



WINSLOW MASTER PLAN ANALYSIS

AN ANALYSIS BY

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PLANNING IN CONTEXT**

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EXECUTIVE SUMMARY

OVERVIEW

The Winslow master plan analysis critically explored data, maps, and previous research findings to understand the future projections of Winslow's growth. Winslow's population has increased dramatically over the past 5 years, causing a need for growth accommodation. While Winslow's city council and community want to preserve the current state of the low density, small town atmosphere of Winslow, there is a pressing need for development to accustom to the social and economic needs of the town.

HISTORICAL CONTEXT

The history of Bainbridge Island dates back thousands of years to the Indigenous people that lived on all the lands of the Puget Sound. The Suquamish were the largest tribe in the area when Captain George Vancouver, an English explorer, arrived on the island in 1792. Because of its unique location in the Puget Sound, Bainbridge island soon became a military stronghold. Navy Fort Ward was a former United States Army coastal artillery base, and later, a Navy installation was located on the southwest side of Bainbridge Island. In 1938, the U.S. navy took over Fort Ward as a great access point for listening to Japanese signals. The Japanese Americans, who came to the island around the early 20th century, experienced unjust internment during World War II after decades of struggle as well as their contribution to the island's economic prosperity and cultural diversity. In 1991, a vote passed the proposal of annexation of the whole island into the City of Winslow. The island has grown immensely in the last 10 years with the addition of a few schools, new businesses, and green infrastructure.

OBJECTIVES

The goals of the analysis were to examine sewer and water service boundaries in the town, identify sidewalks pathways, provide calculations for building types and population growth over recent years, and cultivate maps that show development trends. These findings from the analysis will provide the foundation necessary for Winslow's planning department to further build a plan that caters to the current and future growth of the town.

METHODS AND FINDINGS

After months of research, our analysis of Winslow provided us with thorough findings regarding the development and arrangement of the downtown area. With the residential and commercial districts as well as strong environmental landscape, Winslow's unique layout provides a space for land preservation while still being able to accommodate potential growth. The downtown area serves as a pedestrian-centric space, which is where most built sidewalks are found. Moving into the residential areas within the master plan boundaries there is a significant lack of sidewalks on both or one side of the road, especially on major roads near the high school. After identifying historical water and sewer boundaries, findings prove that while most of the boundary aligns there are a few areas in the southeast quadrant that the sewer service is not apparent. Further analysis of Winslow's population trends over the past 5 years provides data that proves the need for growth accommodation in residential and commercial buildings.

INTRODUCTION

Just west of Seattle is Bainbridge Island, a historic city originally inhabited by indigenous peoples dating back to the 18th century. Once used as an agricultural and logging site in the early 1900's, Bainbridge Island has since transformed into a connected community with Winslow serving as its lively downtown center. Winslow's development can be traced back to Bainbridge's 1960 comprehensive plan, outlining the socioeconomic and environmental goals for the town.

Winslow has since grown significantly, causing a need for an analysis to accommodate future growth of the town. Our objectives for this quarter were to utilize research, mapping, and data analysis strategies to identify development trends and project growth trends that will accommodate the future of Winslow's economic, social, and environmental challenges. We examined sewer and water services through text and maps to understand boundary differences, established sidewalk locations, identified population density of projected growth needs, analyzed data from previous plans to develop a series of maps that reflect development trends.

PURPOSE AND SCOPE

The Winslow Master Plan Analysis is aimed to provide foundational information for the Planning Department of Winslow and Bainbridge Island to analyze the economic and social development in recent years and understand the needs based on the growth. To further explore and understand the current situation of the Winslow study area, our team is divided into two main parts -- sewer service and connectivity as well as density and growth analysis -- to thoroughly analyze the current social, economic, and environmental condition of the Winslow study area.

By Week 5, our team was working on background research and existing data analysis. We divided the historical research into three-year sections and synthesized it into our Team History and Context Essay. We also researched the sewerage plan and transportation of the Winslow-issued area. After midterm, our team was divided into two subteams -- density and growth analysis team, and a sewer and transportation team. We worked on mapping, calculation, data analysis, and compiled them with our observation and existing plans. For the final deliverables, we synthesized everything in this final report with our observations, findings, and final conclusion.

Basic principles of the relationship between sewer services and urban development have significant implications for a city's comprehensive planning process. High expenses of expanding sewer services mean that places with sewer infrastructure ought to have the highest priority for growth. In Bainbridge Island, the updates of the Winslow Master Plan area are lagging behind the expansion of the sewer system since the annexation in 1991, and it has resulted in the current discrepancy of the Master Plan boundaries and sewer system boundaries. By knowing the evolution of the Winslow Sewer Services boundaries, the City will be able to comprehend the trends and criteria of sewer service expansion and plan for the Master Plan updates accordingly, so that the existing sewer system could achieve their maximum utilization.

Based on the analysis of the population growth, sewer boundary service, as well as the FAR calculation of the existing study area, our team compared our findings to the historical development and assessed the future development that upzoning and the expansion of the Winslow Master Plan study area are required to fit the development trend. To conclude, our whole purpose is to synthesize our findings to analyze the existing development trends, thereby redefining the next iteration of the Winslow Master Plan Study Area.

AUDIENCE AND CLIENT

Our client is the City of Bainbridge Island's Planning and Community Development Department. The planning decisions made using our team's findings will impact Winslow residents, business owners, City council, the planning department, and future residents.

These stakeholders define the scope of our work, and each of these stakeholder groups must be included in conversations about future development and increased density in order to foster trusting relationships between community members and government entities.

PROCESS AND METHODOLOGY

Our project objectives were to use research, mapping, and data analysis strategies to understand development trends in the Winslow area and project growth trends to ensure future development responds to increasing population density and adapting to environmental, social, and economic challenges. Our methods cover two specific issue areas; Sewer Service and Connectivity Analysis and Density and Growth Analysis.

RESEARCH: "SITE" VISIT

We started our project by visiting the Winslow subarea of Bainbridge Island. Our walking tour of the area helped us learn about growth over time, contemporary challenges, and community assets. Our visit gave us valuable context for why our work was important for supporting planners' effort to expand density and adapt the Master Plan to accommodate growth and sustainability efforts specifically outlined in the region's Vision 2050 plan.

RESEARCH: HISTORY AND CONTEXT

The next phase of research consisted of background research of sewer service boundaries and the cultural and economic history of the area. This stage of the process grounded the calculations we did later on and our general analysis of growth because we had foundational knowledge of what trends have occurred over time. For example, understanding how the sewer boundaries have expanded over time contextualises where growth was planned and what stakeholders were accounted for, so moving forward we see potential for the master plan boundary to be expanded to match the sewer boundary to account for the development.

COMMUNICATION PROCESS: CLIENT AND TEAM MEETINGS

Throughout the quarter we met with our client a few times to check in on our progress and get questions answered about our deliverables and their expectations. Overall our work was very self-directed and our client was helpful when we reached out for help. Talia was specifically in close contact with Gretchen, their GIS Specialist, making sure that we had all of our necessary data sources and technical questions answered. We did not need to conduct any outreach or create outward-facing materials, so our communications remained internal and less frequent. One key obstacle we faced was when our main point-of-contact changed halfway through the quarter, so we had to restart communication at that moment.

EXECUTING SEWER SERVICE AND CONNECTIVITY ANALYSIS

Executing the sewer service and connectivity analysis required three different components:

- Use government documents and comprehensive plans to identify various sewer system boundaries since the 1990s.
- Use GIS to show overlays between the sewage system and master plan boundary today and deduce potential options for expanding the master plan boundary to match the sewerage boundary. We also identified various assets in each focus area to determine where the best master plan boundary expansion could be.
- Use Google Earth to illustrate the presence of sidewalks in Winslow. Connectivity is integral to increasing a sense of community and walkability. Google Earth was a useful tool because getting to and from Bainbridge Island takes a large amount of time, so we were able to “walk” the streets instead to observe where sidewalks are or are not present.

All findings and relevant maps are shared in the Results section of the report.

EXECUTING DENSITY AND GROWTH ANALYSIS

Various stakeholders including City Council, the Planning Department, and Winslow residents are at the center of growth management conversations. Balancing competing desires such as wanting to accommodate growth while wanting to preserve a small town charm has caused tension between stakeholders and put many development projects on hold. There are economic and social implications for, for example, increasing the FAR in commercial areas and increasing building heights, so in order to justify these policy changes it’s important to understand growth trends over time and how they are expected to progress.

It’s also important that any development be executed with a long term vision of environmental sustainability. Vision 2050 is a regional plan for promoting environmentally sustainable economic growth and infrastructure development while overall improving quality of life for Puget Sound residents. Growth management must center environmental sustainability in order to have long term relevance, and our work will hopefully allow the city to make development decisions both based on the development potential of currently vacant or underdeveloped lots and a long term environmental vision for sustainability.

