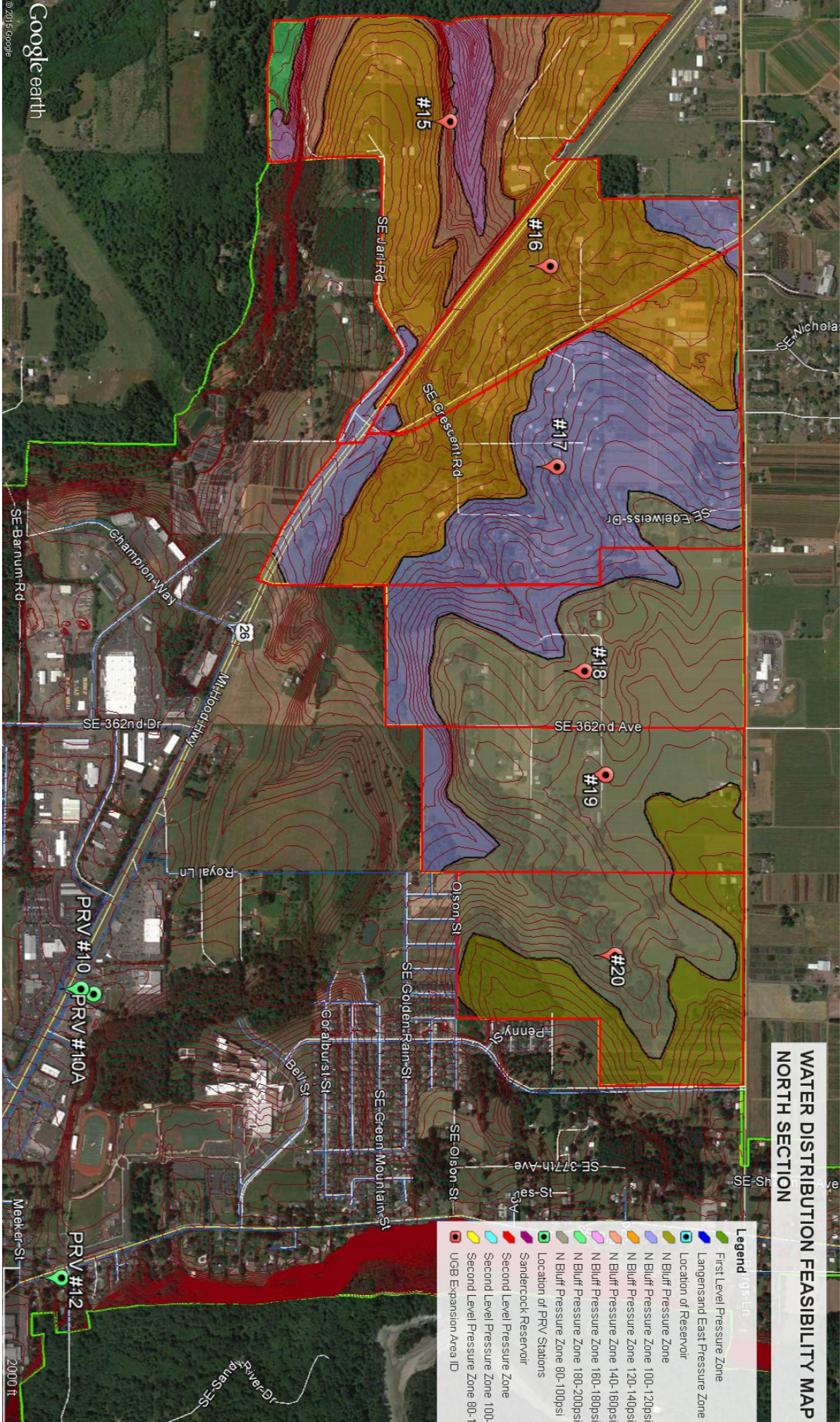








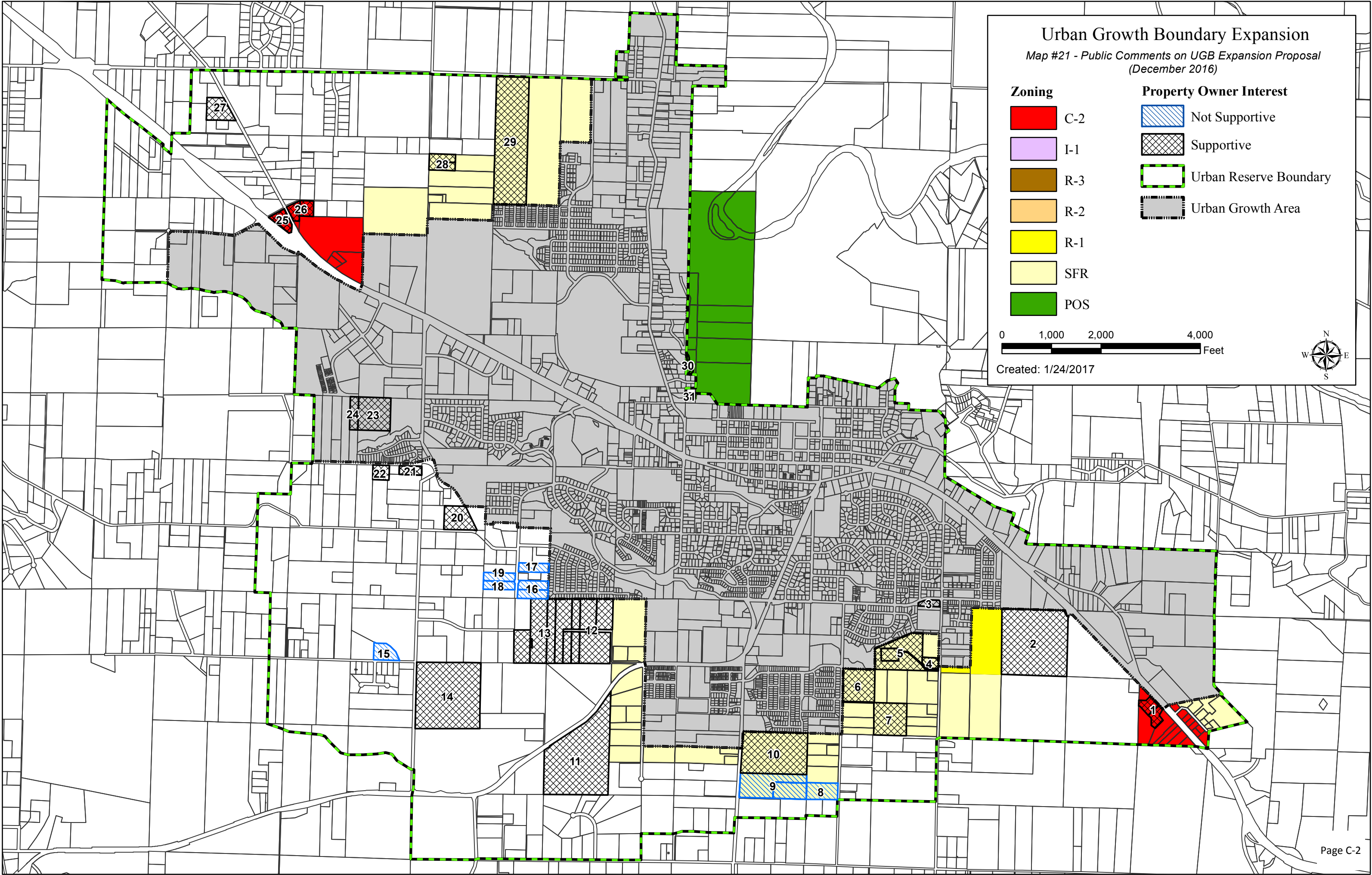




Appendix C. Review of Public Involvement and Comments

Public involvement has been a key component of the Expansion Analysis project. The City held public workshops on March 3 and March 8, 2016 to introduce the study to the public. At this meeting and afterwards, owners of land within the study area were asked to complete a survey indicating their level of support for being included in an expanded UGB. A public hearing was held before the Planning Commission on November 28, 2014 to gather additional input. In addition, written comments were received from several property owners during the process.

Map 21 shows the location of all public comments received prior to the City Council January 17, 2017 public hearing and the attached list following this map summarizes each of these comments. All of the comments were considered in developing the final expansion alternative.



**Review of Public Comments on UGB Expansion Analysis
(Comments Received to Date – December, 2016)**

1. These two properties totaling 3.68 acres are owned by John Boyles and are proposed to be included in the UGB. Mr. Boyles indicated with the property owner survey and at the PC hearing that he is supportive of these properties being included in the UGB.
2. This 39.81 acre parcel owned by Bill Knapp is not proposed to be included in the UGB expansion. The parcel is located directly east of a 36.84 acre parcel also owned by Mr. Knapp that is proposed to be included in the UGB. The property received a property evaluation score of 14. Mr. Knapp requested at the PC hearing that this property be included in the expanded UGB.
