

CITY OF LYNDEN



Mayor
Scott Korthuis

Council Members
Gary Bode
Ron De Valois
Gerald Kuiken
Nick H. Laninga
Brent Lenssen
Kyle Strengholt
Mark Wohlrab

Regular City Council Meeting
City Annex- 205 Fourth Street
August 02, 2021

Call to Order

Pledge of Allegiance

Roll Call

Oath of Office

Approval of Minutes

- [1.](#) Draft Council Minutes- Regular Meeting

Items from the Audience

Scheduled

Unscheduled (20 Minutes)

Audience members may address the Council on any issue other than those scheduled for a public hearing or those on which the public hearing has been closed. Prior to commenting please state your name, address, and topic. Please keep comments under 4 minutes.

Consent Agenda

- [2.](#) Approval of Payroll and Claims
- [3.](#) Ordinance No. 1630 – Amendment to the 2021 Budget
- [4.](#) Set the Public Hearing to Amendment to the Comprehensive Plan – Pepin Planning
- [5.](#) Set the Public Hearing to Update Transportation Impact Fees
- [6.](#) Continuation of Public Hearing to Amend LMC Titles 16 and 19 regarding SEPA thresholds and minimum density (Ord 1627)

Public Hearing

- [7.](#) Skyview Development Agreement

Unfinished Business - None

New Business -None**Other Business**

[8.](#) Draft Parks Committee Minutes July 19, 2021

[9.](#) Calendar

Executive Session**Adjournment**

CITY OF LYNDEN

EXECUTIVE SUMMARY



Meeting Date:	August 2, 2021	
Name of Agenda Item:	Draft Council Minutes- Regular Meeting	
Section of Agenda:	Approval of Minutes	
Department:	Administration	
Council Committee Review:	<input type="checkbox"/> Community Development <input type="checkbox"/> Public Safety <input type="checkbox"/> Finance <input type="checkbox"/> Public Works <input type="checkbox"/> Parks <input type="checkbox"/> Other: N/A	Legal Review: <input type="checkbox"/> Yes - Reviewed <input type="checkbox"/> No - Not Reviewed <input checked="" type="checkbox"/> Review Not Required
Attachments:	Draft Council Minutes- Regular Meeting	
Summary Statement:	Draft Council Minutes- Regular Meeting	
Recommended Action:	For Council review.	

CITY OF LYNDEN

CITY COUNCIL MINUTES OF REGULAR MEETING



July 19, 2021

1. CALL TO ORDER

Mayor Korthuis called to order the July 19, 2021, regular session of the Lynden City Council at 7:00 p.m., held at the City Annex.

ROLL CALL

Members present: Mayor Scott Korthuis and Councilors, Gary Bode, Ron De Valois, Jerry Kuiken, Nick Laninga, Kyle Strengholt, and Mark Wohlrab.

Members absent: Councilor Lenssen absent with notice.

Staff present: Finance Director Anthony Burrows, Fire Chief Mark Billmire, Parks Director Vern Meenderinck, Planning Director Heidi Gudde, Public Works Director Steve Banham, City Clerk Pam Brown, and City Administrator Mike Martin.

OATH OF OFFICE- None

APPROVAL OF MINUTES

Councilor Strengholt moved and Councilor Wohlrab seconded to approve the July 6, 2021, regular council minutes as presented. Motion approved on a 6-0 vote.

ITEMS FROM THE AUDIENCE

Scheduled- None

Unscheduled:

Lynden Chamber Director Gary Vis thanked the city representatives and city staff for their assistance with the Farmer's Day Parade event on July 17th. He estimated that the attendance was approximately 15,000 people and 92 parade entries.

Mr. Vis also advised council that the NW WA Fair is experiencing a labor workforce shortage. Of the 400 or so positions normally hired to work during the Fair there are currently 80 positions filled. If you know of anyone that would like to work at the 2021 Fair, ask them to contact NW WA Fair Association.

CITY OF LYNDEN



CITY COUNCIL MINUTES OF REGULAR MEETING

Mayor Korthuis announced that Diane Veltkamp has decided to retire from the Planning Commission. Some of the highlights of her 30 years serving the Lynden community on the Planning Commission include the following:

- The opportunity to serve a community that she loves.
- Working and developing relationships with the other Commissioners.
- The diversity of projects, and the ability to create codes and standards for the city.
- Working with Lynden residents, they, like her, care for the city they live in.

A few of the low lights included the occasions where many hours were sunk into a project to only have it withdrawn, developments not turning out like they were envisioned, long hours spent on the legal challenges to decisions and having to work remotely, without personal interaction.

Some projects accomplished while Diane Veltkamp served on the Planning Commission:

- The Homestead development
- RB Development (the area around the Christian Health Care Center and Lynden Manor)
- Many of the design standards and codes were heavily influenced by her work
- Various other plats or neighborhoods in Lynden:
 - Every new plat east of Vinup which include virtually all of the homes in that area. All of this land as well as most of the land between Bender and Vinup was developed since 1992

Diane Veltkamp exemplifies being an engaged and passionate citizen who stepped up to give it her all.

2. CONSENT AGENDA

Payroll Liability to June 1 through June 15, 2021

EFT & Other Liabilities

Non-L&I Liabilities

Monthly EFT	\$362,745.79
Check Liability	\$11,618.67
Total Non-L&I Liabilities	\$374,364.46
Quarterly Liabilities	\$11,957.28
Total EFT & Other Liabilities	\$386,321.74

CITY OF LYNDEN



CITY COUNCIL
MINUTES OF REGULAR MEETING

Payroll Liability to June 16 through June 30, 2021

EFT & Other Liabilities

Non-L&I Liabilities

Monthly EFT	\$380,322.82
Check Liability	\$116,966.54
Total Non-L&I Liabilities	\$497,289.36
Quarterly Liabilities	\$12,143.48
Total EFT & Other Liabilities	\$509,432.84

Approval of Claims – July 7, 2021

Manual Warrants No.	<u>22368</u>	through	=	\$5,130.47
EFT Payment Pre-Pays				\$223,181.28
				Sub Total Pre-Pays
				\$228,311.75
Voucher Warrants No.	<u>22369</u>	through	<u>22391</u>	\$73,697.72
EFT Payments				\$0.000
				Sub Total
				\$73,697.72
				Total Accts. Payable
				\$302,009.47

Approval of Claims – July 21, 2021

Manual Warrants No.	<u>22407</u>	through	<u>22408</u>	\$9,735.72
EFT Payment Pre-Pays				\$5,882.16
				Sub Total Pre-Pays
				\$15,617.88
Voucher Warrants No.	<u>22409</u>	through	<u>22557</u>	\$1,197,235.67
EFT Payments				\$0.000
				Sub Total
				\$1,197,235.67
				Total Accts. Payable
				\$1,212,853.55

Set Public Hearing- Skyview Development Agreement

The City Council is being asked to consider a development agreement which outlines the developer obligations and timeline for a mixed-use portion of the Skyview Townhome project.

This multi-family project is located just north of the North Prairie Phase 7 long plat on the east side of Northwood Road with Badger Road frontage. It consists of two parcels shown on the Skyview Lot Line Adjustment maps.

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CITY COUNCIL MINUTES OF REGULAR MEETING

The agreement affects Lot A of the Skyview Lot Line Adjustment. This parcel has a zoning of Commercial Services Local (CSL). The City’s CSL zoning permits mixed-use development that maintains a minimum of 60% commercial space on combined ground floor areas.

Although the City’s code includes provision for this ratio of commercial to residential use to be accommodated in multiple buildings it does not include specifics as to the timing of this build out. The agreement proposes that the residential portion of the mixed-use development may proceed without the establishment of a commercial use. A portion of Lot A will be reserved to accommodate the commercial component at a later date. The residential portion to be constructed on the CSL parcel includes 15 townhomes which are accessed from the southern residential neighborhood.

The future commercial development would be accessed from the Badger Road to the north. The agreement also includes developer obligations including landscape buffer and pedestrian trail connections which must be constructed in association with the residential portion of the project. The agreement is currently under legal review. A draft is provided for Council review ahead of the public hearing proposed to be set for August 2, 2021.

Introduction of Ordinance No. 1630- Amendment to the 2021 Budget

As required by State regulations, the Finance Department would like to introduce a proposed amendment to the 2021 Budget. Increased Protective Inspections have resulted in additional expenditures requiring an increase to the budget in Fund 119. The amendment reflects Council authorized transactions.

The following funds need to be modified:

	Adopted Budget	Amended Budget	Variance
Fund 119 Protective Inspections	\$65,000	\$140,000	\$75,000

The Finance Committee has reviewed this amendment in their July 19, 2021, meeting.

SCORE Contract Update

Rates are increasing by 3%, and the \$35 booking feeing that has been suspended in 2021 is being reinstated in the South Correctional Entity (SCORE) 2022 rate amendment agreement.

Ordinance No. 1629- Line of Credit Renewal

Ordinance No. 1231 was approved by council on May 2, 2005. It allowed the city to have a revolving line of credit. The notes have provided interim financing for capital projects such as the Water Reservoir project (for DWSRF reimbursement), Arterial Street capital

CITY OF LYNDEN

CITY COUNCIL MINUTES OF REGULAR MEETING



improvements, Police Station Acquisition/Remodel (prior to issuance of permanent financing), and East Lynden Sewer Sub-Basin improvement projects.

Presently, outstanding balances on the line of credit consist of several funds awaiting reimbursement money. The line of credit is available to provide interim financing for Street Capital Construction projects. These projects are secured by grant and/or other intergovernmental funding on a reimbursement basis.

Since 2005, Ordinance No. 1231 has been amended by Ordinance No. 1261, 1295, 1319, 1355, 1376, 1400, 1420, 1444, 1467, 1485, 1510, 1534, 1558 and 1588 each authorizing an extension of the maturity date of the notes. The City received an offer from Banner Bank to extend the maturity date of the notes from July 31, 2021 to July 31, 2022, at a rate of 2.85%, which is a 0.79% decrease from the previous rate. The closing date is anticipated to be July 29, 2021.

The City's Bond Counsel and Finance Director have reviewed this proposal prior to its review by the Finance Committee on July 19, 2020. The Finance Committee approved the renewal in their June 19th, 2021, meeting and has forwarded the Ordinance to the full Council.

Interlocal Agreement with Whatcom County for Economic Development Investment Program Grant and Loan Funds to Improve West Front Street to All Weather Street Standards

The City of Lynden has received a combination grant/loan from Whatcom County's Economic Development Investment (EDI) Fund for the reconstruction of West Front Street to City "all weather" standards with widened shoulder and no parking strip, curb, or gutter.

In 2020 the City passed Resolution 1019 as part of the application to Whatcom County for EDI funding, but was unsuccessful, in part due to COVID-19. The City reapplied earlier this year (2021) with a scaled down version of the project and was successful in receiving both EDI Board and Whatcom County Council support. The combination 1/3 grant, 2/3 loan is for a total of \$2M rather than the previous \$3M application.

This street is a federally classified street and identified as a City "impact fee funded" street and has been designed for future widening to full arterial standard should federal funding become available. The interlocal agreement was approved by the Whatcom County Council on July 13, 2021. The City will repay the \$1,333,333 loan using a combination of TBD, Impact Fees and General Funds.

Councilor De Valois moved and Councilor Wohlrab seconded to approve the Consent Agenda. Motion approved on a 6-0 vote.

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CITY COUNCIL MINUTES OF REGULAR MEETING



3. PUBLIC HEARING

Ordinance No. 1625 Amending LMC Titles 1 and 12

In May of 2019 the City Council identified a desire to update the municipal code to remove or revise some sections which were no longer necessary. Although revisions were drafted, the details of the amendments related to the serving of alcohol and horse taxies proved to be more complicated than initially thought and the amendment stalled. In an effort to conclude this item the proposed amendments were brought to the Community Development Committee meeting on April 21, 2021.

The Committee concluded discussion by requested that staff move forward only with the revisions to Title 1 regarding the City's datum point and Title 12 regarding a requirement for oil drip pans. Ordinance 1625 amends the Lynden Municipal Code as requested.

Mayor Korthuis opened the Public Hearing at 7:09 p.m.

Gary Vis, 518 Front Street, Lynden asked if the LMC will have code language for vehicles that leak oil.

Mayor Korthuis closed the Public Hearing at 7:11 p.m.

Councilor Bode moved and Councilor Wohlrab seconded to approve Ordinance No. 1625 amending portions of Titles 1 and 12 of the Lynden Municipal Code and authorize the Mayor's signature on the ordinance. Motion approved on a 6-0 vote.

4. UNFINISHED BUSINESS- None

5. NEW BUSINESS

City Administrator Employment Agreement- John Williams

At the July Council meeting, the City Council confirmed the appointment of John Williams as the successor to City Administrator Mike Martin and authorized the Mayor to negotiate an employment agreement with him. This employment agreement is the result of those negotiations.

Notably, it includes an annual salary of \$141,743, which is the 8th step on a 10-step salary scale. He will receive annual COL adjustments consistent with those that all city department directors receive. He will also receive a \$300/month car allowance and accrue twenty days of vacation annually, along with standard City benefits (health, retirement etc.) received by all non-represented employees.

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CITY COUNCIL MINUTES OF REGULAR MEETING



John Williams is expected to join the City in mid-August, but a definite date is not yet confirmed.

Councilor Strengholt moved and Councilor Kuiken seconded to approve the Employment Agreement between John Williams and the City of Lynden. Motion approved on a 6-0 vote.

6. OTHER BUSINESS

Council Committee Updates

Councilor Strengholt reporting for the Finance Committee stated discussion of the following:

- Line of Credit renewal and Budget Amendment on the night's consent agenda
- Increasing budget amount for inspection fee updated
- Monthly financial report
- Sales, property, and excise tax remain strong
- Water & Sewer fund remain strong
- Stormwater fund is good but could be better
- Utility billing delinquent accounts
- City debt capacity

Councilor De Valois reporting for the Parks Committee stated discussion of the following:

- Parks department succession plan for Parks Director
- Picnic tables for Glenning Park
- Benson Park barn renovations being scaled back
- Pump station location
- Dickinson house
- Trail location around the Dickinson Park
- Depot to 8th street progressing
- Funding needs for the Parks department

Councilor Wohlrab discussed the plan to hold another portable water park event. Tentatively the plan is to have the event on Saturdays for the following dates: July 31, August 7, August 21, and August 28. These are tentative dates based on weather conditions and other circumstances.

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CITY COUNCIL
MINUTES OF REGULAR MEETING



7. EXECUTIVE SESSION

Council did not hold an executive session.

8. ADJOURNMENT

The July 19, 2021, regular session of the Lynden City Council adjourned at 7:23 p.m.

Pam Brown, MMC
City Clerk

Scott Korthuis
Mayor

DRAFT

CITY OF LYNDEN

EXECUTIVE SUMMARY



Meeting Date:	August 2, 2021	
Name of Agenda Item:	Approval of Payroll and Claims	
Section of Agenda:	Consent	
Department:	Finance	
Council Committee Review:	<input type="checkbox"/> Community Development <input checked="" type="checkbox"/> Finance <input type="checkbox"/> Parks	<input type="checkbox"/> Public Safety <input type="checkbox"/> Public Works <input type="checkbox"/> Other: _____
	Legal Review: <input type="checkbox"/> Yes - Reviewed <input type="checkbox"/> No - Not Reviewed <input checked="" type="checkbox"/> Review Not Required	
Attachments:	None	
Summary Statement:	Approval of Payroll and Claims	
Recommended Action:	Approval of Payroll and Claims	

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EXECUTIVE SUMMARY - FINANCE



Meeting Date:	August 2, 2021														
Name of Agenda Item:	Ordinance No. 1630 – Amendment to the 2021 Budget														
Section of Agenda:	Consent														
Department:	Finance														
Council Committee Review:	<table border="0"> <tr> <td><input type="checkbox"/> Community Development</td> <td><input type="checkbox"/> Public Safety</td> <td colspan="2"></td> </tr> <tr> <td><input checked="" type="checkbox"/> Finance</td> <td><input type="checkbox"/> Public Works</td> <td colspan="2"></td> </tr> <tr> <td><input type="checkbox"/> Parks</td> <td><input type="checkbox"/> Other: _____</td> <td colspan="2"></td> </tr> </table>			<input type="checkbox"/> Community Development	<input type="checkbox"/> Public Safety			<input checked="" type="checkbox"/> Finance	<input type="checkbox"/> Public Works			<input type="checkbox"/> Parks	<input type="checkbox"/> Other: _____		
<input type="checkbox"/> Community Development	<input type="checkbox"/> Public Safety														
<input checked="" type="checkbox"/> Finance	<input type="checkbox"/> Public Works														
<input type="checkbox"/> Parks	<input type="checkbox"/> Other: _____														
Legal Review:	<input type="checkbox"/> Yes - Reviewed <input type="checkbox"/> No - Not Reviewed <input checked="" type="checkbox"/> Review Not Required														
Attachments:															
Ordinance No. 1630 – Amendment to the 2021 Budget															
Summary Statement:															
<p>2021 Budget Amendment:</p> <p>As required by State regulations, the Finance Department is proposing an amendment to the 2021 Budget. Increased Protective Inspections have resulted in additional expenditures requiring an increase to the budget in Fund 119.</p> <p>The amendment reflects Council authorized transactions. The following funds need to be modified:</p> <table border="0" style="width: 100%;"> <thead> <tr> <th style="width: 35%;"></th> <th style="width: 15%;">Adopted Budget</th> <th style="width: 15%;">Amended Budget</th> <th style="width: 35%;">Variance</th> </tr> </thead> <tbody> <tr> <td>Fund 119 Protective Inspections</td> <td style="text-align: center;">\$65,000</td> <td style="text-align: center;">\$140,000</td> <td style="text-align: center;">\$75,000</td> </tr> </tbody> </table> <p>The Finance Committee has reviewed this amendment in their July 19, 2021 meeting.</p>					Adopted Budget	Amended Budget	Variance	Fund 119 Protective Inspections	\$65,000	\$140,000	\$75,000				
	Adopted Budget	Amended Budget	Variance												
Fund 119 Protective Inspections	\$65,000	\$140,000	\$75,000												
Recommended Action:															
To approve Ordinance No. 1630 as written and authorize the Mayor’s signature.															

ORDINANCE NO. 1630

AN ORDINANCE FOR THE CITY OF LYNDEN, WASHINGTON
AMENDING THE 2021 BUDGET
FOR THE CITY OF LYNDEN, WASHINGTON

WHEREAS, the budget of the City of Lynden for the year 2021 has been heretofore adopted by the City Council of the City of Lynden ("City"); and

WHEREAS, certain funds have been received, and expenses incurred, which were not included when the budget was adopted; and

WHEREAS, the City Council of the City of Lynden has considered this change and has fixed and determined the separate items thereof;

NOW, THEREFORE, the City of Lynden does ordain as follows:

Section A. That the final 2021 budget be and the same is hereby amended and that the appropriation totals of the 2021 Budget are changed as follows:

	Adopted Budget	Amended Budget	Variance
Fund 119 Protective Inspections	\$65,000	\$140,000	\$75,000

Section B. If any section, subsection, sentence, clause of phrase of this ordinance is for any reason held to be invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance. The council hereby declares that it would have passed this code and each section, subsection, sentence, clause and phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases has been declared invalid or unconstitutional.

Section C. This ordinance shall take effect and be in force from and after approved by the City Council and signed by the Mayor, otherwise, as provided by law and five (5) days after the date of its publication.

Section D. Any ordinance or parts of ordinances in conflict herewith are hereby repealed.

PASSED BY THE CITY COUNCIL BY AN AFFIRMATIVE VOTE, _____ IN FAVOR
_____ AGAINST AND SIGNED BY THE MAYOR THIS _____ DAY OF JULY, 2021.

MAYOR

ATTEST:

CITY CLERK

APPROVED AS TO FORM:

CITY ATTORNEY

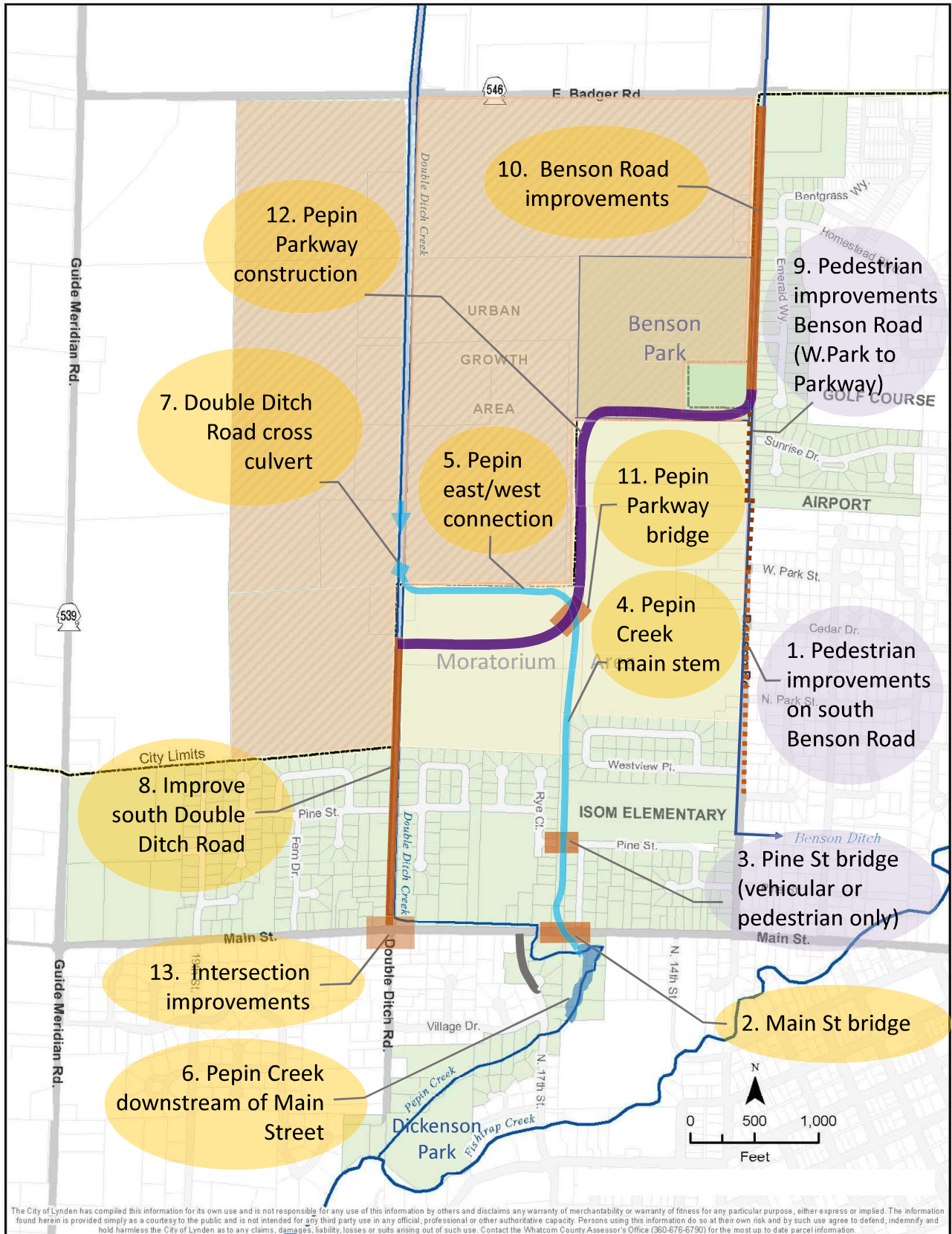
CITY OF LYNDEN

EXECUTIVE SUMMARY



Meeting Date:	August 2, 2021	
Name of Agenda Item:	Set the Public Hearing to Amendment to the Comprehensive Plan – Pepin Planning	
Section of Agenda:	Consent	
Department:	Planning Department	
Council Committee Review:	<input type="checkbox"/> Community Development <input type="checkbox"/> Finance <input type="checkbox"/> Parks	<input type="checkbox"/> Public Safety <input type="checkbox"/> Public Works <input type="checkbox"/> Other: _____
	Legal Review: <input type="checkbox"/> Yes - Reviewed <input type="checkbox"/> No - Not Reviewed <input checked="" type="checkbox"/> Review Not Required	
Attachments:		
Proposed amendment to City Comprehensive Plan including changes to the Pepin Creek Subarea Plan and the Transportation Element. Pepin Lite Projects list. City-led Comp Plan Amendment Application. Corresponding PC Minutes of June 10, 2021.		
Summary Statement:		
<p>On March 1, 2021 the City Council adopted a Resolution of Intent (Reso 1031) which outlines the path forward to lifting the moratorium on the Pepin Creek Sub-Area and implementing the infrastructure associated with the Pepin Lite Plan.</p> <p>The 13 infrastructure projects identified in Pepin Lite include creek re-location but also considerable street improvement projects. Nine of the projects directly serve the development within the Pepin Creek Sub-Area. Another 4 projects are identified as providing benefit to existing neighborhoods or the general community. Next steps include the establishment of a fair allocation of costs for the 9 projects specific to the sub-area. The mechanism that showed the most merit is the use of Transportation Impact Fees (TIF) administered in the form of a SEPA mitigation fee or adopted as a TIF overlay.</p> <p>The attached amendment to portions of the City’s Comprehensive Plan, including the Pepin Creek Subarea Plan and Transportation Element, reflects the infrastructure projects associated with the Pepin Lite plan. Amending the Comprehensive Plan as well as the development code (see accompanying Ord 1627) assures alignment among the City’s documents and standards.</p> <p>On June 10, 2021 the Planning Commission held a public hearing on the item. The Commission concluded the hearing and review with a recommendation to approve the Amendment. (Minutes of that meeting are attached.)</p> <p>As this is a legislative item, a second public hearing will be held with the City Council. Tonight, the Council is asked to set the date of that hearing for August 16, 2021.</p>		
Recommended Action:		
Motion to set a public hearing date of August 16, 2021 for an ordinance amending the City’s Comprehensive Plan to accommodate the Pepin Lite infrastructure improvement plan and lift the development moratorium.		

Pepin Lite: Fully Improved



The City of Lynden has compiled this information for its own use and is not responsible for any use of this information by others and disclaims any warranty of merchantability or warranty of fitness for any particular purpose, either express or implied. The information found herein is provided simply as a courtesy to the public and is not intended for any third party use in any official, professional or other authoritative capacity. Persons using this information do so at their own risk and by such use agree to defend, indemnify and hold harmless the City of Lynden as to any claims, damages, liability, losses or suits arising out of such use. Contact the Whatcom County Assessor's Office (360-676-6790) for the most up to date parcel information.

Pepin Creek Subarea Plan

Planning Commission Draft | City of Lynden | ~~Adopted March January 2020~~, Amended July 2021



Prepared for:
Planning & Community Development Department
City of Lynden
300 4th Street
Lynden, WA 98264

Prepared by:
BERK Consulting, Inc.
Herrera Environmental Consultants

Under the direction of:
Communita Atelier

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Introduction

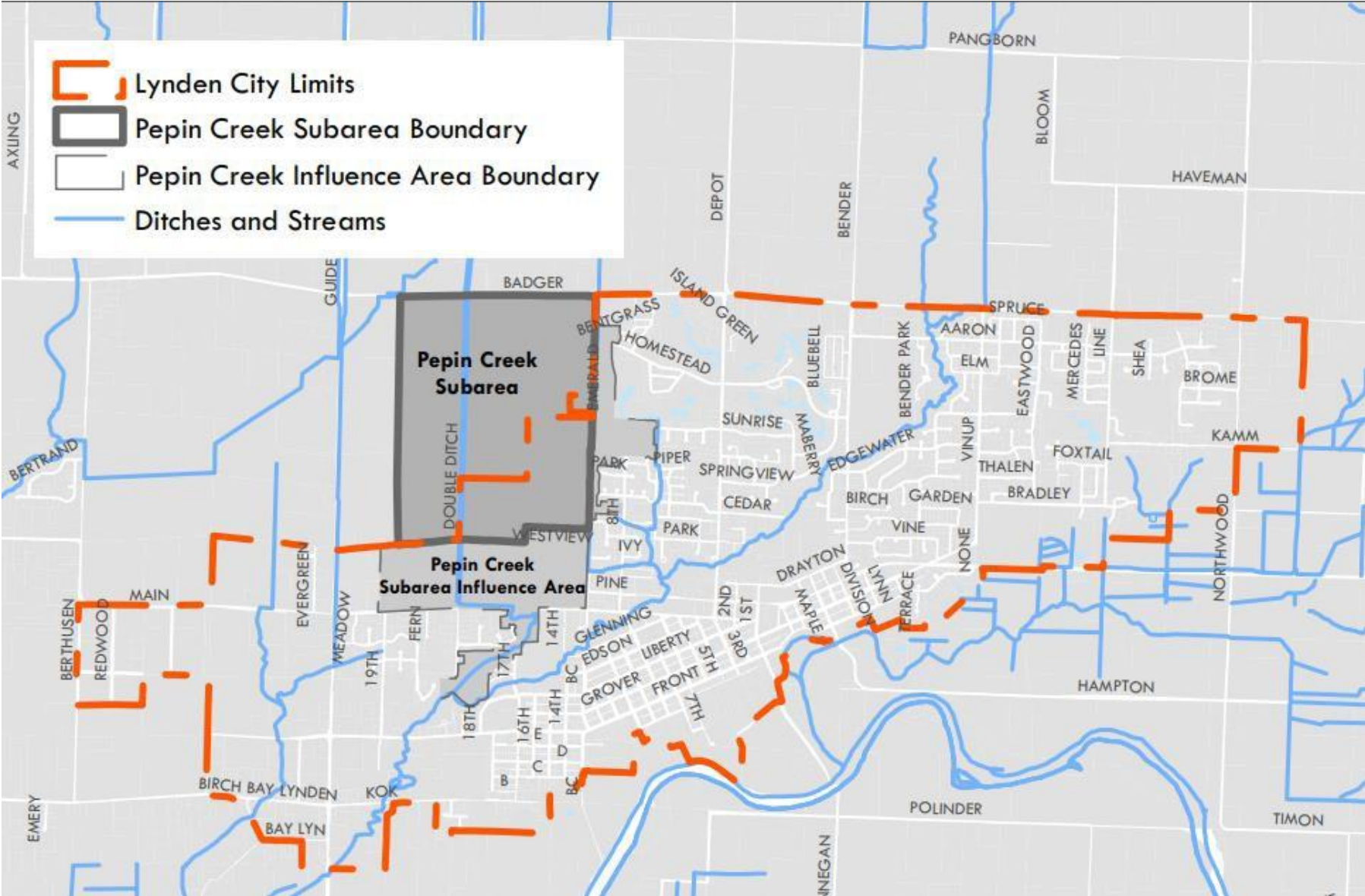
THE PEPIN CREEK SUBAREA PLAN

The Pepin Creek Subarea Plan is a 20-year plan for growth and development in the City of Lynden, identified as part of Lynden’s 2016 Comprehensive Plan. Development here helps achieve multiple goals of the City, including providing a diversity of housing types to meet the needs of everyday Lynden households, promoting a small-town community character, fostering an active lifestyle with recreation amenities, and improving environmental sustainability. The subarea is the site for the restoration of Pepin Creek which involves the partial realignment of the creek from drainage channels along Double Ditch Road ~~and Benson Road~~ into a more natural channel that provides better wildlife habitat, flood control, and a recreational amenity. While future development can be accomplished in the subarea without the Pepin Creek Realignment project, subarea development in tandem with the Pepin Creek realignment provides the opportunity to improve a multi-modal transportation network to a standard which can accommodate growth, and create a distinctive, amenity rich neighborhood that adds greater value to the city.

THE PEPIN CREEK SUBAREA

The Pepin Creek Subarea (PCSA) is approximately 460 acres and includes the northwestern Lynden city limits and urban growth area (UGA). Approximately 110 acres is currently within city limits and the remaining 350 acres are in the UGA as shown in Exhibit 1. This Exhibit shows the PCSA and its influence area in relation to Lynden city limits and the surrounding unincorporated area.

Exhibit 1. The Pepin Creek Subarea in Context



Source: BERK, 2018.

The PCSA was added to Lynden’s UGA as part of the Whatcom County Comprehensive Plan Update and the City’s Comprehensive Plan Update adopted in 2016. Lynden is projected to grow by about 6,403 new residents between 2013 and 2036 (Whatcom County, 2016). Although there is capacity for some growth in other parts of the city, the PCSA has been identified as a primary area for future residential development over the next 20 years.

The PCSA has areas of high-water table and has experienced flooding. In the late 1800s and early 1900s, settlers rerouted the original Pepin Creek to allow farming in this area. Remnants of the historic creek were moved into the “ditches” along Double Ditch Road and Benson Road. They also collected stormwater from adjacent farmlands and an upstream tributary area in Whatcom County and Canada. During periods of heavy rain, these waterways would overflow onto the adjacent roads and land. This resulted in property impacts, safety problems, and road closures. The presence of fish, including salmon spawning grounds, constrain the roads under normal conditions, preventing roadway improvements on Benson Road and Double Ditch Road. In reaction to these conditions, the City of Lynden initiated the Pepin Creek Realignment project to restore Pepin Creek and modify the ditches. The Pepin Creek Realignment Project was also anticipated to prevent downstream flooding impacts in the Pepin Creek Subarea Influence Area.

[In March of 2020 the Lynden City Council adopted the Pepin Creek Subarea Plan. Cost estimates and permitting challenges associated with the corresponding creek realignment plan led to a reduction in the scale of the creek realignment and a consolidation of arterial roadways. To reflect these changes the Pepin Creek Subarea Plan was updated mid-2021.](#)

Additional information about the PCSA can be found in the Existing Conditions report in Appendix A

Frequently Used Terms

- **Pepin Creek Subarea Plan.** This document, which establishes goals and policies for the development of the subarea.
- **Pepin Creek Subarea.** The geography that is included in the Pepin Creek Subarea Plan.
- **Pepin Creek Realignment Project.** The engineering and environmental project that is moving the East and West ditches on Double Ditch Road into a consolidated Pepin Creek.
- **Pepin Creek Subarea Area of Influence.** The area downstream of Main Street that is influenced by the hydrology changes associated with the Pepin Creek Realignment Project.
- **Pepin Creek Project.** All the work to address environmental and land use considerations related to Pepin Creek. It includes the Pepin Creek Subarea Plan and the Pepin Creek Realignment Project.

Vision and Guiding Principles

VISION

The Pepin Creek Subarea allows Lynden to grow sustainably while preserving the community spirit, small town atmosphere, and connection to its agricultural roots that make Lynden unique.

GUIDING PRINCIPLES



Downtown Lynden. Photo: Bill Kreager



Pangborn Raspberry Farm. Photo Credit: Whatcom Business Alliance website

- **Small-Town Character.** Planning for growth in the PCSA, means Lynden can preserve the character of its existing neighborhoods and ensure that development within the subarea is designed to maintain community character.
- **Connection to Agriculture.** Lynden’s history, social networks, and economy have connections to farming and agriculture. Coordinated growth within Lynden’s city limits and UGA helps to prevent the conversion of farmland in the rural area and maintain the community’s connections to an agricultural lifestyle.
- **Housing for the Whole Family.** As a multi-generational community, Lynden needs housing that meets the needs of the whole family. PCSA provides housing that meets the needs of people throughout their lifecycle, including housing that is affordable to those who work in Lynden.
- **Sustainable.** The restoration of Pepin Creek provides an enhanced, natural habitat for the fish and wildlife that live in this area. It also safely and effectively manages flooding and surface water impacts that affect property in the PCSA and its influence area.
- **Healthy.** Residents enjoy healthy lifestyles with plenty of access to open space and the ability to walk and bike safely throughout the PCSA.
- **Financially Feasible.** Development is an attractive investment for private developers and helps offset the costs of the Pepin Creek Restoration for the City. Ongoing maintenance associated with new development in the PCSA pays for itself.