Executing the density and growth analysis required three different components:

- Use GIS to map development between 1994 and 2021. All of our data came from the City of Bainbridge Island. We created various maps to show both lot vacancies and development trends for various years both within the master plan study area and sewer service area.
- Used excel to create a summary table for lots (both developed and vacant) between 2006 and 2021. The master plan boundary was last updated in 2007, so we wanted to get a general sense for when lots were developed in this time period. This table also allowed us to identify any differences between lots in the master plan and sewer service area and those that are just in the sewer service area. To do this we used the “select by expression” tool in QGIS to document the number of lots that fall onto each general classification category or zoning category.
- Created a formula in excel to calculate the development potential for vacant or underdeveloped lots, specifically those classified as residential. Specifically, we will use population and land data analysis to measure how much population Winslow Community's existing zoning can still carry, i.e., remaining carrying capacity. We will use the result of growth analysis to support our conclusion about whether the scope of the Winslow Master Plan should be expanded.

All findings, tables, and relevant maps are shared in the Results section of the report.

RESULTS AND RECOMMENDATIONS FOR FUTURE DEVELOPMENT

SEWER SERVICE

1992 Winslow Sewer Services Extent Map

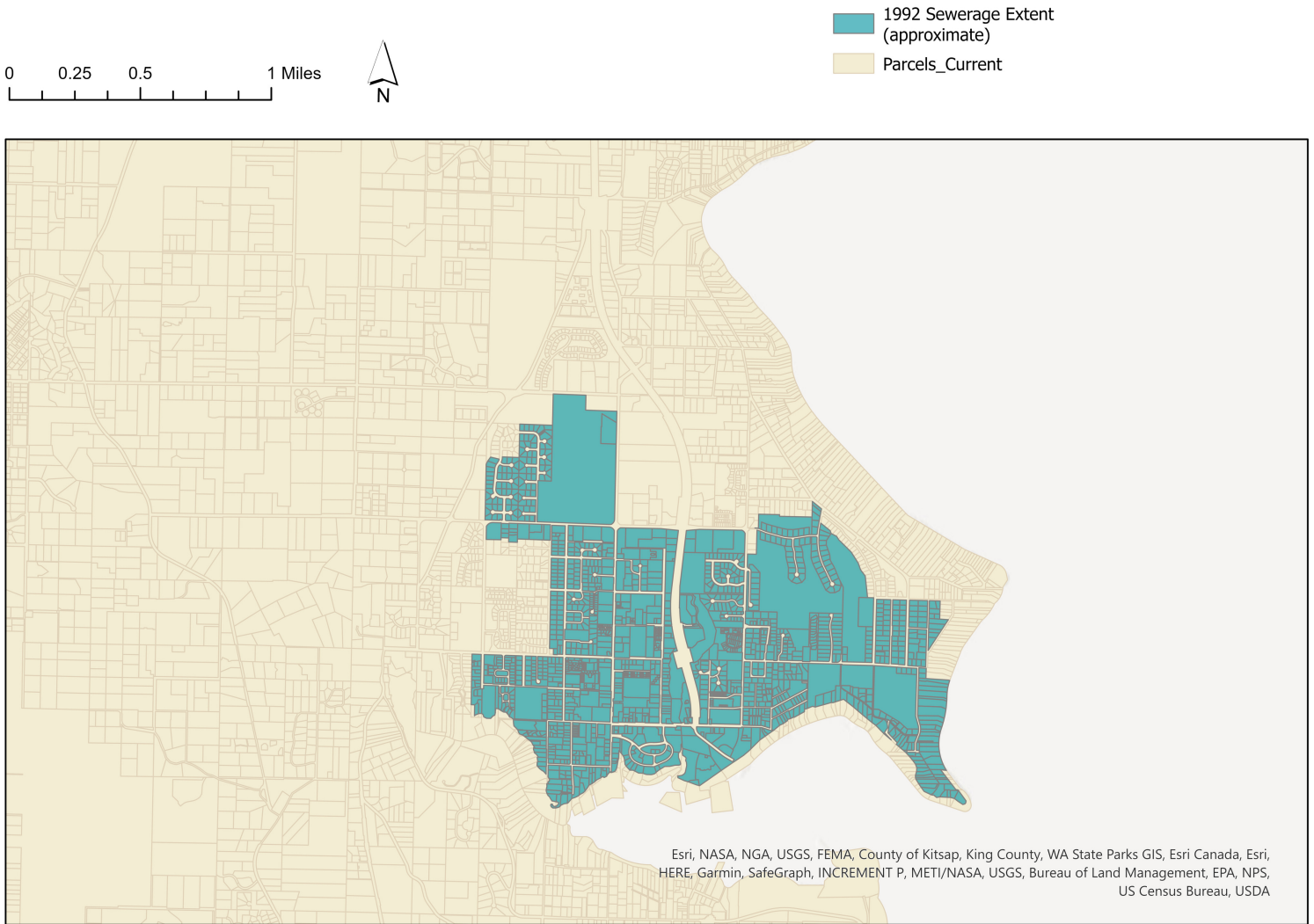


Fig. 1. 1992 Winslow Sewer Services Extent Map

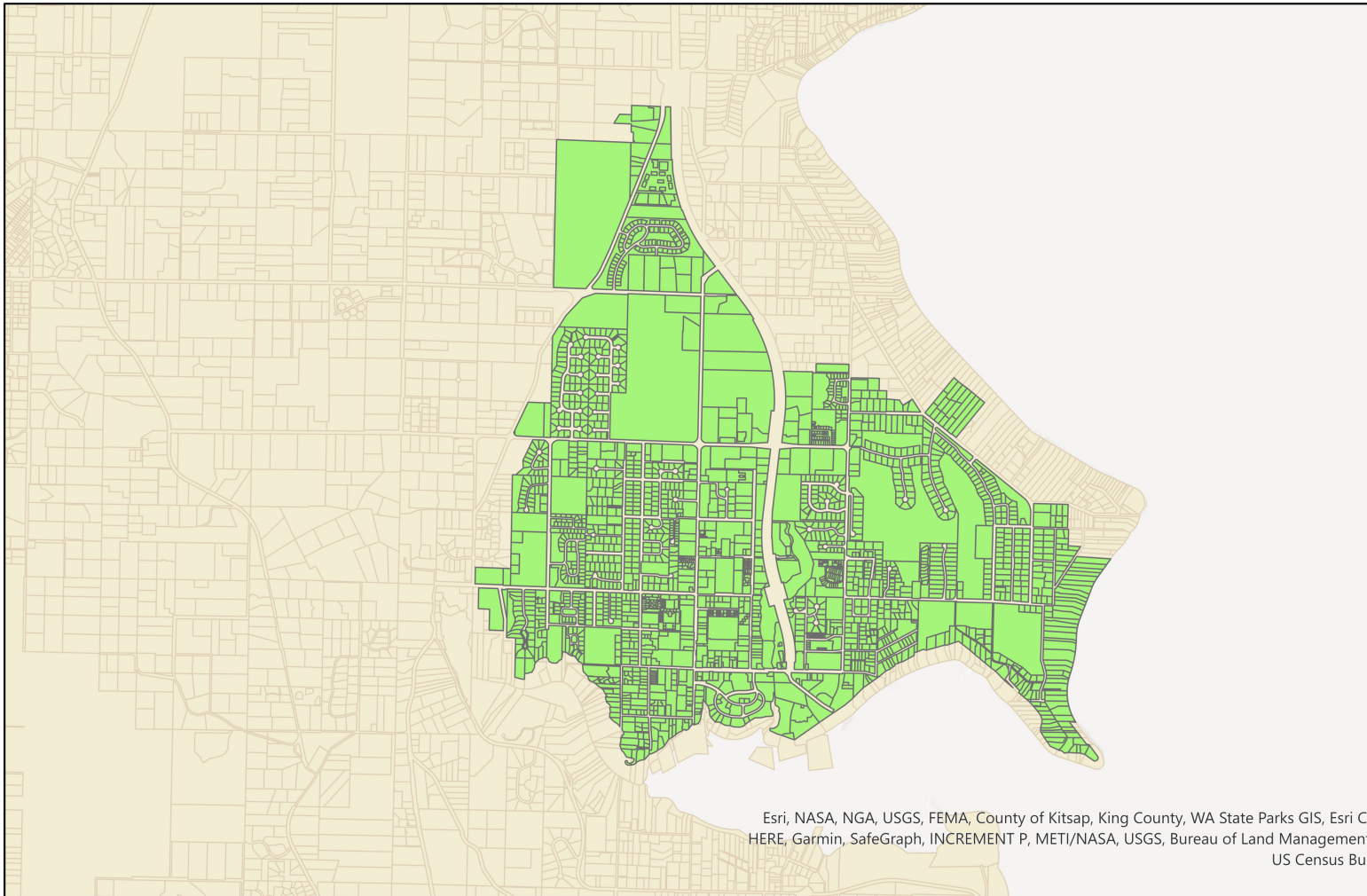
The 1992 Winslow Sewer Services extended basically to the boundaries of the historic Winslow area excluding the Rotary Park and the nearby area, with an addition of the Bainbridge High School.