3. This 1.19 acre parcel owned by Joan Ragan is located in the existing UGB. The zoning designation for this parcel is proposed to be changed from SFR to R-2. Ms. Ragan indicated at the PC hearing she supports this change.
4. This 1.49 acre parcel owned by the Rognle Family Trust is proposed to be included in the expanded UGB. In a phone conversation with the owner he indicated he supports this proposal.
5. These two parcels owned by the Carl Engdall Living Trust total 14.26 acres and are proposed to be included in the expanded UGB. The property owner filled out a survey indicating he is supportive of this proposal.
6. This 9.7 acre parcel owned by Cory Knight is proposed to be included in the expanded UGB. The property owner filled out a survey indicating he is supportive of this proposal.
7. This 10 acre parcel owned by John and Bonnie Drake is proposed to be included in the expanded UGB. Ms. Drake testified at the PC hearing that she was supportive of this proposal.
8. This 4.86 acre parcel owned by Robert Miller is proposed to be included in the expanded UGB and received a property evaluation score of 9. Mr. Miller testified at the PC hearing that he does not support being included.
9. These two parcels totaling 15.27 owned by Barbara and Jeff Moyer are proposed to be included in the expanded UGB. Both properties received a property evaluation score of 10. A discussion with Ms. Moyer indicated she does not support being included.