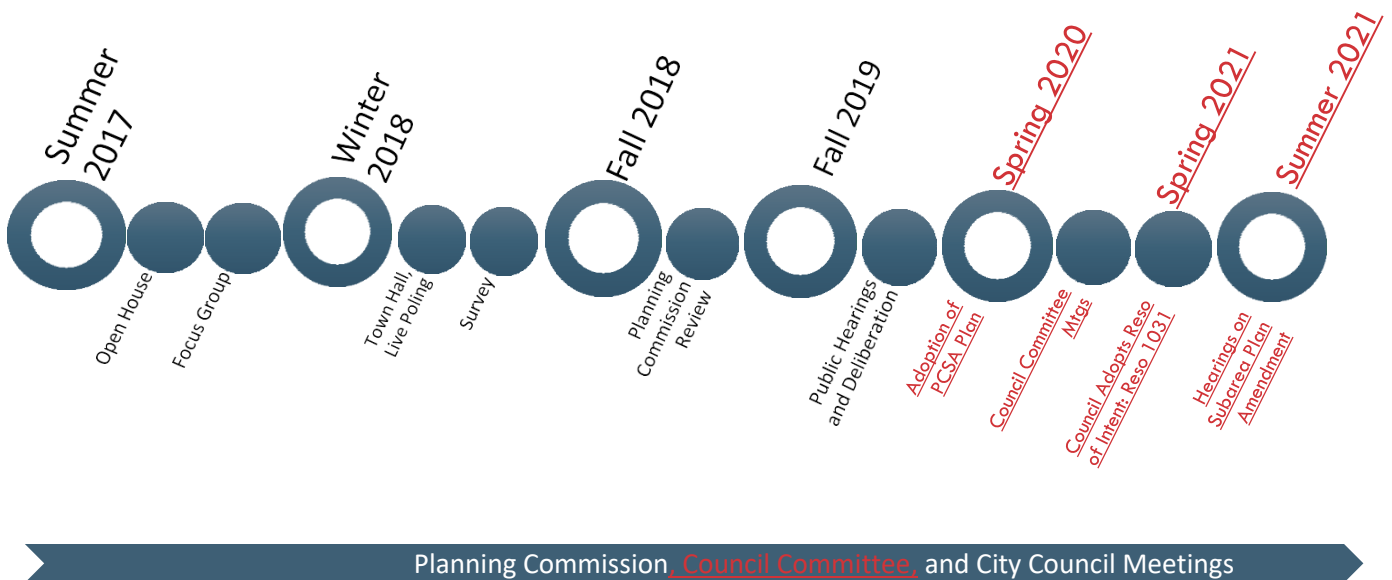
Public Input and Outreach

The PCSA plan was developed with input from the community. Outreach efforts were designed to get a broad range of responses, including from those who may not regularly engage in civic decision-making, and to hear from people who may be uniquely affected by the decisions made in the PCSA. This approach resulted in a large volume of input that represented many different viewpoints in the community.



Town Hall Meeting, January 2018.

Broad engagement consisted of a town hall meeting and an online survey, both taking place in January 2018. Approximately 80 people attended the town hall meeting where planners gave a short presentation on the PCSA and the policies of the Comprehensive Plan. Attendees participated in a live polling exercise that reviewed housing types and densities under consideration in the PCSA and allowed them to express whether they liked or disliked various concepts. There was also opportunity to make comments and ask questions in an open format. The online survey reached approximately 640 people, about 90% of whom live in Lynden and included those who work, go to school, or attend church or social groups in town. Similar to the live polling exercise, the survey asked people about housing types and densities, and asked what people value about living in Lynden and what they might like to see changed.





Resident and Property Owner Open House, July 2017.

Targeted engagement was aimed at reaching those that may be particularly affected by the changes in the PCSA. This includes nearby residents and the development community, including developers, builders, and real estate brokers. A meeting with 35 nearby residents and property owners was held in July 2017 at the start of the planning process. This was an open house where planners presented on existing conditions and the purpose of the

PCSA planning process and offered opportunity for comments and questions. To get the perspectives of the development community that might invest in the PCSA, City staff held focus groups and interviews and offered an online survey. Approximately 23 professionals participated in these engagements. These groups were asked about their preferences for investing in the PCSA and for information about the local housing market.

City Council and the Planning Commission also conducted a series of open public meetings where they received briefings, workshopped ideas, or provided direction for the PCSA. This series of meetings included sessions in July 2017, November 2017, and April 2018. At the November 2017 workshop, Council and Planning Commission participated in a live polling exercise that guided the development of the Plan, the results of the polling can be found in Appendix B. The direction of City Council and input from the public engagements drove the development of the concepts, vision, guiding principles, and policies of the PCSA plan.

Following the adoption of the PCSA Plan in March of 2020, additional estimations and permit research associated with the Pepin realignment and infrastructure was conducted. Resulting cost estimates and permitting challenges led to a revised Pepin Creek realignment plan. It reduced the scale of the creek realignment and consolidated arterial roadways but continued to facilitate residential growth in the area consistent with the identified vision. The revised plan was dubbed “Pepin Lite”.

The Pepin Lite concepts were presented at a Special Council meeting February 2020. Subsequently, City staff worked with BERK Consulting to conduct a Financial Mitigation Strategy which sought to identify a feasible financial assessment tool for the implementation of the creek realignment and roadway improvements. Conclusions of the Financial Mitigation Study were presented at a Special Council Meeting in early 2021. These conclusions informed the Council's direction on next steps which were documented in a Resolution of Intent (Council Resolution 1031) passed on March 1, 2021.

Subarea Plan Concepts

LAND USE

Citywide Future Land Use

The City of Lynden Comprehensive Plan identifies the PCSA for urban growth. Whatcom County expects approximately 6,400 new people to live in Lynden and its UGA by 2036, which would grow the city to a total population of about 19,725. With an average of about 2.57 persons per household according to the Lynden Comprehensive Plan, the City needs to plan for nearly 2,500 new homes.

To meet this need, the Comprehensive Plan targets an average residential density of five units per acre within the city and UGA. In order to achieve that citywide average, new development areas need to be developed at a slightly higher density, averaging approximately seven units per acre. This is consistent with Goal 2P of the Whatcom County Comprehensive Plan that encourages an average density of 6-10 units per acre in Lynden. A mix of single-family and smaller-scale multi-family uses in the PCSA will meet this target density and help to preserve community character within existing neighborhoods in Lynden. It is estimated that development in the Pepin Creek Subarea could accommodate approximately 1,200 to 2,000 new homes. This allows most of Lynden to keep its Low Density Residential land use as shown in Exhibit 2. In addition, the provision of new housing within the UGA helps prevent the expansion of residential development into rural lands, helping to preserve the social, economic, and historical connections to agriculture that are important to Lynden’s character and community values.

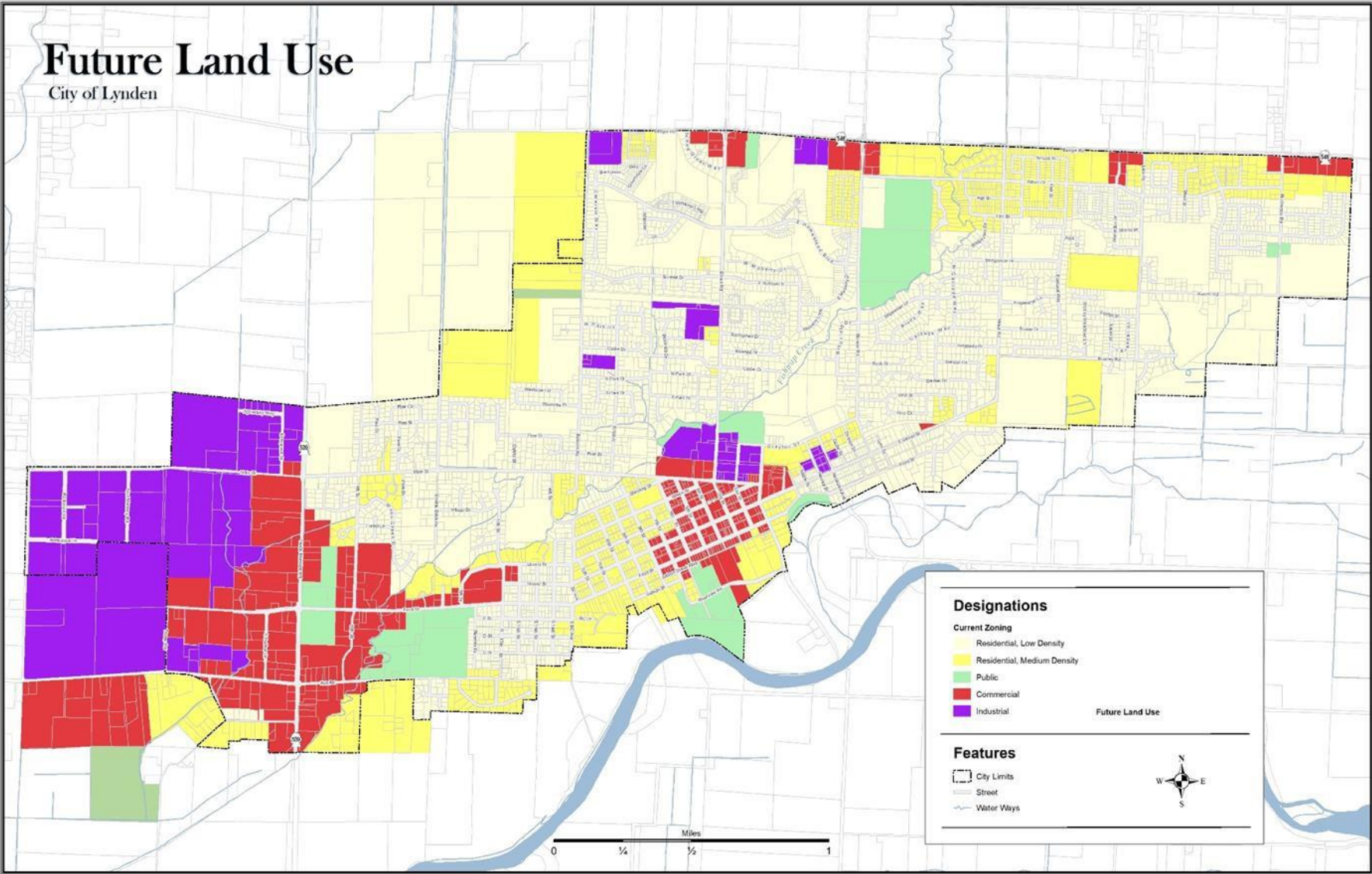
Pepin Creek Subarea Future Land Use

The PCSA is primarily a residential environment that supports Lynden families throughout their lifetime. Whether someone is starting out in life, building a family, or enjoying retirement, Pepin Creek residents can find a home that matches their needs in a community that maintains its small-town character with plenty of green spaces, fresh air, and in developments built to encourage social interactions between neighbors. The residential area is separated into two main categories: Low Density Residential land use and Medium Density land use as shown in Exhibit 3.

Low Density Residential Land Use

The purpose of the Low Density Residential land use district is to maintain “*stable, low density, largely single-family neighborhoods, while providing a range of housing types and prices,*” as described in the Comprehensive Plan. Low Density Residential land use makes up the majority of the study area. It is expected that within the PCSA Low Density Residential land use district there will be a mix of traditional large lot single-family homes as well as smaller lot single-family homes. Smaller lot single-family homes should be located near public green space, such as the Pepin Creek corridor, to give a feeling of openness. Small lot developments in this zone may also be designed in a clustered pattern to create shared green space. It is implemented by the RS-72 and RMD zones in the Pepin Creek Subarea.

Exhibit 2. Future Land Use in Lynden and its Urban Growth Area*



Source: Lynden GIS, 2019 *Shows land use designations prior to adoption of the Pepin Creek Subarea Plan



Medium Density Land Use

Medium Density Residential land use “provides higher density housing options and a range of housing types to accommodate future growth,” according to the Comprehensive Plan. This designation is placed near public open spaces to support residential styles that need less individual open space. Cottage housing, townhomes, and zero lot line housing is built at higher densities than single-family housing by producing smaller units on smaller lots and efficiently providing shared open spaces such as pocket parks and courtyards. This type of housing is often attractive to first time homebuyers, young adults just starting out, and seniors. It is located along the Pepin Creek corridor and adjacent to areas of the future City Park to maximize access to public open space. In areas where the Medium Density district abuts a lower intensity residential district, a transition area will be provided. The Medium Density Land Use Designation is implemented by RM-PC and RM-3 zones in the Pepin Creek Subarea. Small neighborhood commercial nodes may be allowed as secondary uses.



Public Use

There are about five acres of land set aside for Public Use for the airport runway protection area.

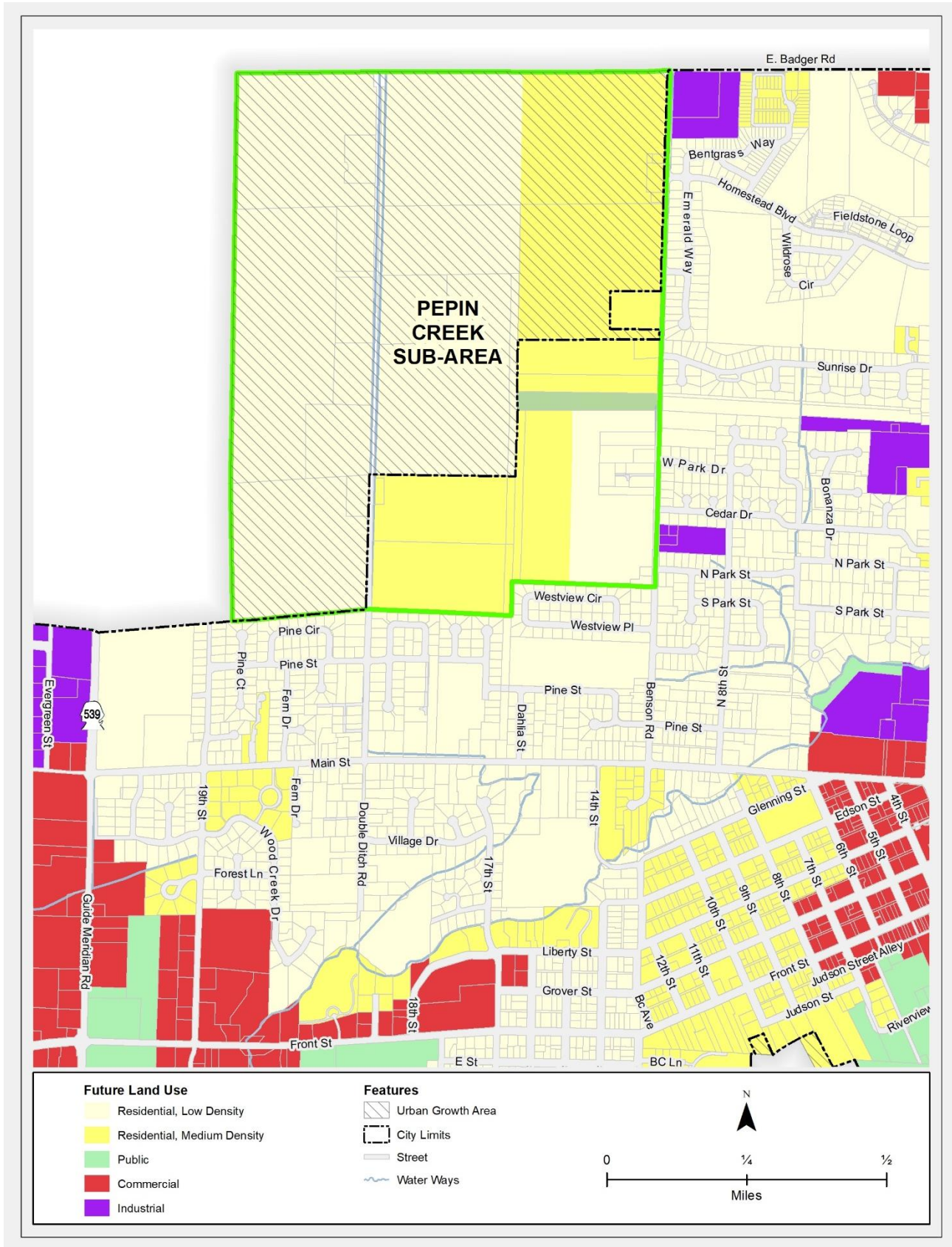
Airport Compatible Land Use

Lynden Municipal Airport, also called Jansen Field, sits on about 12 acres outside the PCSA to the east. There is small strip of land (approximately five acres) in the PCSA that the City purchased as a safety area and to prevent future development that might interfere with airport operations. This strip of land will be preserved as open space and will not be developed. Activity at the airport is generally limited to the smallest class of aircraft weighing less than 12,500 pounds with wingspans less than 49 feet. With a runway of only 2,425 feet, Jansen Field can accommodate approximately 70% of the smallest class of aircraft. The airport accommodates recreational flying and some business aircraft operations. (Airside, 2008).

Land use around the airport includes a mix of uses, including residential use as shown in Exhibit 3. Residences and the Homestead development lie to the north and a mix of residences, churches, commercial, and industrial areas lie to the south. To date, airport compatibility has not been a problem. New residential development in the PCSA may increase the potential for land use conflicts or compatibility issues. More frequent use of the Airport, as other local airstrips shutdown or limit small craft operations, could also increase the potential for land use compatibility issues.

Lynden does not have an airport compatibility land use plan. The Comprehensive Plan briefly mentions the airport as a regional transportation facility. Whatcom County’s Comprehensive Plan includes policies for compatibility. Lynden does have an Airport Overlay zoning district that protects the area adjacent to the runway from hazards and allows some aviation-related uses. The Airport Overlay is extended to include the five-acre safety area in the PCSA as shown in Exhibit 3. In addition, the City should require new residential development in the PCSA to sign a covenant that acknowledges the potential for noise and other impacts related to airport operations as part of its platting process.

Exhibit 3. Future Land Use in the Pepin Creek Subarea



Comprehensive Plan Amendment 19-01.

ENVIRONMENT

The PCSA lies within the Nooksack River Water Resources Inventory Area 1. The PCSA and most of the city are outside the mapped Nooksack River’s FEMA 100-year floodplain. Existing surface water resources in the PCSA include Pepin Creek, which is conveyed by Double Ditch East and Double Ditch West within the PCSA, Benson Ditch, and several lateral ditches (as shown in Exhibit 4). Pepin Creek drains to Fishtrap Creek, a tributary of the Nooksack River.

As part of the Pepin Creek Realignment Project, the City is planning to ~~reconstruct the~~construct a creek corridor through a portion of the subarea to reduce the threat of flooding. The creek realignment work is occurring separately from the planning for this subarea. ~~To date, work has already begun on the Pepin Creek Realignment project:~~

A local engineering firm, Reichhardt & Ebe Engineering, Inc. (R&E), has been working on a broad range of concepts for~~the~~ preliminary investigation and design of the new creek corridor. Traditionally the creek realignment plans that runs included a corridor that ran north-south at the mid-point between Double Ditch Road and Benson Road from Badger Road at the north to Main Street at the southern edge of the PCSA.

~~Two significant~~Several design scenarios for the new Pepin Creek corridor have been analyzed. ~~Additional environmental review and collaboration with outside agencies is expected to begin in early 2020.~~

- Realignment: One design ~~is~~ anticipated ~~to the~~ accommodation of the existing water in the roadside ditches both at ordinary and flood stages. This design includes provisions to reinforce creek shorelines in the downstream reach south of Main Street where highly erosive soils and high stream flows threaten existing development. This design ~~is expected to would~~ provide flood protection, improve water quality and fish habitat, provide a recreational amenity, and function as the downstream receiving water body for managed stormwater in the subarea.
- Stormwater By-Pass: The second design scenario anticipated ~~ds~~ that the new creek corridor ~~will would~~ accommodate creek flows adequate for fish habitat while higher capacity flows, including flood stages, would be by-passed into a stormwater (pipe) system and discharged into Fishtrap Creek. This system reduces the risk to the downstream reach of Pepin Creek, south of Main Street, by re-directing high water flows rather than physical reinforcement of shorelines. A sophisticated fish exclusion system is included in this scenario to ensure fish are kept within the creek channel and not swept into the by-pass system. The by-pass pipes would be located within the Double Ditch right-of-way corridor.
- Pepin Lite: ~~Cost estimates for both the full Realignment plan and the Stormwater By-Pass were prohibitive. As a result, the staff created a design scenario that calls for the consolidation of arterial roadways through a new diagonal arterial called Pepin Parkway. The use of portions of the existing arterials, the north end of Double Ditch Road and the south end of Benson Road, is de-emphasized as improvements to these roadways are delayed. The Pepin Lite design also reduces the scope of creek realignment. It focuses on the portion of Pepin Creek that flows within the existing City limits on Double Ditch Road and does not include the realignment of Benson ditch flows. This design provides a level of flood protection by interrupting overland flow, it improves water quality and fish habitat and provides a recreational amenity but to lesser degree than the plans studied previously.~~

The City has acquired most of the land needed for a 75 to 150-foot-wide creek corridor, and acquired another 40 acres, a portion of which ~~will be used for new city~~ is currently being designed as park land in space for the subarea. The Pepin Lite plan utilizes some of this corridor to accommodate Pepin Parkway rather than realigned creek.

Preliminary site investigation and design work have been completed. The engineering team has also begun design a new Main Street Bridge. ~~which is needed in both the realignment and by-pass scenarios.~~ BERK Consulting ~~is supporting financial tools, which aim to worked with staff to deliver a study of~~ financial mitigation strategies in early 2021. The study gives guidance on collecting development's contribution to the creek realignment project. The study used the Pepin Lite plan cost estimates.

The PCSA is relatively flat, subject to wintertime flooding, and has seasonal high groundwater. Drainage in the PCSA is provided primarily by the roadside ditches along Benson Road and Double Ditch Road. Both ditches originate north of the City of Lynden and drain areas of Whatcom County north of Lynden and into Canada. Both ditches discharge to Fishtrap Creek and the subject of planned reroute project that is currently in the design and permitting process.

The PCSA is actively farmed and ditches on private property, beyond the roadway right-of-way, are present throughout. Within the agricultural portion of the PCSA there is an informal network of drain tile and ditches which provide drainage to the agricultural fields. There are reports of extensive forested wetlands historically occurring in the area. However, soil survey maps show the soils as drained, indicating that they may not support wetlands today.

The Fish and Wildlife Habitat Conservation Areas within the PCSA include the Double Ditch Road and Benson Road ditch systems. They are Washington Department of Fish and Wildlife priority habitats for federal and state listed salmonid species and documented habitat for locally important species (WDFW 2017a). Fish and Wildlife Habitat Conservation Areas are subject to the standard buffer widths established in the Lynden Municipal Code (LMC 16.16.380).

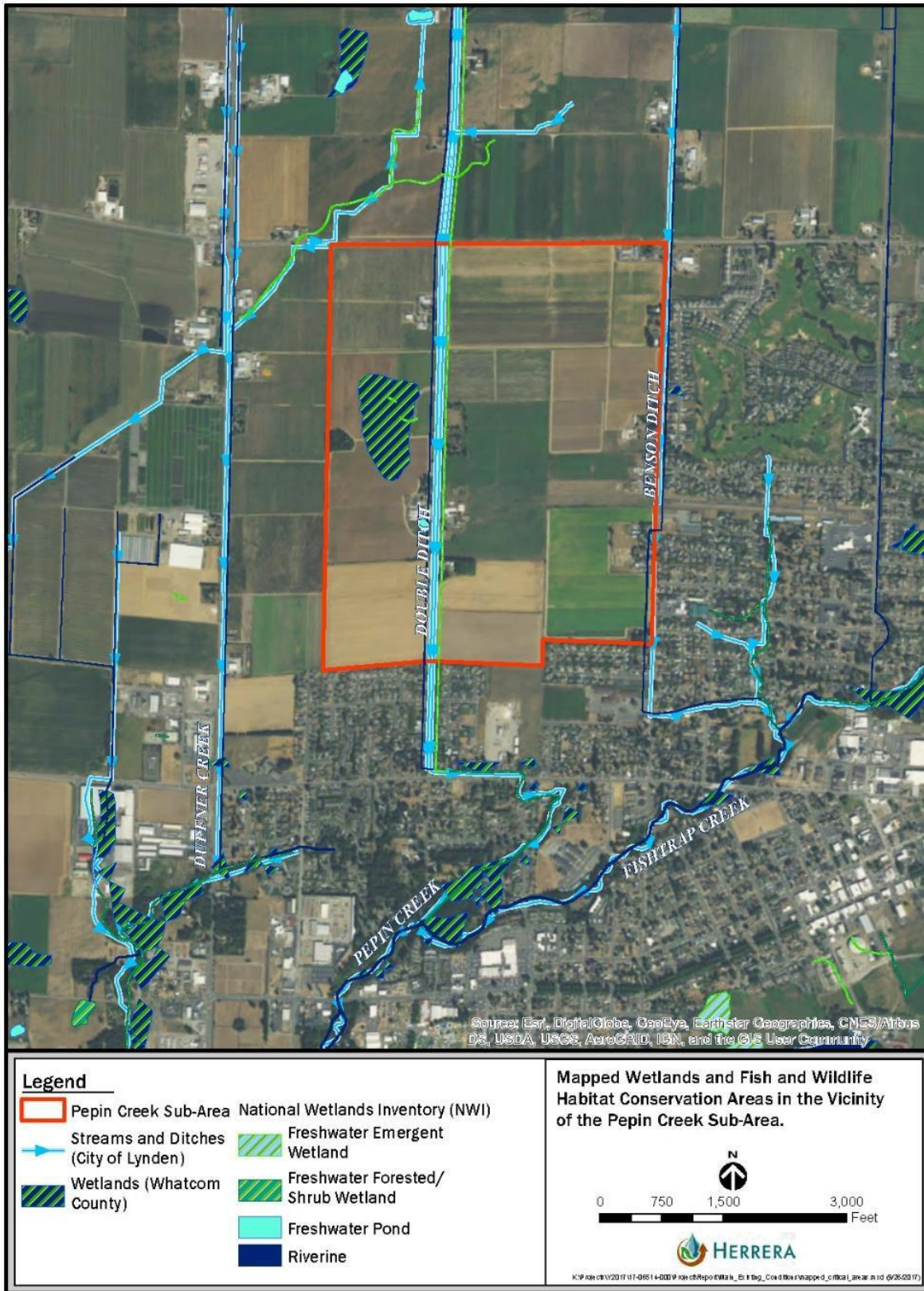
Wetlands within the PSCA are subject to the wetland requirements established in the Lynden Municipal Code as well (LMC 16.16.260 through 16.16.320). The terrestrial habitats in the study area consist of agriculture, grassland, and pasture. They provide habitat for a variety of bird species but are not documented Washington Department of Fish and Wildlife Priority Habitats or habitats for species of local importance, therefore they are not designated as Fish and Wildlife Habitat Conservation Areas.

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Exhibit 4. Water Resources in the Pepin Creek Subarea and Vicinity



Source: Herrera, 2017.

As the subarea develops, formal critical area delineations and adherence to required buffers and setbacks will be necessary, including an evaluation of potential impacts and required mitigation. Stormwater management will also be required to meet City codes and to ensure consistency with the current Ecology stormwater manual for Western Washington. Ideally, there will be opportunities to integrate low impact development stormwater management into other subarea plan features and roads.

Flood Hazard Mitigation

~~The Flood Hazard Mitigation Overlay is applicable to the entire PCSA and recognizes the hazards associated with surface flow flooding, ground water, drainage, and downstream constraints within the subarea. Overlay requirements will be included in an implementing ordinance.~~

The PCSA is not part of a mapped floodplain but has been subject to periodic wet season flooding that results from specific environmental and weather conditions. As such, it is critical the development that occurs here mitigates for these possibilities. The City, through SEPA authority, intends to enforce minimum design standards requirements such as elevated finished floor elevations. The requirements will ensure development in the subarea is designed and mitigated to prevent cumulative negative impacts to the surrounding community to avoid flooding of residential neighborhoods, life safety issues associated with road closures, and significant property damage. Additionally, the realigned portion of Pepin Creek will be designed to accommodate creek flows during a 100-year flood event and will intercept overland flows which have affected existing residential properties in the past.

TRANSPORTATION

Road System Capacity

Successfully accommodating new growth and development in the PCSA requires attention to the circulation system that connects the subarea to the rest of Lynden and the surrounding region, as well as the connections within the subarea itself. As identified in the Existing Conditions Report in Appendix A, there are few roads serving the PCSA because of its current agricultural, low intensity development pattern. The Lynden Comprehensive Plan anticipates the need for transportation improvements in the PCSA due to growth. The Transportation Element forecasts growth of up to 1,096 households in the subarea, which will require roadway improvements that support cars, bicycles, and pedestrians. Some of these road improvements are currently listed in Lynden’s Transportation Improvement Plan. Lynden’s Transportation Element is focused on intersection operations though adequate road extensions and design are also considered.

As part of the 2016 Comprehensive Plan update process, Whatcom County studied different growth scenarios for the PCSA ranging from 578-1,433 new households and published an Environmental Impact Statement (EIS) with the results, see the details in Appendix C (Whatcom County, 2015). The analysis was based on a transportation model developed by the Whatcom Council of Governments (WCOG) that focused on the volume and capacity of roadways at a countywide scale. The model showed that traffic would be within adopted level of service standards for roadways per Whatcom County standards, except in two areas. Guide Meridian Road between the existing city limits and East Badger Road would likely experience some slowdowns in afternoon peak traffic and there would be additional delays on East Badger Road between Guide Meridian Road and the existing city limits.

Once the City began more focused planning for the PCSA, the City asked the WCOG to apply its model to study the effect of a greater number of households on traffic. The WCOG tested the effect of 1,559

households in the PCSA. It assumed development of Pepin Parkway as an extension of Homestead Boulevard, connecting to Double Ditch Road. Overall, the study found that traffic impacts would be consistent with the projected results from the County's 2015 EIS. Predictably, the presence of the Pepin Parkway reduces traffic flows on the southern portion of Benson Road and increases traffic on Double Ditch Road south of the parkway to Main. Despite the difference in traffic flow, this indicates that the

Pepin Creek road system should be able to handle the transportation needs that accompany growth, although modifications to the Transportation Improvement Program are needed to account for the changes in traffic flow related to Pepin Parkway.

After the WCOG studied this option, the City shifted the proposed location of Pepin Parkway as shown in Exhibit 5. Instead of extending from Homestead Boulevard, Pepin Parkway is proposed to begin at Benson Road near Sunrise Drive. After a brief review of this change, the WCOG concluded it would not significantly alter the results of their previous analysis. As a result, the traffic impacts should still be consistent with the projected results from the County’s 2015 EIS.

Additional revisions were made to the Pepin Parkway with the refinement of the Pepin Lite concept. The Parkway was shifted to utilize more of the property that the City already owned and is intended to generally follow the path shown in Exhibit 5.5.

Circulation

The road system in the PCSA ~~will create~~ a hierarchy of streets that maximizes connectivity within the subarea and within the individual neighborhoods. ~~as shown in Exhibit 5.~~ This hierarchy is designed to provide connectivity between the neighborhoods and the surrounding City of Lynden. The arterial connection will be the north end of Benson Road, Pepin Parkway, and the south end of Double Ditch with neighborhood networks connecting to these improved / new streets. Neighborhood streets should be discouraged from connecting to portions of Benson or Double Ditch that are not slated for arterial upgrades. and incorporates low impact development practices into the street design to allow for sustainable drainage techniques. To make this hierarchical system work, there are a variety of streets and alleyways that accommodate a full range of development types and road functions. These roadways are designed to provide a safe and inviting environment for pedestrians with sidewalks and curbs along all new streets. This type of circulation system is easily navigated and encourages physical activity throughout the community.

In addition to the road system, the PCSA vision includes a network of connected trails and pathways throughout the community that are separated from the vehicle network, including a regional multi-modal trail along the Pepin Creek realignment corridor. These trails and pathways will safely accommodate a variety of users and provide connections between homes, local amenities, and regional destinations such as: neighborhood retail, schools, parks, natural and open spaces, and downtown Lynden. By connecting trails and pathways to the road system at key points and along Pepin Parkway, the non-motorized circulation system ~~shown in Exhibit 6~~ encourages safe and healthy transportation and recreational activities such as walking, running and biking. Revisions to this network will be needed to adjust to the Pepin Lite infrastructure plan. The priority of connecting residents within the Subarea to parks, schools, and the larger trail network will guide these revisions.

City engineering standards will be updated to reflect the planned cross-sections. The City may implement its desired cross section with its land use and environmental permit authorities, consistent with Policy PC 6.6, until city standards are amended.

Exhibit 5. Circulation in the Pepin Creek Subarea



Source: Lynden Planning Department, 2021.

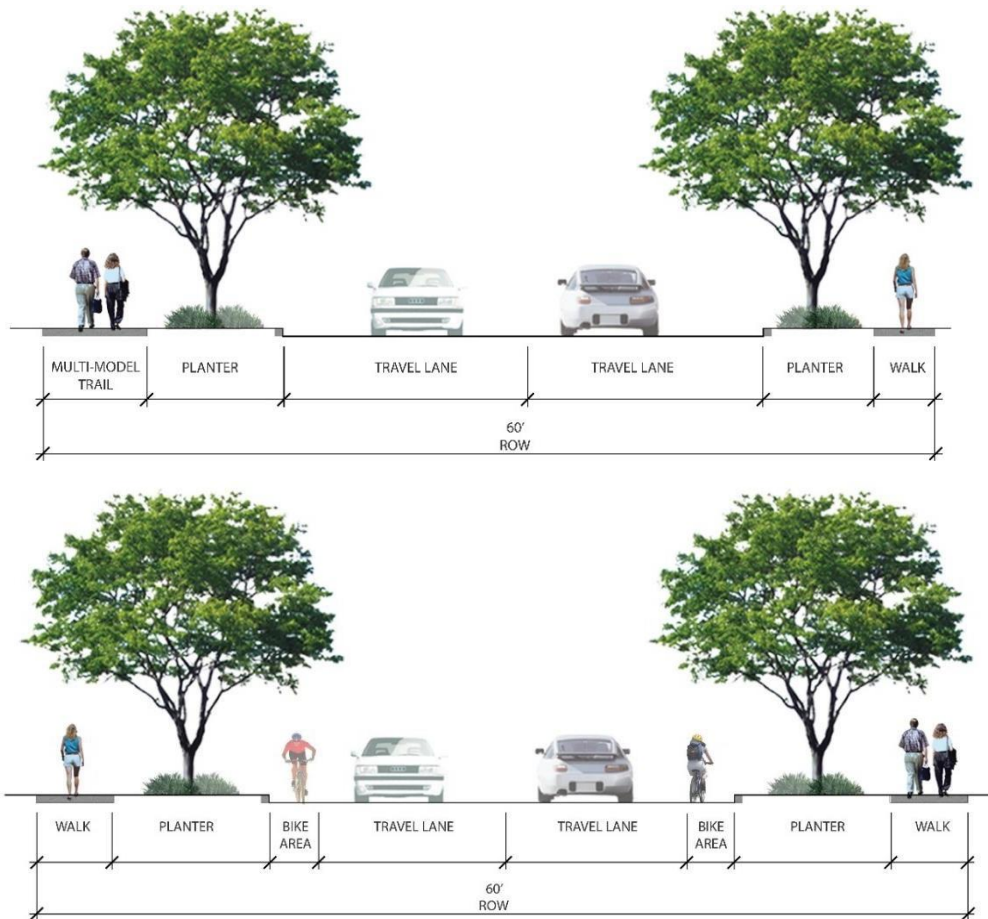
Benson Road and Double Ditch Road

Currently, three existing public roads serve the PCSA and connect it to downtown Lynden and surrounding areas as show in Exhibit 5. East Badger Road runs along the northern edge of the PCSA. Benson Road and Double Ditch Road run north-south through the subarea with Benson Road located along the eastern edge of the PCSA and Double Ditch in the western half of the subarea. Double Ditch includes the channels that currently contain the waters of Pepin Creek. Likewise, Benson Road includes a ditch containing a fish bearing waterway and stormwater damage. The waters of Pepin Creek ~~and potentially the Benson Road ditch~~ will be redirected toward the new channel through the realignment process. This process, as well as the anticipated growth in the PCSA, will require that the roadway network is redesigned and improved.