2015 Winslow Sewer Services Extent Map

Legend

- 2015 Sewerage Extent
- Parcels_Current

0 0.25 0.5 1 Miles



Esri, NASA, NGA, USGS, FEMA, County of Kitsap, King County, WA State Parks GIS, Esri C
HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management
US Census Bu

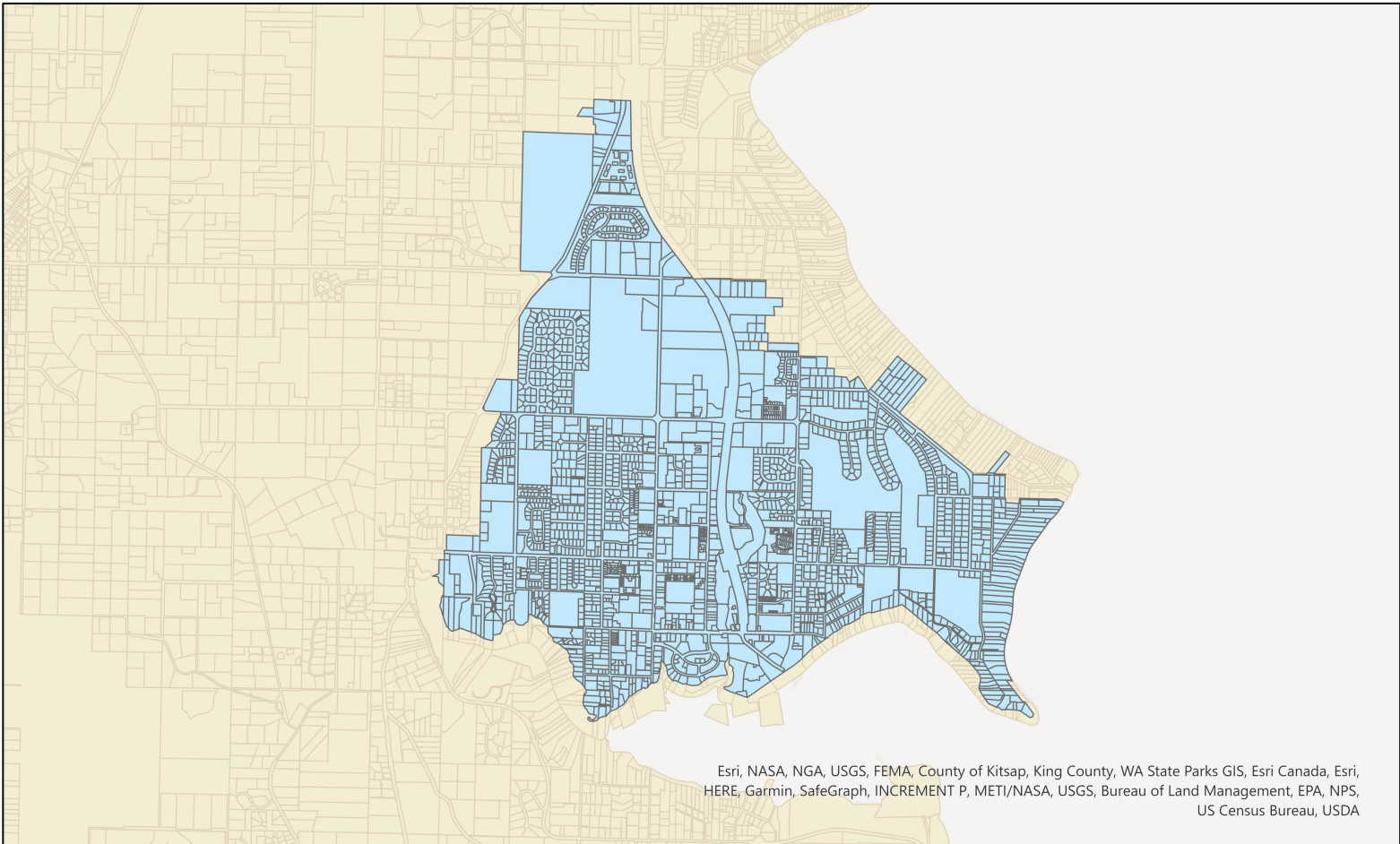
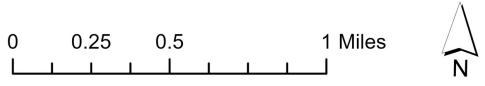
Fig. 2. 2015 Winslow Sewer Services Extent Map

The 2015 Winslow Sewer Services expanded northward from High School Road to Woodward Middle School and westward to Sportsman Club Road.

2021 Winslow Sewer Services Extent Map

Legend

- 2021 Sewerage Extent
- Parcels_Current



Esri, NASA, NGA, USGS, FEMA, County of Kitsap, King County, WA State Parks GIS, Esri Canada, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA

Fig. 3. 2021 Winslow Sewer Services Extent Map

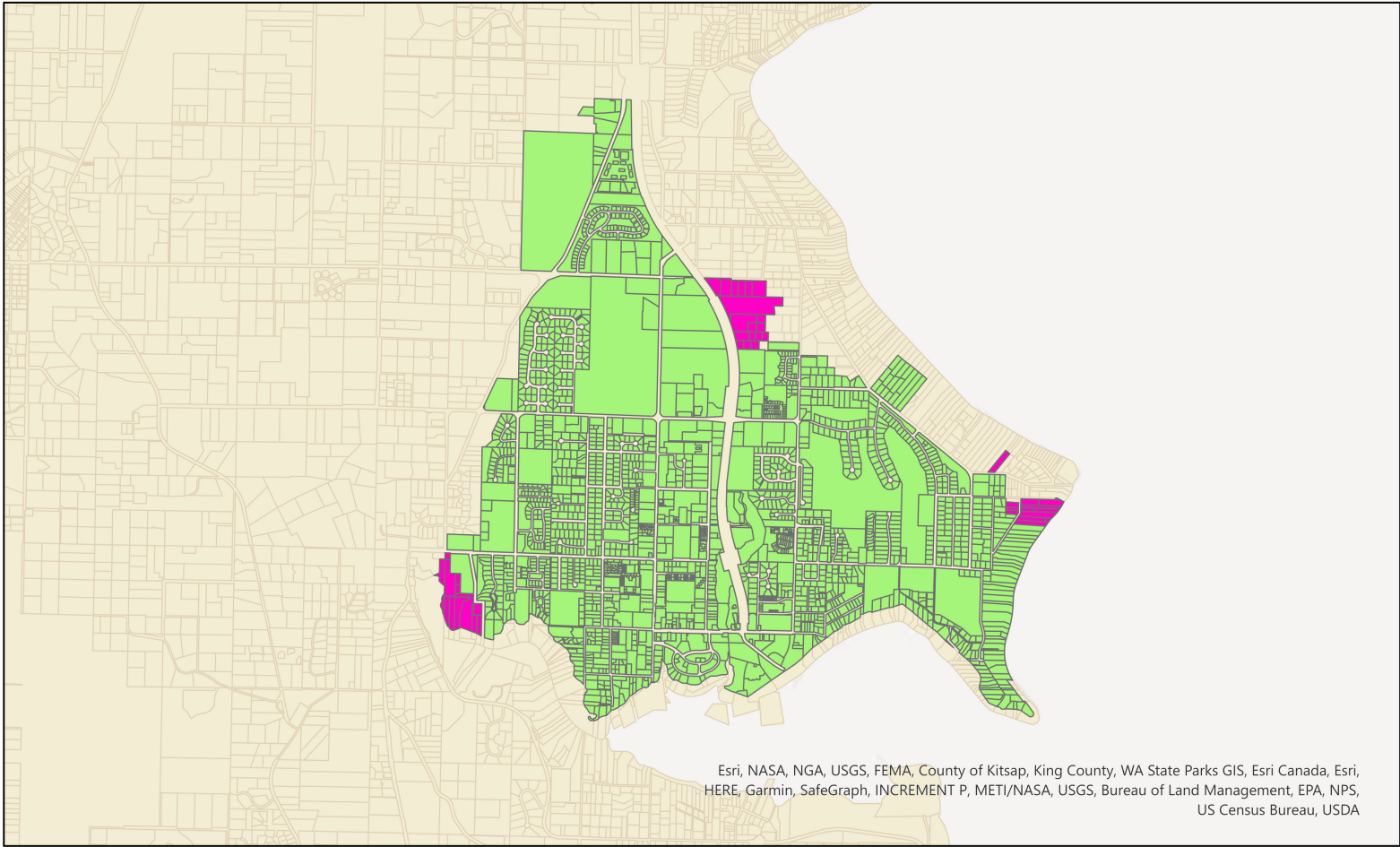
The 2021 Winslow Sewer Services expanded in the northeast, southeast, and southwest corners.