10. This 25.35 acre parcel owned by William Bloom is proposed to be included in the expanded UGB. The property owner filled out a survey indicating he is supportive of this proposal.
11. This 46.63 acre parcel owned by John Boyles is not proposed to be included in the expanded UGB due to its location and difficulty in providing services at this time. The property received a property evaluation score of 7. Mr. Boyles filled out a survey indicating he would like to be included in the expanded UGB.
12. These five parcels totaling 23.18 acres are owned by Grant Sturm and are not proposed to be included in the expanded UGB. The properties received property evaluation scores of 9,11,11,10 and 9. The property owner submitted a letter and testified at the PC hearing they would like to be included in the expanded UGB.
13. These six parcels totaling 29.80 acres are owned by Richard Pullen and are not proposed to be included in the expanded UGB. The properties received property evaluation scores of 10,10,9,4,10 and 6. The property owner submitted a letter and testified at the PC hearing he would like to be included in the expanded UGB.
14. This 39.7 acre parcel owned by Alexander and Penny Heckel is not proposed to be included in the expanded UGB due to its location and difficulty in providing services at this time. The property received a property evaluation score of 3. Ms. Heckel filled out a survey indicating he would like to be included in the expanded UGB.
15. This 3.28 acre parcel owned by Ronald Calhoun is not proposed to be included in the expanded UGB due to its location and difficulty in providing services at this time. Mr. Calhoun filled out a survey indicating he is not supportive of being included in the expanded UGB.
16. These two parcels totaling 4.99 acres are owned by Jack Gilbert and are not proposed to be included in the expanded UGB due to their location and difficulty in providing services at this time. Mr. Gilbert filled out a survey indicating he is not supportive of being included in the expanded UGB.
17. This 2.5 acre parcel owned by Stephanie Cameron is not proposed to be included in the expanded UGB due to its location and difficulty in providing services at this time. Ms. Cameron filled out a survey indicating she is not supportive of being included in the expanded UGB.
18. This 2.47 acre parcel owned by Steven Breck is not proposed to be included in the expanded UGB due to its location and difficulty in providing services at this time. Mr. Breck filled out a survey indicating he is not supportive of being included in the expanded UGB.

19. This 2.46 acre parcel owned by Eric Pettis is not proposed to be included in the expanded UGB due to its location and difficulty in providing services at this time. Mr. Pettis filled out a survey indicating he is not supportive of being included in the expanded UGB.
20. This 5.99 acre parcel owned by James Dorning is not proposed to be included in the expanded UGB due to its location and difficulty in providing services at this time. The property received a property evaluation score of 9. Mr. Dorning filled out a survey indicating he is supportive of being included in the expanded UGB.
21. This 1.85 acre parcel owned by Robert Stubbs is not proposed to be included in the expanded UGB due to its location and difficulty in providing services at this time. The property received a property evaluation score of 9. Mr. Stubbs filled out a survey and testified he is supportive of being included in the expanded UGB.
22. This 2.23 acre parcel owned by Gerald Goff is not proposed to be included in the expanded UGB due to its location and difficulty in providing services at this time. The property received a property evaluation score of 8. Mr. Goff filled out a survey indicating he is supportive of being included in the expanded UGB.
23. This 9.98 acre parcel owned by Noble Vonstruense is located in the existing UGB. The zoning designation for this parcel is proposed to be changed from SFR to R-2. A discussion with Mr. Vonstruense indicated he is supportive of this change.
24. This 2.5 acre parcel owned by Scott and Susan Leininger is located in the existing UGB. No changes are proposed to this property with this study. The Leininger's are requesting the zoning designation for this parcel be changed from SFR to R-2 similar to the proposed change for the property to the east of their property.
25. This 2.5 acre parcel owned by Jerry Schilling is proposed to be included in the expanded UGB. The property owner filled out a survey indicating he is supportive of this proposal.
26. These two parcels totaling 3.66 acres owned by William Bloom are proposed to be included in the expanded UGB. The property owner testified at the PC hearing he is supportive of this proposal.
27. This 4.86 acre parcel owned by Robert Burgeni is not proposed to be included in the expanded UGB due to its location and difficulty in providing services at this time. The property received a property evaluation score of 3. Mr. Burgeni testified at the PC hearing he would like the property to be included in the expanded UGB.

28. These two parcels totaling 3.95 acres owned by Leon Phillips are proposed to be included in the expanded UGB. The property owner testified at the PC hearing he is supportive of this proposal.
29. This 38.96 acre parcel owned by Reckmann Farm LLC is proposed to be included in the expanded UGB. The property owner's representative at the PC hearing indicated she is supportive of this proposal.
30. This 0.51 acre parcel owned by Frank Marcy is proposed to be included in the expanded UGB. The property owner indicated at the PC hearing he is supportive of this proposal.
31. This 0.48 acre parcel owned by Darren and Tami Mcara is proposed to be included in the expanded UGB. The property owner indicated that he is supportive of this proposal but would like the zoning changed from Parks and Open Space to residential.

Appendix D. Transportation Analysis of Proposed Rezoning

January 27, 2017

TO: Tracy Brown, Director of Planning and Development
FROM: John Replinger, PE
SUBJECT: Transportation Analysis of Proposed Rezoning in the City of Sandy

BACKGROUND

In response to your request, I evaluated the anticipated transportation impact of the proposed rezoning of 10 parcels or groups of parcels in the City of Sandy. The parcels proposed for rezoning vary from 10 acres to less than 0.1 acres in size. Existing zoning includes parcels zoned for residential, commercial and industrial use; the proposed zoning includes residential, commercial, and industrial categories.