Portions of Benson and Double Ditch roads that create the diagonal arterial connection with Pepin Parkway will likely be improved in phases ~~while and~~ the construction of Pepin Parkway will become a priority to facilitate regional traffic and accommodate growth. Pepin Parkway and adjacent roadway improvements represents a safer transportation corridor than the existing conditions on Benson and Double Ditch roads. Traffic will be discouraged from using portions of Double Ditch Road and Benson Road that are not improved with the Pepin Lite plan through the use of additional stop conditions and intersection alignment. Pepin Parkway will have limited intersections, no driveway access, and no parking. There will be a sidewalk and a wide planting strip provided on each side of the street between the curb and the sidewalk to provide a safe pedestrian environment. The roads will also include either a dedicated bike lane on the shoulder of the vehicular travel lane, or a combined bike and pedestrian travel lane that is wide enough to safely accommodate both modes. Traffic calming strategies should be included in the final design of these roads to ensure safety and reduce speeds along these straight roads. The improvements made to Benson and Double Ditch Road will be improved to an alternate standard which could include the concepts illustrated in Exhibit 7. Improvements on Benson Road will likely include pedestrian walkways on only one side of the roadway so that the existing fish-bearing roadside ditch can remain in place. Where the ditch fronts the west side of the road, new development is expected to provide public pedestrian walkways within the development in the place of a Benson Road sidewalk. This may be located in a pedestrian easement that is located outside of the street right-of-way.

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Exhibit 7. Conceptual Benson and Double Ditch Roads Cross Sections



Source: Herrera and Communita, 2018.

Pepin Parkway

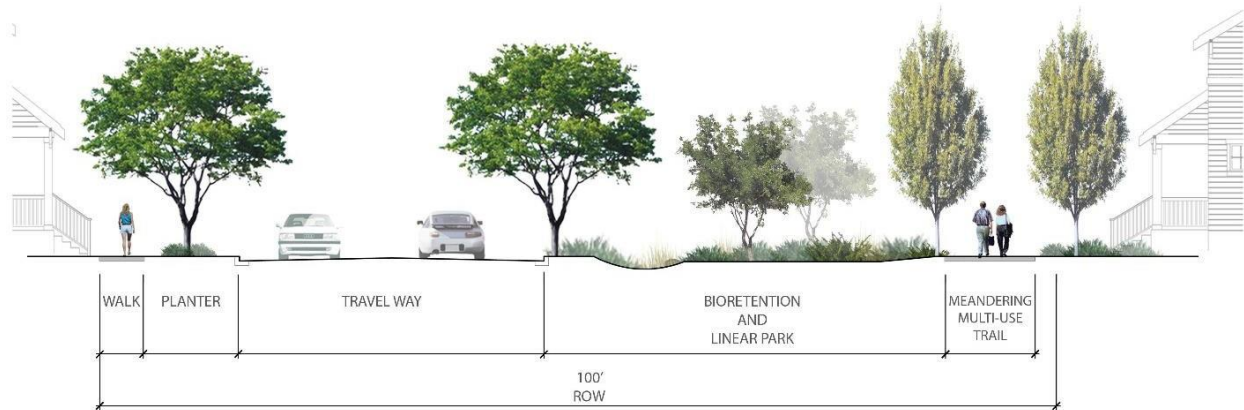
Pepin Parkway will run east/west through the subarea, starting on the southern edge of the City owned Benson Park property, ~~approximately midway along near the intersection of Sunrise Drive and~~ Benson Road in the subarea. The Parkway will provide ~~an additional excellent access opportunities to the Benson Road Park park entrance.~~ ~~Crossing the creek channel at the end of the airport safety zone,~~ The proposed path of the Parkway once again takes advantage of property already owned by the City ~~by moving south within the property originally intended for creek corridor until it crosses into the existing City limits.~~ A bridge is planned here to cross the realigned Pepin Creek. ~~The Parkway will likely run along existing property lines and connect with Double Ditch Road.~~ On the west side of ~~the new creek channel~~ Double Ditch Road, Pepin Parkway will ~~connect continue west to provide access as needed. to future city roads.~~

Pepin Parkway will include a sidewalk and a large planting strip on both sides of the road that can accommodate large trees. ~~When feasible, A~~ multi-modal trail will be on one side, separated from the vehicles by a wide landscaped area. Parking may be provided in parking pockets where needed. The parkway should act as part of the neighborhoods rather than a barrier. ~~The new street will facilitate safe access to developing properties within the sub-area.~~

Pepin Parkway will ~~also~~ serve as a linear park that integrates different housing developments into a neighborhood by limiting intersections and incorporating a multi-modal trail that meanders through a

park-like setting. Where feasible, the parkway will include bio-retention and natural drainage, which will help with stormwater control and provide landscaping to enhance the feeling of comfort for pedestrians. Ideally, homes will front or side onto Pepin Parkway. When this is not possible, a heavy landscape buffer will be provided.

Exhibit 8. Conceptual Pepin Parkway Cross Section

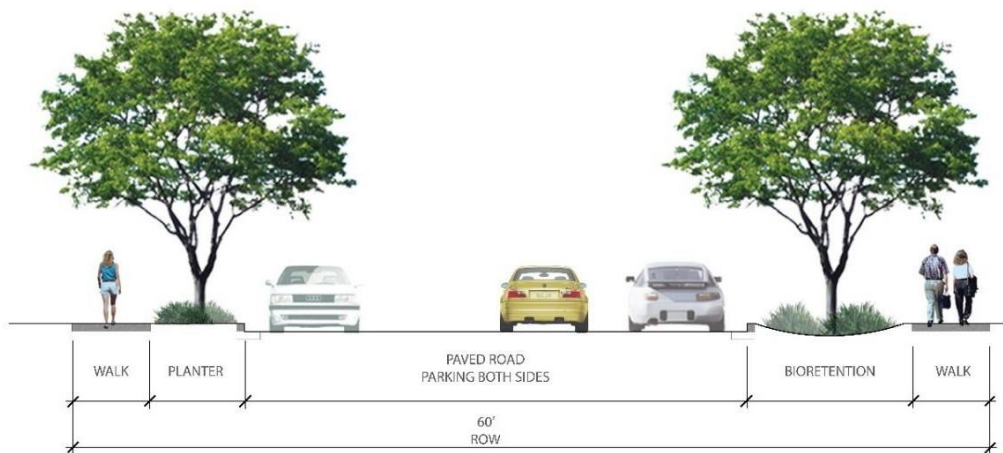


Source: Herrera and Communita, 2018.

Neighborhood Roads

Neighborhood Roads are a secondary system of roads that provide connectivity between individual developments and the PCSA as shown in Exhibit 5. They connect developments to the Pepin Parkway, Benson Road, improved portion of Double Ditch Roads, E. Badger Road, and Homestead Boulevard. Homes will feature porches and stoops that front or side on Neighborhood Roads to create a feeling of community. Trees and sidewalks will be provided on both sides of the street to enhance the pedestrian-friendly streetscape. Natural drainage systems may be integrated into the planting strip to carry stormwater to the Pepin Parkway drainage system. Parking will be provided on both sides of the street to allow space for residents and the guests, as well as to calm traffic moving through the area (see Exhibit 9).

Exhibit 9. Conceptual Neighborhood Roads Cross Section

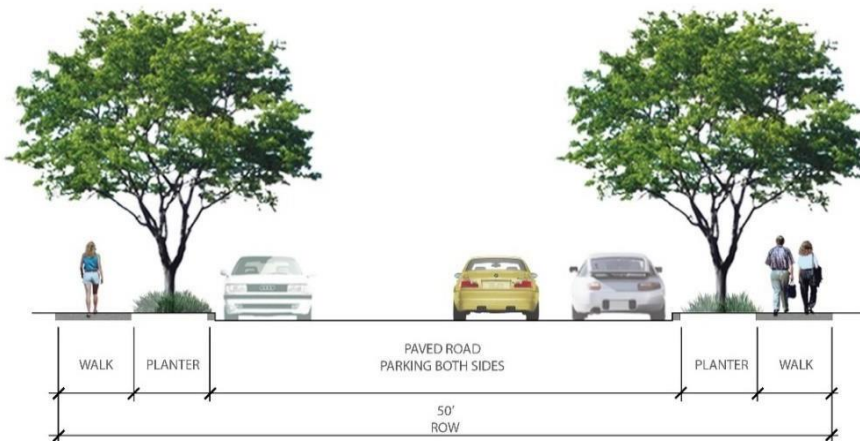


Source: Herrera and Communita, 2018.

Village or Cluster Access

Village and Cluster Access streets are intended to be public streets with a right-of-way width of only 50 feet (see Exhibit 10). This street type is intended to provide vehicular access to a maximum of eight units. It will also provide pedestrian connectivity with a planting strip and sidewalk on both sides of the street. The access roads include parking on both sides of the street for residents and guests and where possible, front porches will face the street to encourage social interaction amongst residents.

Exhibit 10. Conceptual Village or Cluster Access Street Cross Section

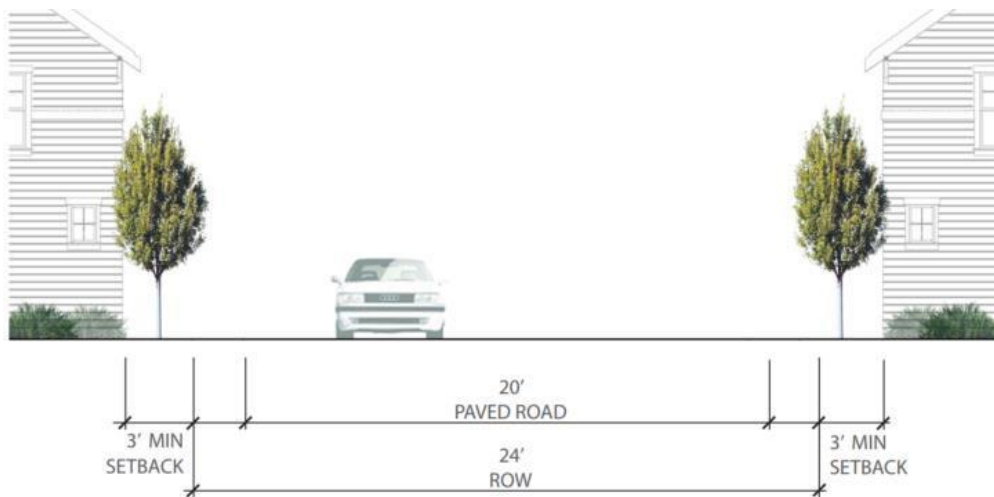


Source: Herrera and Communita, 2018.

Alleys

The use of private alleys in the PCSA is permitted. Alleys can be used to create a pedestrian friendly streetscape and eliminate pedestrian and vehicular conflicts. The use of alleys also minimizes curb cuts and allows for better social interaction and encourages walking and health in a safe pedestrian environment. Alleys in the PCSA will be 24' ROW in which 20' will be paved (see Exhibit 11).

Exhibit 11. Conceptual Alley Cross Section

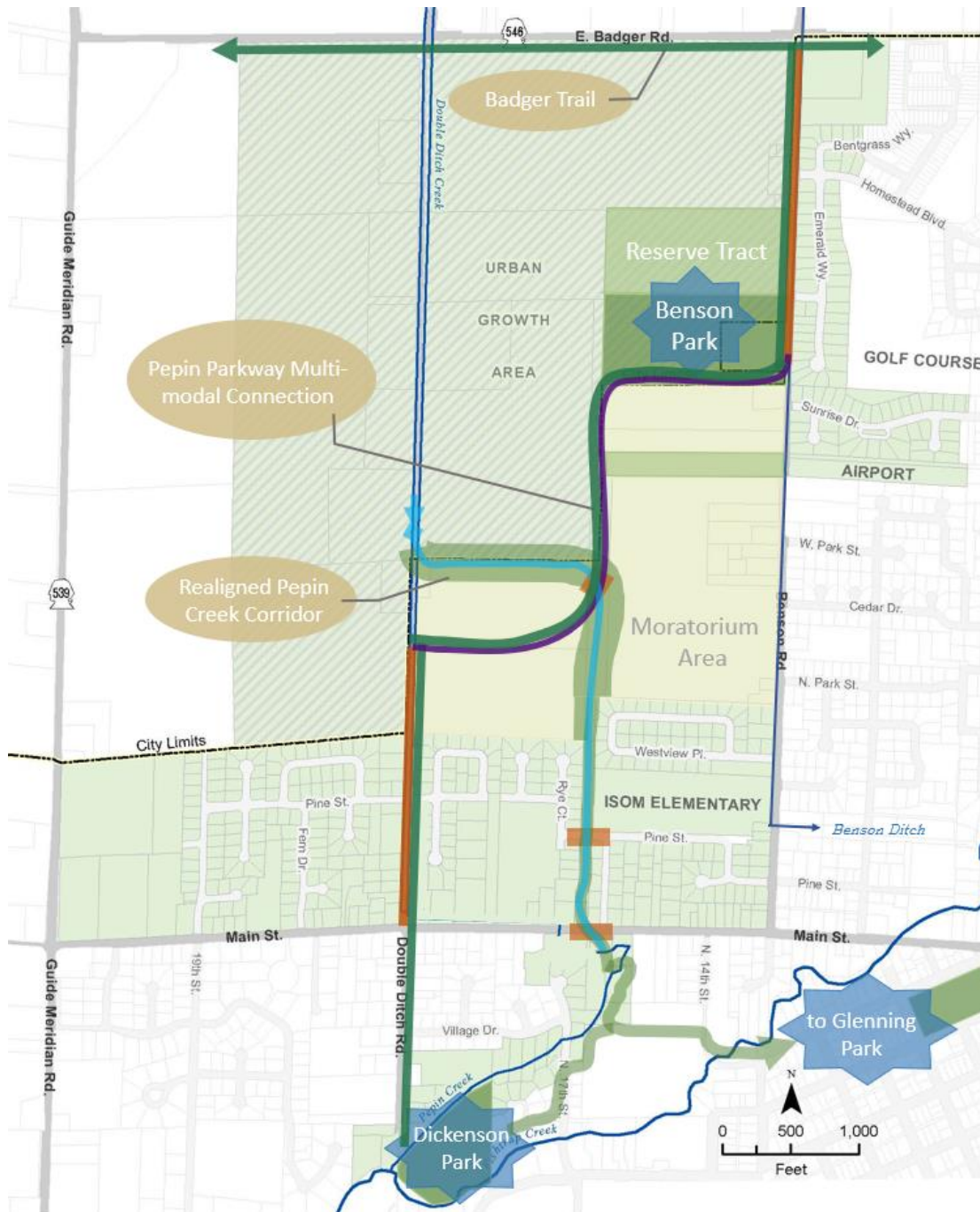


Source: Herrera and Communita, 2019.

OPEN SPACE

Open space in the PCSA includes a diversity of parks and an interconnected trail system to meet a wide variety of recreational needs and encourage healthy activity. This framework of parks, open spaces, and trails is shown in Exhibit 12. Park facilities range from a large city park to smaller pocket parks and open spaces. All parks are in close proximity to residents and connected through a network of trails and sidewalks. Parks serve several functions in the PCSA: to provide community space, to support a sense of neighborhood identity, to minimize the impacts of density, and to create a sense of place. Public streets will be located at the edges of parks and open spaces in the PCSA to help keep them feeling open and safe. Rear yards and privacy fences as borders to parks and open spaces should be avoided.

Exhibit 12. Conceptual Parks and Open Space Framework



City Park

A 15-20 acre city park is currently being planned in the PCSA on the southern half of the City-owned property along Pepin Parkway and Benson Road where it will be easily accessible to all Lynden residents. The northern half of the property will be reserved for future park space or community uses. A conceptual park layout with elementary school concept is shown in Exhibit 13. An existing barn on the property is proposed to remain as a community gathering place and to host community events. Restoration of the barn meets one of the PCSA Guiding Principles by reflecting Lynden’s agricultural connections and history. The park will include both active uses such as sports fields, as well as passive uses such as picnic tables and trails. A trailhead will provide easy access to the trail system throughout the PCSA, which provides access for nearby residents to get to the park and allows visitors to experience the Pepin Creek corridor. Parking could be shared with other uses on the site.

Exhibit 13. Conceptual City Park Layout



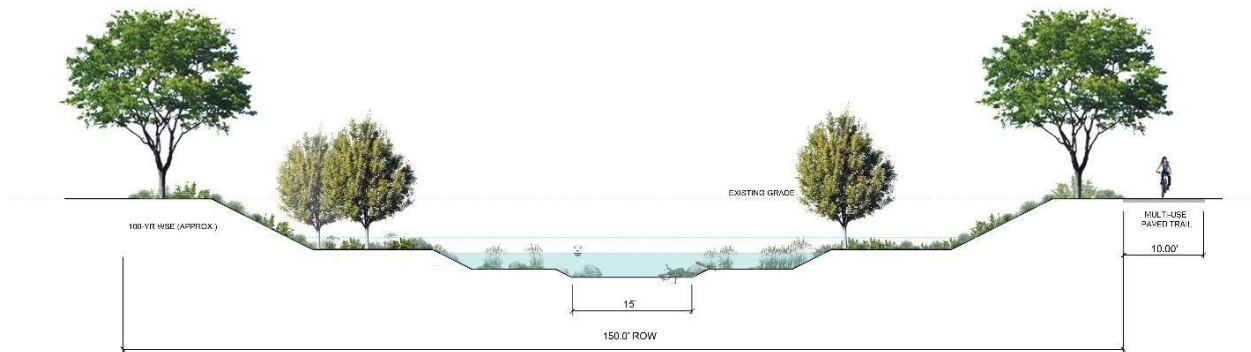
Source: Communita, 2019.

Pepin Creek Corridor

In areas where Pepin Creek will be realigned, the new The Pepin Creek Corridor provides a linear open space ~~through the site~~ that connects to ~~the city park and to~~ the roadway network where it intersects with Pepin Parkway. This open space corridor will range from 75 feet to 150 feet wide. Where feasible, a multi-modal trail will sit on one side of the creek and a pedestrian trail on the other side of the creek as shown in Exhibit 14. Trail connections from adjacent developments will link to the Pepin Creek corridor. Restoration of Pepin Creek will provide an enhanced, more natural habitat for fish and wildlife as well as a recreational amenity for residents. It will also mitigate the impacts of

local flooding by accommodating Pepin Creek during high water conditions.

Exhibit 14. Conceptual Pepin Creek Corridor Cross Section



Source: Herrera and Communita, 2018.



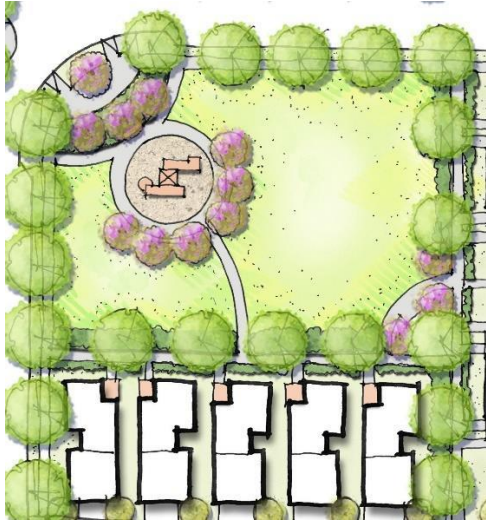
Integrated stormwater and pathway create a park-like atmosphere.

Pepin Parkway is designed as a linear park and will provide a multi-modal trail in a park like setting on one side of the road and a sidewalk on the other side as shown in Exhibit 8. Pepin Parkway provides opportunities for transportation and recreation for bikers and pedestrians. Limited intersections on Pepin Parkway will reinforce the park like atmosphere and will be used to pull the developments in the PCSA into a cohesive neighborhood.

Neighborhood Parks

Neighborhood parks are encouraged in residential areas and provide active play areas for residents within a half mile walking distance. These parks may also be used passively as open space and to provide outdoor recreation space for denser housing. Larger than a pocket park, neighborhood parks are a hub for resident gatherings and provide neighborhood identity. All neighborhood parks are easily accessible from a public street and connected to the trail and sidewalk network of the community (see Exhibit 15).

Exhibit 15. Conceptual Drawing of a Neighborhood Park



Source: Communita, 2018.

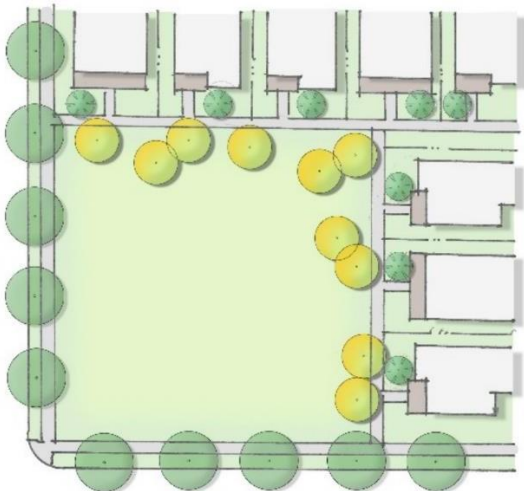


Example of a Neighborhood Park with small play structure.

Pocket Parks

Pocket parks are small parks that are less than half an acre in size and provide a community focal point for adjacent homes that front on the park and nearby homes within walking distance. Typically maintained by the surrounding homeowner’s association, they are especially important in denser residential areas where adjacent residents rely on them as outdoor living spaces that serve as flexible play areas, recreational activity space, and community gathering places. Pocket parks can provide a safe place for kids to play in areas where private yard space is limited. Pocket Parks are highly visible, connected to the network of community trails and sidewalks, and accessible from a public street. They also provide access to homes that are oriented with the front doors facing the pocket park (see Exhibit 16.)

Exhibit 16. Conceptual Drawing of a Pocket Park



Source: Communita, 2018



Example of homes fronting on a pocket park.

HOUSING

The Housing Element of the Comprehensive Plan presents a demographic profile of Lynden compared to Whatcom County and Washington state. Lynden’s household size is 2.57 persons per household, slightly higher than Whatcom County at 2.5 and Washington state at 2.54. The Census Bureau estimates that in 2016 the population of Lynden had a median income of \$61,828, which is about 14% higher than the median income of \$54,207 for Whatcom County. Median home value in Lynden was \$287,200, slightly above that of Whatcom County at \$283,000. In Lynden, 69% of homes are owner-occupied, compared to 63% in the county and the state.¹

Compared to the other geographies Lynden has a higher median age and larger population of residents over age 65. A relatively high percentage of households, 17% are people age 65 and older who live alone, compared to under 10% in the other geographies. Census information shows that approximately one third of Lynden’s population is under age 18, compared to about a quarter of the population in Whatcom County.

This demographic profile aids in understanding the type of housing that might be needed in the PCSA. Based on the age profile, housing is needed for families and older adults. Older adults may be looking to move to smaller housing units with less yard space to maintain as their children establish their own families or after the loss of a spouse. These needs may range from smaller single-family homes to cottage units to senior apartments. Families with children need housing that they can afford with ample places for children to play, whether it is in private yards or nearby parks and open space. The size and type of housing needed varies by family. Young families starting out often need smaller “starter homes” that provide entry into the housing market.

Housing affordability is also an issue for families looking to buy a home. With a median income of \$61,828, new single-family homes are out of reach for many.² People working in healthcare, retail, or as teachers make about 70% of the area median income, or about \$43,000. The purchase of a new single-family home requires an income of approximately \$75,000 or more, or approximately 120% of the area median income. This would likely be a home on a lot under 6,000 square feet for entry level buyers, which could include a smaller single-family home, a townhome, a cottage, or other more compact housing type. Providing a range of unit types provides alternatives for homeownership at a variety of price points in the market.

COMMUNITY CHARACTER

The PCSA will become a new neighborhood designed to preserve essential elements of Lynden’s character, including its connection to its agricultural roots, its small-town atmosphere, and its community spirit. The network of parks, trails, open spaces, streets and sidewalks work together to create a community feeling. Homes with porches and stoops facing this network encourage community interaction.

¹ See the Lynden Comprehensive Plan Housing Element, Table 1 for the comparison between Lynden, Whatcom County, and Washington state. Census information comparing Lynden and Whatcom County can be found at: <https://www.census.gov/quickfacts/fact/table/whatcomcountywashington,lyndencitywashington/PST045217>.

² Housing affordability was analyzed by looking at both a 5% and 10% down mortgage and looking at the cost of new single-family home comparables in Homestead.

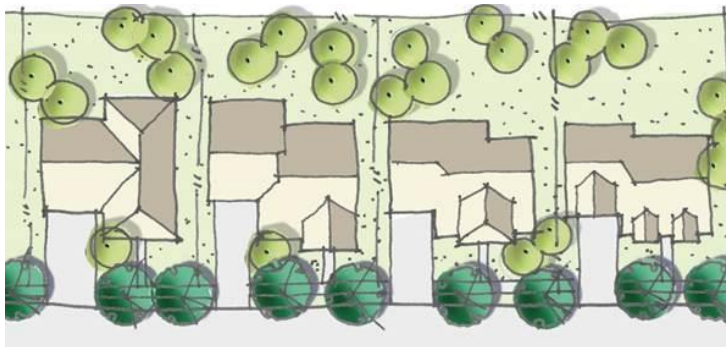
Ample gathering spaces help a community thrive by giving places for formal and informal get togethers. The availability of recreational amenities encourages healthy lifestyles and makes it easy for people to get around the subarea to visit with neighbors and participate in civic life. Lynden also strives to provide housing for family members in all stages of life. The planned land use and zoning in the PCSA hopes to achieve these goals by allowing a variety of home types to be built in the subarea such as: large single-family lots, small lots, attached homes, cottages, and senior housing.

The Design Standards created for residential areas of the city help guide the new community in preserving Lynden’s community character and reflect its heritage as a small, agricultural town. This is accomplished through guidance on site planning and layout, architectural design, and landscaping. Standards help avoid a monotonous neighborhood by requiring quality materials and a variety of architectural styles. Required parks and open spaces in the medium density areas maintain an uncrowded feeling of a small town and are particularly important in areas of higher density. The necessary elements of design for each of the housing types are shown below.

Standard Lots

Standard lots are allowed throughout the PCSA. This housing type primarily serves established families and professionals. The lots are larger ranging in size from 7,200-12,000 square feet. The homes are also larger ranging from 3,000-4,200 square feet. All standard lots are detached homes and will reflect the character of existing Lynden homes. These lots have larger yards for children and pets. The design of the homes will meet the community needs and the design of the neighborhoods and homes will be controlled by the City’s Residential Design Standards. The City’s Residential Design Standards require that the homes have obvious front entries, garage doors that are less than 50% of the façade of the home, and not more than 12 feet forward of the living space. These standards help create a pedestrian friendly streetscape. The site plan in Exhibit 17 shows how standard lots may be laid out on a site. The architectural design shall be a variety of styles and have an illuminated front porch or stoop.

Exhibit 17. Conceptual Standard Lot Site Plan



Source: Communita, 2018.



Standard, or “large lot” single-family home.

Small Lots

The small lots serve the market needs of first-time homebuyers, young professionals, and young families and are allowed throughout the PCSA. Homes in this category are detached and sit on lots ranging from 4,000-7,200 square feet. These are typically 3-4 bedrooms homes between 2,000-3,000 square feet. Smaller lots can work well with front or alley access. Each home has a back yard for children and pets and a front porch that faces the street or a common open space. Homes with alley access can be situated on a park or open space, providing extra amenity, as shown in Exhibit 18. Design standards emphasize variations in materials and styles to prevent a monotonous appearance. The



Small-lot single family home.

front porch of each home could also face a landscaped street or pocket park as shown in Exhibit 18 and Exhibit 19.

Exhibit 18. Conceptual Small Lot Site Plan with Alley Access



Source: Communita, 2018.



Above: Small-lot single-family home with alley access that fronts on a park.

Below: Small-lot single-family home with front access.

Exhibit 19. Conceptual Small Lot Site Plan with Front Access



Source: Communita, 2018.



Cottages

Cottages meet the market needs of active seniors, first time homebuyers, professional couples and empty nesters. These homes may be attached or detached, are typically clustered around pocket parks, and would be allowed in medium density areas. Each home has a smaller private open space but will share a common open space with the other homes in the neighborhood. Cottage residents do not need to maintain a larger yard. The City’s Residential Design Standards and Zoning Code will control how much common open space is required and the location of it. The minimum lot size of a detached cottage is 4,000 square feet. The minimum lot size of an attached cottage is 3,000 square feet. Cottage homes can be accessed from an alley, shared auto court, or a street. The homes will be 1,400-2,400 square feet with 2-3 bedrooms. All homes have a front porch or stoop facing the street or a pocket park to encourage social interaction. The City Residential Design Standards will provide guidance on the design of the homes and require high quality materials and provide variety of architectural character (see Exhibit 20 for a conceptual plan).

Exhibit 20. Conceptual Cottage Site Plan



Source: Communita, 2019.



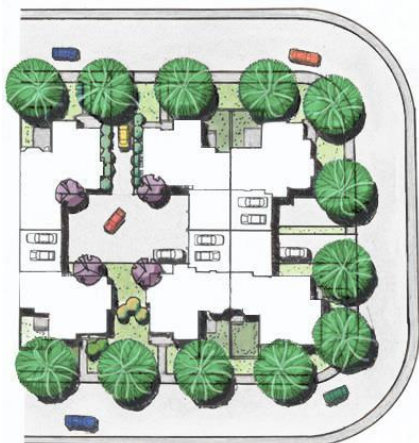
Cottage housing fronting on a street.



Attached Cluster Homes

Cluster homes are a style of single-family home that are attached at the garage or in the rear of the lot for efficient site planning (see Exhibit 21). This efficiency lowers the cost of the home. Attached cluster housing meets the market needs of empty nesters, professional couples, and households that are downsizing. Each of the cluster homes are located on their own lots and can be as small as 3,000 square feet. There is a small private yard on each lot. The Zoning Code and the City’s Residential Design Standards will require a common open space. The homes will be 2-3 bedrooms and range from 1,600-2,400 square feet. High quality architectural design will be controlled by the City’s Residential Design Standards which includes standards that require a variety of architectural styles and materials. Attached cluster homes would be allowed in RM-PC zone.

Exhibit 21. Conceptual Attached Cluster Home Site Plan



Source: Communita, 2018.

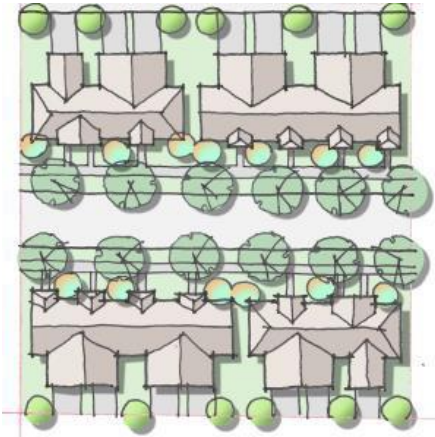


Attached single-family home clusters.

Townhomes

Townhomes are attached single-family homes that serve the market for first time homebuyers, young professionals, and young families. Each townhome is on its own fee simple lot, meaning that the owners have complete ownership of the land and the home, but are subject to a maintenance agreement or association covenants. Lots will range from 1,600-2,100 square feet and each will have a small private courtyard or small yard in addition to shared common open space. Whether townhomes take their access from the alley or the front, each unit will have a front porch or stoop facing a common open space or the street (see Exhibit 22). The City’s Residential Design Standards and Zoning require that common open space be provided. The townhomes will be 2-3 bedrooms and range in size from 1,200-2,000 square feet. The City’s Residential Design Standards provide for variety in the elevations, materials, colors, and styles to prevent a monotonous appearance and create a high-quality streetscape. Townhomes would be allowed in medium density areas.

Exhibit 22. Conceptual Site Plan - Townhomes Built with Pocket Parks



Source: Communita, 2019

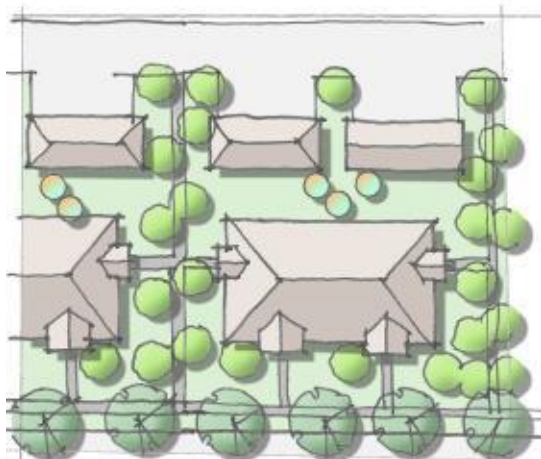


Townhomes with garages on an alley.

Multi-family Housing

Multi-family housing is allowed in the PCSA in the RM-PC and the RM-3 zones and will serve the rental market. This housing will include a maximum of 12 units in small multi-family buildings. Developments will reflect the character of the surrounding neighborhood, while providing housing for a variety of residents. Units will range from studio units up to three-bedroom units and approximately 500-1,400 square feet. Common open space will be integrated into each site as well as private open space for each unit. Parking shall be located behind or to the side with main entries facing the street or common open spaces and create a pedestrian friendly streetscape. The City’s Residential Design Standards require variations in materials and modulation of the building which helps integrate the larger building into the surrounding neighborhood.

Exhibit 23. Conceptual Site Plan - Multi-family Housing



Source: Communita, 2019.



Multi-family Housing.

Goals and Policies

LAND USE AND HOUSING

PC-1: New growth in the PCSA supports the character, development pattern, and densities in and around Lynden.

PC 1.1 Accommodate most of Lynden’s 20-year growth projection in the Pepin Creek Subarea to use land efficiently and avoid future conversion of designated agricultural lands to urban residential uses.

PC 1.2 Plan development in the PCSA at an overall net density of at least seven units per acre to allow continued low density residential development in the rest of Lynden.

PC 1.3 Develop moderate density housing near public parks and open spaces to give a feeling of openness.

PC-2: The housing choices in the PCSA meet the needs of people in different stages of life.

PC 2.1 Allow a variety of lot sizes for single-family housing to accommodate families with different needs and preferences.

PC 2.2 Encourage a variety of unit types at moderate densities to provide housing that meets the needs of younger adults, older adults, singles, and couples.

PC 2.3 Provide opportunities for assisted living in the PCSA.

PC 2.4 Provide opportunities for homeownership by supporting housing that is affordable to households at a variety of incomes and with a variety of needs.

PC-3: Land use in the PCSA is compatible with adjacent uses.

PC 3.1 Ensure land use compatibility by applying a transition area to the Residential Medium Density district where it is adjacent to a Low Density Residential district.

PC 3.2 Allow for neighborhood commercial uses where Pepin Parkway intersects Benson Road.

PC 3.3 Recognize the Lynden Municipal Airport as an essential public facility by requiring new development to sign a covenant acknowledging noise and other potential impacts related to normal airport operations.