Winslow Sewer Services Expansion Since 2015

Legend

- 2015 Sewerage Extent
- Parcels_Current
- Expansion Since 2015

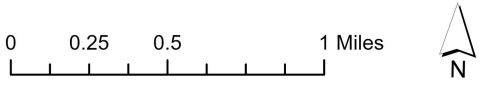
0 0.25 0.5 1 Miles



Esri, NASA, NGA, USGS, FEMA, County of Kitsap, King County, WA State Parks GIS, Esri Canada, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA

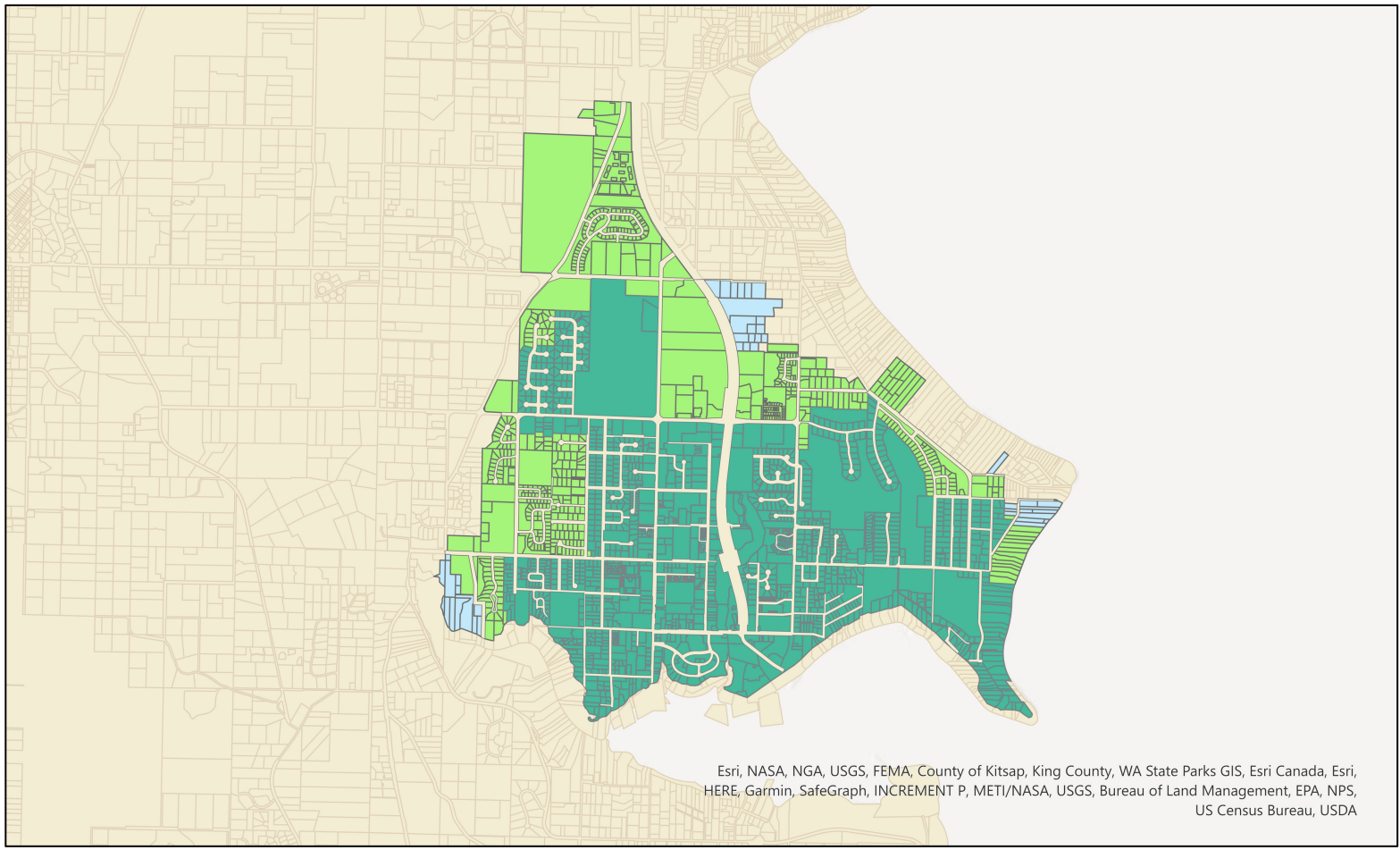
Fig. 4. Winslow Sewer Services Expansion Since 2015

1992, 2015 and 2021 Winslow Sewer Services Extents Map



Legend

- 1992 Sewerage Extent (approximate)
- 2015 Sewerage Extent
- 2021 Sewerage Extent
- Parcels_Current



Esri, NASA, NGA, USGS, FEMA, County of Kitsap, King County, WA State Parks GIS, Esri Canada, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA

Fig. 5. 1992, 2015, and 2021 Winslow Sewer Services Extents Map

Evolutions of the Winslow Sewer Services Summary:

1992-2015: expansion to the Ferncliff neighborhood, Woodward Middle School, and Rotary Park along with the nearby residential area.

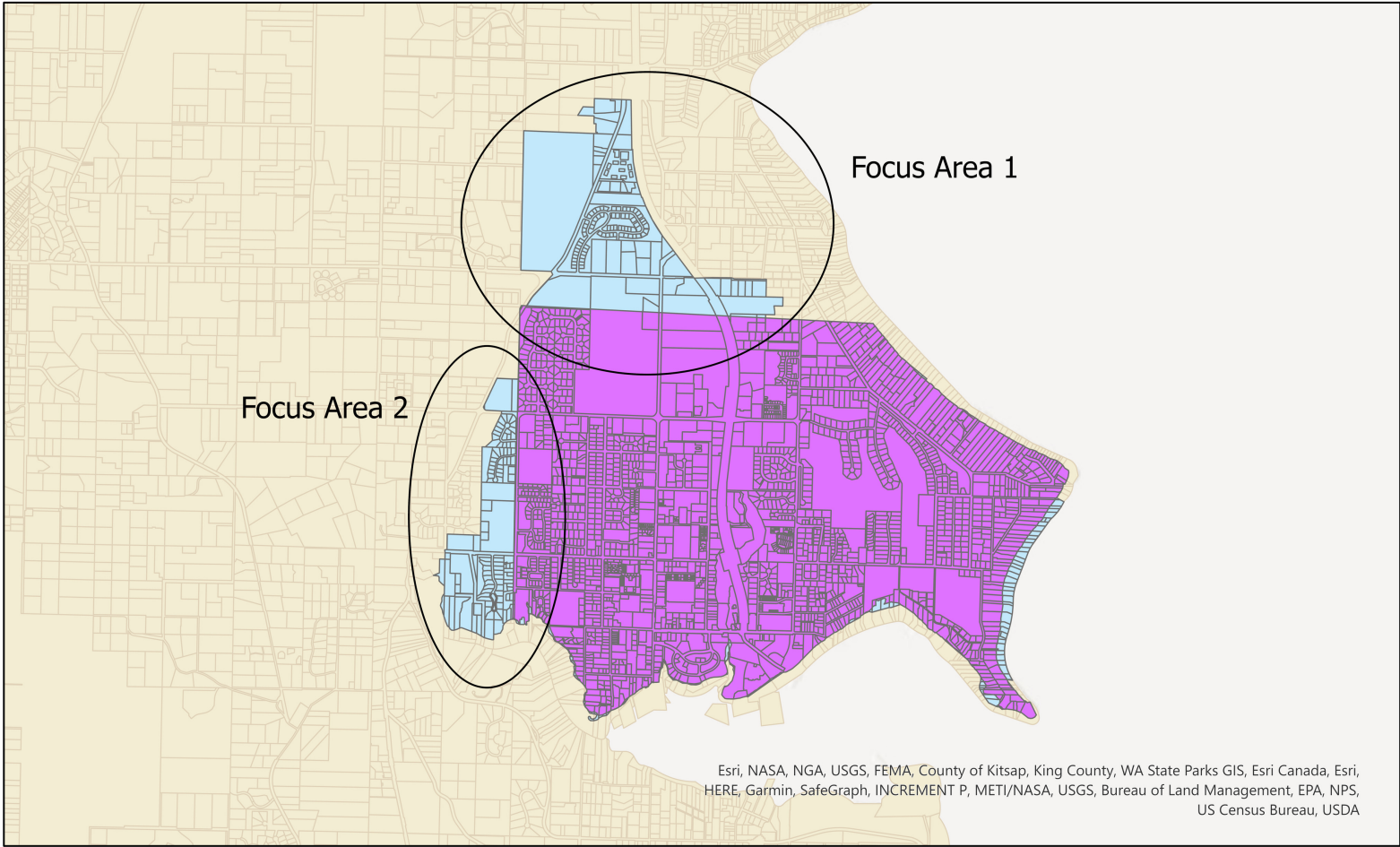
2015-2021: expansion in the northeast, southeast, and southwest corners.