In this memorandum I assess the potential development under the existing and proposed zoning and quantify the daily, AM, and PM peak hour trip generation potential. In assessing the development, I sought to base my analysis on a “reasonable worst case” development scenario consistent with the type of development allowable under the City of Sandy Development Code while taking into consideration the types of land uses that can reasonably be expected in the community.

My objective in presenting this information on transportation impacts is to provide a basis upon which the City can prepare findings showing compliance with the Transportation Planning Rule, specifically OAR660-12-0060.

TRANSPORTATION PLANNING RULE

OAR 660-012-0060, Plan and Land Use Regulation Amendments provides guidance on a plan amendment and whether it would “significantly affect” a transportation facility. This section states, in part:

A plan or land use regulation amendment significantly affects a transportation facility if it would:

- (a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);
- (b) Change standards implementing a functional classification system; or
- (c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.
 - (A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;
 - (B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or

- (C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.

APPROACH

Most of the contents of this memorandum focus on quantifying the amount of traffic that might reasonably be expected from the rezoning of each parcel or package of parcels. By presenting this information, I seek to provide sufficient information by which the City can reasonably assert that there is very little likelihood that performance of existing or planned transportation facilities will be significantly degraded.

By providing the calculation of potential increases in traffic from the parcels associated with the rezoning I show that some will have positive impacts (a decrease in trips), no impact, or insignificant impacts. For the parcels where minor increases in traffic can be expected, I recommend that the city institute a trip cap in connection with the proposed rezoning. The use of a trip cap will allow the City to make a finding that there is no significant transportation impact in connection with the proposed rezoning. In fact, many uses allowable under the proposed zoning may be constructed without additional analysis. For uses that might be proposed in the future that would cause the trip cap to be exceeded, the applicant will need to show compliance with the Transportation Planning Rule and conduct studies with a more detailed analysis, including the calculation of the volume-to-capacity ratio, delay, queuing, and other operational measures. Trip caps are currently being used successfully by the City to manage the transportation impacts for the development of various parcels.

In addition, I address the issue of whether the proposed rezoning would have any impact on the functional classification of the facilities adjacent to or leading to parcels proposed for rezoning. This information helps justify the findings by the City that the proposed rezoning remains consistent with the functional classification of the system as described in the Transportation System Plan.

REZONING PROPOSAL

In this memorandum, I evaluated the anticipated transportation impact of the proposed rezoning of 10 parcels or collections of adjacent parcels in the City of Sandy. The parcels proposed for rezoning vary from 10 acres to less than 0.2 acres in size. Existing zoning includes parcels zoned for residential, commercial and industrial use; the proposed zoning includes residential, commercial, and industrial categories.

In this memorandum I summarize the potential development under the existing and proposed zoning and quantify the daily, AM peak, and PM peak hour trip generation potential. In assessing the development, I sought to base my analysis on a “reasonable worst case” development scenario consistent with the type of development allowable under the City of Sandy Development Code while taking into consideration the types of land uses that can reasonably be expected in the community.

One of the key assumptions relating to the development potential of parcels is the building size. City planning staff provided me guidance suggesting that for most parcels designated for commercial or industrial use that a floor area ratio (FAR) of approximately 0.25 is appropriate for assessing the maximum building size for development. This FAR accounts for appropriate setbacks, parking requirements, landscaping, on-site storm water treatment and associated development parameters. Based on the reviews I have performed for the city in recent years, I concur with this basic assumption.

My assessment and comparison of the trip generation potential under current zoning and proposed zoning are based on the trip rates presented in the Institute of Transportation Engineers’ *Trip Generation Manual – 9th Edition*. In some cases, I have presented more than one development scenario.

A summary of the proposed rezoning is provided in Table 1, below. A map provided by the city that uses the same numbering is attached to this memorandum.

Table 1 – Proposed Zone Changes Within UGB

Map Number	Map & Tax Lot	Gross Acres	Net Acres	Existing Zoning	Proposed Zoning	Current Status
1	24E13DD01201	1.19	1.19	SFR	R-2	vacant
2	24E13DB02100	0.36	0.36	C-1	R-3	vacant
3	24E13CA06500	0.09	0.09	R-3	C-1	vacant
	24E13CA06600	0.07	0.07	R-3	C-1	vacant
4	24E14AD03500	0.73	0.73	R-3	C-2	8 dwellings
	24E14AD03600	0.16	0.16	R-3	C-2	1 dwelling
	24E14AD03700	0.32	0.32	R-3	C-2	1 dwelling
	24E14AD03800	0.32	0.32	R-3	C-2	1 dwelling
5	24E15AD00100	9.27	7.87	SFR	R-2	1 dwelling
6	24E15AD00200	9.97	9.97	SFR	R-2	1 dwelling
7	24E15 00801	2.52	2.52	SFR	R-2	1 dwelling
8	24E15A 00205	1.69	1.69	I-2	I-1	vacant
9	24E10 05100	24.03	12.60	I-2	None at this time	Not in city limits
10	24E10 05700*	6.88	6.88	I-2	I-1	Forest Service half vacant
11	24E14 01120	1.00	1.00	I-2	I-1	vacant

My analysis of development scenarios is matched with the map and the table. I have also attached an excerpt of the City of Sandy zoning code with information that may be relevant to selecting appropriate worst case development scenarios.