ENVIRONMENT

PC-4: The Pepin Creek realignment reduces flooding, improves habitat, and serves as a community amenity for the residents of Lynden.

PC 4.1 Provide fish and wildlife habitat within the Pepin Creek corridor.

PC 4.2 Increase drainage functionality and reduce flooding in the subarea.

PC 4.3 Serve as a recreational amenity by including a trail.

PC-5: Environmental stewardship is integrated into the landscape of the PCSA.

PC 5.1 Protect wetlands in accordance with the City’s critical area regulations.

PC 5.2 Identify opportunities to enhance wetlands as part of the environmental restoration of the PCSA.

PC 5.3 Require natural stormwater management that is integrated with or mimics natural systems.

PC 5.4 Regulate development design and location in the Flood Hazard Mitigation Overlay to prevent cumulative negative impacts to the surrounding community and avoid flooding of residential neighborhoods, life safety issues associated with road closures, and significant property damage.

CIRCULATION

PC-6: The PCSA connects seamlessly with motorized and non-motorized transportation networks.

PC 6.1 Apply a hierarchy of streets that safely accommodate cars, bicycles, and pedestrians at each level.

PC 6.2 Encourage streets with the least amount of paved area for their class and function to help calm traffic, lower construction and maintenance costs, and provide environmental benefits.

PC 6.3 Efficiently address motorized circulation by ensuring that the road network is well connected to downtown Lynden.

PC 6.4 Plan for future roadway connections on arterial and collector roads to ensure the completion of an efficient and effective road network.

PC 6.5 Develop a network of multi-use trails, sidewalks, and bike lanes to ensure that people can travel safely by foot and by bicycle.

PC 6.6 Ensure that individual developments within the PCSA are linked by roadways and multi-use trails. Require developments to provide street and trail extensions and frontage improvements to be designed consistent with Subarea Plan cross sections and city standards.

PC 6.7 Accommodate changes to the runway and taxi area at Lynden Municipal Airport with improvements to Benson Road.

OPEN SPACE

PC-7: All developments in the PCSA are connected to a network of open spaces.

- PC 7.1 Utilize the Pepin Creek corridor as a recreational amenity.
- PC 7.2 Ensure that all housing units have easy access to open space whether the space is a private yard; shared park, courtyard, or green space; or public park or open space.
- PC 7.3 Require development to provide plentiful green space to give a feeling of openness.
- PC 7.4 Ensure safe and healthy places for children to play in all residential developments.

COMMUNITY CHARACTER

PC-8: The PCSA maintains Lynden’s small-town character and feeling of community.

- PC 8.1 Design residential areas to welcome community interaction by providing porches, stoops, and other semi-private space along landscaped street frontages.
- PC 8.2 Scale single-family housing in proportion to its lot to avoid a feeling of overcrowding.
- PC 8.3 Apply size restrictions to moderate density housing to ensure it is developed at a scale that feels consistent with small-town character.
- PC 8.4 Apply design standards that encourage housing that looks distinctive and attractive and avoids the repetition of housing forms that give a mass-produced look.

PUBLIC FACILITIES AND INFRASTRUCTURE

PC-9: The PCSA is efficiently served by public services and infrastructure.

- PC 9.1 Require development to pay its fair share of costs toward infrastructure and public services.
- PC 9.2 Ensure that costs to the City associated with the development of the PCSA and the Pepin Creek Corridor are recovered by the City over a reasonable time.
- PC 9.3 Balance the timing and scale of public investment with private investments to ensure that the PCSA is a feasible opportunity for new development.
- PC 9.4 Update City Water, Sewer, & Stormwater comprehensive plans to include the PCSA and ensure that primary public infrastructure is well planned and can be built incrementally if needed.

Implementation

ZONING

Zoning in the Pepin Creek Subarea is established to produce an average of approximately seven dwelling units per acre using a variety of housing types to meet the needs of families throughout their life. Exhibit 24 shows the zoning classifications for the Pepin Creek Subarea. Uses are primarily residential with allowances for related and compatible uses such as schools, parks, daycares, churches, and limited neighborhood-serving commercial development in the Commercial Overlay areas. Design standards are applied to create a safe, attractive community, with a high quality of life.

Residential Single Family – 72 (RS-72) Zone

The RS-72 zone is the lowest density zone in the Pepin Creek Subarea, allowing 2-4 units per acre and requiring a minimum lot size of 7,200 square feet. This allows for large lot single-family housing and can be found throughout the city. In the Pepin Creek Subarea, the RS-72 is subject to the City’s Residential Design Standards.

Residential Medium Density (RMD) Zone

The RMD zone allows for low density housing at densities of up to 4-8 units per acre. A minimum lot size of 6,000 square feet is permitted for detached homes and 4,000 square feet per unit for attached homes are permitted. This zone is used elsewhere within the city and promotes a creative mix of single-family and duplex housing types. Development in this zone is subject to the City’s Residential Design Standards.

Residential Medium Density – Pepin Creek (RM-PC) Zone

At densities up to 8-12 units per acre, the RM-PC zone allows a variety of housing types, some of which are unique to the Pepin Creek Subarea. The RM-PC allows small lot single-family homes and cottages, with a minimum lot size of 4,000 square feet for detached units. It also allows single-family attached units such as townhouses, duplexes, units attached at the garage, or other housing types with fee-simple ownership and small multi-family buildings. Single-family attached homes are units located on their own lot, which is a minimum of 3,000 square feet. Where the RM-PC zone is adjacent to single-family zoning a transition area will be established to limit height and limit uses to single-family residences.

Residential Medium Density – Three (RM-3) Zone

The RM-3 zone allows for medium density residential development with a variety of housing types up to 16 dwelling units per acre. This zone sets a minimum lot size of 7,200 square feet and allows, with appropriate square footage, up to 12 units per building. This zone is located near park and trail features which will offer a feeling of openness and provide access to those amenities. .



Public Use Zone

The Public Use zone is a citywide zone in Lynden that provides for civic amenities and uses. In the PCSA, the Public Use zone is applied to City-owned property that will be used for a park and potentially another civic use, such as a school. The Public Use zone follows the uses and standards of its zone, not those created especially for the Pepin Creek Subarea. The airport safety area is publicly owned in part and regulatory in part and addressed in overlays below.

Zoning Overlays

There are three zoning overlays present in the Pepin Creek Subarea. Every zoning overlay has an underlying zoning designation that establishes the base uses and standards that are in place. The overlay adds additional standards or bonuses that are applied as well.

Neighborhood Commercial Overlay

Although future land use in the PCSA is mostly residential, the Neighborhood Commercial Overlay provides opportunities for commercial development at the intersection of Pepin Parkway and Benson Road. If there is a market for small, neighborhood-scale commercial development such as a convenience store or coffee shop, the commercial overlay shows where it could be allowed. Neighborhood commercial allows residents to avoid a trip into town for some basic goods and services, which is convenient for residents and prevents road congestion. If the market does not support commercial development in the Pepin Creek Subarea, the area with the Neighborhood Commercial Overlay can be developed according to the underlying residential land use.

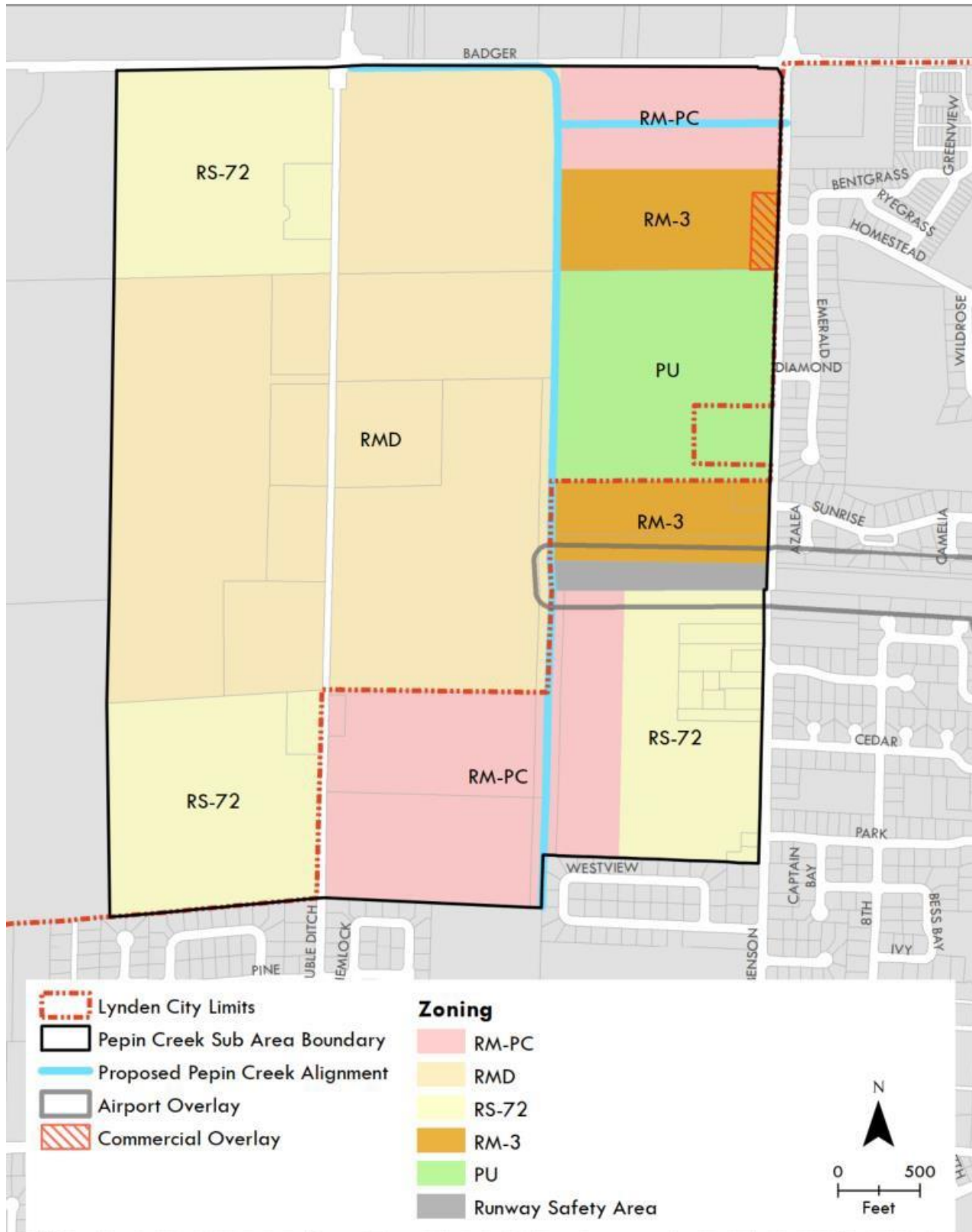
Airport Overlay

The Airport Overlay is a special designation on property located adjacent to the airport. The runway and primary facilities of the airport are just outside the PCSA boundary, but the PCSA includes part of the runway safety area. The primary purpose of the Airport Overlay is to prevent airway obstructions and ensure the safety of both airfield users and nearby property owners. The Airport Overlay also allows a few airport-related uses, such as airplane hangars, which are not allowed elsewhere in the underlying zone.

Flood Hazard Mitigation Overlay

The Flood Hazard Mitigation Overlay includes the entire PCSA. It primarily recognizes the hazards associated with surface flow flooding, ground water, drainage, and downstream constraints within the subarea. It also recognizes that development in the subarea must be designed and mitigated to prevent cumulative negative impacts to the surrounding community and that development without proper mitigation could result in the flooding of residential neighborhoods, life safety issues associated with road closures, and significant property damage. Additional information about existing flood hazard conditions and flood hazard mitigation can be found in Appendix E. Subsequent study will be needed to further define mitigation strategies and will be conducted along with the finalization of the channel realignment design.

Exhibit 24. Zoning in the Pepin Creek Subarea (Exhibit to be updated to show new creek alignment)



Source: BERK, 2019.

Land Capacity Analysis

The zoning is designed to meet the growth targets established for the City of Lynden and the PCSA at full buildout. This was determined by looking at the theoretical minimum and maximum development potential and identifying two midpoints that are more likely to represent future development. The theoretical limits apply the ~~minimum and~~ maximum densities allowed under the zoning to the developable acreage resulting in ~~0 to 2,508~~ 2,882 units as the ~~minimum and~~ maximum range-unit count for development. (This represents an increase from previous estimates as the Pepin Lite plan resulted in less area dedicated to infrastructure and creek corridor and more area available for development.) In practice, development typically occurs somewhere in the middle. The Analysis ~~midpoint~~ midrange of ~~1,381~~ 1,569 is the average of the theoretical minimum and theoretical maximum. The analytical maximum presents a higher limit of ~~1,902~~ 2,166 is set at a development level of 75% of the theoretical maximum for the zoning. For planning and analysis purposes, the range of ~~1,381 to 1,902~~ 1,569 to 2,166 units was used to estimate likely development in the PCSA (see Exhibit 25).

Exhibit 25. Land Capacity Ranges in the Pepin Creek Subarea

	<u>Developable Acreage</u>	<u>Theoretical Minimum</u>	<u>Theoretical Maximum</u>	<u>Analysis Max</u>	<u>Theoretical Midrange</u>
<u>RS-72</u>	<u>93.37</u>	<u>0</u>	<u>467</u>	<u>373</u>	<u>373</u>
<u>RMD</u>	<u>127.07</u>	<u>0</u>	<u>1,271</u>	<u>953</u>	<u>635</u>
<u>RM-3</u>	<u>27.19</u>	<u>0</u>	<u>435</u>	<u>307</u>	<u>205</u>
<u>RM-PC</u>	<u>59.14</u>	<u>0</u>	<u>710</u>	<u>532</u>	<u>355</u>
<u>Commercial Overlay RM-3</u>	<u>1.58</u>	<u>0</u>	<u>25</u>	<u>0</u>	<u>13</u>
<u>TOTAL</u>	<u>306.77</u>	<u>0</u>	<u>2,882</u>	<u>2,166</u>	<u>1,569</u>

<u>Zone/Overlay</u>	<u>Theoretical Minimum</u>	<u>Theoretical Maximum</u>	<u>Analysis Midpoint</u>	<u>Analysis Maximum</u>
<u>TOTAL units</u>	<u>0</u>	<u>2,508</u>	<u>1,381</u>	<u>1,902</u>

PHASING

Only about 20% of the PCSA is currently within city limits; the majority is part of Lynden’s UGA. Until the land within the UGA is annexed it will be subject to Whatcom County’s adopted land use and zoning, which classifies this land for agricultural use. Subarea Plan implementation will occur within city limits during its first phase, as shown in Exhibit 26.

Ideally Pepin Creek Subarea plan phasing will match the progress of the Pepin Creek Realignment Project. An initial phase, known as the intercept ditch, was constructed in 2018 and extended at the end of 2019. The intercept ditch functions as a flood protection measure for existing infrastructure and housing developments by interrupting overland flow of flood waters. The design of the realignment project will be subject to additional environmental review, anticipated in early 2020. Once a specific design is selected the first phase could begin as soon as 2022 in association with planned culvert improvements along Badger Road by the Washington State Department of Transportation. However, this timeline does not account for any significant delays that may be encountered during the design, financing, or construction of these improvements. Phase 1 subarea development will likely occur ahead or in tandem with the development of the first parts of the channel if financial participation in the channel

realignment project can be assured.

~~Exhibit 26. Pepin Creek Subarea Phase 1~~

~~Source: BERK, 2019.~~

Development that gets ahead of the realignment project will need to accommodate space for the future development on the realigned portion of the Pepin Creek channel and meet buffer requirements and setbacks from the existing Pepin Creek channel in Benson Road and Double Ditch Road. Until the Pepin Creek Realignment project is completed, the channels on Benson and Double Ditch are unavailable for integration into low impact development stormwater systems. These inefficiencies may limit the development potential of lands that redevelop prior to the completion of the Pepin Creek realignment and are more likely to affect ~~Phase 1~~ earlier phases of development.

~~Phase 2~~ Later phases of development will likely occurs when the UGA is annexed and services are extended. Earlier development may occur in the Southwest and Northeast portions of the UGA where road infrastructure is present and proposed for improvement and funding with application of impact fees, e.g. Benson Road and Main Street.

~~Phase 3~~ Final phases of the Pepin Creek Subarea ~~is~~ are likely to include areas to the West and Northwest that are currently being farmed, have had recent investments in agricultural production, or where there are more constraints like the wetland/pond. There may be a greater willingness to monitor the Pepin Creek realignment progress, as well as the timing of new or improved roads in these areas, while continuing current agricultural activities.

Annexation of the UGA should consider the ability to implement the PCSA plan. The City has more control over the timing of development in the UGA because it can control annexation in future phases. Annexation and development that occurs prior to realignment of the channel should have a plan for addressing potential development inefficiencies with creative site planning or project phasing.

CAPITAL FACILITIES PLAN

Development on the PCSA will require substantial investments in infrastructure and capital facilities. Exhibit 27 shows the total costs, by category, of the improvements needed to allow for development in the subarea. It is important to note that these are point-in-time costs that assume this project is completed all at one time, in 2019 dollars. As the work on the infrastructure is phased and completed, cost estimates will need to be updated to reflect inflation and the carrying costs based on the phasing.

The majority of capital facilities expected in the PCSA are related to new development. New development is expected to provide for these capital facilities through direct infrastructure construction and the payment of related fees and charges. The development of new capital facilities and infrastructure will be guided by City of Lynden plans, policies, and regulations as shown in the sections below.

Transportation

The City of Lynden maintains a Transportation Improvement Plan (TIP) that lists local transportation projects. Each year an updated TIP is submitted to the Whatcom Council of Governments and the Washington State Department of Transportation (WSDOT) to ensure that projects eligible for federal and state funding can compete for funds. Projects listed on the TIP include motorized, non-motorized improvements, on-going maintenance projects, and projects to served new growth. In the most recent TIP (2019-2024) three projects appear on the list for the PCSA. These projects include:

- Pepin Creek – bridges, multi-modal trail, and changes to roads and road drainage associated with the realignment of Pepin Creek.
- Benson Road – safety and capacity improvements.
- SR 546 Intersection with City Arterials – capacity improvements that will be led by WSDOT.

In addition to the TIP, the Comprehensive Plan lists additional projects that will be needed to meet the needs of growth by 2036. These include the extension of safe bicycle connections from Homestead Boulevard and the creation of a multi-modal network of trails, pathways, and sidewalks in the PCSA.

Some of the transportation facilities needed in the PCSA will be constructed by the developer. Title 12 of the Lynden Municipal Code (LMC) specifies the standards and minimum requirements for the construction of streets and sidewalks. It specifically adopts the WSDOT manual for application, design, and construction of improvements. It also applies City of Lynden Engineering Design and Development Standards in LMC 13.24 and Titles 16-19 and the Washington Department of Ecology stormwater manual. The City of Lynden intends to use its established traffic impact fees in place at the time of application as the mechanism to collect a fair share from development for the construction of the regional arterial streets. More information is available in the finance section of this plan.

Stormwater

The City of Lynden operates its Municipal Separate Stormwater System under a National Pollutant Discharge and Elimination System Phase II permit. Stormwater management is regulated through Chapter 13.24 of the LMC (Lynden Municipal Code). This code section sets forth the minimum requirements for new development and redevelopment, including the use of the 2014 Stormwater Management Manual for Western Washington by the Washington State Department of Ecology. The City operates its Municipal Separate Stormwater System as a stormwater utility.

The City’s Stormwater Comprehensive Plan is currently being updated and has not been issued. This subarea was the subject of a 2009 amendment to the current 1992 Stormwater comprehensive plan which described the need for what became the Pepin Creek realignment project (Reichart & Ebe, 2009).

One concept for Pepin Parkway is ~~planned~~ to have a continuous open vegetated channel between the proposed roadway and the proposed multi-use trail. This area is sized to provide water quality treatment and detention flow control storage for the public roadway. There are no other planned stormwater facilities and it is assumed that each development project would provide meet its own stormwater management within the project per the current City of Lynden Code.

Exhibit 27. Improvements Needed to Support Development in the PCSA

	Total Cost	Existing Developer Commitment	Existing Public Commitment		Unaccounted Funds
			General City Funds	Grants	
Regional Road Improvements	\$15,826,000	\$2,915,291	\$12,910,709		\$0
Road Improvements (planned)	\$11,607,000	\$2,915,291	\$8,691,709		\$0
Road Improvements (additional)*	\$4,219,000		\$4,219,000		\$0
Local Roads (Developer Constructed)	\$9,251,000	\$9,251,000			\$0
Roads & Bridges	\$5,400,000				\$5,400,000
Pepin Parkway	\$1,800,000				\$1,800,000
Pepin Creek Bridges	\$3,600,000				\$3,600,000
Water/Sewer Improvements	\$17,645,000	\$17,645,000			\$0
Water Improvements	\$5,299,000	\$5,299,000			\$0
Sewer Improvements	\$12,346,000	\$12,346,000			\$0
Stormwater Improvements (onsite)	\$5,524,000	\$5,524,000			\$0
Wetland Mitigation	\$600,000				\$600,000
Creek Realignment and Downstream	\$43,983,000			\$3,900,000	\$40,083,000
Utility Connection Fees (Water/Sewer/Storm)		\$17,139,591			\$0
TOTAL	\$98,229,000	\$52,474,882	\$12,910,709	\$3,900,000	\$46,083,000
	\$98,557,882				
DEVELOPER CONTRIBUTION ASSUMING EXISTING CITY COMMITMENTS					

Source: City of Lynden, 2019; Herrera, 2019; and BERK Consulting, 2020.

Water

The City of Lynden owns and operates a municipal water system that serves retail customers within the city limits and the UGA and provides wholesale supply to several adjacent water associations. An existing 12 inch City of Lynden water main runs along the eastern boundary of the PCSA in Benson Road, and the existing developments within the existing city limits portion of the PCSA are served by City water mains. However, the interior of the PCSA currently in agricultural use is not served by public water mains. These agricultural uses appear to be served by six wells located within the PCSA.

The City of Lynden’s Water System Plan (Gray & Osborne, 2009) projects growth in the city overall but does not address the growth of the PCSA specifically; in the next Water System Plan Update, the PCSA should be addressed. The Water System Plan identifies one CIP in Benson Road to upgrade 660 linear feet of 4 inch pipe with 12 inch pipe. To meet the projected demand, it will be necessary to run a new primary water main loop from Main Street Up Double Ditch to Badger Road and then east on Badger Road to Benson Road. Other smaller water mains would be extended into the PCSA as part of land development projects. This new 9,250 linear feet primary loop is assumed to be 12 inch diameter, however, the design of this loop needs to be verified by modelling.

Wastewater

The City owns, operates, and manages wastewater collection and treatment facilities serving 2,879 acres. The City of Lynden General Sewer Plan Update (BHC, 2016) estimates the City of Lynden’s population will grow to 19,000 people by 2036 and expand to serve total of 4,204 acres. The sewer plan does not provide specific plans for serving the PCSA, which is identified as sewer basins “F” and “UGA” in the plan. The plan anticipates that these basins will be upgraded by developer extensions. The existing sewer collection system was modelled at the 20-year planning horizon and three gravity sewer deficiencies were identified. There were no pump station or force main deficiencies identified.

To serve the proposed development in the PCSA a new network of new gravity sewers, pump stations, and force mains will be necessary to collect and convey wastewater from the PCSA to the existing sanitary sewer collection network. The northern edge of the PCSA at Benson Road is approximately 10 feet higher than the southern boundary of the PCSA. It is expected that the northern portion of the PCS will be filled to facilitate the development; and that one large or several smaller new sanitary sewer pump stations located in the mid to southern portion of the PCSA will be necessary to provide wastewater collection. A new gravity sewer within the PCSA will convey wastewater to the new pump station(s) and discharge via force main(s) to the existing sanitary sewer collection system.

The 20-year full buildout of the PCSA is expected to include about ~~1,381-1,569~~ units to a maximum of ~~1,902-2,166~~ units corresponding to a population of ~~3,854 to 5,307~~ ~~4,378 to 6,043~~ residents. Per the sewer plan, the residential wastewater production rate in Lynden for residential is 45 gallons per day per capita. Therefore, the expected wastewater flows range from ~~173,430 to 238,815~~ ~~197,010 to 271,935~~ gallons per day. This results in a required total pump station capacity of to 400 to 600 gpm (gallons per minute) in one or more pump stations.

FINANCE

~~At this time, the City of Lynden assumes that the infrastructure investments needed to make the overall Pepin Creek Subarea developable (excluding the cost of utility hookups at the parcel level) will be \$98,229,000, as shown in Exhibit 27. Of these infrastructure costs, the City has committed to paying \$16,810,709. For development to be feasible, the City asserts that developers will be responsible for the remaining cost of all improvements needed to support development of the subarea.~~

~~The future subarea developer(s) are already committed to paying for \$35,335,291 of these costs as they will make the improvements (including regional road improvements, construction of local roads and Pepin Parkway, and water, sewer, and stormwater improvements) directly. They are also committed to paying utility connection fees for water, sewer, and stormwater, for a total existing commitment of \$52,474,882.~~

~~We completed a financial feasibility analysis, provided in full in Appendix D for two scenarios:~~

- ~~▪ **Threshold Feasibility.** Developers can buy the land and pay their existing commitments, for a total cost of between \$74,470,000 and \$76,914,000.~~
- ~~▪ **Full Feasibility.** Developers can buy the land and pay the total infrastructure costs less the existing city commitment, for a total cost of between \$120,553,000 and \$122,997,000.~~

~~This analysis shows that the Pepin Creek Subarea developable land value is within the values of comparable developments. It is important to remember that the cost of the land and value of the land are not the same thing, as the former does not account for the developer's profit. For this project to be feasible the future value of the land must be within the values of comparable developments. Profit is not factored into this because developer's expectations for profit for this kind of development are not known.~~

~~Funding and Financing Tools for Subarea Development~~

~~The City has committed \$16,810,709 to this effort. \$3,900,000 of that value is grant funded, however the City will need to come up with the remaining \$12,910,709. The City may also fund and finance improvements that are the obligation of developers upfront and recover funds from developers to refund that investment later.~~

~~This plan identifies funding and financing mechanisms that can be used to generate City revenues to fund and finance the improvements, either in total or just upfront, and, where developers are responsible for costs.~~

~~In 2020 the City of Lynden contracted with BERK Consulting to undertake a Financial Mitigation Strategies Study. The study examined two different financial instruments to pay for capital improvements with the Pepin Creek Subarea. These two financial tools include State Environmental Policy Act (SEPA) mitigation fees and a Local Improvement District (LID).~~

~~This study examined financial instruments, SEPA mitigation fees and Local Improvement Districts. These instruments are based on two very different ideas. SEPA mitigation fees are collected to mitigate the impacts to various aspects of the natural or built environment. LIDs are designed to capture back increased property values that are accrued by private property owners after the investment of public monies. In other words, SEPA mitigation fees are collected to pay for negative effects to the public from development whereas LIDs are meant to redistribute benefits accrued by private owners. As such, each instrument has its own methodology described with its calculation. However, for consistency, the SEPA mitigation fee analysis and the LID feasibility analysis used the same numbers and assumptions wherever possible.~~

Both analyses use the same project costs. These costs are a subset of the 13 projects identified as the overall Pepin Creek realignment and transportation capital improvements as shown in Exhibit 26. Nine of the projects are specific to the Subarea as shown in **Error! Reference source not found.27.**

Exhibit 26. Identified Pepin Lite Capital Investments (2020\$, Rounded to the Nearest \$1,000)

Name	Pine Street Vehicular Bridge	Pine Street Pedestrian Bridge
Creek Capital Improvements		
<u>Pepin Creek Main Stem</u>	<u>\$8,136,000</u>	<u>\$8,136,000</u>
<u>Pepin Creek East / West Connection</u>	<u>\$1,508,000</u>	<u>\$1,508,000</u>
<u>Pepin Creek Downstream of Main St.*</u>	<u>\$3,439,000</u>	<u>\$3,439,000</u>
<u>Double Ditch Rd. Cross Culvert</u>	<u>\$793,000</u>	<u>\$793,000</u>
Creek Subtotal	\$13,876,000	\$13,876,000
Traffic Capital Improvements		
<u>Benson Rd. Pedestrian Improvements – South*</u>	<u>\$268,000</u>	<u>\$268,000</u>
<u>Main St. Bridge* (funded)</u>	<u>\$3,012,000</u>	<u>\$3,012,000</u>
<u>Pine St. Bridge*</u>	<u>\$2,808,000</u>	<u>\$695,000</u>
<u>Double Ditch Roadway Improvements</u>	<u>\$5,019,000</u>	<u>\$5,019,000</u>
<u>Benson Rd. Pedestrian Improvements – North</u>	<u>\$356,000</u>	<u>\$356,000</u>
<u>Benson Roadway Improvements</u>	<u>\$4,784,000</u>	<u>\$4,784,000</u>
<u>Pepin Parkway Bridge</u>	<u>\$2,651,000</u>	<u>\$2,651,000</u>
<u>Pepin Parkway Roadway Improvements</u>	<u>\$5,882,000</u>	<u>\$5,882,000</u>
<u>Main St. / Double Ditch Rd. Intersection Improvements</u>	<u>\$1,344,000</u>	<u>\$1,344,000</u>
Traffic Subtotal	\$26,124,000	\$24,011,000
Total	\$40,000,000	\$37,887,000
Total Excluding Projects Outside Pepin Creek Subarea	\$30,473,000	\$30,473,000
Total Projects Outside Pepin Creek Subarea	\$9,527,000	\$7,414,000

Exhibit 27. Sub-area Specific Projects (2020\$, Rounded to the Nearest \$1,000)

Project	Estimated Cost
Creek Capital Improvements	
<u>Pepin Creek Main Stem</u>	<u>\$8,136,000</u>
<u>Pepin Creek East / West Connection</u>	<u>\$1,508,000</u>
<u>Double Ditch Rd. Cross Culvert</u>	<u>\$793,000</u>
Traffic Capital Improvements	
<u>Double Ditch Rd. Roadway Improvements</u>	<u>\$5,019,000</u>
<u>Benson Rd. Pedestrian Improvements – North</u>	<u>\$356,000</u>
<u>Benson Roadway Improvements</u>	<u>\$4,784,000</u>
<u>Pepin Parkway Bridge</u>	<u>\$2,651,000</u>
<u>Pepin Parkway Roadway Improvements</u>	<u>\$5,882,000</u>
<u>Main St. / Double Ditch Rd. Intersection Improvements</u>	<u>\$1,344,000</u>
Total	\$30,471,000

A feasibility assessment of forming a Local Improvement District (LID) consistent with the Subarea boundaries and a SEPA mitigation analysis was conducted using the subarea specific project list (Exhibit 27). The LID Study concluded that, based on the expected benefit to the affected properties, an LID is either not feasible (costs greater than benefits) or marginally feasible (83% cost/benefit ratio).

SEPA considers a range of natural and built environment topics, including transportation. Where adverse impacts are identified, mitigation measures are applied consistent with the City’s SEPA substantive authority based on policies, plans, rules, or regulations adopted by the City such as the Comprehensive Plan, Pepin Creek Subarea Plan, and other development regulations. Fees collected to pay for mitigation measures deemed necessary to offset adverse environmental impacts cannot not also be included in GMA impact fee calculations.

The BERK study pursued traffic impacts as a means of quantifying and assessing development within the subarea. The transportation model results suggest that the expected development in the subarea will result in a significant increase in local trips – from a baseline of 83 to 6,563. 98.7% of the local trips are new; this percentage represents the maximum portion of transportation infrastructure reasonably related to development. When this impact is applied to project costs it can be divided into cost per trip as shown in Exhibit 28.

Exhibit 28. Cost per Trip Calculations

<u>Total Project Cost</u>	<u>\$30,471,000</u>
<u>Project Cost Related to Growth (98.7%)</u>	<u>\$30,085,000</u>
<u>Local Trips in Study Area</u>	<u>6,563</u>
<u>Estimated PM Peak Trips</u>	<u>1,744</u>
<u>Per Trip Project Cost Related to Growth</u>	<u>\$17,251.33</u>

Note: Project costs are rounded to the nearest \$1,000, but the per trip calculation uses the exact project cost estimate. Source: BERK, 2021.

The City can charge up to the amount reasonably related to the development creating the traffic impacts. However, the City can also supplement funding from other sources to help defray costs. The City may elect to account for other mitigation measures implemented by developers as growth occurs within the Subarea.

Funding and Financing Mechanisms (Beyond Existing Tools) to Support Expected City Contributions and Upfront Funding of Improvements

- **Sales Tax generated on development.** Sales tax is generated from the taxable sales of goods occurring within the city’s boundaries. Sales tax impacts from potential site development will be generated in two ways:
 - The initial construction of the development will generate sales tax for the full cost of supplies, material, and labor used in construction.
 - Additional residents added to the development will generate ongoing sales and use tax revenues for purchases made in the city limits.

Funding and Financing Mechanisms to Recover Funds from Development

- ~~State Environmental Policy Act Mitigation Fees.~~ SEPA grants wide-ranging authority to impose mitigating conditions relating to a project's environmental impacts. A local government's authority under SEPA to mitigate environmental impacts includes the authority to impose impact fees on a developer to pay for the mitigation of impacts on public facilities and services. In this case, the public facility or service being paid for would be the Pepin Creek downstream stabilization and creek realignment.
- **Property Owner and Developer Contributions.** In cases of large developments, the City may work with a developer to enter into a development agreement governing the development. This agreement can include obligations for the developer to pay for infrastructure necessary to support the ~~development~~development.
- ~~Local Improvement District/Utility Local Improvement District.~~ Local Improvement Districts (LIDs) are a financing tool used to require benefiting properties to finance needed capital improvements through the formation of special assessment districts. Special assessment districts permit improvements to be financed and paid for over time through assessments on the benefiting properties. Utility Local Improvement Districts (ULIDs) have the additional characteristic of allowing for utility revenue to be pledged to the repayment of the ULID debt in support of the issuance of bonds.

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Appendix A – Existing Conditions Report

Please note that the information in the Existing Conditions Report presents the best information available at the time it was issued in October 2017. Since that time some details may have changed as additional information became known. For example, the Pepin Creek Area of Influence was modified after further study. In the few areas of inconsistency, the Subarea Plan presents the best and most up-to-date information as of the time of its issuance.



Existing Conditions Report

Pepin Creek Subarea Plan | City of Lynden | October 2017

Prepared for:
Planning & Community Development Department
City of Lynden
300 4th Street
Lynden, WA 98264

Prepared by:
BERK Consulting, Inc.
Herrera Environmental Consultants

Under the direction of:
Communita Atelier

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Appendix

Critical Areas Memo – June 28, 2017

1.0 Project Overview

The Pepin Creek Subarea Plan will examine land use, financial, and environmental strategies and opportunities for the Pepin Creek Subarea, in conjunction with the Pepin Creek Realignment project. The Realignment project is a regional habitat improvement project that will move fish-bearing waters away from Double Ditch and Benson Roads into a new stream channel while increasing flood water capacity along the Creek and integrating recreational opportunities and new development. With the implementation of the Realignment project, it is the goal that drainage, water quality, and habitat will be improved and allow development in the Subarea.

This Existing Conditions Report is a first product of the Subarea Plan process and provides an overview of current conditions, challenges, and opportunities for the area, including the following topics:

1. Project Overview
 - Study Area
 - Area Context
 - Pepin Creek Project
2. Natural Environment and Infrastructure
 - Surface Water Hydrology
 - Critical Areas
 - Stormwater
 - Utilities
3. Built Environment and Planning
 - Land Use
 - Zoning and Development Standards
 - Population and Housing
 - Development Potential and Market Considerations
 - Transportation
 - Parks and Open Spaces

Frequently Used Terms

▪ **Pepin Creek Realignment project.** The engineering and environmental project that plans to re-route the majority of the flow from the East and West ditches on Double Ditch Road and the Benson Road Ditch into a consolidated channel for Pepin Creek PCSA.