Winslow Master Plan Area Overlaying 2021 Winslow Sewer Services Extent

Legend

- Winslow Master Plan Area
- 2021 Sewerage Extent
- Parcels_Current

0 0.25 0.5 1 Miles



Esri, NASA, NGA, USGS, FEMA, County of Kitsap, King County, WA State Parks GIS, Esri Canada, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA

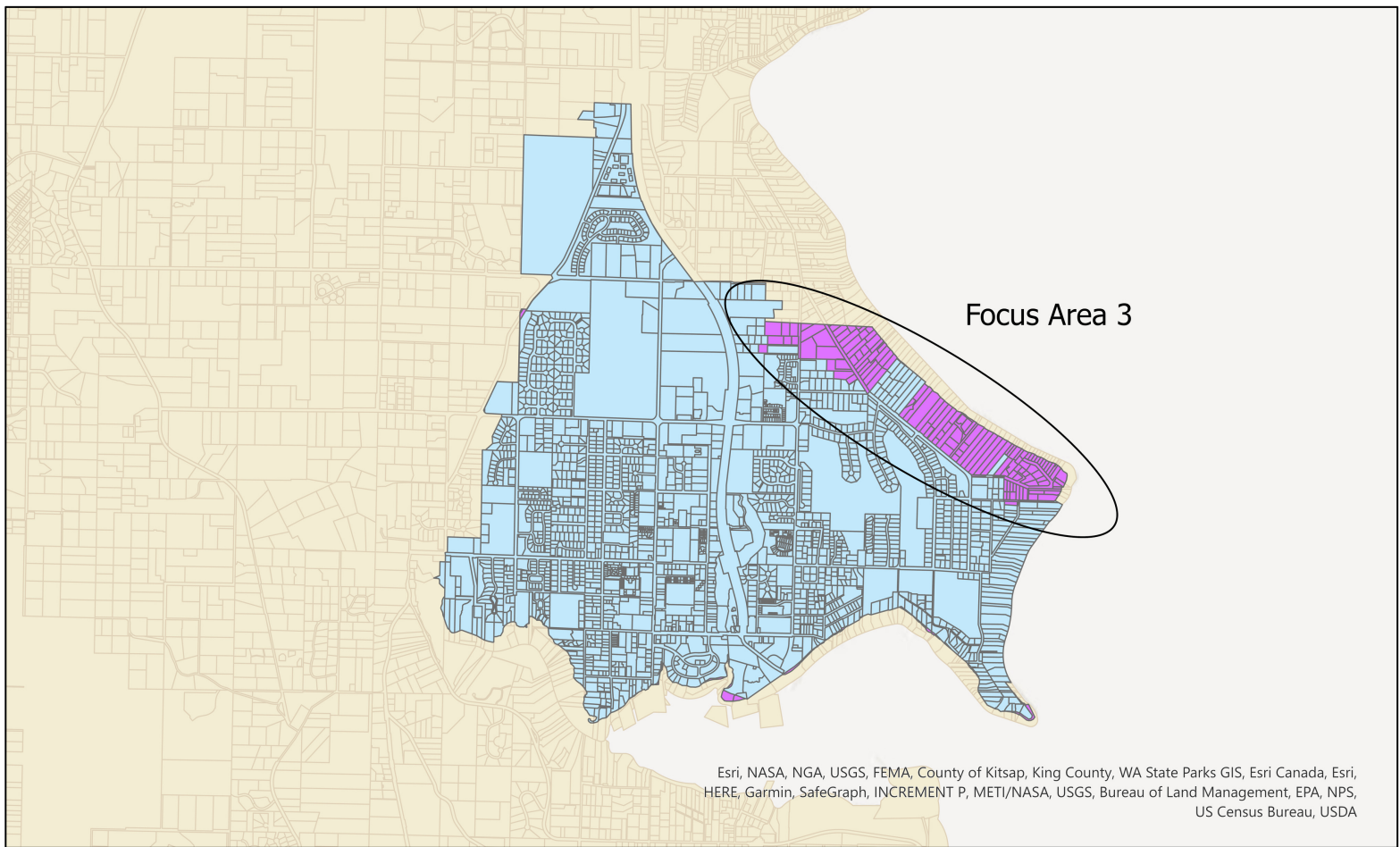
Fig. 6. Winslow Master Plan Area Overlaying 2021 Winslow Sewer Services Extent

2021 Winslow Sewer Services Extent Overlaying Winslow Master Plan Area

Legend

- Winslow Master Plan Area
- 2021 Sewerage Extent
- Parcels_Current

0 0.25 0.5 1 Miles



Esri, NASA, NGA, USGS, FEMA, County of Kitsap, King County, WA State Parks GIS, Esri Canada, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA

Fig. 7. 2021 Winslow Sewer Services Extent Overlaying Winslow Master Plan Area

Focus Area 1 Land Use Classification Map

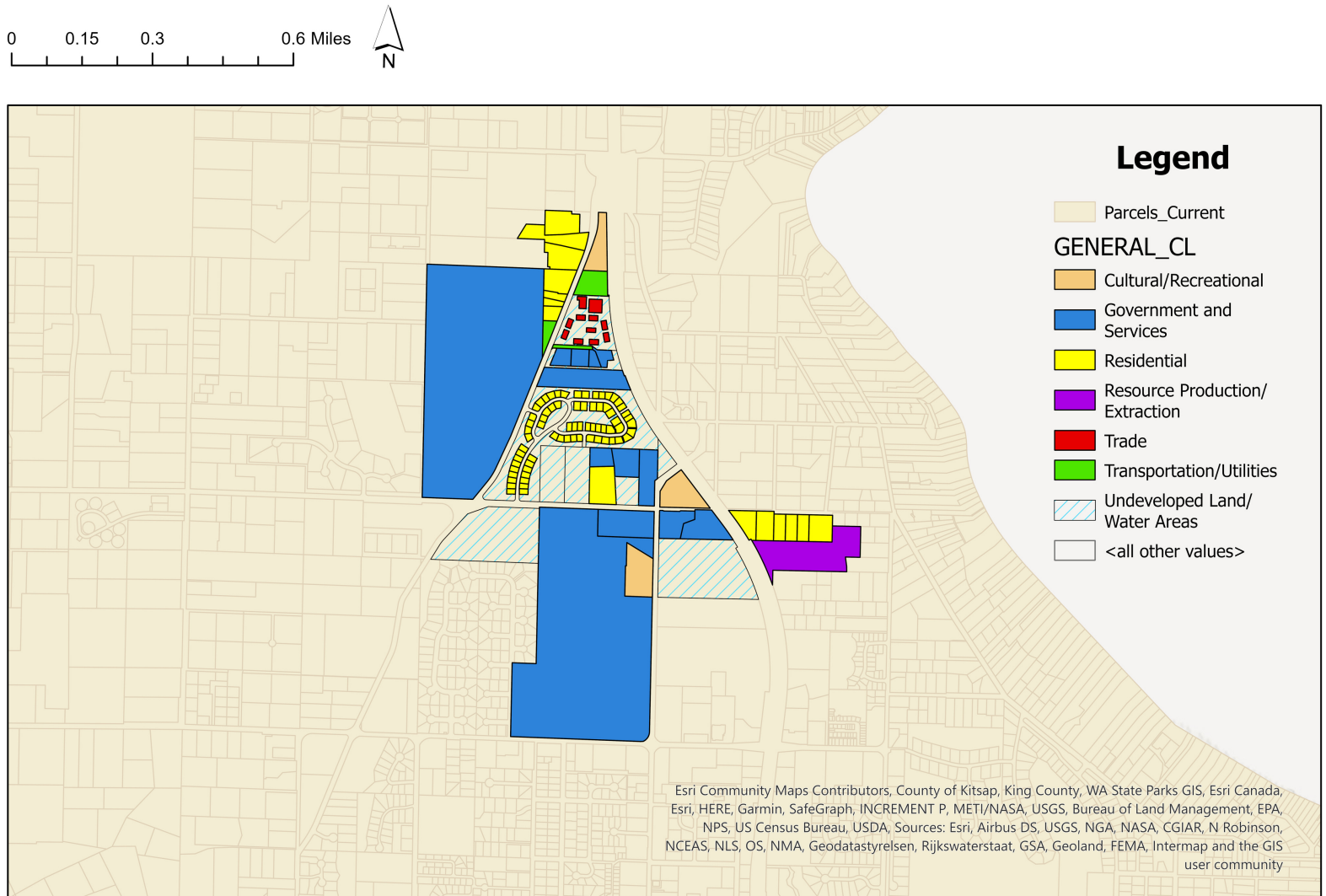


Fig. 8. Focus Area 1 Land Use Classification Map

MAJOR ASSETS IN FOCUS AREA 1

- Bainbridge High School
- Woodward Middle School
- Coppertop Park Business Complex
- Reliable Storage - Bainbridge Island
- Madrona House (assisted living facility)
- The Church of Jesus Christ of Latter-day Saints
- Bainbridge First Baptist Church
- Kitsap County Fire District 2
- Bainbridge Artisan Resource Network
- Bainbridge Self Storage
- Island Church