The assumptions and calculations of individual parcels are summarized in sequence below.

Map Number 1

Size and Location

Map Number 1 consists of one parcel on a 1.19-acre site currently zoned SFR. It is located at the corner of Dubarko Road and SE Langensand Road about 0.4 miles south of Highway 26.

Development Potential – Existing and Proposed

According to the development code, SFR-zoned property shall be developed at not less than 3 units per acre or more than 5.8 units per acre. Under the proposed R-2 zoning, the target density for medium-density residential is between 8 and 14 units per acre. Using the median value of the density range for

both current and proposed zoning, the parcel is calculated to have a capacity for 5 units and 13 units, respectively.

Map Number 1 Trip Generation

	Zoning	Development Potential	ITE Land Use Code	Daily	AM Peak Trips	PM Peak Trips
Current Zoning	SFR	5 single-family dwellings	210	48	4	5
Proposed Zoning	R-2	13 townhouse/condo dwellings	230	76	6	7
Net Change				+28	+2	+2

Functional Classification and Access

Both Dubarko Road and SE Langensand Road are classified in the TSP as minor arterial streets. Changing the abutting parcel from SFR to R-2 zoning would have no effect on the appropriateness of the planned classification of these streets or their ability to serve the proposed use.

Transportation Impact

The net effect of the zone change associated with Map Number 1 can be considered to be insignificant.

Map Number 2

Size and Location

Map Number 2 consists of one 0.36-acre parcel currently zoned C-1. It is located at the intersection of Wolf Drive and McCormick Drive, just one block south of Highway 26.

Development Potential – Existing and Proposed

At just over one-third of an acre, this parcel is likely to be too small for a fast-food restaurant, which typically occupies about an acre or more. The parcel is probably adequate in size to accommodate another high-traffic generator such as a convenience store. A 1500-square-foot convenience store could be considered as a reasonable worst case development under current zoning. Under the proposed R-3 zoning, the target density for high-density residential is between 10 and 20 units per acre. Developing at the top end of this density range would allow about six dwelling units.

Map Number 2 Trip Generation

	Zoning	Development Potential	ITE Land Use Code	Daily	AM Peak Trips	PM Peak Trips
Current Zoning	C-1	1500 sq. ft. convenience store	851	1107	101	79
Proposed Zoning	R-3	6 apartments	220	40	3	4
Net Change				-1067	-98	-75

Functional Classification and Access

Wolf Drive to the north and McCormick Drive to the east of the intersection are classified in the TSP as collector streets. Street sections to the west and south are classified as local streets. Changing the abutting parcel from C-1 to R-3 zoning would have no effect on the appropriateness of the planned classification of these streets or their ability to serve the proposed use.

Transportation Impact

The net effect of the zone change from commercial to high-density residential is a very significant decrease in traffic impact from this parcel.

Map Number 3

Size and Location

Map Number 3 consists of two parcels, they are 0.09 acres and 0.07 acres and are currently zoned R-3. The site is located in the northwest quadrant OR-211 (Meinig Avenue) and Tupper Road, one block south of Pioneer Boulevard.

Development Potential – Existing and Proposed

The proposed C-1 zoning allows a variety of retail and service uses but specifically excludes drive-through facilities.

The parcels' triangular shape, extremely small size, and constraints associated with access and topography probably preclude development as a high-density residential use or a stand-alone commercial establishment. The most likely development scenario involves combining them with one or more adjacent commercial parcels. The configuration of the parcels probably restricts their use to parking or access to adjacent parcels, which appears to have been a use in the past

Map Number 3 Trip Generation

	Zoning	Development Potential	ITE Land Use Code	Daily	AM Peak Trips	PM Peak Trips
Current Zoning	R-3	Undevelopable	Not applicable	0	0	0
Proposed Zoning	C-1	Undevelopable or parking for an adjacent use	Not applicable	0	0	0
Net Change				0	0	0

Functional Classification and Access

Meinig Avenue (OR-211) is classified as a major arterial street and Tupper Road is classified as a collector street in the TSP. Rezoning of these parcels would have no effect on the streets or their function. Using the lower classification for access to abutting parcels remains appropriate regardless of the proposed rezoning.

Transportation Impact

Due to the unique characteristics of the parcel, the rezoning is estimated to have negligible transportation impact.

Map Number 4

Size and Location

Map Number 3 consists of four adjacent parcels totaling 1.53 acres. They are currently zoned R-3. The site is located at Highway 26 and University Avenue. The intersection is unsignalized and features a center median that prohibits left turns from westbound Highway 26 to southbound University Avenue.

Development Potential – Existing and Proposed

The parcels are currently zoned for R-3, a high-density residential use. The development code's target density for R-3 is 10 to 20 units per acre. The C-2 commercial zoning category allows for a wide variety of uses including many that generate a high volume of traffic. Several alternative development scenarios for uses allowable under C-2 zoning are presented below.

Map Number 4 Trip Generation

	Zoning	Development Potential	ITE Land Use Code	Daily	AM Peak Trips	PM Peak Trips
Current Zoning	R-3	30 apartments	220	200	15	19
Proposed Zoning	C-2	2200 sq. ft. fast-food restaurant	934	1091	100	72
		6000 sq. ft. high-turnover restaurant	932	763	65	59
		12,000 sq. ft. specialty retail center	826	532	82	33
		30,000 sq. ft. general office building	710	331	47	45
Net Change				+130 to +891	+32 to +85	+14 to +53

The examples listed above represent some of the potential worst case development scenarios. Each of the scenarios is judged to be a reasonable fit for the 1.5-acre site given the parking needs associated with such uses.