Pepin Creek Subarea Plan. The planning project that will establish goals and policies for the development of the subarea.

Pepin Creek Subarea. The geography that is included in the Pepin Creek Subarea Plan.

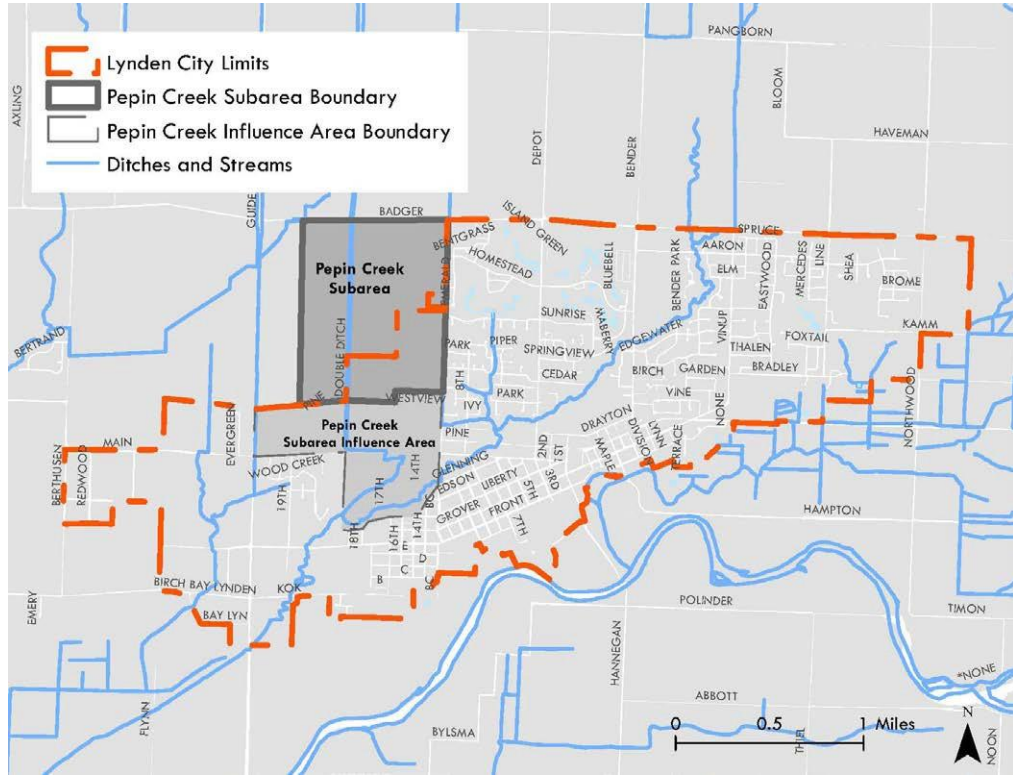
Pepin Creek Subarea Area of Influence. The area downstream of Main Street that is influenced by the hydrology changes associated with the Pepin Creek Realignment project.

Pepin Creek Project. All the work to address environmental and land use considerations related to Pepin Creek. It includes the Pepin Creek Subarea Plan and the Pepin Creek Realignment project.

1.1. STUDY AREA

The Pepin Creek Subarea (PCSA) is an approximately 460-acre area including the northwestern Lynden city limits and urban growth area (UGA). Approximately 24 percent of the Subarea, or 110 acres, is within city limits and the remaining 76 percent, or 350 acres, are in the UGA. Exhibit 1-1 shows the PCSA and its influence area in relation to Lynden city limits and the surrounding unincorporated area.

Exhibit 1-1. Pepin Creek Subarea Context Map



Source: City of Lynden, 2017; Herrera, 2017; BERK, 2017

1.2. AREA CONTEXT

The PCSA was added to Lynden’s UGA as part of the Whatcom County Comprehensive Plan Update and the City’s Comprehensive Plan Update adopted in 2016. Lynden is projected to grow by about 6,403 new residents between 2013 and 2036 (Whatcom County 2016). Although there is capacity for some of this growth in other parts of the city, the PCSA has been identified as a primary area for future residential development over the next 20 years. Without further planning, the existing conditions in the Subarea may complicate future residential development.

The PCSA has areas of high-water table and has experienced flooding. In the late 1800’s and early 1900’s, settlers rerouted the original Pepin Creek in order to farm the land in this area. Remnants of the

historic creek were moved into the “ditches” along Double Ditch Road and Benson Road. These ditches still bear fish and are used as salmon spawning grounds. They also collect stormwater from adjacent farmlands and have upstream tributary area in Whatcom County and Canada. During periods of heavy rain, these waterways are inundated with rain and overflow onto the adjacent roads and land, leading to the potential for property impacts and a number of road closures in the last 20 years. The presence of these fish-bearing ditches also constrain the roads under normal conditions, preventing roadway improvements on Benson Road and Double Ditch Road until such time that the existing waterway system can be modified through the Pepin Creek Realignment project.

In September 2016, the City imposed a development moratorium on the PCSA to halt development there until plans for the Pepin Creek project can be completed to address drainage, financial, and flooding concerns. Otherwise, premature development could affect the development of properties in the Subarea, as well as impact properties further downstream.

1.3. PEPIN CREEK SUBAREA PROJECT

As part of the Pepin Creek project, the City is planning to reconstruct the creek corridor to reduce flooding and gain other environmental benefits associated with the Pepin Creek Realignment project. As part of the Subarea plan the City will plan for phased improvements, financing, and appropriate development standards to guide residential development in the Pepin Creek Subarea. Work has already begun on the Pepin Creek Realignment project:

- A local engineering firm, Reichhardt & Ebe Engineering, Inc. (R&E), has been working on the preliminary investigation and design of the new creek corridor that runs north-south at the mid-point between Double Ditch Road and Benson Road. The new Pepin Creek corridor will accommodate the existing water in the roadside ditches, provide additional stormwater capacity to control flooding, improve water quality and fish habitat, provide a recreational amenity, and function as the downstream receiving water body for managed stormwater in the Subarea.
- The City has acquired most of the land needed for a 75- to 150 foot-wide creek corridor, and acquired an additional 40 acres, a portion of which will be used for new City parkland in the Subarea. Preliminary site investigation and design work have been completed.
- Downstream (below Main Street, shown as the Influence area in Exhibit 1-1), the City has begun investigation and design work for existing bank stabilization issues with County grant funding to design a new Main Street Bridge.

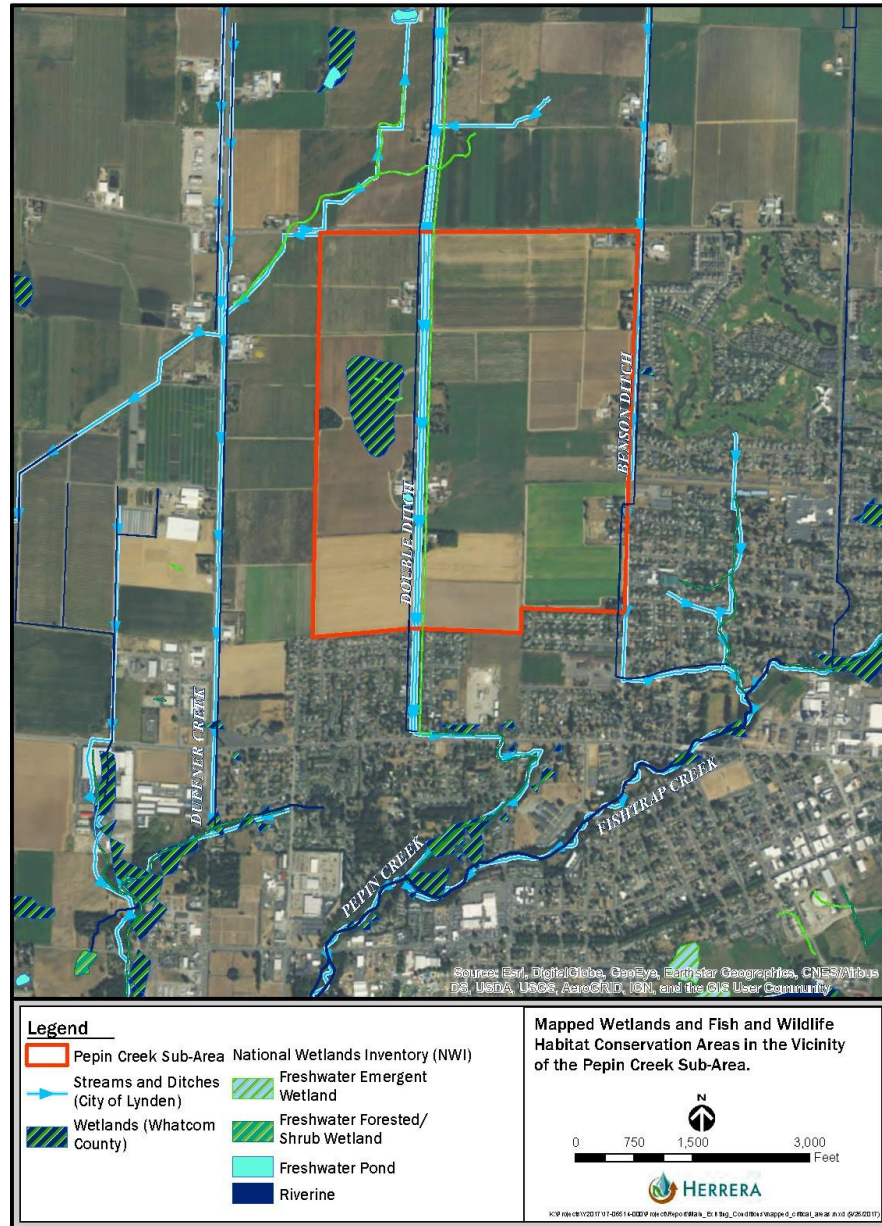
2.0 Natural Environment and Infrastructure

2.1. SURFACE WATER HYDROLOGY

2.1.1. Existing Conditions

The PCSA lies within the Nooksack River Water Resources Inventory Area 1. The Nooksack River flows east to west just south of the City of Lynden; however, the PCSA and the majority of the City lies outside the mapped Nooksack River's FEMA 100-year floodplain. Existing surface water resources in the PCSA include a number of ditches, such as Double Ditch and Benson Ditch (as shown in Exhibit 2-1), which drain to Pepin Creek and Fishtrap Creek, a tributary of the Nooksack River. Fishtrap Creek bisects the City from northeast to southwest and Pepin Creek flows through the western portion of the City from north to south. Pepin Creek is a natural stream that originates in Canada, where it is referred to as Pepin Brook, and drains farmland and other urban areas along its course. Near the US-Canada border, Pepin Creek is channelized and flows south in two parallel channels, known as West Double Ditch and East Double Ditch, along Double Ditch Road. A flow splitter maintained and operated by Whatcom County splits the flow into the two ditches. West and East Double Ditch flow south through the PCSA and eventually join the more natural drainage course of Pepin Creek south of Main Street. Benson Ditch also originates just north of the US-Canada border and flows south along Benson Road until it reaches Isom Elementary School, where the ditch is directed east towards Fishtrap Creek.

Exhibit 2-1. Mapped Critical Areas in the PCSA and vicinity



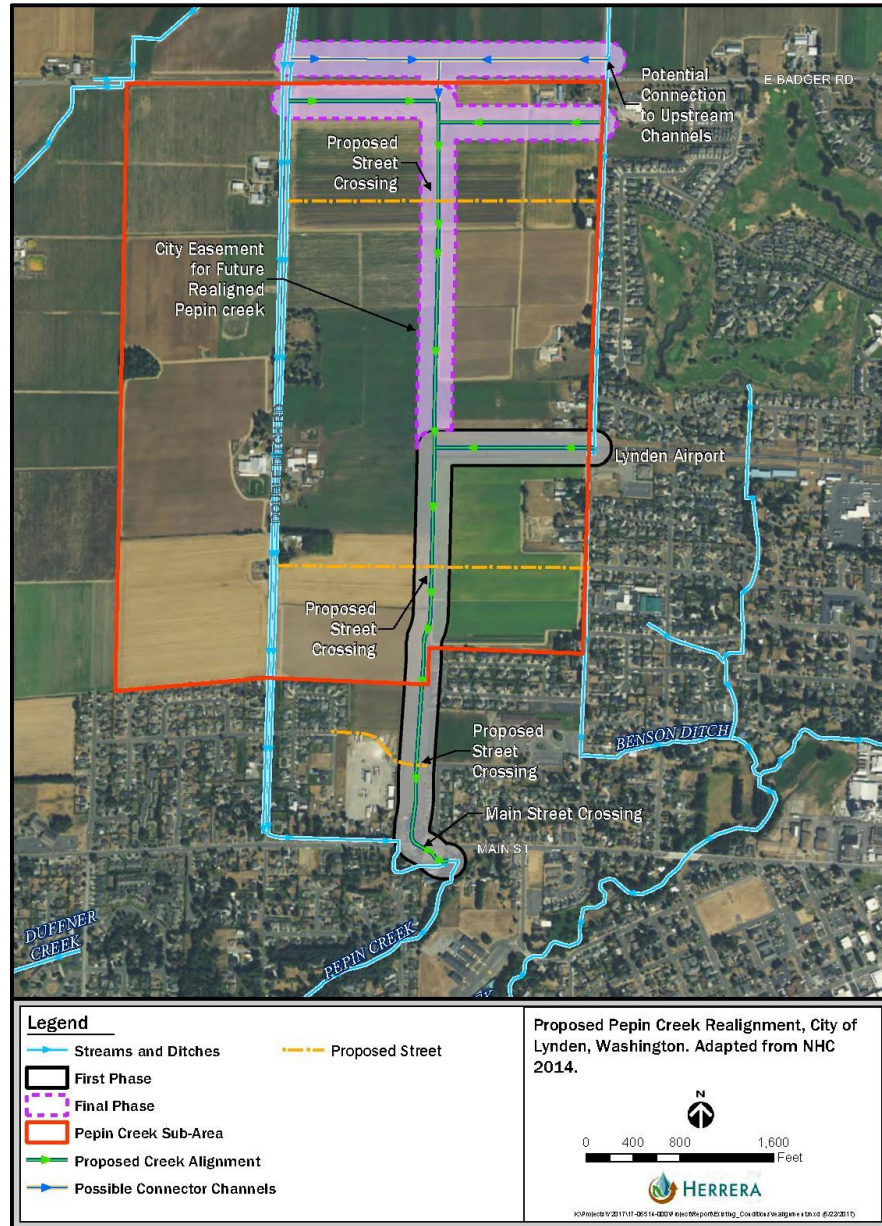
2.1.2. Proposed Pepin Creek Realignment

The Pepin Creek Realignment project would realign and join Benson Ditch with West and East Double Ditch to create a restored Pepin Creek through the PCSA (see Exhibit 2-2). The primary goals of the proposed Pepin Creek realignment are to allow the full arterial street construction of Benson and Double Ditch Roads, improve in-channel and riparian habitat, and to provide significant relief from flooding by providing 100-year flood conveyance. The City has secured a majority of a 150-foot wide right-of-way (ROW) easement to serve as the probable corridor for the realigned creek channel, running north to south through the PCSA along the approximate mid-point between Double Ditch and Benson Roads (see Exhibit 2-2).

The Pepin Creek Realignment project is separate from, but interconnected with, the PCSA Plan. The realignment project has received some separate dedicated funding, is being designed by a separate engineering consultant, Reichhardt & Ebe Engineering, Inc. (R&E), and is likely to be phased with the full development of the PCSA. And yet, the new Pepin Creek channel must be integrated within the PCSA and must be sized to convey the runoff from a built-out PCSA without worsening flooding or erosion conditions off-site or downstream. Anticipated project phasing for both the Pepin Creek Realignment project as well as the PCSA will be evaluated and proposed as part of the final PCSA Plan.

Several concepts have been considered for the realignment project, starting with recommendations provided by the Washington Department of Fish and Wildlife (WDFW) in 2012 and further evaluated in 2014 with the Pepin Creek Relocation Feasibility Analysis (Northwest Hydraulic Consultants (NHC) 2014). A final design concept for the realigned Pepin Creek channel is still being developed (Zylstra personal communication September 22, 2017) and is anticipated to be ready in late fall of 2017. This section discusses some anticipated concepts for the realigned channel and riparian corridor, given previous analyses completed by the City and their consultants and based on preliminary information and communications exchanged between the City, their consultants, and this PCSA planning team.

Exhibit 2-2. Proposed Pepin Creek Realignment



Estimated Pepin Creek Hydrology

Peak flows for Pepin Creek have been estimated based on a flood frequency analysis performed (NHC 2014) on historical data collected from the USGS Fishtrap Creek at Front Street gauge #12212050 and extrapolations based on basin area (North Lynden Watershed Improvement District [NLWID] 2009). Exhibit 2-3 below provides a summary of these estimated flows. Additional flow data collection along Pepin Creek and the Double Ditch and Benson Road drainages has been completed since the NHC 2014 analysis; however, this data was not yet available at the time this report was completed.

Exhibit 2-3. Estimated Pepin Creek Flows

RECURRENCE INTERVAL (YEARS)	FISHTRAP CREEK AT FRONT ST (USGS GAGE)	PEPIN CREEK AT BADGER RD	BENSON DITCH AT BADGER RD	PEPIN CREEK AT CONFLUENCE WITH FISHTRAP CREEK (EXISTING BASIN)	PEPIN CREEK AT CONFLUENCE WITH FISHTRAP CREEK (WITH FUTURE BENSON CREEK)
(BASIN AREA, SQ.MI.) ¹	(37.15)	(6.55)	(1.65)	(6.90)	(9.09)
1.01	212	46.4	13.8	48.5	61.8
2	654	143	42.6	149	190
5	853	188	56.3	196	250
10	966	214	64.7	224	285
25	1,095	244	74.3	256	324
50	1,183	265	80.7	277	351
100	1,265	284	86.6	297	376
200	1,342	301	91.9	315	399
500	1,442	324	98.7	338	429

¹ Basin Area is derived from basins delineated for the NLWID Watershed Plan (2009).

One important consideration for the realignment project is the potential for existing bank erosion problems downstream of Main Street to be worsened by increased flows resulting from the realignment project. According to the NHC 2014 analysis, the re-routing of the Benson Ditch drainage into Pepin Creek, combined with the possible loss of upstream flood storage from fields flooding less frequently, could cause the downstream reach of Pepin Creek to experience a 25 to 30 percent increase in the peak annual discharge.

Another important consideration is the need to balance the benefits of upstream conveyance improvements and reduced flooding of fields and roadways upstream with adequate flood retention or energy dissipation somewhere along the new realigned Pepin Creek channel to ensure that flooding or erosion problems are not worsened downstream of Main Street. The downstream preliminary analysis currently being completed by R&E for the realignment project will evaluate this (Zylstra personal communication April 7, 2017).

Because any future development of the PCSA will be subject to the Washington State Department of Ecology’s Stormwater Management Manual for Western Washington (Ecology SWMMWW 2012), all stormwater will be managed to provide flow control (in addition to runoff treatment for water quality) consistent with a historical forested land cover condition. As a result, the development of the PCSA should

not increase peak flows and, in fact, decrease peak flows relative to current conditions for that part of the basin being redeveloped from farmland into urban development.

Channel Connections on the North Side of the PCSA

A challenge for the upstream portion of the realigned channel design involves evaluating how to connect Pepin Creek at Double Ditch Road with the head of the realigned channel that will flow south through the PCSA. Current options being evaluated (see Exhibit 2-2) include routes and culverts connecting the two Double Ditch drainages on either the north or the south side of Badger Road. Previous analyses have recommended that if a north-side route is selected and the two double ditch drainages were connected on the east side of Double Ditch Road, upstream of Badger Road, then a roughly 28-foot-wide (WDFW 2012) to 45-foot-wide (NHC 2014) culvert or bridge would have to be installed under Badger Road approximately mid-way between Badger Road and Double Ditch Road, to convey Pepin Creek into the PCSA. However, if a south-side route is selected, and the two double ditch drainages were connected on the east side of Double Ditch road, downstream of Badger Road, then a roughly 16-foot-wide (WDFW 2012) to 35-foot-wide (NHC 2014) culvert or bridge would have to be installed under Double Ditch Road to convey flows to the east ditch downstream of Badger Road and east towards the realigned creek channel. Ditch flows heading to the east along the south side of Badger Road could be blocked off in order to direct all flow towards the realigned creek channel in the PCSA. The west ditch on the south side of Badger Road would also need to be blocked off to convey all flow through the new culvert to the realigned creek channel. Under the south side scenario, previous recommendations have included the potential installation of overflow culverts under Badger Road as another means of handling peak flood flows.

A new culvert under Benson Road would also be needed to connect the Benson Ditch located on the east side of Benson Road to the selected realigned Pepin Creek Corridor, whether north or south of Badger Road.

Channel Geometry

The channel geometry for the realigned Pepin Creek channel will need to be designed according to several important design criteria. First, it must achieve the goals of providing adequate conveyance capacity for reduced flooding frequency, and improved channel and riparian habitat. However, the design must also consider several other driving factors including topography, groundwater elevations, and sediment supply.

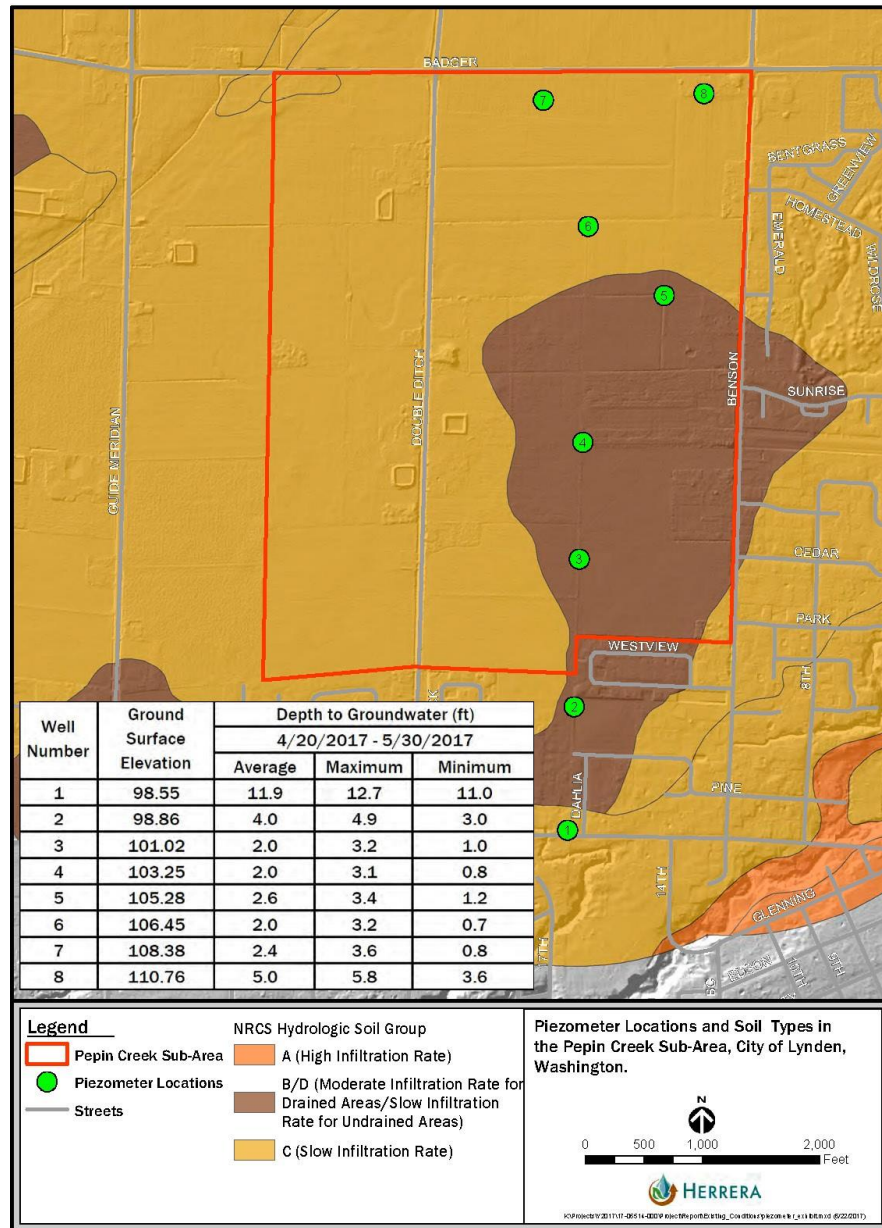
Preliminary hydraulic design calculations have assumed that the new connector and realigned channels would be capable of conveying flows up to and including a 100-year flow without flooding adjacent fields. However, the cross-sectional shape and slope required to achieve this level of conveyance has not been fully studied and may need to change along the realigned channel due to the changes in topography and depth to groundwater. Near Badger Road, the topography is mostly flat, and, according to recent spring 2017 measurements (R&E 2017), groundwater elevations are likely to be just a few feet below the current ground surface (see Exhibit 2-4). Further downstream, near Main Street, Pepin Creek drops into the Fishtrap Creek valley and similarly, groundwater elevations are several feet deeper than the adjacent ground surface (see Exhibit 2-4). As a result, the channel cross section in the northern portion of the PCSA will likely need to be somewhat wider to fully contain flood flows at a shallower depth. As the depth to groundwater increases relative to the adjacent ground, the channel can

deepen. The total channel length of the connector channel at the northern portion of the project is approximately 1,200 feet and has been estimated to have a water surface elevation slope of about 0.1 percent (WDFW 2012).

The realigned channel flowing north to south through the PCSA would be approximately 6,000 feet long and, depending on the cross-section geometry selected and level of excavation below existing ground, could have a water surface elevation slope that ranges from 0.2 percent to 0.23 percent given the local topography and likely channel excavation depths (NHC 2014). Previous analyses estimated that these slopes would correspond to a multistage channel with potentially two or three stages (NHC 2014). A multi-stage channel could be designed with a low-flow channel that has adequate depth for fish passage during low flows and additional bankfull and flood stages that provide additional storage for higher flows. For example, in 2014, NHC estimated that a three-stage channel could have an 8-foot-wide, 2-foot-deep low flow channel, a 32-foot-wide, 3-foot-deep bankfull channel and then a broader 64-foot-wide floodplain (NHC 2014).

Finally, from a habitat and geomorphic perspective, it is likely that the native substrate in the PCSA will contain fine-grained sandy loamy material (NLWID 2009). This, combined with an anticipated lack of bedload sediment supply to the reach, will inform how large wood, vegetation, and other habitat features can be used within the channel design to retain sediment and promote channel and bank stability. The channel design is currently being developed.

Exhibit 2-4. Average Groundwater Depths in the PCSA for April and May 2017 (R&E 2017)



2.2. CRITICAL AREAS

2.2.1. Wetlands

Several wetlands were previously identified in the PCSA. The National Wetlands Inventory (NWI) identifies emergent wetlands lining the eastern ditch that conveys Pepin Creek (Double Ditch East), and two wetlands located west of Double Ditch Road, including a ponded wetland with aquatic bed vegetation and an emergent wetland within an agricultural field (USFWS 2017). The ponded wetland and wetland west of Double Ditch road are also identified on the Whatcom County critical areas wetland map in the same general locations (Whatcom County 2017).

Soil survey maps show that about two-thirds of the site is rated as 88 percent hydric, corresponding to the Hale silt loam map unit, and about one-third of the site is rated as 34 percent hydric, corresponding to the Edmonds-Woodlyn loams map unit (Natural Resources Conservation Service [NRCS] 2017). Hydric soil mapping indicates a potential for wetlands to occur within the PCSA, as hydric soils are an indicator of wetland presence. However, the NRCS soil mapping also indicates that the Hale silt loam map unit is drained. Therefore, wetland hydrology may not be present within this unit depending on the extent of drained conditions. A formal wetland determination is necessary to confirm wetland presence, including an evaluation of hydric soil, wetland hydrology, and hydrophytic vegetation indicators.

During a reconnaissance-level site visit, the mapped emergent wetland west of Double Ditch Road was confirmed, which resembles a depressional and swale-like feature with saturated soil, localized ponding, and emergent vegetation (Wetland A, see Exhibit 2-1). The swale connects to the western ditch that conveys Pepin Creek. In addition, localized depressions containing surface water and/or saturated soils were observed within agricultural fields, indicating areas of potential wetlands, but a detailed investigation was not possible due to limited access. In addition, wetland habitat conditions were commonly observed along ditches occurring within the PCSA. Based on the potential for a high groundwater table during the early growing season and presence of mapped hydric soils, it is possible that other wetlands are present in the study area. Further investigation and a formal wetland determination followed by delineation is necessary to determine wetland presence.

A preliminary rating of Category IV applies to Wetland A (see Exhibit 2-1) and wetlands lining ditches in the PCSA, based on moderate level of functions for water quality improvement, low to moderate level of hydrologic function and low to moderate level of habitat functions. According to the Hydrogeomorphic Classification system, Wetland A is a depressional wetland and ditch wetlands are either depressional or riverine (Brinson 1993). Wetland A and ditch wetlands are palustrine emergent wetlands according to the USFWS classification system (Cowardin et al. 1979). Standard wetland buffers are based on classification (rating) (Lynden Municipal Code [LMC] 16.16.300). For Category IV wetlands, the standard buffer width is 25 feet.

Additional information on wetlands is provided in the *Critical Areas Memorandum – Wetlands and Fish and Wildlife Habitat Conservation Areas* provided in Appendix A (Herrera 2017).

2.2.2. Fish and Wildlife Habitat Conservation Areas

Fish and wildlife habitat conservation areas (FWHCAs) noted during the site reconnaissance include streams and ditches in the PCSA. These aquatic resources include WDFW priority habitats for federal and state listed species (WDFW 2017a), and documented habitat for locally important species according to the Lynden Municipal Code (LMC). Wetland habitats that are also designated as fish and

wildlife habitat conservation areas are subject to the wetland requirements established in LMC 16.16.260 through 16.16.310; they are discussed in the wetland section above.

The terrestrial habitats in the study area are composed of agriculture, grassland, and pasture which provide habitat for a variety of bird species but are not documented WDFW Priority Habitats or habitats for species of local importance according to LMC.

The Double Ditch and Benson Ditch systems generally consist of manmade roadside or farm ditches from the US-Canada border to Main Street in Lynden. These reaches are characterized as straight, prismatic channels with relatively low roughness, typically grass-lined and armored with little or no shading or flow complexity (NLWID 2010). The ditch systems were constructed beginning in the late 19th Century to drain wetlands and support agricultural expansion into the area north of the Nooksack River (Hawley 1945 as cited in NHC 2014). The National Wetlands Inventory (NWI) identifies Double Ditch West and Benson Ditch as deep water habitats occurring in the study area (USFWS 2017).

Pepin Creek originates in Canada and flows southwest to the U.S./Canada border. Just south of the border, Whatcom County operates a flow splitter that directs flow into both ditches. Between the border and Lynden’s Main Street, Pepin Creek is conveyed by two parallel farm ditches, referred to herein as Double Ditch West and Double Ditch East. The two ditches join at Main Street and flow along the north side of Main Street before passing through a box culvert. Downstream of Main Street, the stream becomes steeper and more confined before discharging into Fishtrap Creek (NHC 2014). According to the Whatcom County fish habitat conservation areas map, Double Ditch West and Double Ditch East are fish-bearing streams with current know distribution (Whatcom County 2017). Documented presence of salmonids in Double Ditch East includes fall Chinook salmon (spawning), winter steelhead (spawning), coho salmon (rearing), and fall chum salmon (WDFW 2017b). In addition, the presence of bull trout is presumed. Fall chum salmon and bull trout presence is presumed in Double Ditch West; and modeled presence of salmonids includes winter steelhead, bull trout, pink salmon, and fall Chinook salmon (WDFW 2017a). In addition, two species of rare sucker, the Nooksack Dace and Salish Sucker have been observed in Double Ditch (NLWID 2010). Federal and state listing status of these species is shown in Exhibit 2-5.

Exhibit 2-5. Federal and State Listing Status of Fish in the Study Area

FISH SPECIES	FEDERAL STATUS	STATE STATUS
Puget Sound Chinook	Threatened	Species of Concern
Puget Sound steelhead	Threatened	none
Bull trout	Threatened	Species of Concern
Coho salmon	none	none
Pink salmon	none	none
Fall chum	none	none
Salish sucker	none	State monitored
Nooksack dace	none	none

Source: WDFW 2017c

Benson Ditch is generally a single roadside ditch along Benson Road that begins south of the U.S./Canada border. Benson Ditch flows south along the east side of Benson Road until just south of the Lynden airport, where it crosses to the west side of the road. The ditch is directed toward Fishtrap Creek at Isom Elementary School. According to the Whatcom County fish habitat conservation areas map, Benson Ditch has presumed potential/historic distribution of fish (Whatcom County 2017). Benson Ditch is modeled habitat for winter steelhead, pink salmon, coho salmon, and bull trout (WDFW 2017b). The ditch is typically dry from mid-June to early October (NLWID 2010).

In addition, several agricultural ditches with seasonal flow were observed during the site reconnaissance in Spring 2017 which are tributaries to Double Ditch East and Benson Ditch. Based on the documented, presumed, or modeled presence of fish in Double Ditch East and Benson Ditch, tributary ditches provide potential seasonal habitat for anadromous or resident fish populations. According to LMC 16.16.330, Double Ditch East and Double Ditch West are Class A streams based on documented presence of listed species. Benson Ditch and several of the tributary ditches in the project area are Class B streams based on potentially accessible habitat for fish. Class A and B streams have standard buffer widths of 150 feet and 100 feet, respectively.

Additional information on FWHCAs is provided in the *Critical Areas Memorandum – Wetlands and Fish and Wildlife Habitat Conservation Areas* provided in Appendix A (Herrera 2017).

2.2.3. Frequently Flooded Areas

Although there are no mapped FEMA special flood hazard zones for Pepin Creek or Benson Ditch, these areas have recently experienced some overland flow flooding, as described below.

Peak Flood Events

There have been recent flood events in the Pepin Creek and Benson Ditch basins. Most notably, there were severe rain-on-snow events that occurred in January 2005 and January 2009. The January 2009 flood affected the entire Nooksack River valley and is the flood of record (note, of 18 years of record between 1999 and 2016) for the USGS gauge #12212050 on Fishtrap Creek at Front Street. In contrast, flood mapping completed by the Whatcom Conservation District suggests that the 2005 event caused the second greatest extent of flooding for the Pepin Creek subbasin; however, the 2005 event only ranked 5th of the recorded peaks at the Fishtrap Creek gauge. Anecdotal information suggested that the particular problem faced by the Pepin Creek system is that, unlike Fishtrap Creek, Pepin Creek is primarily composed of roadside ditches that fill with snow and then likely receive additional snow cleared from adjacent roadways. The many driveway culverts along Double Ditch Road likely further exacerbate conveyance and flooding problems during any peak rainfall event, not to mention rain-on-snow events.