Focus Area 2 Land Use Classification Map

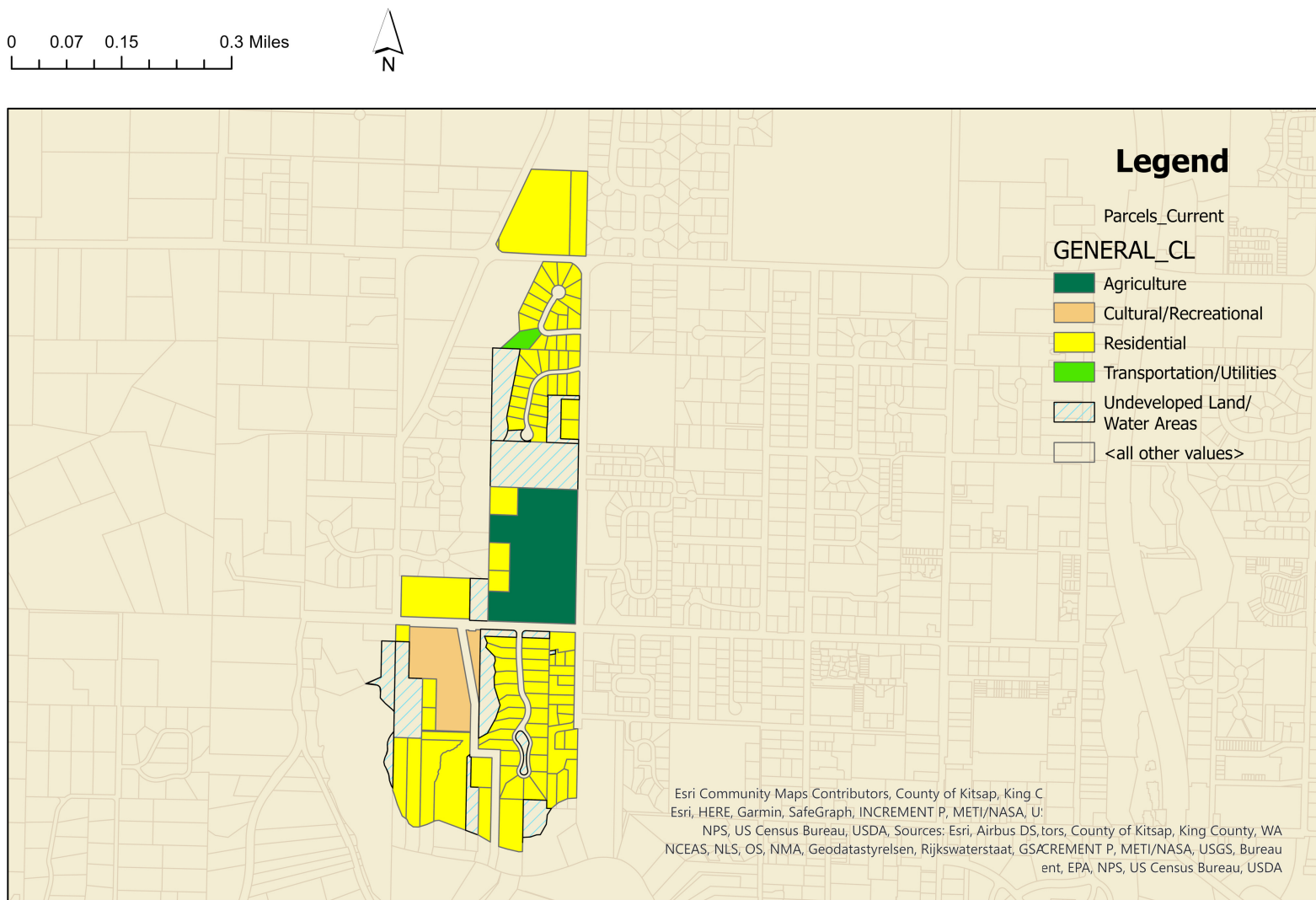


Fig. 9. Focus Area 2 Land Use Classification Map

MAJOR ASSETS IN FOCUS AREA 2

St. Barnabas Episcopal Church

Focus Area 3 Land Use Classification Map

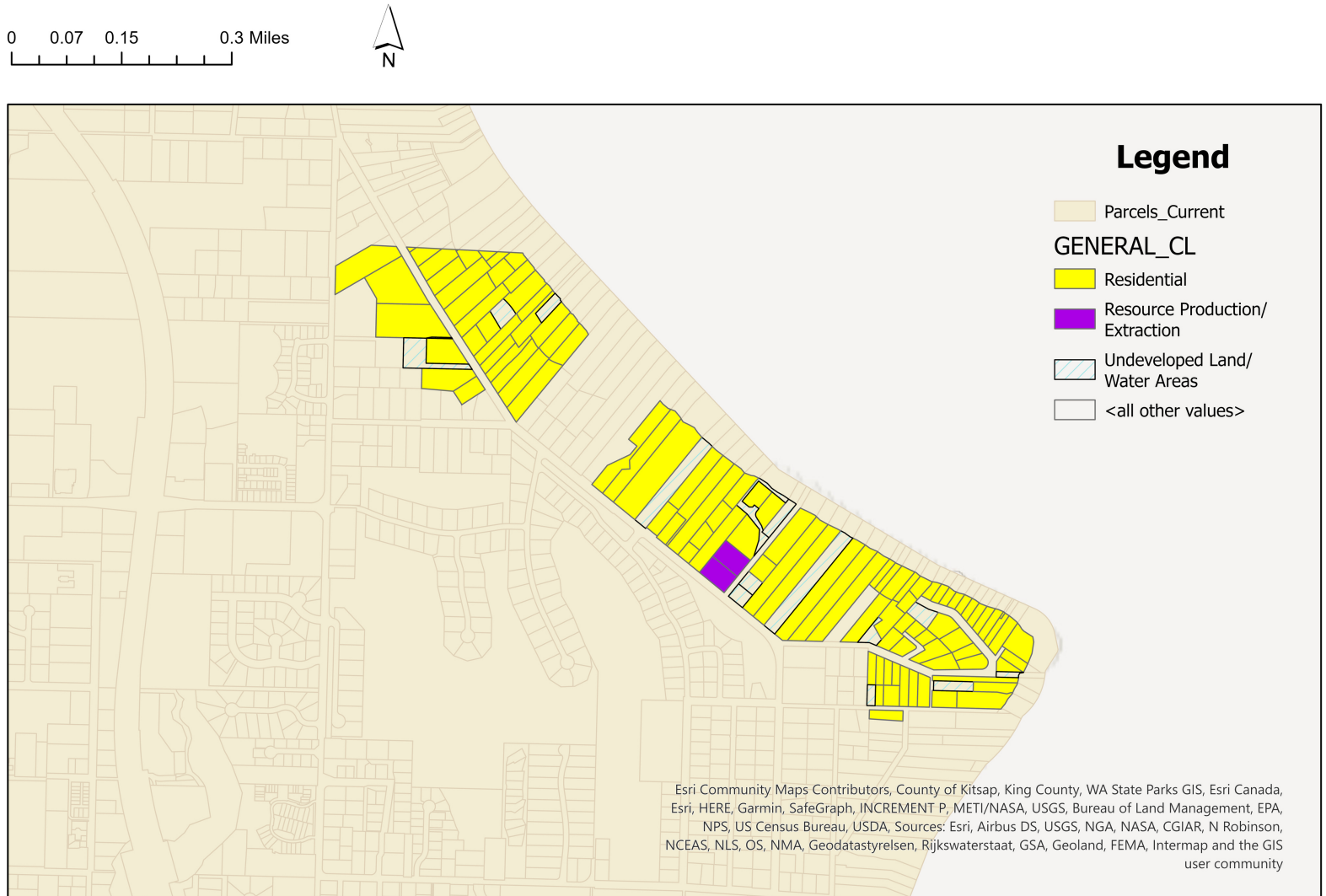


Fig. 10. Focus Area 3 Land Use Classification Map

MAJOR ASSETS IN FOCUS AREA 3

(Omitted)

CONNECTIVITY

Presence of Sidewalks in Winslow, Bainbridge Island



Date: November 8th 2021
Map Author: UW CEP 460 Team

This map uses 2020 Google Street View imagery to indicate roads in Winslow that either have sidewalks on both sides of the road, one side, or not at all. Google Street View does not have imagery from certain streets that are, for example, long private driveways or within some shopping centers or hotel complexes. Sidewalks have been defined as paved path separate from the road by a curb.