Because of the variability of trip generation that could occur with development of these parcels under the proposed C-2 zoning, the use of a trip cap is especially appropriate. A trip cap for these parcels based on R-3 zoning (15 AM peak hour trips and 19 PM peak hour) allows the City to make a finding that the rezoning does not cause an impact on the transportation system. An applicant seeking to implement

a use that exceed the trip cap would be required to address issues of compliance with the Transportation Planning Rule and transportation operations issues.

Functional Classification and Access

According to the TSP, US 26 is classified as a major arterial street and University Avenue is a local street. Whether the zoning is changed from R-3 to C-2, the classification of the streets is appropriate as designated. The Oregon Department of Transportation retains access control on US 26 and a change of use from the current uses would likely trigger requirements for a new or revised access permit. The existing barrier median that prevents left turns from westbound US 26 to University Avenue might be extended to further restrict access to the subject parcels. A justification for retaining existing access or a decision to change access would need to be addressed in a transportation study whether the site developed under high-density residential (R-3) or commercial (C-2) zoning.

Transportation Impact

By establishing a trip cap based on the current R-3 zoning, the proposed rezoning to C-2 the effect of the rezoning on the transportation system can be considered to be insignificant.

Map Number 5

Size and Location

Map Number 5 consists of one parcel with 9.27 acres with 7.87 calculated to be developable. Development limitations include the presence of wetlands and stream buffers. The site currently zoned SFR and is proposed to be rezoned to R-2 residential. It is located on SE 362nd Avenue at the corner of Dubarko Road about 0.4 miles south of US 26.

Development Potential – Existing and Proposed

According to the development code, SFR-zoned property shall be developed at not less than 3 units per acre or more than 5.8 units per acre. Under the proposed R-2 zoning, the target density for medium-density residential is between 8 and 14 units per acre. Using the median value of the density range for both current and proposed zoning, the parcel is calculated to have a capacity for 34 units and 86 units, respectively.

Map Number 5 Trip Generation

	Zoning	Development Potential	ITE Land Use Code	Daily	AM Peak Trips	PM Peak Trips
Current Zoning	SFR	34 single-family dwellings	210	324	26	34
Proposed Zoning	R-2	86 townhouse/condo dwellings	230	500	38	45
Net Change				+176	+12	+11

Functional Classification and Access

This parcel abuts 362nd Avenue, which is designated in the TSP as a minor arterial. This parcel is also bisected by an extension of Champion Way, which is designated in the TSP as a future collector street intended to connect with Champion Way to the west and the intersection of 362nd Avenue with Dubarko

Road to the east. The proposed rezoning of the parcel and traffic generated by its development is consistent with the functional classification and standards of existing and planned streets.

Transportation Impact

The net effect of the zone change associated with this parcel can be considered to be insignificant.

Map Number 6

Size and Location

Map Number 6 consists of one parcel with 9.97 acres with all considered to be developable. The site currently zoned SFR and is proposed to be rezoned to R-2. It is located south of SE Barnum Road and west of SE 362nd Avenue. It is immediately west of Map Number 5.

Development Potential – Existing and Proposed

According to the development code, SFR-zoned property shall be developed at not less than 3 units per acre or more than 5.8 units per acre. Under the proposed R-2 zoning, the target density for medium-density residential is between 8 and 14 units per acre. Using the median value of the density range for both current and proposed zoning, the parcel is calculated to have a capacity for 44 units and 109 units, respectively.

Map Number 6 Trip Generation

	Zoning	Development Potential	ITE Land Use Code	Daily	AM Peak Trips	PM Peak Trips
Current Zoning	SFR	44 single-family dwellings	210	419	33	44
Proposed Zoning	R-2	109 townhouse/condo dwellings	230	633	48	57
Net Change				+214	+15	+13

Functional Classification and Access

Like the parcel identified as Map Number 5, this parcel is also bisected by an extension of Champion Way, which is designated in the TSP as a future collector street intended to connect with Champion Way to the west and the intersection of 362nd Avenue with Dubarko Road to the east. The proposed rezoning of the parcel and traffic generated by its development is consistent with the functional classification and standards of existing and planned streets.

Transportation Impact

The net effect of the zone change associated with this parcel can be considered to be insignificant.

Map Number 7

Size and Location

Map Number 7 consists of one parcel with 2.52 acres with all considered to be developable. The site currently zoned SFR and is proposed to be rezoned to R-2. It is located immediately to the west of Map Number 6. It is located south of SE Barnum Road and west of SE 362nd Avenue.

Development Potential – Existing and Proposed

According to the development code, SFR-zoned property shall be developed at not less than 3 units per acre or more than 5.8 units per acre. Under the proposed R-2 zoning, the target density for medium-density residential is between 8 and 14 units per acre. Using the median value of the density range for both current and proposed zoning, the parcel is calculated to have a capacity for 11 units and 27 units, respectively.