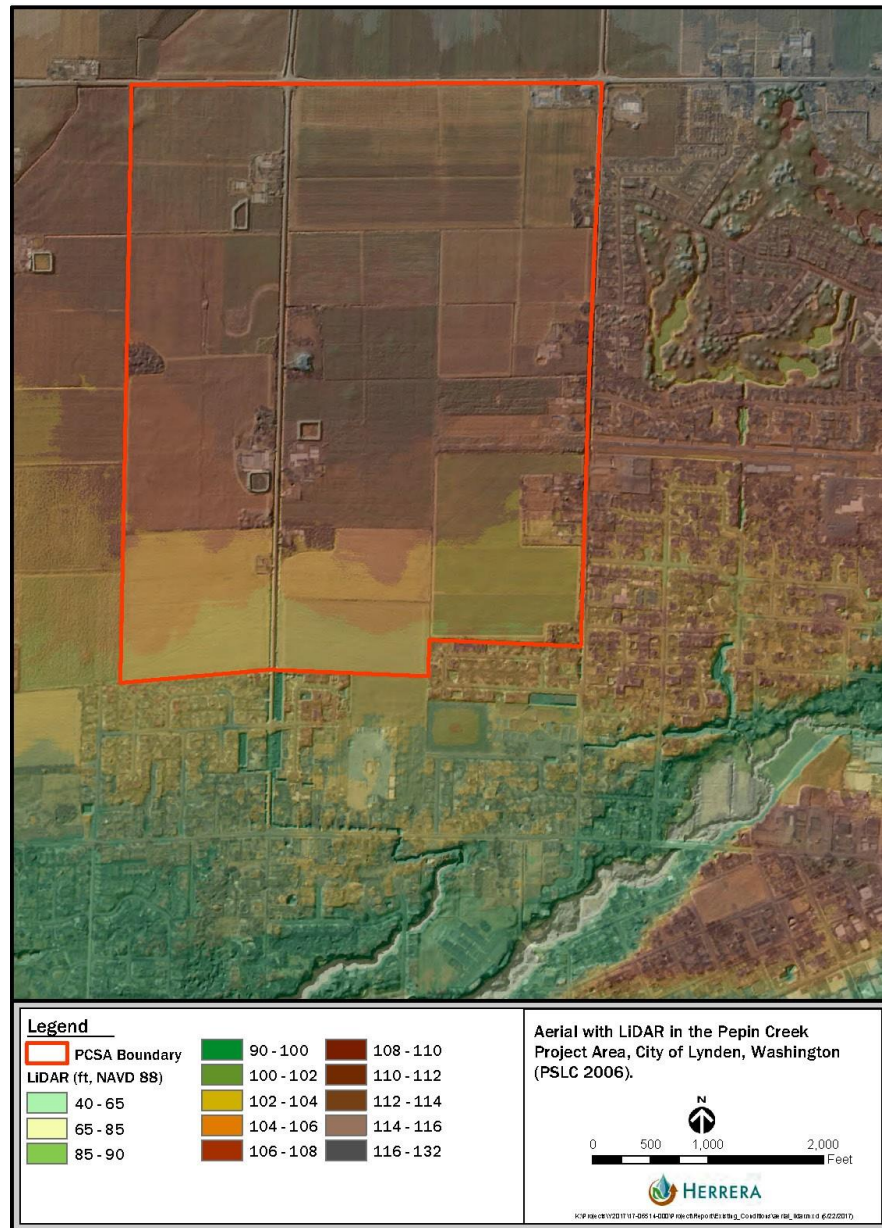
Flooding Patterns

In their 2014 evaluation, NHC noted many conversations with the City of Lynden, R&E Engineers, and the community, including inundation mapping completed by the Whatcom Conservation District, which describe the flooding patterns of Pepin Creek in the PCSA. During large floods like the 2005 or 2009 events, Pepin Creek overtops its banks at many locations between Main Street and the Canadian border. There are many culvert crossings and reaches with lower banks that experience overtopping. Flood flows from Double Ditch will spread to the east across adjacent fields and join Benson Ditch at Benson Road. As

such, flooding tends to result in an exchange of floodwaters between the Pepin Creek, Benson Road, and Fishtrap Creek basins.

A review of available LiDAR data (Puget Sound LiDAR Consortium [PSLC] 2006) (see Exhibit 2-6) indicates there is a swale remnant heading in the northeasterly to southwesterly direction crossing the area of Double Ditch Road just north of Badger Road that may have conveyed some flood flow to the west away from Double Ditch. However, according to NHC (2014), the general flow direction of Pepin Creek floodwaters in the PCSA vicinity is from West to East, where the farm fields between Double Ditch Road and Benson Road are inundated. From there, some of this flood water heads south towards Pepin Creek at Main Street, while much of it enters Benson Ditch and flows south to a cross-culvert under Benson Road near Diamond Lane. This additional floodwater contribution to Benson Ditch and the cross-culvert under Benson Road can aggravate downstream roadway overtopping and flooding of the area to the south east of the intersection of Benson Road and Badger Road. Further, the low point at the Benson Road ditch near Diamond Lane corresponds to a location where floodwaters can flow through the Homestead Development and pass through the Lynden Airport before returning to Fishtrap Creek between Depot and Benson Roads.

Exhibit 2-6. Aerial with LiDAR in the Pepin Creek Project Area



Potential Impact of the Realignment Project on Flooding

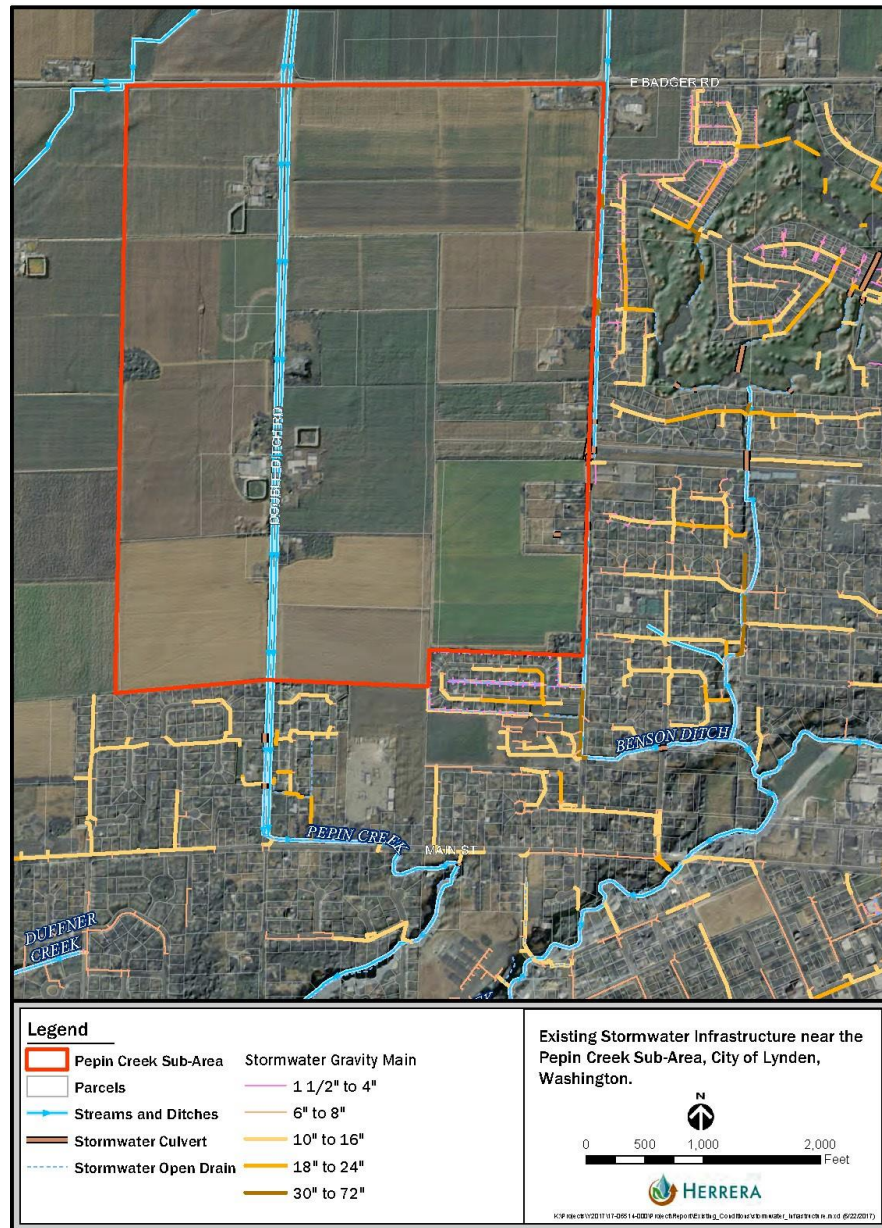
As is typical of agricultural areas where creeks have been straightened and realigned around fields or roadways and ditches have been excavated to drain water away from agricultural fields, the surface hydrologic patterns are complex and difficult to monitor or model. Detailed and precise topographic information would be required to inform a numerical model attempting to evaluate existing flow patterns under various flow conditions, and given the relatively flat topography, fairly small and even localized changes (such as additional ditch maintenance one year, or additional roughness imposed by changing the crop vegetation type another year) can influence flooding patterns.

To the extent that the Pepin Creek realignment project can successfully separate creek inflows from roadway runoff downstream of Badger Road, reduce the overtopping problems experienced at low spots and driveway culverts, and provide improved conveyance for Pepin Creek, flooding problems are likely to be reduced. However, flooded agricultural fields could provide significant flood storage during peak rainfall events that may shields downstream areas along Pepin Creek (downstream of Main Street) from experiencing the full force of these peak flows. It will be important for the PCSA planning efforts and the Pepin Creek realignment project to acknowledge and prepare for this possible change, and consider where and how much flood control may be needed

2.3. STORMWATER

The City Public Works Department is responsible for the operation and maintenance of the City’s public stormwater collection and conveyance system. Stormwater is captured by catch basins distributed across the city and conveyed through a network of ditches and pipes ranging in size from six to 72 inches (see Exhibit 2-7). Outfalls discharge to various water bodies and drainage ditches. There is no City-owned pipe conveyance infrastructure in the PCSA. Within the PCSA, surface drainage and sub-surface drainage (via agricultural drain tiles) is directed to the double ditches of Pepin Creek and Benson Ditch.

Exhibit 2-7. Stormwater Facilities in Pepin Creek Subarea



2.4. UTILITIES

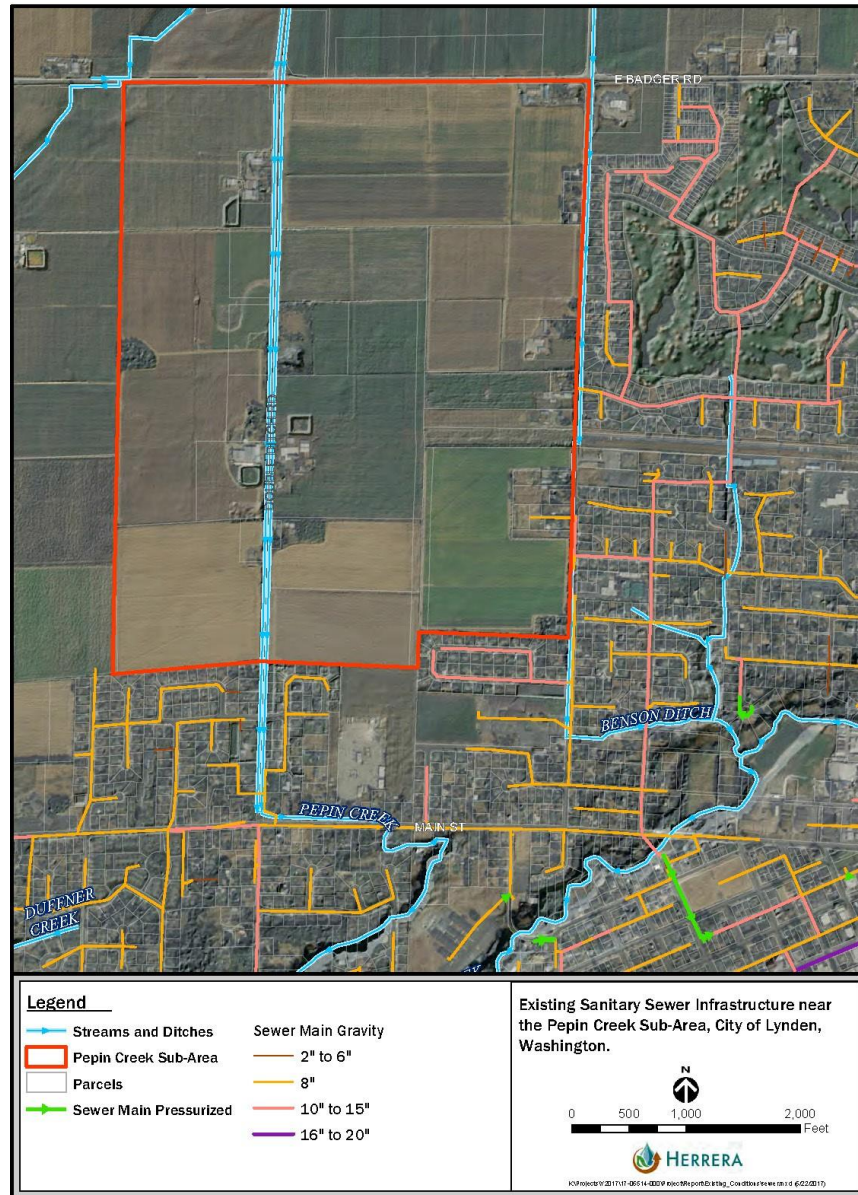
The City Public Works Department is responsible for the operation and maintenance of the City's sanitary sewer and water systems.

2.4.1. Sanitary Sewer

Sanitary sewer service is provided by the City via a citywide collection and conveyance system and a wastewater treatment plant (WWTP) located at the end of South 6th Street near the Nooksack River. According to the 2016 General Sewer Plan (BHC Consultants 2016), the existing WWTP was designed for an annual average flow of 1.82 million gallons per day (MGD), a maximum monthly flow of 2.18 MGD, and a peak hourly flow of 6.82 MGD. The WWTP capacity was evaluated at the 6-year (2022) and 20-year (2036) planning horizons to determine its ability to treat incoming wastewater at predicted loadings while meeting effluent limits. While future flow capacity is not expected to be an issue, future projections suggest that total suspended solids (TSS) loadings may exceed design capacity on both an average annual and maximum monthly basis. The Sewer Plan recommends that the City look at re-rating the influent solids loading capacity for the WWTP. This information is important for the PCSA planning effort because it is estimated that the bulk of the City's future growth will occur within the PCSA.

The City owns and operates over four miles of force mains and 57 miles of gravity sewer. Pipe sizes range from three inches to 24 inches and are comprised of polyvinyl chloride (PVC), ductile iron, asbestos cement, and vitrified clay. Due to the relatively flat terrain and Fishtrap Creek, which bisects the city, the sanitary collection system includes 14 pump stations to convey wastewater from more distant areas or areas with lower elevation to the WWTP. There are no sanitary sewer lines that currently service the PCSA. The closest sanitary main is the 12-inch PVC line that runs north-south along North 8th St and Emerald Way to the west of the PCSA. See Exhibit 2-8.

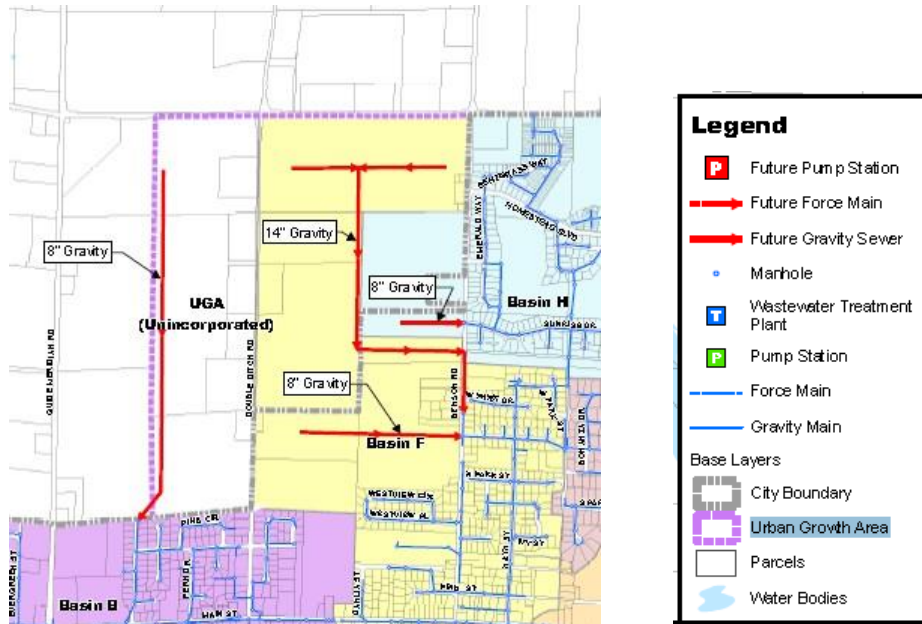
Exhibit 2-8. Existing Sanitary Sewer Infrastructure in the Pepin Creek Project Area



Capital projects for the 20-year planning period include projects to meet projected demand, operational improvements, and refurbishment of existing facilities.

Lynden's 2016 General Sewer Plan's projected domestic wastewater loadings for 2022 and 2036 include the City and UGA population. A portion of the PCSA study area is in Basin H and a portion is in Basin F. The rest of the study area is outside of the service area boundary for the General Sewer Plan 6-Year Capital Improvement Plan (CIP). Future sewer extensions identified in the General Sewer Plan include future gravity sewer lines along the western border of the study area, and within Basin F where it overlaps with the study area (see Exhibit 2-9).

Exhibit 2-9. General Sewer Plan Future Sewer Extensions for Pepin Creek Subarea



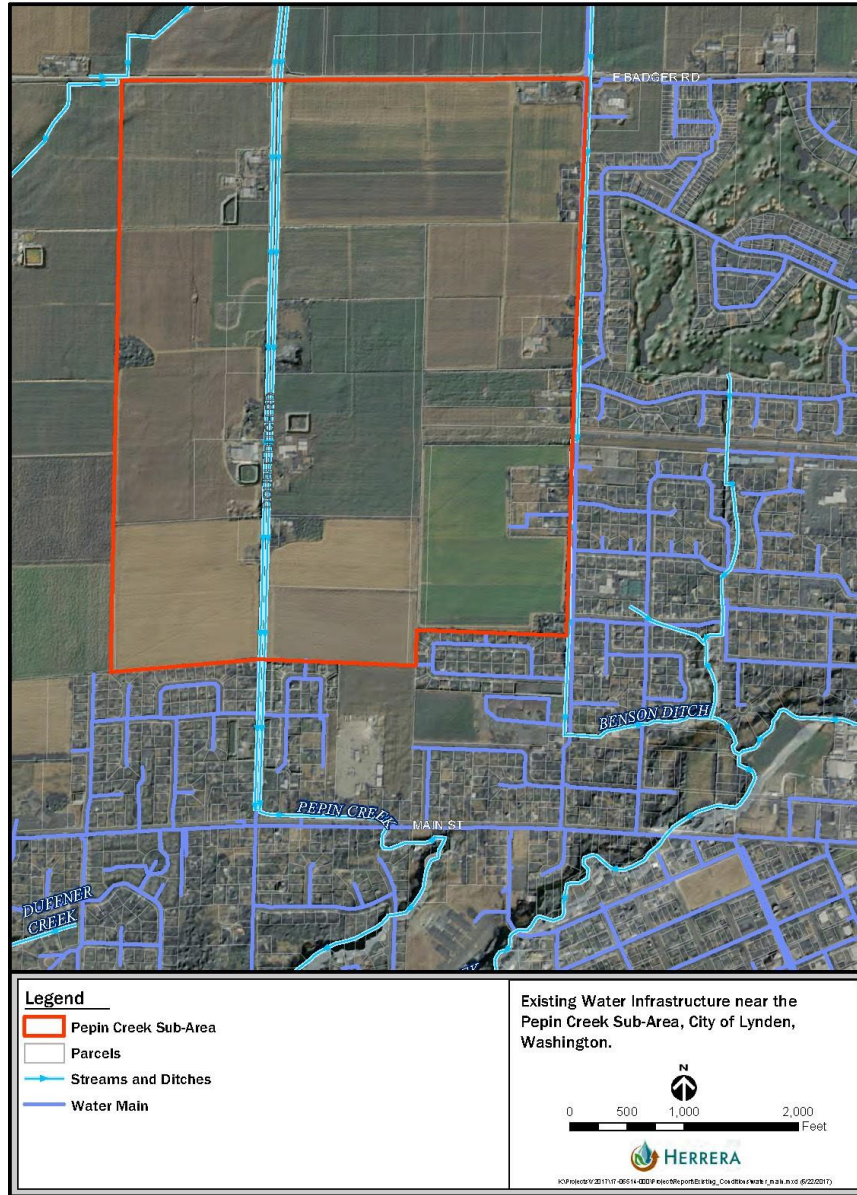
Source: City of Lynden General Sewer Plan, 2016; BHC Consultants, 2016

2.4.2. Water Service

Potable water is provided by the City to most residents in Lynden. The City's source of potable water is from an intake on the Nooksack River upstream of the Hannegan Road bridge. There are also several dozen private water supply wells within the city limits, including six wells in the PCSA. These wells are privately owned and are used as irrigation or potable water for residences not yet served by the City.

There are no municipal waterlines that enter the PCSA. The closest main lines are the 12-inch PVC line that runs east-west along Main Street south of the PCSA and the 12-inch PVC and ductile iron line that runs north-south along Benson Road immediately to the west (See Exhibit 2-10).

Exhibit 2-10. Existing Water Infrastructure in the Pepin Creek Project Area



Twenty-year capital planning in the 2017 Comprehensive Plan includes projects to improve the system and acquire additional water rights

3.0 Built Environment and Planning

3.1. LAND USE

Land within the PCSA is predominantly in agricultural use for crops and dairy, almost 85 percent, with the remaining land predominantly in single family residential use. Exhibit 3-1 shows acreages by current land use category and Exhibit 3-2 shows the current land uses, reflecting Whatcom County Assessor’s data as adapted by the City of Lynden.

Exhibit 3-1. Current Land Use Acreages

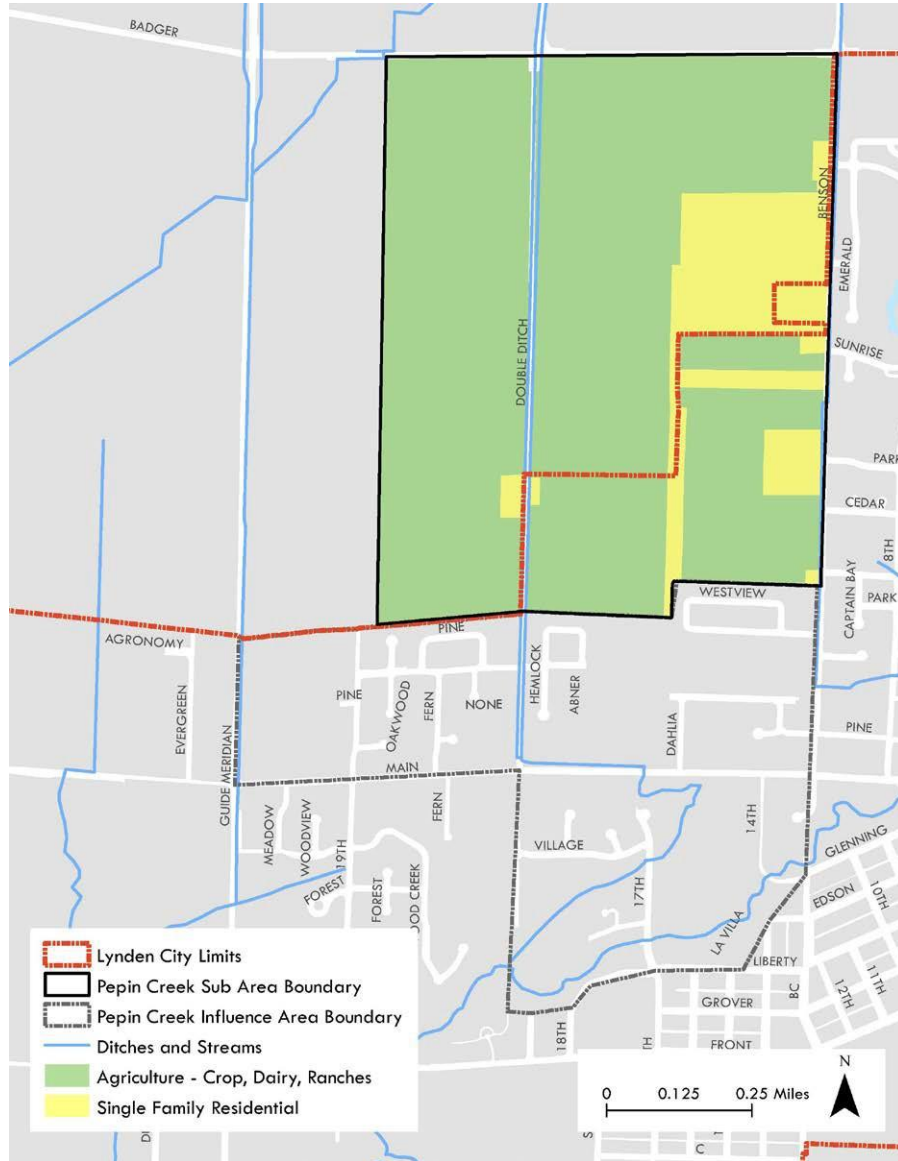
LAND USE CATEGORY	ACRES	PERCENTAGE
Agriculture – Crop, Dairy, Ranches	390.46	85.7%
Church	0.02	0.0%
Single Family Residential	65.37	14.3%
TOTAL	455.85	100.0%

Source: City of Lynden, 2017; Whatcom County, 2017; BERK, 2017.

Within the PCSA, approximately 89% of the land is owned by private landowners, while the remainder is owned by the City of Lynden. Exhibit 3-3 shows the publicly-owned parcels (in blue), owned by the City of Lynden. The large public parcel in the northeast is planned to be a public park and will be incorporated into plans for the Subarea and the Pepin Creek Realignment. Additional public parcels include rights-of-way for utilities and a runout area for the airport located just to the east of the study area (between Sunrise and West Park Drives).

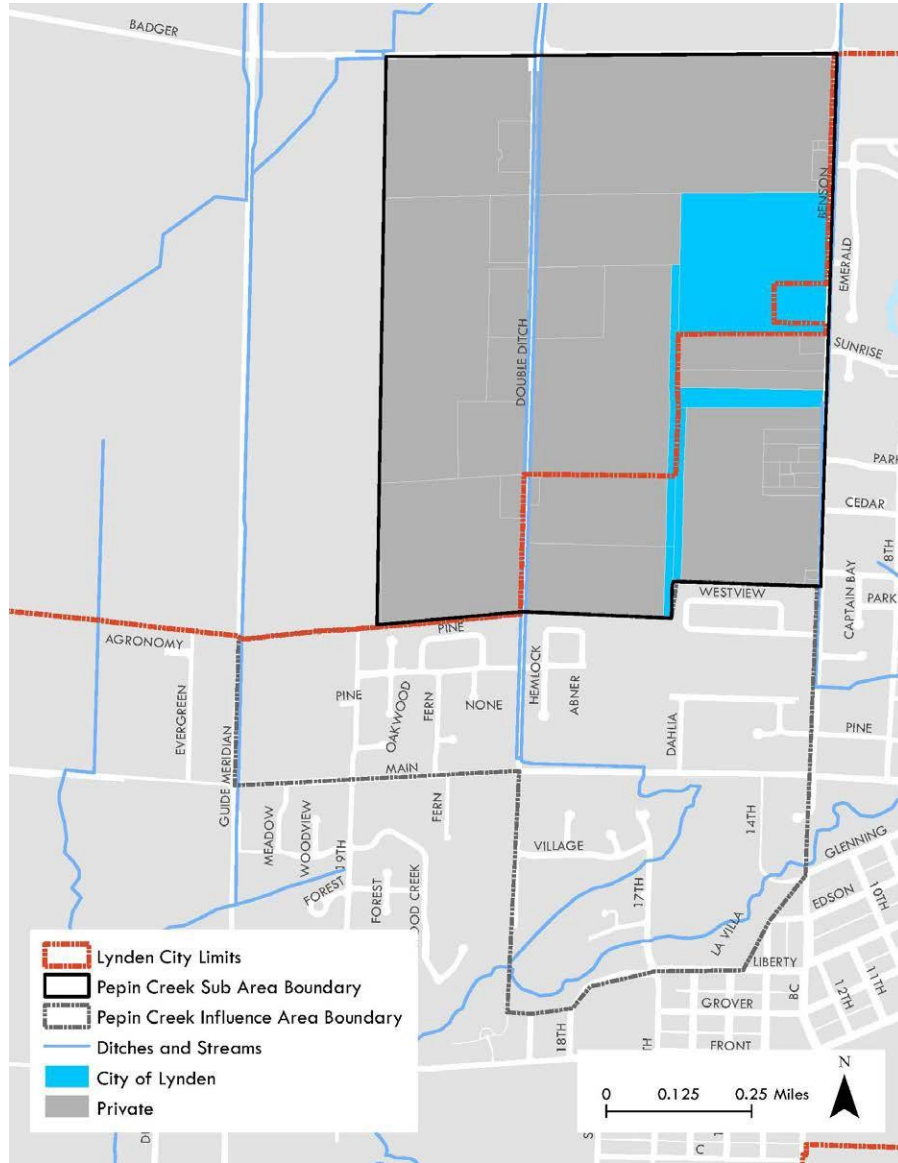
With agricultural uses predominating, the land is largely undeveloped. Exhibit 3-4 shows the footprints of all existing structures in the Pepin Creek Subarea. The structures are predominantly single-family residences and agriculture-related buildings.

Exhibit 3-2. Pepin Creek Subarea Current Land Use



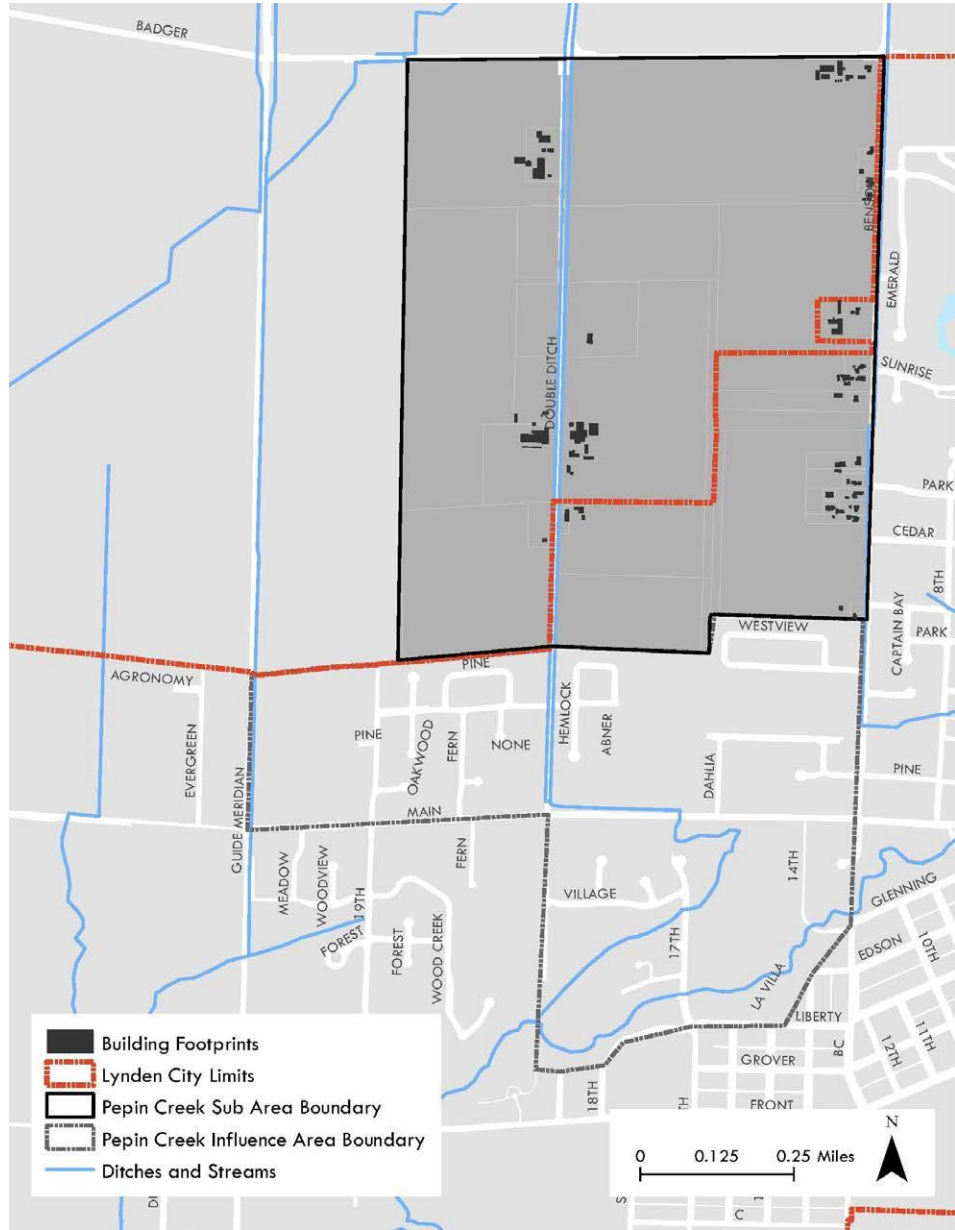
Source: City of Lynden, 2017; Whatcom County, 2017; BERK, 2017

Exhibit 3-3. Pepin Creek Subarea Ownership



Source: City of Lynden, 2017; Whatcom County, 2017; BERK, 2017

Exhibit 3-4. Pepin Creek Subarea Building Footprints



Source: City of Lynden, 2017; BERK, 2017

3.2. ZONING AND DEVELOPMENT STANDARDS

3.2.1. Zoning

The UGA land currently regulated by Whatcom County zoning is given a future land use designation of Low Density Residential (RL) and Medium Density Residential (RM) in the City of Lynden Comprehensive Plan. The RL zone typically leads to zoning for a lot area between 7,200 and 10,000 square feet and between four and eight units per acre. The RM zone typically results in zoning that allows for between two and 50 units per building, with development densities between eight and 24 units per acre.

The Whatcom County Comprehensive Plan anticipates residential development; however, the zoning has not been amended yet by the County, and the UGA land is zoned Agricultural (76 percent of the PCSA). Upon annexation, the area would receive a City zone consistent with the guidance of the pending Subarea Plan.

Land in the city limits is subject to City zoning. City territory is zoned predominantly Residential Mixed Density (18 percent of the Subarea), with some single family residential and public use zoning (see Exhibit 3-6).