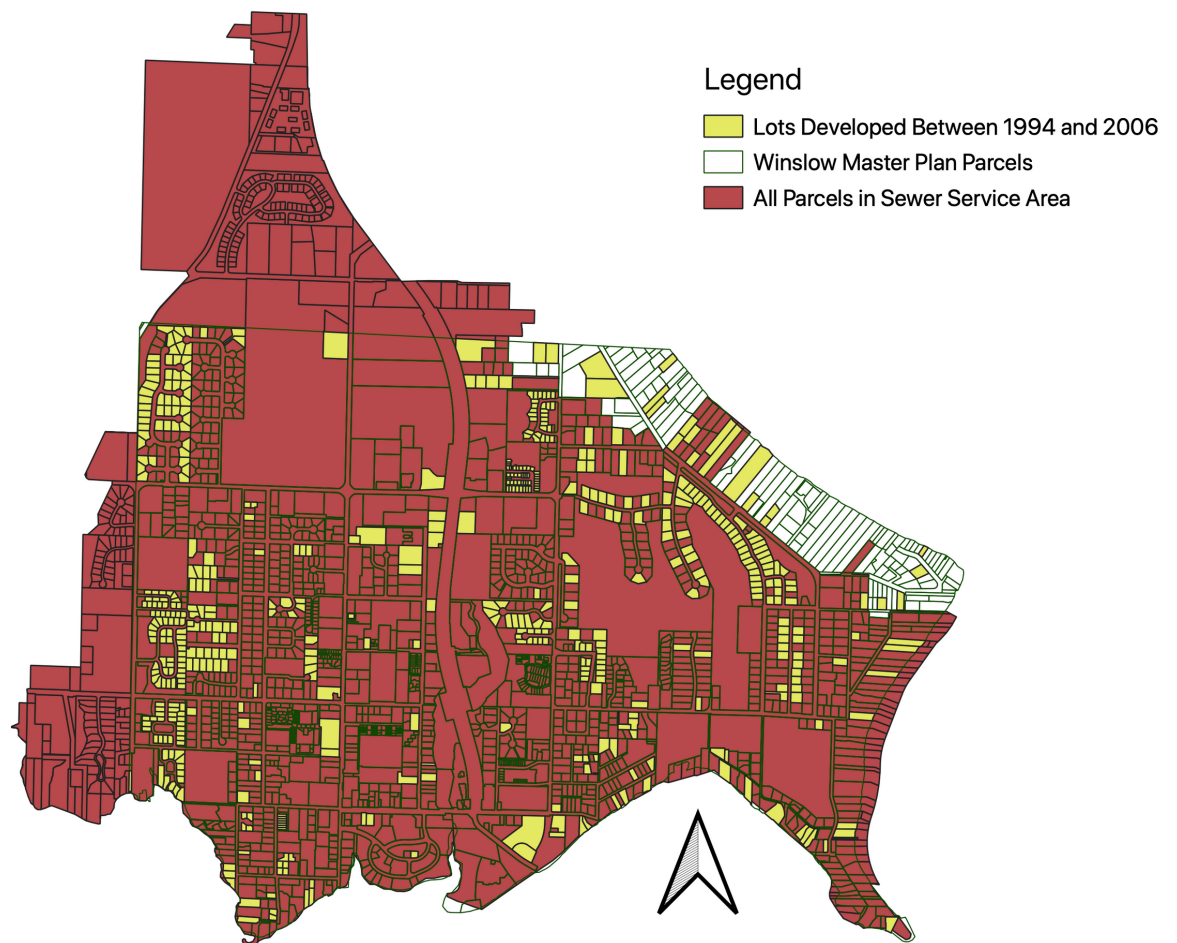
Fig. 11. Presence of Sidewalks in Winslow, Bainbridge Island

According to the City's Comprehensive Plan and Island-Wide Transportation Map, the City has a very diverse transportation system, however, the current transportation system in place is still designed around motor vehicles with SR 305 and the ferry system as the “backbone.” For now, the City is aiming to create a more pedestrian- and bicyclist-friendly transportation system to alleviate existing transportation problems such as traffic congestion. Our team started out at Heather's request to analyze the transportation system of the City of Bainbridge Island, and although this is no longer an important part of our mission at this time, we have since discovered that the transportation system is inextricably linked to the future growth of Winslow Community. First, the roads serve as dividing lines in the city and help us to define the scope of our study in this case. Second, people's travel habits determine the carrying capacity of the existing transportation system. On Bainbridge Island, where public transportation and non-motorized systems are not very well developed, the reliance on automobiles may also hinder the further development of Winslow since the carrying capacity of SR 305 is limited. In conclusion, the study of the transportation system remains extremely meaningful for our project.

From this map (Figure 11) we learn that the Winslow area is a very car-centered environment. Most streets that have sidewalks on both sides are major roads with heavier traffic while side streets or the dead-end streets with homes on them are more likely to have a sidewalk on one side or none at all. This lack of connectivity and accessible sidewalks right outside homes decreases the walkability of the area and incentivizes using a car to go anywhere. The Winslow subarea is overall a very “human scale” environment, and adding more sidewalks in strictly residential areas will make streets safer for pedestrians and also open up conversations about, for example, adding identifiable bike lanes increases safety and promotes other forms of transportation.

DENSITY AND GROWTH ANALYSIS

Lots Developed Between 1994-2006 Both Within and Outside the Winslow Sewer Service Area



Date Created: November 17 2021
Map Author: UW CEP 460 Team
Data Source: City of Bainbridge Island

Fig. 12. Lots Developed Between 1994-2006 Both Within and Outside the Winslow Sewer Service Area

Lots Developed from 2006-2021 Both Within and Outside the Winslow Sewer Service Area

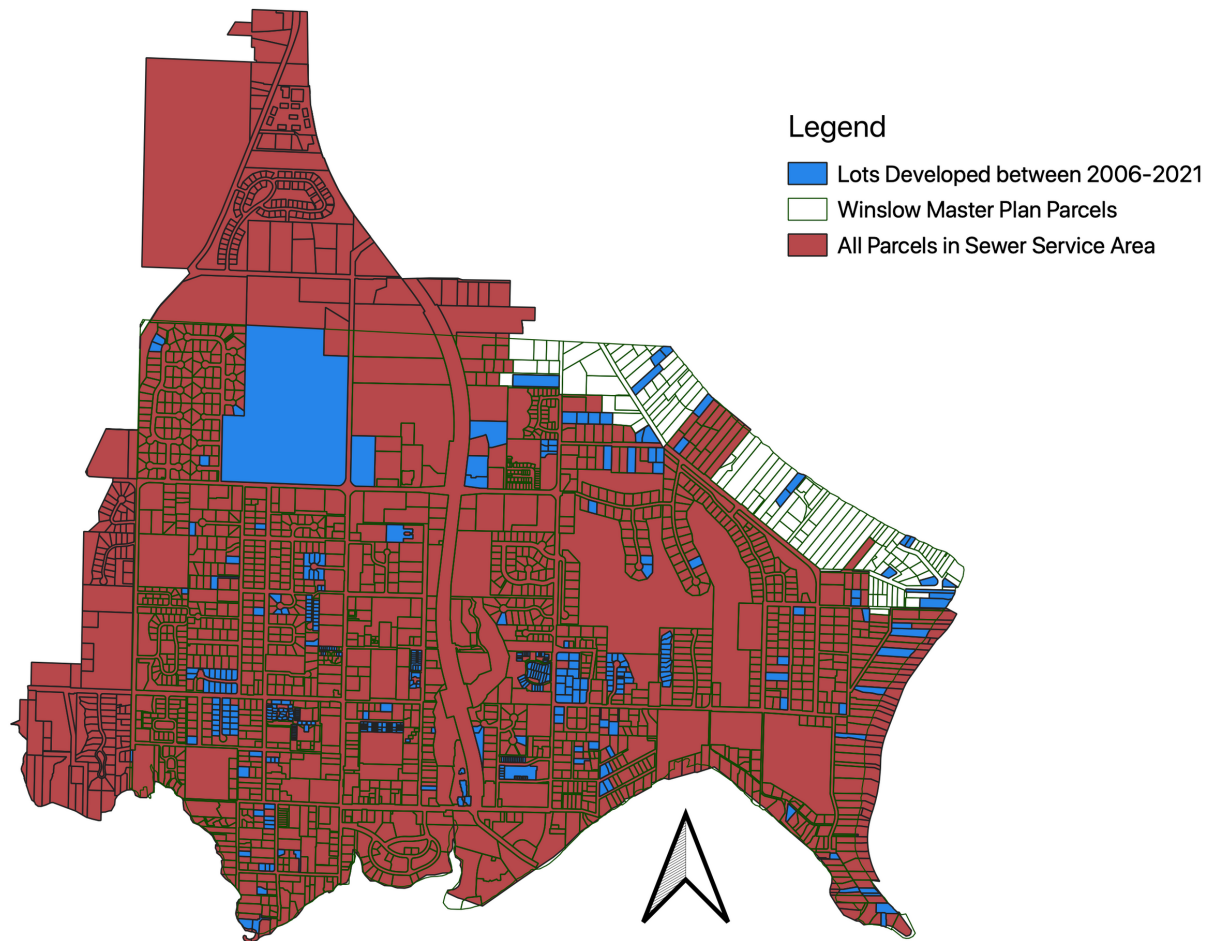
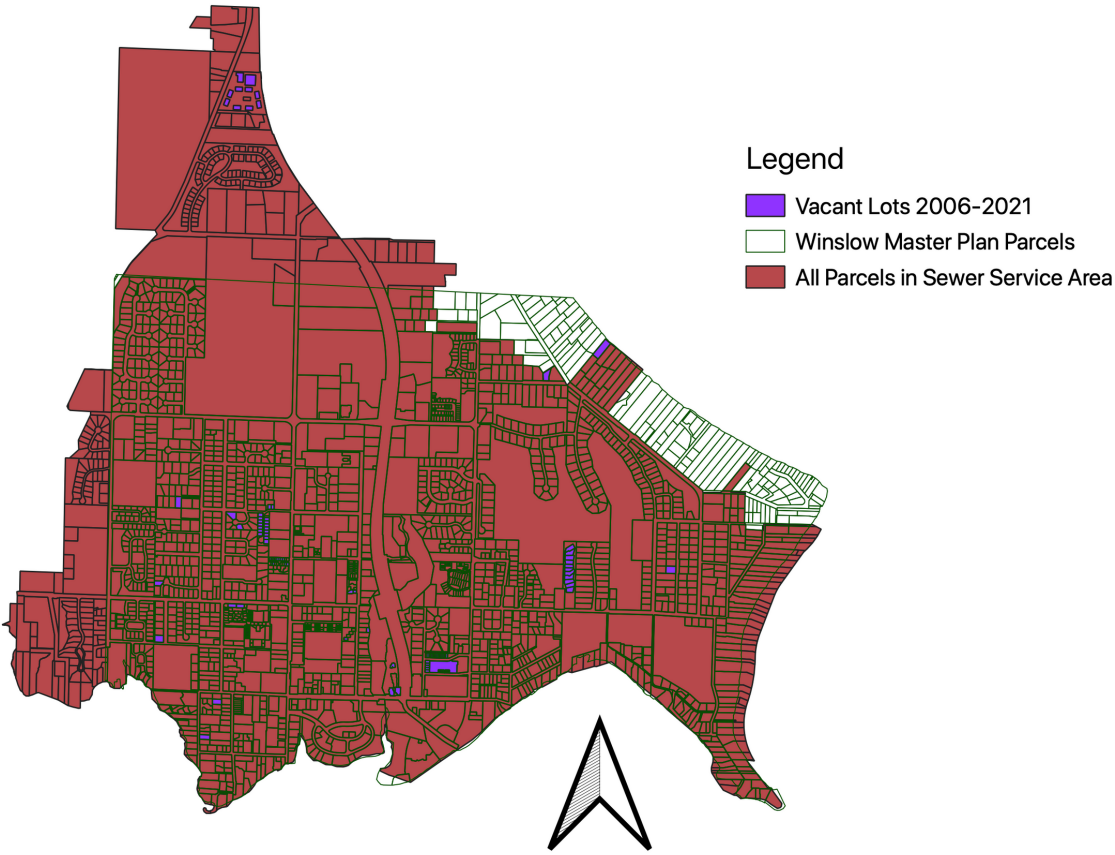