Map Number 7 Trip Generation

	Zoning	Development Potential	ITE Land Use Code	Daily	AM Peak Trips	PM Peak Trips
Current Zoning	SFR	11 single-family dwellings	210	105	8	11
Proposed Zoning	R-2	27 townhouse/condo dwellings	230	157	12	14
Net Change				+52	+4	+3

Functional Classification and Access

Like the parcels identified as Map Number 6 and Map Number 7, this parcel would also be served by an extension of Champion Way, which is designated in the TSP as a future collector street intended to connect with Champion Way to the west and the intersection of 362nd Avenue with Dubarko Road to the east. The general alignment illustrated in TSP suggests this extension of Champion Way would be at or near the north boundary of the parcel. The proposed rezoning of the parcel and traffic generated by its development is consistent with the functional classification and standards of existing and planned streets.

Transportation Impact

The net effect of the zone change associated with this parcel can be considered to be insignificant.

Map Number 8

Size and Location

Map Number 8 consists of one parcel with 1.69 acres. The site currently zoned I-2 and is proposed to be rezoned to I-1. It is located in the south quadrant of the intersection of Industrial Way and Champion Way.

Development Potential – Existing and Proposed

Both the I-2 and I-1 zones are intended to provide locations for manufacturing and various industrial uses. Both allow commercial uses which are compatible with and supportive of industrial employers and employees. The main difference between the two zones is that some high-trip-generation uses are permitted outright in the I-1 zone and are conditional uses in the I-2 zone.

For the purposes of evaluating this parcel under current zoning, the worst case development scenario assumed to be a nursery or garden center, an outright permitted use in I-2. The size was assumed to be 13,000 square feet, the largest sample reported in the *Trip Generation Manual*. This size also approaches the maximum likely FAR for this parcel. For the proposed zoning, the worst case comparison was assumed to be a fast food restaurant, a high traffic volume generator that is common on sites of one to 1½ acres. Other potential options for a worst case development scenario, such as a convenience store combined with a fueling station, were dismissed because there are already two such facilities (ARCO AM/PM Mini Mart and Fred Meyer) within blocks of the site.

Map Number 8 Trip Generation

	Zoning	Development Potential	ITE Land Use Code	Daily	AM Peak Trips	PM Peak Trips
Current Zoning	I-2	13,000 sq. ft. nursery (garden center)	817	885	32	90
Proposed Zoning	I-1	2500 sq. ft. fast-food restaurant	934	1240	114	82
Net Change				+335	+82	-8

As shown in the table above, a fast-food restaurant, which is allowed under the proposed I-1 zoning, has very different trip generation characteristics than does a nursery. The AM peak hour trip generation is far higher, though the PM peak hour traffic is comparable. Because some uses allowable under the I-1 zoning category have high trip generation potential, this is another parcel where the use of a trip cap is especially appropriate. A trip cap for these parcels based on I-2 zoning (32 AM peak hour trips and 90 PM peak hour) allows the City to make a finding that the rezoning does not cause an impact on the transportation system. An applicant seeking to implement a use that exceed the trip cap would be required to address issues of compliance with the Transportation Planning Rule and transportation operations issues.

Functional Classification and Access

Both Industrial Way and Champion Way are designated in the TSP as collector streets. The proposed rezoning of the parcel and traffic generated by its development is consistent with the functional classification and standards of existing and planned streets.

Transportation Impact

By establishing a trip cap based on the current I-2 zoning and a nursery, the proposed rezoning to I-1, the effect of the rezoning on the transportation system can be considered to be insignificant.

Map Number 9

Size and Location

Map Number 9 consists of one parcel with 24.03 acres. Because the parcel is overlaid by a 585-foot wide Bonneville Power Administration transmission easement, almost half the site is considered undevelopable. Only 12.60 acres is considered developable. The site is located adjacent to Highway 26.

Impacts

The parcel is currently outside the city limits of the City of Sandy so the current proposal does not include rezoning of this parcel. Issues associated with rezoning will be addressed in the future.

Map Number 10

Size and Location

Map Number 10 consists of one parcel with 6.88 acres. The parcel currently serves as the headquarters for the US Department of Agriculture's Mt. Hood National Forest. It is judged unlikely that the Forest Service would vacate the site, but planning for development of the underused portion of the site is considered appropriate. A reasonable worst case development scenario is that half the site could be split off and developed.

Development Potential – Existing and Proposed

Under the current zoning, it would be restricted to uses allowed under I-2. Under the proposed rezoning, the entire parcel would be designated I-1. The analysis of a reasonable worst case development scenario assumes half would remain in its current use (Forest Service headquarters) and the remainder being developed as uses permitted under the proposed I-1 zoning category.

Issues associated with accessing the site probably decrease its attractiveness for many uses. The intersection of US 26 with Champion Way is a T-intersection allowing only right-in, right-out movements to and from Champion Way. Access to the site from the east is via 362nd Avenue and Industrial Way.

Using half of the site (3.44 acres) with an FAR of 0.25 yields a development of approximately 35,000 square feet. Under the current I-2 zoning, one reasonable match for a parcel of this size and that is an outright permitted use is new car sales, ITE land use 841.

Under the proposed I-1 zoning, a further subdivision of the site is assumed. A combination of fast food restaurant (on about 1½ acres) with a general office building (on 1.9 acres) is proposed as a reasonable worst case development scenario. The configuration of the unused portion of the parcel, particularly the limited amount of frontage on Champion Way, is judged to limit the development potential of this site. A fast food restaurant, which has a high proportion of pass-by trips, might be an especially attractive option for this site if it focused on serving eastbound customers on US 26 since the US 26/Champion Way intersection allows these movements. The remainder of the site was analyzed as an office, a use that does not typically rely on highway-oriented traffic.