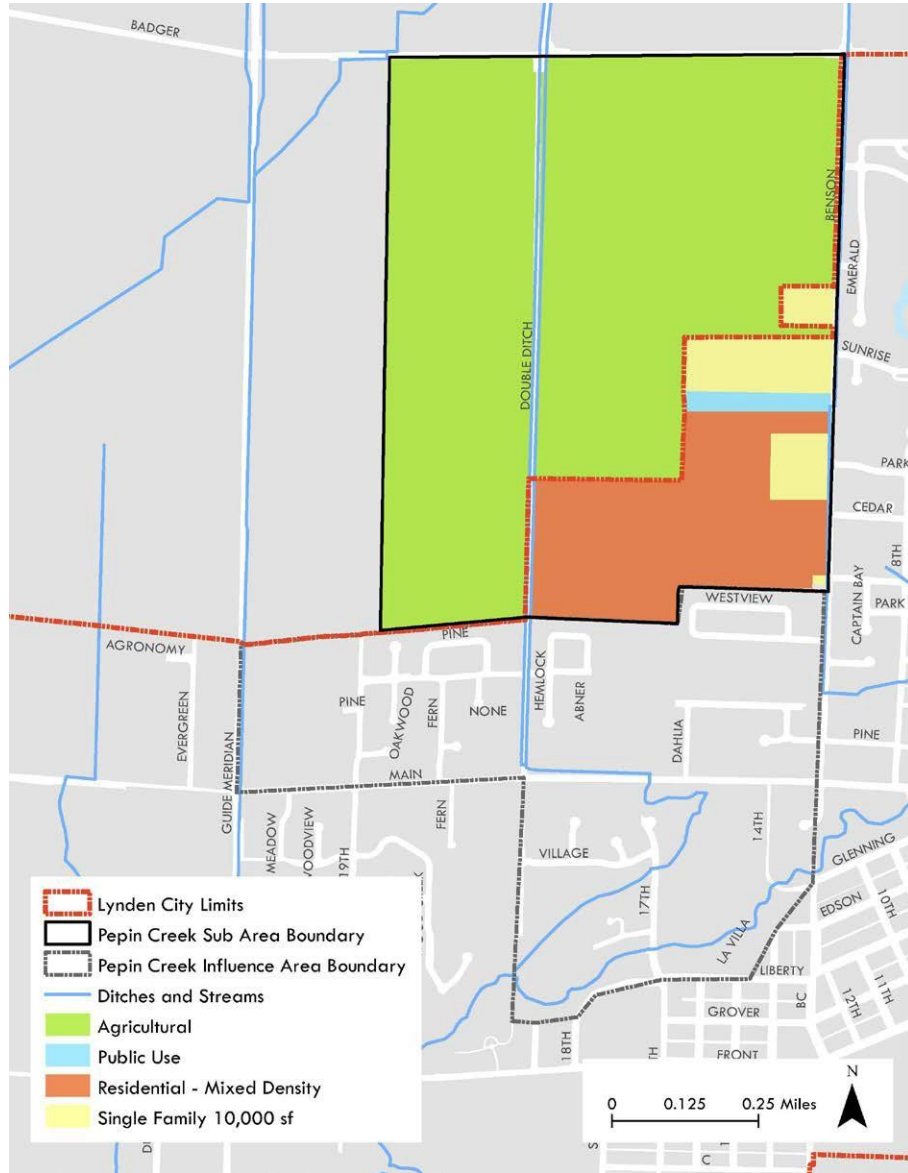
Exhibit 3-5 shows the zoning acreages, and Exhibit 3-6 maps PCSA zoning.

Exhibit 3-5. Zoning Acreages

ZONING CATEGORY	ACRES	PERCENTAGE
Agricultural (County)	344.55	75.6%
Public Use (City)	5.15	1.1%
Residential 7,200 sf (City)	0.20	0.0%
Residential 10,000 sf (City)	26.44	5.8%
Residential Mixed Density (City)	79.51	17.4%
TOTAL	455.85	100%

Source: City of Lynden, 2017; Whatcom County, 2017; BERK, 2017

Exhibit 3-6. Pepin Creek Subarea Zoning Map



Source: City of Lynden, 2017; Herrera, 2017; BERK, 2017

3.2.2. Existing Plans

The City of Lynden Comprehensive Plan identifies comprehensive planning priorities for the UGA:

- Plan for increased density as expanding into unoccupied portions of the UGA and zone at higher density.
- Plan for more than 6,400 people to be added to the city and UGA by 2036 – including the Pepin Creek Area.
- Do not extend urban services outside the UGA, which would perpetuate urban sprawl, and preserve surrounding agricultural uses.
- Target an average net residential density of five units per acre within the city limits and UGA, while maintaining the small-town atmosphere of Lynden (Goal LU-1, Policy 1B).
- Phase annexations and development within the UGA to ensure consistency with the Comprehensive Plan and prioritize infill development over expansions into agricultural and rural lands (Goal LU-2).
- Encourage the preservation and protection of critical areas within the UGA and advocate the annexation of land that has provided reasonable buffers for sensitive areas (Goal LU-6, Policy 1A).

Current Stormwater Utilities Capital Improvement Projects listed in the Comprehensive Plan include the Pepin Creek Realignment project to be completed within ten years. In 2016, the cost was identified as \$8.2 million with local and state funds as the identified funding sources. In September 2016, the Public Works Department estimated that this cost had grown to \$15 million.

3.2.3. Airport

Within the PCSA there is a runout area for the airport located just to the east of the study area (between Sunrise and West Park Drives). The Lynden Municipal Airport to the east hosts small aircraft and a helicopter. It has approximately 5,000 annual operations. The runway is 2,439 feet long, 40 feet wide, has an asphalt surface, and is equipped with non-standard runway lights.¹

To promote land use compatibility the PCSA Plan should consider the following:

- Protect the runway safety area through traffic calming on Benson Road.
- Protect the airspace in the area west of the airport through an aviation easement.
- Avoid water features to avoid waterfowl near the airport.
- Create an overlay north and south of the runout area addressing potential access to the airport from housing located along the City property, like that currently located along the Airport property.

¹ WSDOT. 2012. Airport Economic Profile. Available: <https://www.wsdot.wa.gov/NR/rdonlyres/53A01C75-7DB0-4F93-8AFA-57F76FEE15F5/0/2012Lynden.pdf>.

3.3. POPULATION AND HOUSING

3.3.1. Population & Employment

The City of Lynden had an estimated population of 12,872 in 2013, including its UGAs. It grew at an average rate of 2.13 percent from 2010 to 2013, higher than Whatcom County’s rate of 0.77 percent over the same time period. The County Comprehensive Plan allocated a target growth to the City of 19,725, including its UGAs, by the year 2036. To reach this target, the city and its UGAs would need a projected average annual growth rate of 1.82 percent from 2013 to 2036. The Washington State Office of Financial Management estimated that the April 1, 2017 population of Lynden was 13,620, not including its UGAs.

The population of the PCSA was about 57 in 2013, based on Assessor and permit records developed for the Whatcom County Comprehensive Plan Update and Whatcom Council of Government’s transportation model.

Assumptions of different plans and studies regarding future growth are noted below:

Pepin Creek Growth Assumptions in Comprehensive Plan Updates 2016

SCENARIO	HOUSING UNITS	HOUSEHOLDS	POPULATION
Whatcom County Alternative 1: 2013 No Action	594	578	1,653
Whatcom County Alternative 2: Historic Shares	745	727	2,081
Lynden Transportation Element Whatcom County Alternative 3: Multi-Jurisdictional Resolution	1,124	1,096	3,143
Whatcom County Alternative 4 Targeted Land Use Change	1,470	1,433	4,114
Whatcom County Preferred Alternative 2016	951		2,714

Source: Whatcom County Land Capacity Analysis and Transportation Analysis Zone Assumptions, 2016; Lynden Transportation Element 2016

By 2036, the PCSA population is anticipated to represent 16 percent of Lynden’s total population, while it currently represents 0.4 percent.

Exhibit 3-7. Lynden and Pepin Creek Population Estimates, 2013 & 2036

	2013 POPULATION	PROJECTED 2036 POPULATION
Lynden (with UGAs)	12,872	19,275
Pepin Creek Subarea (PCSA)	57	2,714 to 3,086
PCSA as % of Lynden Total Population	0.4%	Up to 16%

Source: BERK, 2013 & 2017

The PCSA is estimated to have no jobs and is not expected to gain any by 2036, based on current plans.

3.3.2. Housing and Capacity for Growth

As discussed previously, only 25 percent of the PCSA is currently zoned residential. As of 2013, there were an estimated 24 housing units in the Subarea. That number is expected to grow to 1,096 in 2036 under City Transportation Element assumptions, which are similar to the County’s range of alternatives tested for the Comprehensive Plan in 2016.

3.4. DEVELOPMENT POTENTIAL AND MARKET CONSIDERATIONS

This section provides a high-level, preliminary threshold analysis of the development potential in the PCSA by comparing land values today to land values under future development conditions. In addition, the potential benefits of developing the Subarea are outlined. When a vision, land use concept plan, and engineering and environmental mitigation costs are better understood, this analysis will be updated. At that time, considerations for how responsibility should be apportioned to both public and private stakeholders based on benefit received will be explored.

In the following analysis, the investments required in the PCSA are considered economically feasible under the following conditions.

- From the City of Lynden perspective: funds are available from public sources and private property owners to cover all costs, under a realistic set of assumptions about future development.
- From the private developer perspective: the property owner’s costs are less than the increase in value realized as a result of the improvements.

3.4.1. Land Values

The total current land value in the PCSA is \$0.49/sf according to Whatcom County Assessor market value estimates. This value varies by zoning category, as shown in Exhibit 3-8, with residential zoning in the city limits having the highest value (\$1.50/sf - \$3.89/sf), and agricultural land in unincorporated Whatcom County valued lower, at \$0.40/sf.

Exhibit 3-8. Land Value by Zoning Category in the Pepin Creek Subarea

ZONING CATEGORY	LAND VALUE	SQUARE FEET	LAND VALUE/SF
Agricultural (County)	\$6,064,243	14,996,917	\$0.40
Public Use (City)	\$192,060	224,338	\$0.86
Residential 7,200 sf (City)	\$84,640	17,163	\$4.93
Residential 10,000 sf (City)	\$1,747,758	1,241,042	\$1.41
Residential Mixed Density (City)	\$1,686,782	3,533,590	\$0.48
TOTAL	\$9,775,483	20,013,049	\$0.49

Source: City of Lynden, 2017; Whatcom County Assessor Market Value Estimates, 2017; BERK, 2017

Infrastructure Improvement Costs

An initial investment is required to make the properties in the PCSA suitable for residential use. The currently anticipated costs associated with these improvements are estimated between \$85 and \$95

million, and are highly dependent on costs associated with anticipated wetland mitigation. (Wetlands are discussed further in Section 2.2.1). Exhibit 3-9 and Exhibit 3-10 below show the current total estimated public and private costs of improving the land. The assumptions used to arrive at these costs are outlined below and may change in the future.

Public Improvement Costs

- **Road Improvements** assume the project costs from the Transportation Element for upgrading Double Ditch and Benson Road to City standards (projects R-14 and R-2). To estimate the cost associated with updating the portion of the road currently outside of city limits, the cost of R-2, to improve the length of Benson Road, was doubled.
- **Utility Improvements** use construction costs to estimate the cost of improvements.
 - **Sewer costs** assume a cost of \$670 per lineal foot (similar to lineal foot costs of gravity main projects in the City sewer plan), with the circumference of the PCSA used to estimate the required feet of sewer line. This is a placeholder value and does not include possible needs for a pump station.
 - **Water costs** are estimated from the cost per lineal foot of the City’s anticipated Water Project D-12 (which increases the capacity of the water line in Benson Road). This cost per lineal foot was then multiplied by the circumference of the PCSA.
- **Creek Realignment** is estimated to cost \$15 million according to early estimates by the Public Works Department.
- **Downstream Stabilization** is estimated at \$2.1 million per City of Lynden staff.
- **Wetland mitigation** costs are dependent on several factors, such as the portion of the site that is wetlands, the portion that is filled, and whether mitigation is done on or off-site. Assumptions for this analysis include placeholder values for a low and high estimate until more is known about wetland mitigation. See Section 3.2 for more information on wetlands.
 - **Low estimate.** The low estimate, with a total mitigation cost of \$3.7 million, assumes that 25% of the PCSA is wetlands and that 75 acres will be enhanced on-site, leaving 374 acres of net developable land prior to discounts for roads and facilities.
 - **High estimate.** Assumes that 50% of the subarea is wetlands, and 15% will be filled, with 100 acres of on-site enhancement. Though the total mitigation cost does not appear high, the reduced developable land (265 acres before discounts for roads and facilities) in this scenario makes the cost per developed square foot higher.

Expected Developer Costs

For the purpose of this initial threshold analysis, the costs of improving the PCSA are based on the addition of approximately 1,096 units. The final master plan may include more units to accommodate more growth.

- **Transportation Impact Fee.** Costs are estimated to be \$2,111 per unit.
- **Stormwater Utility Charge.** Costs are estimated at \$4,000 per unit, per City of Lynden staff.
- **Sewer Facility Charge.** Costs are estimated at \$6,350 per unit.

- **Water Facility Charge.** Costs are estimated from the general facility charge of \$4,590/unit for water, which assumes each single-family home will have a three-quarter-inch meter.
- **Internal Road System** assumes that 10% of the PCSA will be set aside for an internal road network for a total of 7.8375 miles of road at an estimated cost of \$300 per lineal foot.

Exhibit 3-9. Public Scale Costs of Improving Pepin Creek Subarea

REQUIRED INVESTMENT	COST	COST PER SQUARE FOOT*
Road Improvements	\$15,750,000	\$0.79
Utility Improvements	\$17,536,553	\$0.88
Sewer	\$12,346,224	\$0.62
Water	\$5,190,329	\$0.26
Creek Realignment	\$15,000,000	\$0.75
Downstream Stabilization	\$2,100,000	\$0.10

Note: Cost per square foot is an estimate based on a subarea of 460 acres.
Source: BERK 2017

Exhibit 3-10. Expected Developer Costs of Improving Subarea Land

REQUIRED INVESTMENT	COST	COST PER SQUARE FOOT
Transportation Impact Fee	\$2,313,656	\$0.12
Stormwater	\$4,384,000	\$0.22
Sewer	\$6,959,600	\$0.35
Water	\$5,030,640	\$0.25
Internal Roads	\$12,414,600	\$0.62

Note: Cost per square foot is an estimate based on a subarea of 460 acres.
Source: BERK 2017

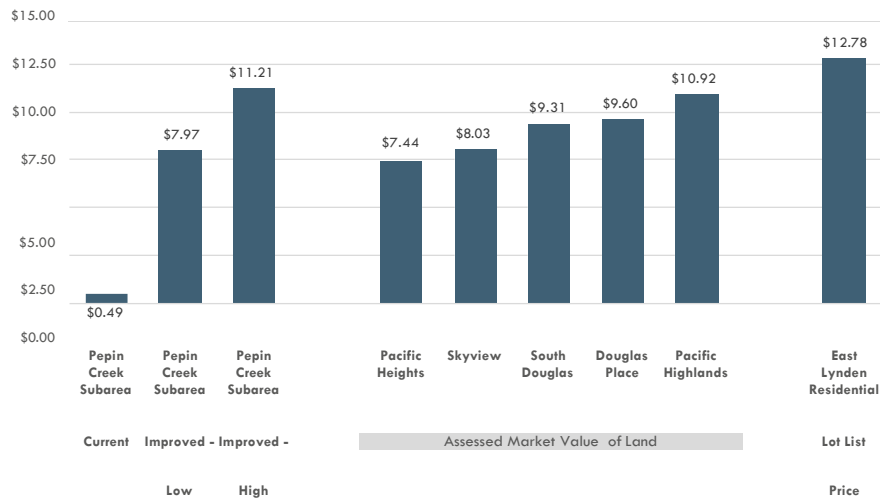
Once a discount is applied for the roads and facilities (assumed at 30% of the remaining net developable land), the current market value of the land plus the investment costs needed to improve the land yields a cost of \$7.97 to \$11.21 per square foot. This represents the “fully burdened” cost of the land.

Comparable single-family communities parcels in Ferndale and East Lynden have assessed market values of land that vary in price from \$7.44 to \$10.92 per square foot, as seen in Exhibit 3-11. Similarly, the market list price for “fully burdened” land in East Lynden is \$12.78 per square foot.

These comparable communities are assumed to be development ready with streets and utilities available at street frontage and no extraordinary site conditions. However, many of the comparable sites have features such as greenways and retention ponds, as seen in Exhibit 3-11.

Exhibit 3-11. Example Development Comparisons

a. PCSA Development Costs compared to Market Value of Land in Comparable Communities



b. Example Development Zoning and Features

HOA	Total Parcels	Zoning	Green Way/Belt	Retention Pond	Percent of Acres not Developable
Skyview	80	RS6.5	13.06	0.00	47%
Pacific Heights	43	RS8.5	0.00	0.44	5%
Douglas Place	19	RS6.5	0.00	0.38	11%
South Douglas	41	RS6.5	0.00	0.52	7%
Pacific Highlands	185	RS10.5	4.62	0.96	16%

Source: Whatcom County Assessor Data, 2017; BERK, 2017

In all cases, the market value of land in the comparable areas is similar to the anticipated costs of land with improvements in the PCSA. The list price for lots in comparable communities in East Lynden exceed the improved value of the land in the Subarea. This suggests that adding the cost of improvements to the very low land values in the Subarea does not push the development economics beyond the current market conditions experienced in other areas, but may indicate a need for more public investment.

It should be noted that this is a simple threshold analysis of potential market considerations and not a

detailed development pro-forma analysis designed to assess specific feasibility of any particular development opportunity in the PCSA. Additional analysis will be required to determine the public and

private benefits of redeveloping the Subarea, how to apportion financial responsibility, and what the final land use mix should be.

3.4.2. Potential Benefits of Developing the Subarea

A public revenue model to estimate likely tax revenue impacts from new development will be provided later in the PCSA planning process once a vision and land use concepts are further developed, along with methods to apportion public and private responsibility based on benefit received. In the meantime, developing the Subarea is expected to produce, at a minimum, the following public and fiscal benefits:

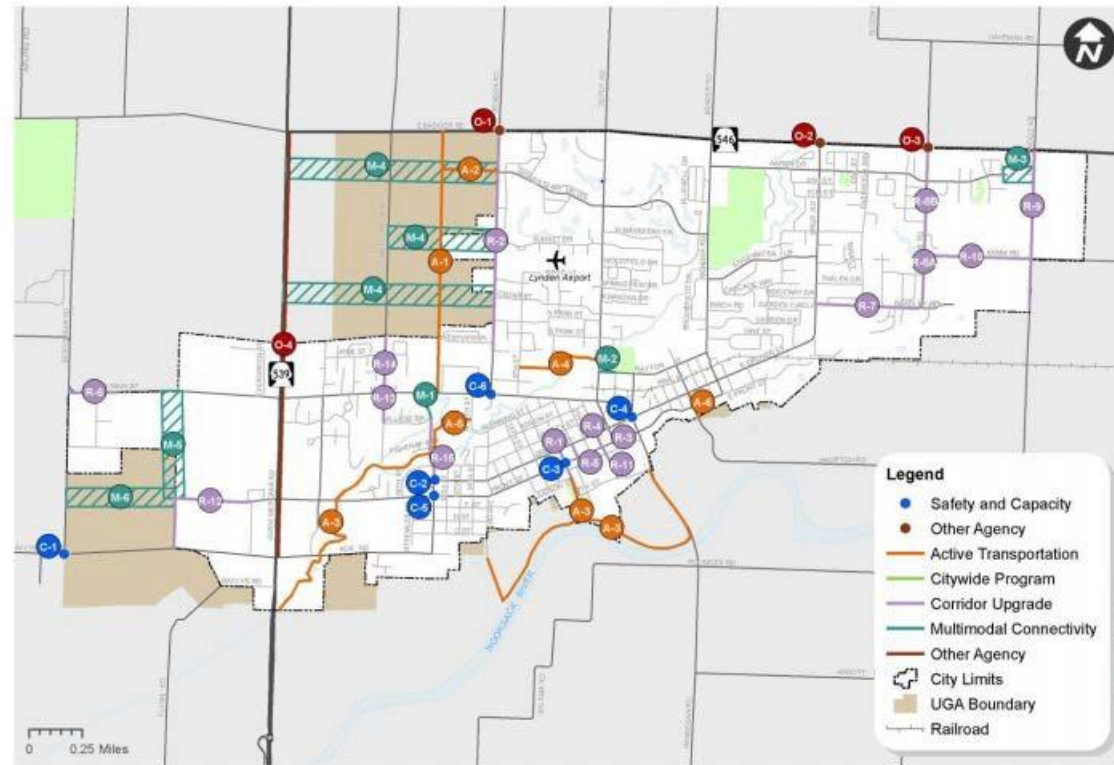
- Increased opportunity for single family residential to accommodate population growth.
- Increased property values and tax base.
- Additional increased tax revenues from property and utility taxes.
- Some offsetting expenditures for public services.
- If a mitigation bank investment is made (instead of purchasing credits from an existing bank) some investment recovery through outside purchases of credits.

3.5. TRANSPORTATION

3.5.1. Local Circulation

Transportation within in the PCSA is limited to three primary roads that service the area. Badger Road, part of Highway 546, runs east-west along the north side of the Subarea and is a designated Freight Route. Two north-south roads, Double Ditch Road and Benson Road, connect the Subarea to the rest of Lynden where they intersect with Main Street. Benson Road is a designated collector in the Lynden Comprehensive Plan, meaning that it is the primary route for channeling traffic from the Subarea on to arterial routes in the city. Since the PCSA is primarily in agricultural use, documented traffic volumes are low. There are no recognized non-motorized routes or corridors in the Subarea.

Exhibit 3-12. Transportation Improvement Projects Identified in the Lynden Comprehensive Plan



 **Transportation Improvement Projects**
City of Lynden Transportation Element Update

transpogroup  **FIGURE 4-2**

The Lynden Comprehensive Plan anticipates the need for transportation improvements in the PCSA. The Transportation Element forecasts growth of up to 1,096 households in the Subarea, which will require roadway improvements that support cars, bicycles, and pedestrians. These improvements include:

- Project A-1 to build a multi-use path along Pepin Creek between Badger Road and Main Street.
- Project A-2 to build a safe bicycle connection that extends from Homestead Boulevard between Benson Road and Pepin Creek.
- Project M-4 to build a network of multi-modal connections with funds gathered from future development of the Subarea – the location and nature of this network will be identified through the PCSA Plan.
- Project O-1 to build improvements to Highway 546 that will be led by the Washington State Department of Transportation.

Exhibit 3-12 shows the transportation improvements identified in the Lynden Comprehensive Plan.

3.6. PARKS AND OPEN SPACES

The City of Lynden's 2014 Park and Trail Master Plan includes priorities for parks and trail corridors in the UGA, when given the opportunity prior to development. The PCSA will include existing plans to improve the park and trail system for the City and the UGA.

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5.0 Abbreviations

- Capital Improvement Plan (CIP)
- Light Detection and Ranging (LiDAR)
- Low Density Residential (RL)
- Lynden Municipal Code (LMC)
- Medium Density Residential (RM)
- Million gallons per day (MGD),
- National Wetlands Inventory (NWI)
- National Wetlands Inventory (NWI)
- Natural Resources Conservation Service (NRCS)
- North Lynden Watershed Improvement District (NLWID)
- Northwest Hydraulic Consultants (NHC)
- Pepin Creek Subarea (PCSA)
- Polyvinyl chloride (PVC),
- Puget Sound LiDAR Consortium (PSLC)
- Reichhardt & Ebe Engineering, Inc. (R&E)
- Right-of-way (ROW)
- Total suspended solids (TSS)
- Urban growth area (UGA)
- Washington Department of Fish and Wildlife (WDFW)
- Wastewater treatment plant (WWTP)
- Water Resources Inventory Area (WRIA)

Appendix

FINAL October 2017

Critical Areas Memorandum



Wetlands and Fish and Wildlife Habitat Conservation Areas

Pepin Creek Sub-Area Plan – City of Lynden – October 10, 2017

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Appendix A Pepin Creek Relocation Project Plan

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1.0 Introduction

1.1. PROJECT PURPOSE AND DESCRIPTION

The City of Lynden (City) is conducting land use planning for the Pepin Creek Sub-Area (PCSA) to facilitate future urban development. The proposed project aims to plan the future development of the PCSA through the creation of a sub-area plan and eventual annexation of the PCSA into the City.

1.2. BACKGROUND

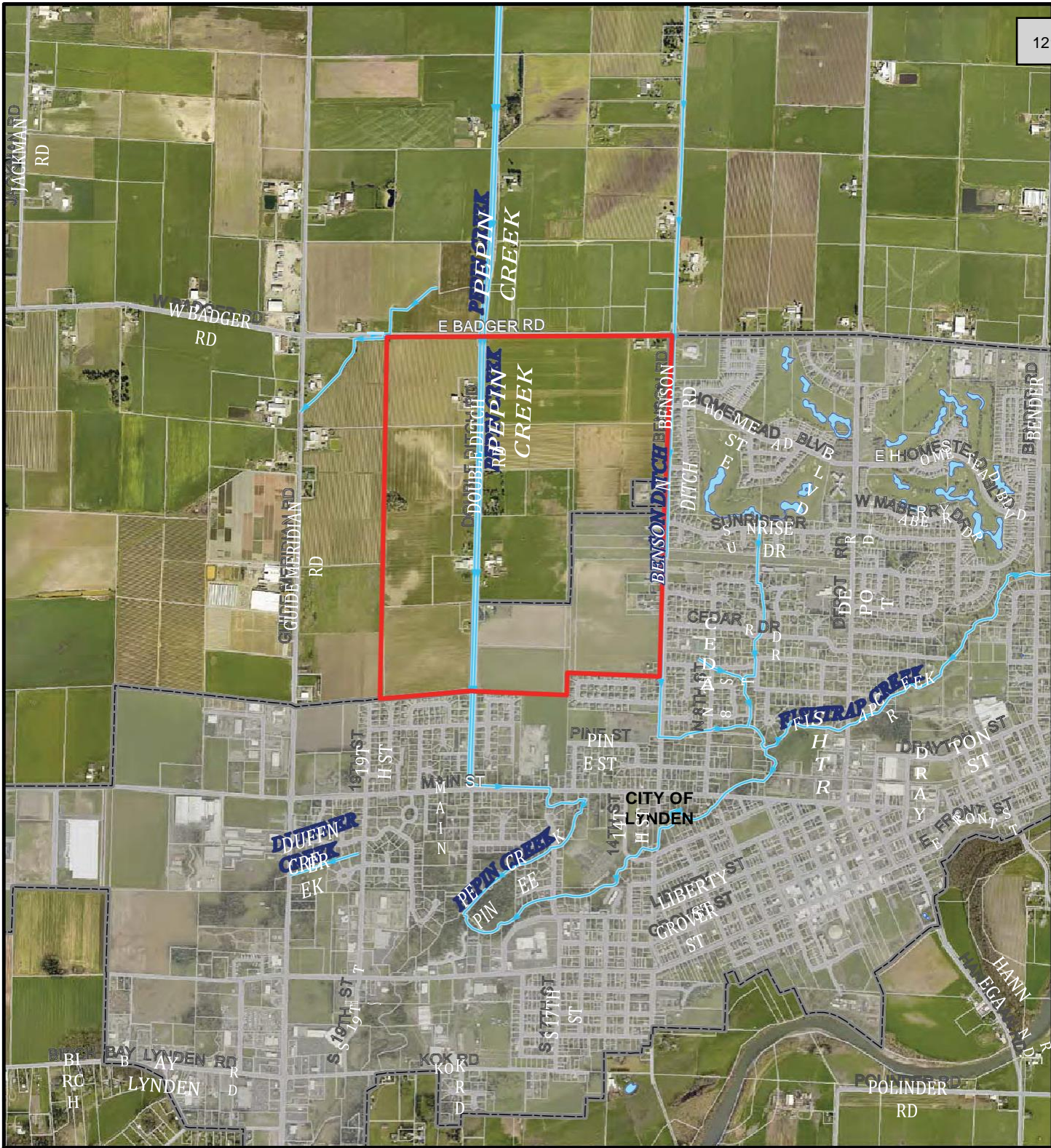
The PCSA planning effort is being closely coordinated with the planning, design, and permitting for two separate, City projects related to relocating Pepin Creek. The first project would relocate and join the roadside ditches along Double Ditch Road and Benson Road within a proposed, restored stream channel corridor within the PCSA (Appendix A). The project would be phased; the first phase would relocate Benson Ditch to the new channel alignment beginning near the Lynden Airport, and the final phase would relocate the ditches along both Double Ditch and Benson Roads just south of Badger Road. The new stream corridor would be oriented from north to south at the midpoint between Double Ditch and Benson Roads. The second project is to design and construct a new bridge on Main Street that would cross the future alignment of Pepin Creek. As part of the bridge project, the City is conducting hydraulic analyses of the current reach of Pepin Creek south of Main Street.

Two ditches, one on each side of Double Ditch Road, convey Pepin Creek, which is called Pepin Brook on the Canadian side of the US-Canada border. Throughout this memorandum, the ditches are referred to as Double Ditch West and Double Ditch East. The ditch along Benson Road is referred to as Benson Ditch.

1.3. PURPOSE OF TECHNICAL MEMORANDUM

The City contracted Herrera Environmental Consultants, Inc. (Herrera), as part of a team led by Communita Atelier, to prepare a critical areas memorandum that documents preliminary findings on existing conditions of critical areas occurring within the PCSA study area (Exhibit 1). Critical areas examined include wetlands and fish and wildlife habitat conservation areas regulated by federal and state agencies; and the City of Lynden.

Findings in this technical memorandum are based on a review of background information and a 1-day, reconnaissance-level, site visit. This memorandum includes preliminary mapping of the critical areas within the study area and preliminary analysis of wetland and stream classifications.

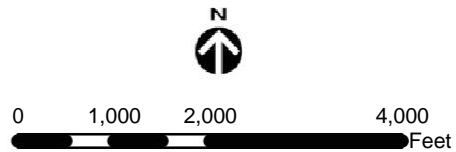


Legend

- Streams and Ditches
- Parcels
- City Limits
- Study Area
- Streets
- Lakes



Exhibit 1.
Study Area for the Pepin Creek Sub-Area
Critical Areas Reconnaissance.



K:\Projects\Y2017\17-06514-000\Project\Report\CAR\vicinity_map.mxd (6/23/2017)

2.0 Regulatory Framework

2.1. FEDERAL REGULATIONS

Federal laws regulating habitat and species include Sections 404 and 401 of the Clean Water Act (United States Code [USC], Title 33, Chapter 1344 [33 USC 1344]), the Endangered Species Act (16 USC 1531), the Bald and Golden Eagle Protection Act (16 USC 668-668c), and the Migratory Bird Treaty Act (16 USC 703-712).

2.1.1. Clean Water Act Section 404

Section 404 of the federal Clean Water Act (CWA) regulates the placement or removal of soil or other fill, grading, or alteration (hydrologic or vegetative) in waters of the United States, including wetlands, streams, and ditches. The US Environmental Protection Agency and US Army Corps of Engineers (USACE) recently clarified the definition of waters of the United States in the Clean Water Rule, which became effective on August 28, 2015 (40 CFR Parts 110, 112, 116, et al.). USACE administers the Section 404 permitting program under the CWA. The permits include nationwide (general) permits for projects involving minor fills, grading, or alteration; and individual permits for projects that require larger areas of disturbance to waters of the United States. Under CWA Section 404, USACE issues manuals and technical guidelines for identifying wetlands and delineating wetland boundaries; and has authority to determine the jurisdictional status and approve jurisdictional boundaries of waters of the United States.

USACE's mitigation policy involves avoiding adverse impacts and offsetting unavoidable adverse impacts on existing aquatic resources, including wetlands, by achieving a goal of no overall net loss of values and functions. Compensatory mitigation from the permittee is required for unavoidable impacts. Types of mitigation include: purchasing credits in a mitigation bank; paying in-lieu fees; and restoring, establishing, enhancing, or preserving wetlands.

2.1.2. Clean Water Act Section 401

Section 401 of the CWA is administered in Washington State by the Washington State Department of Ecology (Ecology), as mandated by the Washington State Water Pollution Control Act (Chapter 90.48 Revised Code of Washington [RCW]). Section 401 requires that proposed dredge (removal) and fill activities permitted under Section 404 be reviewed and certified to ensure that such activities meet state water quality standards and protect wetlands. State 401 certification is administered by Ecology for all Section 404 permits. State 401 certification is granted without the need for a separate permit from Ecology for projects that: 1) qualify for a Section 404 nationwide permit, 2) meet specific 401 certification conditions of the nationwide permit, and 3) meet Ecology 401 General Conditions. If a project does not meet those three criteria, an Individual 401 Water Quality Certification permit is required by Ecology.

2.1.3. Endangered Species Act

The Endangered Species Act (ESA) directs the "Services" (i.e., the US Fish and Wildlife Service [USFWS] and National Marine Fisheries Service [NMFS]) to identify and protect endangered and threatened species and their critical habitat, and to provide a means to conserve their ecosystems. Among its other

provisions, the ESA requires the Services to assess civil and criminal penalties for violations of the ESA or its regulations. Section 9 of the ESA prohibits take of federally-listed species. In the ESA, “take” is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct” (16 USC 1532). The term “harm” includes significant habitat alteration that kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering, (50 CFR 17.3). Projects involving federal lands, funding, or authorizations (e.g., Section 404 permit) will require consultation between the federal agency and the Services, pursuant to Section 7 of the ESA.

2.1.4. Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) of 1940 prohibits the take of any bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*) or the parts, nests, or eggs of such birds without prior authorization. In the BGEPA, “take” is defined as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect molest, or disturb.” “Disturb” was defined in 2007 (72 FR 31132) as “to agitate or bother a bald or golden eagle to a degree that causes...injury to an eagle, reduced productivity, or nest abandonment...” Although bald eagles were removed from the ESA listings in 2007, bald and golden eagles are protected under BGEPA and the Migratory Bird Treaty Act. Through recent regulation (50 CFR 22.26), USFWS can authorize take of bald and golden eagles when the take is associated with, but is not the purpose of, an otherwise lawful activity and cannot practicably be avoided.

2.1.5. Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) is the cornerstone of migratory bird conservation and protection in the United States. The MBTA implements four treaties that provide for international protection of migratory birds. It is a strict liability statute, meaning that proof of intent, knowledge, or negligence is not an element of an MBTA violation. The statute’s language is clear that actions resulting in a “taking” or possession (permanent or temporary) of a protected species, in the absence of a USFWS permit or regulatory authorization, are a violation. The MBTA (16 U.S.C. 703) states, “Unless and except as permitted by regulations...it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill...possess, offer for sale, sell ... purchase ... ship, export, import ...transport or cause to be transported...any migratory bird, any part, nest, or eggs of any such bird...”

The word “take” is defined by regulation as “to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect” (50 CFR 10.12). USFWS maintains a list of all species protected by the MBTA at 50 CFR 10.13. This list currently includes 1,027 species of migratory birds.

2.2. WASHINGTON STATE REGULATIONS

Washington State laws and programs designed to control loss and impacts on habitats and species include the State Environmental Policy Act (Chapter 43.12C Revised Code of Washington [RCW]), Section 401 of the Clean Water Act (a federal law that is implemented in the state by Ecology as noted above), State Hydraulic Code (Chapter 77.55 RCW and Washington Administrative Code [WAC] 220-110), and the Growth Management Act (Chapter 36.70A RCW).

2.2.1 State Environmental Policy Act

The Washington State Environmental Policy Act (SEPA) provides a way to identify possible environmental impacts that may result from government decisions including, but not limited to, construction of public facilities. Information provided during the SEPA review process helps agency decision makers, applicants, and the public understand how a proposal will affect the environment including, but not limited to, aquatic resources (e.g., lakes, wetlands), shorelines, earth, plants, and animals. Under SEPA, the City of Lynden is the lead agency for the proposed project and is responsible for identifying and evaluating potential adverse environmental impacts.

2.2.1. State Hydraulic Code

The Washington Department of Fish and Wildlife (WDFW) administers the Hydraulic Project Approval (HPA) program under the state Hydraulic Code, which was specifically designed to protect fish life. An HPA permit is required for projects that will use, divert, obstruct, or change the natural flow or bed of any of the salt or fresh waters of the state.

2.2.2. Growth Management Act

The Washington State Growth Management Act (GMA) requires state and local governments to manage growth by identifying and protecting critical areas and natural resource lands, designating urban growth areas, preparing comprehensive plans, and implementing them through capital investments and development regulations.