Fig. 13. Lots Developed Between 2006-2021 Both Within and Outside the Winslow Sewer Service Area

Vacant Lots in Winslow Sewer Service Area,
2006-2021



Date: November 29 2021
Map Author: UW CEP 460 Team
Data Source: City of Bainbridge Island

Fig. 14 Vacant Lots in Winslow Sewer Service Area, 2006-2021

Figure 9 is a map of vacant lots in both the Winslow Master Plan area and Sewer Service area. We focused on 2006-2021 to look at more recent trends and see if there are patterns if certain zoning areas have more vacancies than others. In the data, both vacant lots and lots currently under development are classified as “vacant,” so some of these lots are already in development. Although most vacancies are already within the Master Plan boundary, expanding the boundary at this time would ensure that any further development and vacancies produce positive economic development practices and preserve community character.

Through our research these are two areas of tension surrounding development in Winslow, but if the plan boundary is expanded to include the entire sewer service area, the vision for the future can be consistent, preserve or develop community identity, and help existing residences and businesses better predict the future development of an area.

***The few clusters of lots in purple are residential and one is an office/trade classification. The orange clusters are also residential and condos and there was only one other lot that was “vacant” in 2005 in the center of the already identified trade/office condo complex in the north. We did a separate analysis of vacant lots between 1994 and 2006 to make sure we didn’t miss any major trends just before 2006.*

TABLES

Master Plan Study Area Summary Table 2006-2021							
Building Date	Quantity	Land Codes	Quantity	General Classification	Quantity	Zoning	Quantity
2006	22	Church	1	Cultural/Recreational	2	CORE	42
2007	16	Commercial Retail	2	Government/Services	4	Erck	2
2008	7	Commercial Service	3	Residential	393	ERICK	22
2009	11	Common Area	3	Trade	7	FTD	26
2010	9	Facilities	1	Underdeveloped Land/Water Areas	3	GATE	2
2011	5	Schools	1	Total	409	GATE AND *	1
2012	30	Suburban	1			Gate/Core	1
2013	42	Urban_High	134			HS-1	2
2014	9	Urban_Low	44			HS-2	1
2015	17	Urban_Med	35			HS-2 / HS*	1
2016	81	Urban_Standard	106			MAD	13
2017	21	Vacant	78			NC	1
2018	54	Total	409			R-0.4/R-2	1
2019	28					R-14	50
2020	39					R-2	32
2021	18					R-2.9	57
Total Lots	409					R-3.5	65
						R-4.3	68
						R-8	11
						R2.9	11
						Total	409

Fig. 15 Master Plan Area Lot Summary Table

- 96% of lots are residential
- 95% of all residential lots single family classification (374 lots)
- 70% of vacant lots are vacant as of 2020 and 2021 (55/78 lots)
- Summary tables focus on 2006-2021 because the last update of the Master Plan was in 2007

Sewer Service Study Area Summary Table 2006-2021							
Building Date	Quantity	Land Codes	Quantity	General Classification	Quantity	Zoning	Quantity
2006	32	Church	3	Cultural/Recreational	4	B/I	1
2007	15	Commercial Retail	2	Government/Services	8	CORE	42
2008	11	Commercial Service	5	Residential	408	Erck	2
2009	10	Common Area	3	Trade	17	ERICK	22
2010	9	Facilities	2	Underdeveloped Land/Water Areas	3	FTD	26
2011	4	Hospitals	1	Total	440	GATE	2
2012	30	Schools	1			GATE AND *	1
2013	43	Suburban	1			Gate/Core	1
2014	9	Urban_High	132			HS-1	2
2015	17	Urban_Low	47			HS-2	1
2016	81	Urban_Med	35			HS-2 / HS*	1
2017	21	Urban_Standard	120			LM	11
2018	69	Vacant	88			MAD	13
2019	32	Total	440			NC	1
2020	39					R-0.4	1
2021	18					R-14	50
Total	440					R-2	46
						R-2.9	59
						R-3.5	66
						R-4.3	68
						R-8	13
						R2.9	11
						Total	440

Fig. 16 Sewer Service Area Lot Summary Table

- 93% of lots are residential
- 95% of all residential lots are single family classification (390 lots)
- 62.5% of vacant lots are vacant as of 2020 and 2021 (55/88 lots)

People moving into Bainbridge per year

Year	Population	Growth Percentage
2017	23,689	0.479%
2018	24,060	1.56%
2019	24,486	1.77%
2020	24,825	1.38%
2021	24,930	.42%

Fig. 17 Yearly Population Growth Over Five Year Course

- Major growth between 2017 and 2018
- Significant decrease in 2019 to 2020, due to COVID-19 pandemic
- 5.23% Growth from 2017-2021

FLOOR AREA RATIO (FAR) FINDINGS

In order to calculate how many people Winslow's current zoning can still accommodate, we divided the data we had into four parts. The table below shows our different calculations for each different zone.

	Mixed-Use Town Center	Single-Family Zones
Vacant Lots	$(Mixed-Use FAR \times Lot Area) / (2 \times 832)$	$Household/Acre \times Lot Area \times 2.45$
Non-Vacant Lots	$(Mixed-Use FAR \times Lot Area - Current Floor Area) / (2 \times 832)$	$(Household/Acre \times Lot Area \times 2.45) - (Current Floor Area / 832)$

Fig. 18. Growth Analysis Formula Summary Table

In our calculations, only space with a land code of urban residential, vacant land, or common area is considered a potential residential area. In addition, we made three important assumptions for the purpose of our calculations. First, we assumed that half of the mixed-use FAR was used as residential. Second, we used 832 square feet as the floor area per capita. Third, we used 2.45 as the average household size in Single Family Zones.

Remaining Carrying Capacity A (RCC-A): If Winslow developed all of the vacant land and rebuilt all of the undeveloped buildings according to the base mixed-use FAR or residential density zoning, it could potentially accommodate about 5,000 more people. However, it is highly unlikely that it would allow every lot to be fully developed.

RCC-A	Mixed-Use Town Center	Single-Family Zones	Total
Vacant	1,325	2,664	3,989
Non-Vacant	380	316	696
Total	1,705	2,980	<u>4,685</u>

Fig. 19 Remaining Carrying Capacity A Result Table

Remaining Carrying Capacity B (RCC-B): According to our calculations, buildings in mixed-use town centers account for an average of only 57.3% of the base FAR, while buildings in suburban residential areas account for an average of only 40.7% of the zoning. If all vacant lots were developed at the same intensity as before, and all undeveloped lots were not redeveloped, the Winslow Master Plan area could only accommodate less than 2,000 more people.

RCC-B	Mixed-Use Town Center	Single-Family Zones	Total
Vacant	759	1,084	1,843
Non-Vacant	-	-	-
Total	759	1,084	<u>1,843</u>

Fig. 19. Remaining Carrying Capacity B Result Table

CONCLUSION

Based on the sewer service and growth trends analyses, we found that 1) the Focus Area 1 (page 14) has existing sewer services and various community assets that could benefit from being included in an expanded master plan and 2) the current zoning of the Winslow Master Plan Area does not provide sufficient space for future population growth.

It is necessary to expand the scope of the Winslow Master Plan and it should encompass and even exceed the existing sewer service area. Additionally, in order to increase the carrying capacity of the core area of the Bainbridge Island, Downtown Winslow urgently needs to be up-zoned with its FAR raised.

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