Map Number 10 Trip Generation

	Zoning	Development Potential	ITE Land Use Code	Daily	AM Peak Trips	PM Peak Trips
Current Zoning	I-2	35,000 sq. ft. new auto sales	841	1131	67	92
Proposed Zoning	I-1	2500 sq. ft. fast-food restaurant and 20,000 sq. ft. general office	934 710	1240 <u>221</u> 1461	114 <u>31</u> 145	82 <u>30</u> 112
Net Change				+330	+78	+20

As shown in the table above, a fast-food restaurant and general office, which are allowed under the proposed I-1 zoning, has very different trip generation characteristics than does an auto sale facility. Both the AM peak hour trip generation and the PM peak hour trip generation are higher. Because some uses allowable under the I-1 zoning category have high trip generation potential, this is another parcel where the use of a trip cap is especially appropriate. A trip cap for this parcel based on the current Forest Service facility plus an allowable use under the I-2 zoning allows the City to make a finding that the rezoning does not cause an impact on the transportation system. An appropriate trip cap would be based on the actual trip generation from the Forest Service facility plus a 35,000 square foot auto sale facility (67 AM peak hour trips and 92 PM peak hour trips). An applicant seeking to implement a use that exceed the trip cap would be required to address issues of compliance with the Transportation Planning Rule and transportation operations issues.

Functional Classification and Access

Champion Way and Industrial Way are designated in the TSP as collector streets. 362nd Avenue is designated as a minor arterial and US 26 is designated as a major arterial. The proposed rezoning of the parcel and traffic generated by its development is consistent with the functional classification and standards of existing and planned streets.

Transportation Impact

By establishing a trip cap based on the current use by the Forrest Services plus a 35,000 square foot auto sales facility as allowed uses in the current I-2 zoning category, the effect of the proposed rezoning to I-1 can be considered to be insignificant.

Map Number 11

Size and Location

Map Number 11 consists of one parcel with 1.0 acres. The parcel, which is currently vacant, is part of a small industrial subdivision. Access to the parcel is a short cul-de-sac connecting to Industrial Way.

Development Potential – Existing and Proposed

This parcel set back from Industrial Way, a feature that limits its likely uses. Whether it remains I-2 or is rezoned to I-1, a reasonable worst case development scenario is an office with about 12,000 square feet.

Map 11 Trip Generation

	Zoning	Development Potential	ITE Land Use Code	Daily	AM Peak Trips	PM Peak Trips
Current Zoning	I-2	12,000 sq. ft. general office	710	132	19	18
Proposed Zoning	I-1	12,000 sq. ft. general office	710	132	19	18
Net Change				0	0	0

This parcel is already subject to a trip cap as part of the Maiden industrial zone change adopted by the City in 2015. The Maiden industrial zone change remains in effect and covers approximately five acres of which the subject parcel is one part. The City's action was dated June 1, 2015 and is covered by Ordinance 2015-03.

Functional Classification and Access

Industrial Way is designated as a collector street. The proposed rezoning of the parcel and traffic generated by its development is consistent with the functional classification and standards of existing and planned streets.

Transportation Impact

The effect of the proposed zone change for this parcel is likely to be insignificant.

SUMMARY OF TRANSPORTATION IMPACTS OF REZONING

As described above, ten parcels or groups of parcels are proposed to be rezoned.

The trip generation potential of each proposed rezoning was calculated using a reasonable worst case development scenario under existing and proposed zoning. For Map Number 2, the effect of the rezoning will be a significant reduction in the trips generated by the parcel's development. In six other cases (Map Number 1, 3, 5, 6, 7, and 11), the predicted PM peak hour trip generation is so little different under current and proposed zoning, the transportation impact can be considered insignificant simply based on the trip generation.

To assure that the City can make a finding of no significant impact for the other parcels, the use of a trip cap for the three remaining cases (Map Numbers 4, 8, and 10) is recommended. For all three, the recommended trip cap is based on the current zoning. The recommended trip cap based on the trip generation in the PM peak hour is presented in Table 2, below.

Table 2 – Proposed Trip Caps in Connection with Rezoning

Map Number	Map & Tax Lot	Gross Acres	Net Acres	Existing Zoning	Proposed Zoning	Recommended PM Peak Hour Trip Cap
4	24E14AD03500	0.73	0.73	R-3	C-2	19 trips (combined for all tax lots)
	24E14AD03600	0.16	0.16			
	24E14AD03700	0.32	0.32			
	24E14AD03800	0.32	0.32			
8	24E15A 00205	1.69	1.69	I-2	I-1	90 trips
10	24E10 05700*	6.88	6.88	I-2	I-1	Current Forest Service PM peak trips plus 92 trips

Based on the implementation of a trip cap recommended in Table 2, I conclude that proposed rezoning of these parcels can also be considered to have an insignificant impact on the transportation system.

All of the proposed are served by collector or arterial streets. In all cases, it appears that the proposed rezoning of the parcels and traffic generated by their development is consistent with the functional classification and standards of existing and planned streets.



Expires 12/31/2018