2.3. LOCAL CODE

The study area is in unincorporated Whatcom County, within the City of Lynden urban growth area. It is expected to be annexed in the future, at which time it will be subject to the Lynden Municipal Code (LMC), which includes critical areas regulations required under the GMA that pertain to protection of habitats and species. Critical areas regulated by the City include wetlands; and fish and wildlife habitat conservation areas (e.g., streams). Critical areas regulations specify wetland categories/classes based on ratings, stream types/classes, required buffer widths, development standards, and mitigation requirements. Buffers are required to protect the functions and values of wetlands; and fish and wildlife habitat conservation areas.

2.3.1. Wetlands

Wetlands in Lynden are rated based on categories that reflect the functions and values of each wetland. Wetland categories are based on the criteria provided in the most recent version of Ecology’s Washington State Wetland Rating System for Western Washington (Hruby 2014), as determined using the appropriate rating forms contained in that publication (LMC 16.16.270). Wetlands are rated as Category I, II, III, or IV according to the functions provided and their score using the Ecology rating system.

Wetland categories are generally defined as follows:

- Category I wetlands are those that: 1) represent a unique or rare wetland type; or 2) are more

sensitive to disturbance than most wetlands; or 3) are relatively undisturbed and contain ecological

attributes that are impossible to replace within a human lifetime; or 4) provide a high level of functions.

- Category II wetlands are difficult, though not impossible, to replace and provide high levels of some functions. They occur more commonly than Category I wetlands but still need a relatively high level of protection.
- Category III wetlands are: 1) wetlands with a moderate level of functions (scores between 16 and 19 points), 2) can often be adequately replaced with a well-planned mitigation project, and 3) are interdunal wetlands between 0.1 and 1 acre in size. Wetlands scoring between 16 and 19 points generally have been disturbed in some way, and are often less diverse or more isolated from other natural resources in the landscape than are Category II wetlands.
- Category IV wetlands have the lowest levels of functions (scores less than 16 points) and are often heavily disturbed. They are wetlands that should be able to be replaced and, in some cases, be improved. However, experience has shown that replacement cannot be guaranteed in any specific case. Category IV wetlands may provide some important functions and also need to be protected.

Standard wetland buffer widths are based on the wetland rating and range between 25 and 200 feet, measured horizontally from the wetland edge (LMC 16.16.300). According to the LMC, a regulated wetland or its standard buffer shall not be altered unless a detailed study demonstrates that a proposal will not degrade the functions and values of the subject wetland or will provide compensation adequate to mitigate for impacts to functions and values. Compensatory mitigation requirements involve creating/restoring or enhancing wetlands for proposals that result in wetland losses (LMC 16.16.310) at specified ratios that correspond to the category of the wetland affected.

2.3.2. Fish and Wildlife Habitat Conservation Areas

Fish and wildlife habitat conservation areas (FWHCAs) are designated based on meeting any one of the following criteria (LMC 16.16.320):

- Areas with which endangered, threatened, and sensitive species have a primary association;
- Habitats and species of local importance that have been designated by the city at the time of application;
- Naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish or wildlife habitat;
- Waters of the state as defined by WAC 222-16, including Fishtrap Creek, Duffner Ditch, Double Ditch, Kamm Creek, and their tributaries;
- Areas with which anadromous fish species have a primary association;
- Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity;
- State natural area preserves and natural resource conservation areas.

LMC 16.16.330 defines the following classes of stream habitat:

FINAL October 2017

- Class A river/stream habitat includes those rivers and streams with documented presence of a species listed as threatened or endangered by a state or federal agency.
- Class B river/stream habitat includes those rivers and streams not included in class A that also include:
 - Areas with documented presence of species listed as sensitive by a state or federal agency;
 - Areas that provide habitat for anadromous or resident fish populations; or
 - Areas planted with game fish by a governmental or tribal entity.
- Class C river/stream habitat includes those nonfish-bearing rivers and streams not included in either class A or class B.

Stream buffers reflect the sensitivity of the species or habitat present and the type and intensity of the proposed adjacent human use or activity. Standard buffer widths, measured horizontally in landward direction from the ordinary high water mark, are based on the stream class and range between 50 and 100 feet (LMC 16.16.360). According to the LMC, a regulated FHWCA or its standard buffer shall not be altered unless a detailed study demonstrates that a proposal will not degrade the functions and values of the subject habitat or will provide compensation adequate to mitigate for impacts to functions and values.

3.0 Methods

The critical areas assessment provided in this technical memorandum is based on a review of background information, a reconnaissance-level site visit, and regulations pertaining to wetlands and FWHCAs. Herrera biologists conducted the reconnaissance by walking city-owned parcels, the stream corridor easement, and road rights-of-way.

3.1. WETLANDS

Herrera collected information on wetlands within and adjacent to the study area by reviewing existing documentation and conducting a reconnaissance-level field investigation. Identification of wetlands is based on a three-factor approach involving indicators of hydrophytic vegetation, hydric soil, and wetland hydrology. Those indicators are defined in the 1987 Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the US Army Corps of Engineers Wetlands Delineation Manual: Western Mountains, Valleys, and Coast Region (USACE 2010). These manuals are collectively referred to herein as the Corps Manual.

3.1.1. Review of Existing Documentation

Herrera evaluated potential wetland areas in the study area by reviewing the following data sources:

- National Wetlands Inventory (USFWS 2017)
- City of Lynden Critical Areas Maps (City of Lynden 2017)
- Whatcom County Critical Area Ordinance maps - Wetlands (Whatcom County 2017)
- Natural Resources Conservation Service online soil survey maps and soil descriptions (NRCS 2017a)
- LiDAR images (PSLC 2017)
- Aerial photographs
- Groundwater monitoring data (R&E 2017)

3.1.2. Reconnaissance-Level Field Investigation

The field investigation was conducted by walking the study area and making observations from publicly accessible lands (e.g., road rights-of-way, City-owned property, the airport easement, and the stream corridor easement). Features observed within the study area that could potentially be defined as wetlands were identified, assigned a preliminary name and classification, and approximately mapped based on aerial photography.

Because land use in the study area consists largely of agricultural fields, Herrera biologists were not able to rely on naturally occurring hydrophytic vegetation indicators to identify potential wetlands. Potential wetland areas were identified primarily based on presence of mapped hydric soils and wetlands, and observations of visible wetland hydrology indicators (e.g., surface water and surface saturation).

Herrera biologists conducted a preliminary soil investigation by digging one soil pit. The soil was characterized by digging a 24-inch deep test pit and documenting the presence of hydric soil and hydrology indicators as defined in the Corps Manual.

Wetland boundaries were not delineated in accordance with Corps Manual protocols, which require a more in-depth analysis including subsurface observations of soils and hydrology. The boundaries of wetlands and potential wetland areas shown on the exhibits in this memorandum are approximate; they are based on field observations and are supported by analysis of existing documentation (e.g., mapped hydric soils and wetlands).

Herrera biologists determined preliminary categories and ratings of wetlands based on field observations augmented by analysis of aerial photographs. However, Ecology rating forms were not completed. Wetlands will be rated according to the Ecology rating system when wetlands are delineated during a future phase of the project.

3.2. FISH AND WILDLIFE HABITAT CONSERVATION AREAS

Herrera collected information about FWHCAs within and adjacent to the study area by reviewing existing documentation and conducting a field investigation.

3.2.1. Review of Existing Documentation

Herrera reviewed the following data sources:

- City of Lynden critical areas map (City of Lynden 2017)
- Whatcom County Critical Area Ordinance maps – Fish and Wildlife Habitat Conservation Areas (Whatcom County 2017)
- North Lynden Watershed Improvement District Drainage and Fish Habitat Management Plan (NLWID 2016)
- Pepin Creek Relocation Feasibility Analysis (NHC 2014)
- North Lynden Watershed Improvement District Agriculture-Watershed Characterization and Mapping Report (Whatcom County Agriculture-Watershed Project 2016)
- Priority Habitats and Species database (WDFW 2017a)
- SalmonScape mapping database (WDFW 2017b)
- Aerial photographs

3.2.2. Reconnaissance-Level Field Investigation

The field investigation was conducted by walking the study area and making observations from publicly accessible lands (e.g., road rights-of-way, City-owned property, the airport easement, and the stream corridor easement). Features observed within the study area that could potentially be defined as FWHCAs were identified. During reconnaissance surveys, dominant riparian vegetation and dominant substrate of streams and ditches, (e.g., sand, gravels, and cobbles) were documented.

4.0 Results

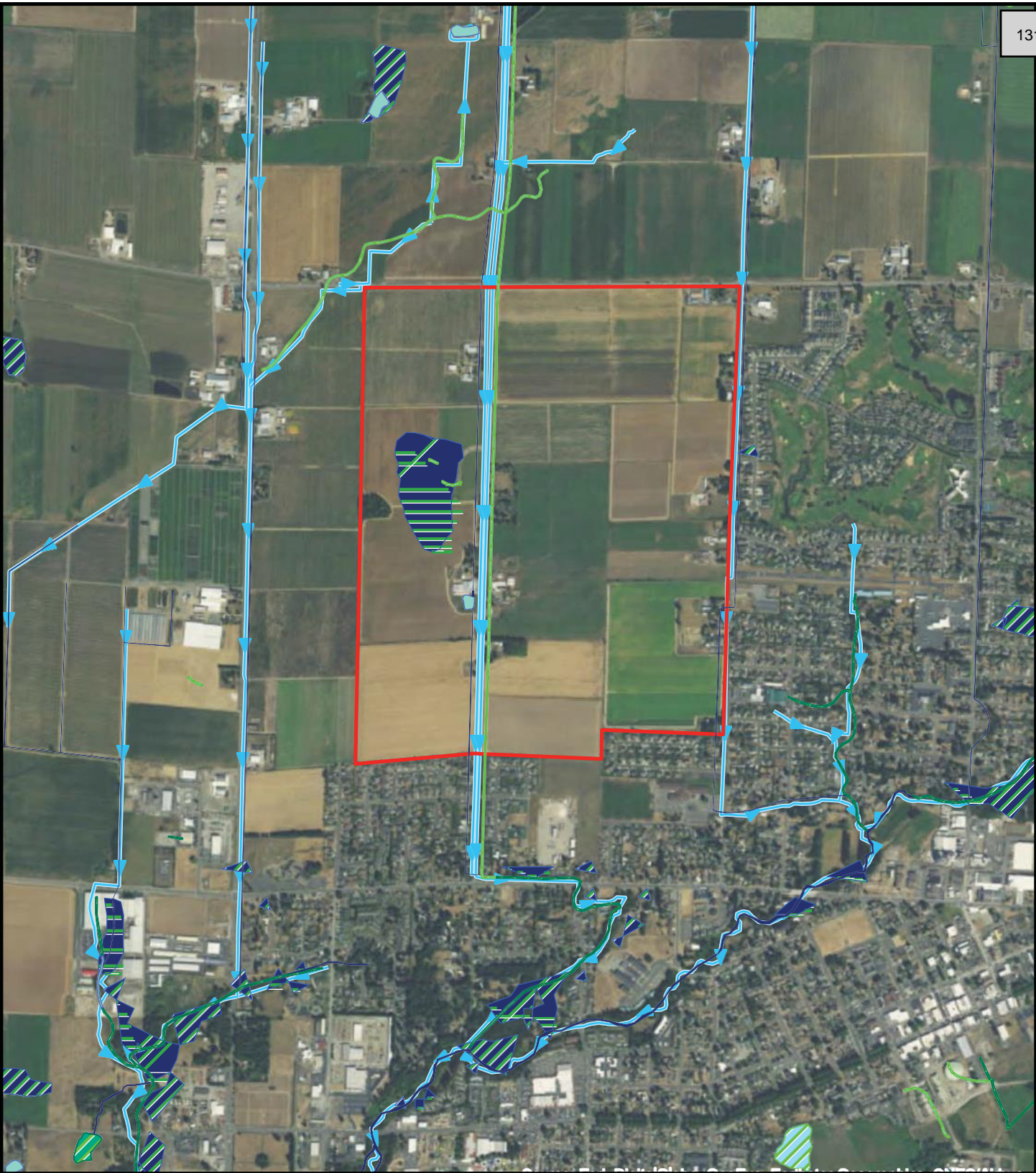
4.1. WETLANDS

4.1.1. Background Information

The PCSA is currently actively farmed, and ditches are present throughout. There are reports of extensive forested wetlands historically occurring in the Fishtrap Creek drainage. The area around Lynden was described as upland hills with forests of fir, cedar, spruce, and hemlock, and lower ground with cottonwood, alder, maple, birch, spruce, and areas of dense brush (FCW 2012).

Wetland Inventories

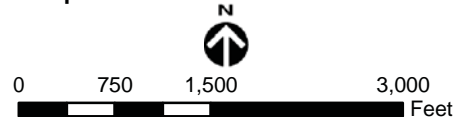
Based on a review of background information, several wetlands were previously identified in the study area. The National Wetlands Inventory (NWI) identifies emergent wetlands lining Double Ditch East as well as two wetlands west of Double Ditch Road, including a ponded wetland with aquatic bed vegetation and an emergent wetland within an agricultural field (Exhibit 2). Exhibit 3 shows the classifications of NWI wetlands in the study area. The wetlands west of Double Ditch Road are identified in the same general locations on the Whatcom County critical areas wetland map (Whatcom County 2017); however, the County map shows the emergent wetland substantially larger than it is shown on the NWI (Exhibit 2).



Legend

- Study Area
- ▶ Streams and Ditches (City of Lynden)
- Wetlands (Whatcom County)
- National Wetlands Inventory (NWI)
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

Exhibit 2.
Mapped Wetlands and Fish and Wildlife
Habitat Conservation Areas in the Vicinity
of the Pepin Creek Sub-Area.



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Exhibit 3. Classification of Wetlands and Deepwater Habitats Mapped in the Study Area by the National Wetlands Inventory.

LOCATION	CLASSIFICATION	DESCRIPTION
Double Ditch West	R5UBFx	Riverine, unknown perennial, unconsolidated bottom, semipermanently flooded, excavated
Double Ditch East	PEM1Cx	Palustrine emergent wetland, persistent vegetation, seasonally flooded, excavated
Pond west of Double Ditch Road	PABFh	Palustrine aquatic bed wetland, semipermanently flooded, diked/impounded
Wetland west of Double Ditch Road	PEM1C	Palustrine emergent wetland, persistent vegetation, seasonally flooded
Benson Ditch	R5UBFx	Riverine, unknown perennial, unconsolidated bottom, semipermanently flooded, excavated

Source: USFWS 2017

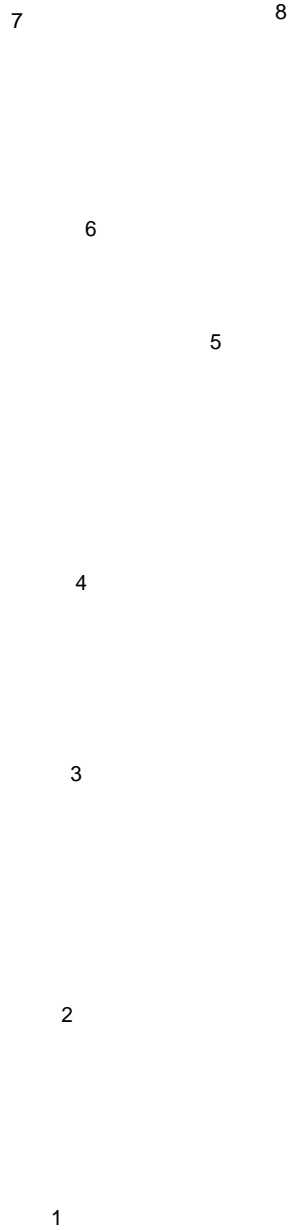
Groundwater Monitoring

According to the Corps Manual, the PCSA represents a highly disturbed site due to active agricultural practices that have resulted in disturbance to soil structure, elimination of naturally occurring vegetation communities, and draining of soils (i.e., lowering of groundwater table). In such cases, hydrologic monitoring is useful for determining if wetland hydrology is present. According to the Corps Manual, wetland hydrology requires 14 or more consecutive days of flooding or ponding, or a water table 1 foot or less below the soil surface, during the growing season at a minimum frequency of 5 years in 10 (50 percent or higher probability) (National Research Council 1995).

In support of the design of the Pepin Creek and Benson Ditch channel relocation, shallow groundwater wells (i.e., piezometers) were installed on City-owned property and easements. Monitoring of groundwater depth began on April 20, 2017, during the growing season. A partial record through May 30 is provided in Exhibit 4. Locations of the wells are shown on Exhibit 5. The limited available data set indicates that wetland hydrology is not present. However, the data show that groundwater was between 1 and 2 feet below the surface at Wells 3, 4, 6, and 7 on April 20, followed by a gradual decrease in groundwater levels, corresponding to low levels of precipitation. Spikes in groundwater elevation (for example, on May 11) correspond to precipitation events. The data indicate potential for wetland hydrology in the vicinity of monitoring wells to occur earlier in the growing season, when higher levels of precipitation are anticipated.

Exhibit 4. Groundwater Monitoring Data for the Study Area, April 20 through May 30, 2017

WATER TABLE DEPTH BELOW GROUND SURFACE (FEET)										
Date	Weather	Precip. (inches)	Well 1	Well 2	Well 3	Well 4	Well 5	Well 6	Well 7	Well 8
4/20/17	Sunny	0.18	11	3	1.167	1.083	--	1.25	1.75	4.5
4/21/17	Sunny	0	11	3	1.167	1.083	--	1.25	1.75	4.5
4/24/17	Sunny	0.13	11.167	3.167	1.083	1.167	--	1.417	1.417	4.25
4/25/17	Sunny	0.01	11.33	3.167	1.25	1.583	2.083	1.417	1.667	4.667
4/27/17	Sunny	0.19	11.5	3.75	1	1.75	2.583	2.25	2.5	5
4/28/17	Sunny	0	11.5	3.583	2.16	2	2.583	2.25	2.75	5.16
5/1/17	Rainy	0.05	11.75	4.083	2.416	2.416	2.83	2.5	2.9166	5.16
5/2/17	Sunny	0	11.83	4.16	2.416	2.416	2.91	2.5	2.916	5.25
5/4/17	Sunny	0.15	11.75	4.083	2.16	2.16	2.583	1.916	2.16	4.83
5/8/17	Sunny	0	12	4.33	2.5	2.416	2.75	2.416	2.583	5.167
5/9/17	Sunny	0	12	4.416	2.5	2.5	2.75	2.416	2.75	5.25
5/11/17	Rainy	0.56	12.16	4.416	2.75	2.66	3.083	2.583	3.083	5.33
5/12/17	Sun/Rain	0	12.25	4.33	2.416	2.5	2.91	2.33	2.583	5.166
5/15/17	Rainy	0.56	12.167	4.25	2.33	2.167	2.416	2.416	2.5	5
5/16/17	Overcast	0.28	12.083	3.583	1.083	0.75	1.16	0.66	0.75	3.583
5/18/17	Sunny	0	12	3.83	1.5	1.33	1.66	1.16	1.5	4.33
5/19/17	Sunny	0	12	3.916	1.83	1.583	2.083	1.5	1.75	4.66
5/22/17	Sunny	0	12.16	4.33	2.33	2.25	2.66	2.16	2.66	5.16
5/25/17	Sunny	0	12.25	4.583	2.66	2.75	3.16	2.66	3.16	5.5
5/26/17	Sunny	0	12.33	4.66	2.66	2.75	3.25	2.75	3.25	5.66
5/30/17	Overcast	0	12.66	4.916	3.16	3.083	3.416	3.16	3.583	5.83



Legend

- Study Area
- Groundwater
- Monitoring Well
- Streets
- NRCS Soil Classification**
- Edmonds-Woodlyn loams,
0 to 2 percent slopes
- Fishtrap muck, drained,
0 to 2 percent slopes

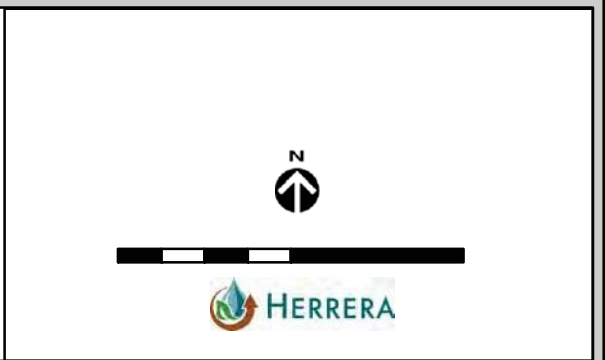
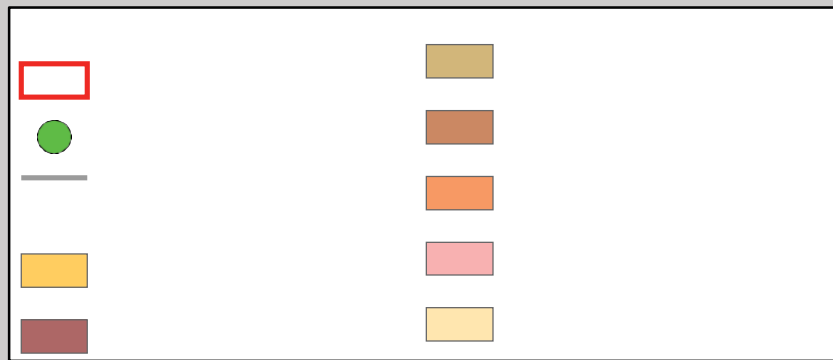
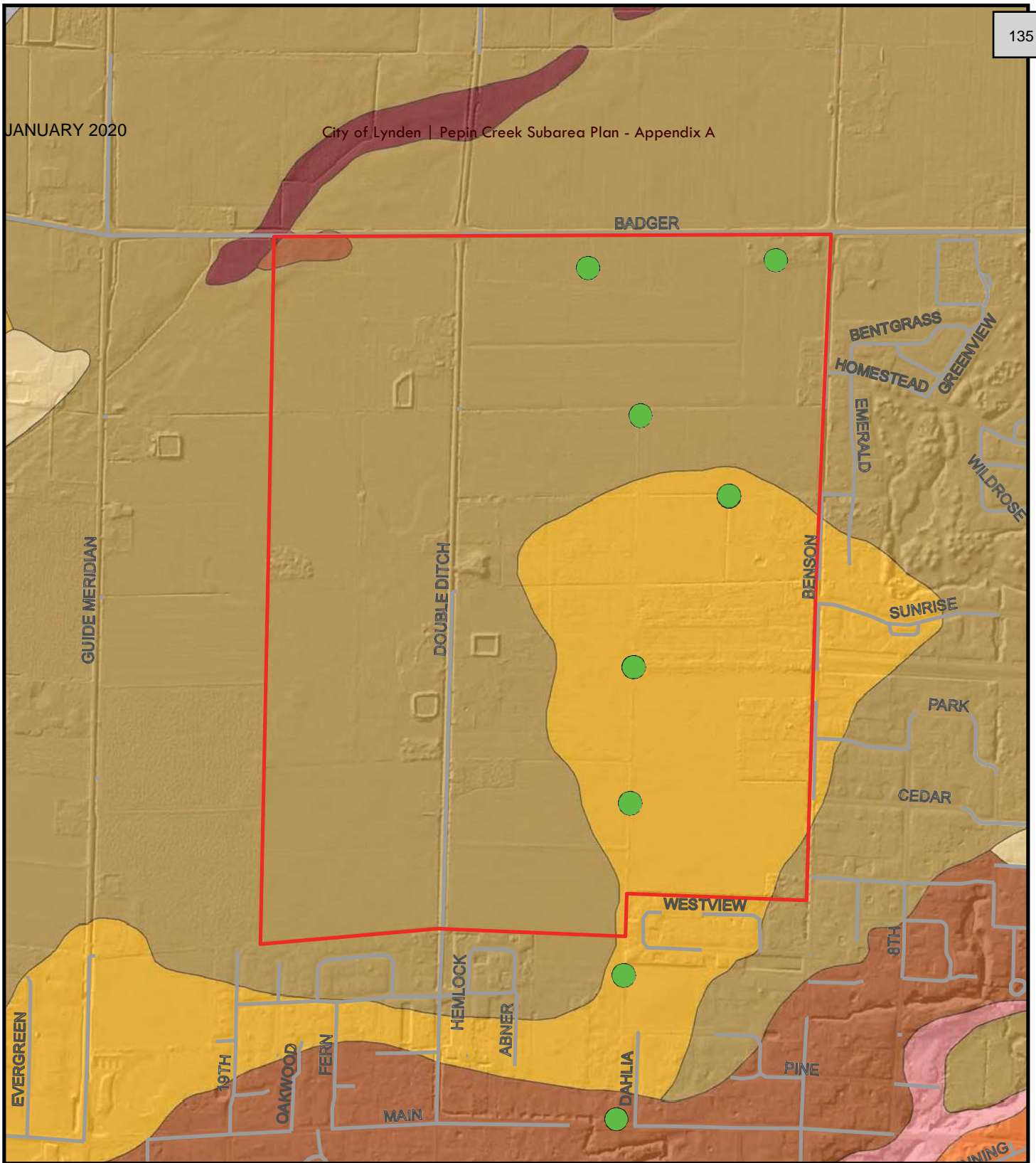
- Hale silt loam, drained,
0 to 2 percent slopes
- Laxton loam,
0 to 3 percent slopes
- Lynden-Urban land complex,
0 to 3 percent slopes
- Lynnwood sandy loam,
5 to 20 percent slopes
- Tromp loam, 0 to 2
percent slopes

**Exhibit 5.
Mapped Soil Classifications and Groundwater
Monitoring Well Locations in the Vicinity of
the Pepin Creek Sub-Area.**

0 450 900 1,800
Feet

JANUARY 2020

City of Lynden | Pepin Creek Subarea Plan - Appendix A



Topography and Soils

LiDAR imagery obtained from Puget Sound LiDAR Consortium shows that the study area gradually slopes to the south toward the Nooksack River. Elevation ranges from 65 to 116 feet above sea level (PSLC 2017).

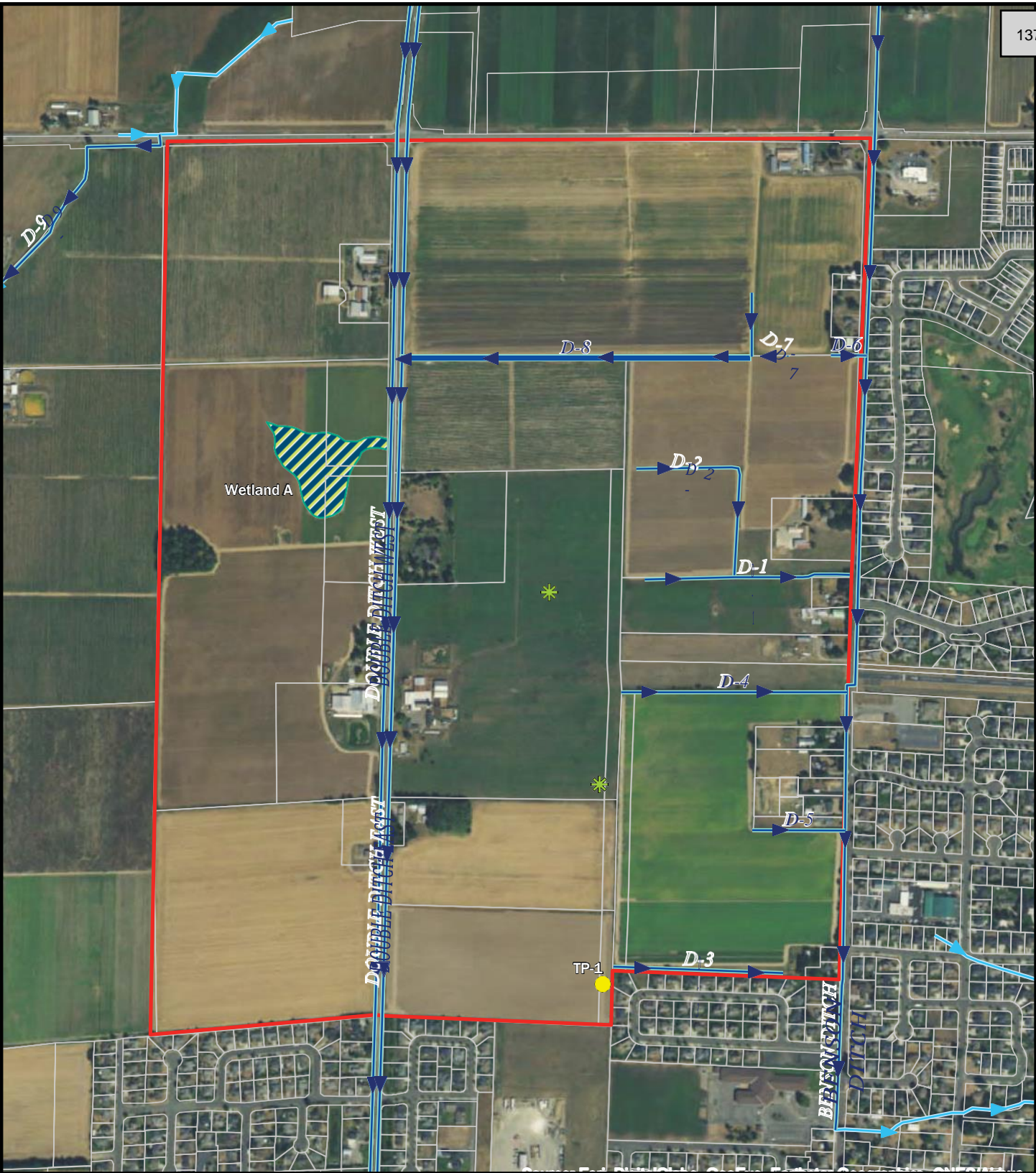
The Natural Resources Conservation Service (NRCS) classifies soils by hydric rating, which is useful in determining the presence of wetland soils in support of wetland determinations. The hydric rating indicates the percent of the map unit that meets the NRCS criteria for hydric soils (NRCS 2017b). Soil survey maps show that about two-thirds of site is rated as 88 percent hydric, corresponding to the Hale silt loam map unit, and about one-third of the site is rated as 34 percent hydric, corresponding to the Edmonds-Woodlyn loams map unit (NRCS 2017a) (Exhibit 5). Hydric soil mapping indicates a potential for wetlands to occur within the PCSA because hydric soils are an indicator of wetland presence. However, the NRCS soil mapping also indicates that the Hale silt loam map unit is drained. Therefore, wetland hydrology may not be present within that map unit, depending on the extent of drained conditions. A formal wetland determination, including an evaluation of hydric soil, wetland hydrology, and hydrophytic vegetation indicators, is necessary to confirm wetland presence.

4.1.2. Reconnaissance-Level Field Investigation

Potential Wetland Areas

Herrera biologists observed a depression and swale-like feature west of Double Ditch Road with saturated soil, localized ponding, and emergent vegetation; it is shown as Wetland A on Exhibit 6. The area corresponds to the emergent wetland mapped by NWI (USFWS 2017) and Whatcom County (2017). The swale connects to Double Ditch West. In addition, localized depressions containing surface water and/or saturated soils were observed, indicating areas of potential wetlands, but a detailed investigation was not possible due to limited access. In addition, wetland habitat conditions were commonly observed along ditches occurring within the PCSA. Based on the potential for a high groundwater table during the early growing season and presence of mapped hydric soils, it is possible that other wetlands are present in the study area. Further investigation and a formal wetland determination followed by delineation are necessary to confirm wetland presence.

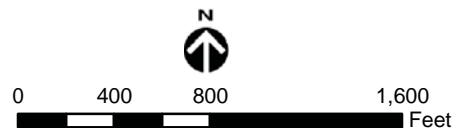
Herrera biologists searched for the ponded wetland that was mapped by NWI and Whatcom County (Exhibit 2) but did not find a pond at that location.



Legend

- Study Area
- Parcels
- Observed Wetland
- ▶ Observed Streams and Ditches
- ▶ Streams and Ditches (City of Lynden)
- TP-1 (Test Pit)
- ✱ Observed Ponding and Surface Soil Saturation

Exhibit 6.
Wetlands, Streams, and Ditches Observed in the Study Area.



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Soils

The test pit shown on Exhibit 6 was dug in an area that is mapped as Edmonds-Woodlyn loams. The hydric rating for that map unit is 34 percent hydric. Soil in the top 16 inches of the test pit was dark brown (7.5YR 3/2) silt loam. Saturation was present at 6 inches below the surface; however, an underlying water table was not observed in the test pit. From 16 to 24 inches, the soil was brown (7.5YR 5/2) silt loam with 40 percent prominent, strong brown (7.5YR 4/6) redoximorphic features. The soil in the test pit does not meet the criteria for a hydric soil (USACE 2010).

4.1.3. Wetland Classification and Buffers

According to the Ecology wetland rating system (Hruby 2014), a preliminary rating of Category IV applies to Wetland A west of Double Ditch Road and wetlands lining ditches in the PCSA. The rating is based on moderate level of functions for water quality improvement, low to moderate level of hydrologic function, and low to moderate level of habitat functions. According to the Hydrogeomorphic Classification system (Brinson 1993), Wetland A is a depressional wetland and the ditch wetlands are either depressional or riverine. Wetland A and the ditch wetlands are palustrine emergent wetlands according to the USFWS classification system (Cowardin et al. 1979). Standard wetland buffers are based on classification (rating) (LMC 16.16.300). For Category IV wetlands, the standard buffer width is 25 feet.

4.2. FISH AND WILDLIFE HABITAT CONSERVATION AREAS

FWHCAs noted during the site reconnaissance include streams and ditches in the study area. Those aquatic resources include WDFW priority habitats for federal and state listed species (WDFW 2017a), and documented habitat for locally important species according to the LMC. Wetland habitats that are also designated as FWHCAs are subject to the wetland requirements established in LMC 16.16.260 through 16.16.310; they are described in the Wetlands section, above.

The terrestrial habitats in the study area consist of agriculture, grassland, and pasture. They provide habitat for a variety of bird species but are not documented WDFW Priority Habitats or habitats for species of local importance according to the LMC. Therefore, this section focuses on the Double Ditch and Benson Ditch systems.

4.2.1. Background Information

The Double Ditch and Benson Ditch systems generally consist of manmade roadside or farm ditches from the US-Canada border to Main Street in Lynden. The ditches are characterized as straight, prismatic channels with relatively low roughness, typically grass-lined and armored, with little or no shading or flow complexity (NLWID 2010). The ditch systems were constructed beginning in the late 19th Century to drain wetlands and support agricultural expansion into the area north of the Nooksack River (Hawley 1945). There are numerous road and farm access crossings along Double Ditch West, Double Ditch East, and Benson Ditch, many of which act as hydraulic constrictions during periods of high flow (NHC 2014). The NWI identifies Double Ditch West and Benson Ditch as deepwater habitats occurring in the study area (Exhibits 2 and 3).

Pepin Creek originates in Canada and flows southwest to the US-Canada border. Between the border and Main Street in Lynden, Pepin Creek is conveyed by two parallel farm ditches, Double Ditch West and Double Ditch East. The two ditches join at Main Street and flow along the north side of Main Street before passing through a box culvert. Downstream of Main Street, the stream becomes steeper and more confined before discharging into Fishtrap Creek (NHC 2014). According to the Whatcom County fish habitat conservation areas map, Double Ditch West and Double Ditch East are fish-bearing streams with current known distribution (Whatcom County 2017). Documented presence of salmonids in Double Ditch East includes fall Chinook salmon (spawning), winter steelhead (spawning), coho salmon (rearing), and fall chum salmon (WDFW 2017b). In addition, the presence of bull trout is presumed. Fall chum salmon and bull trout presence is presumed in Double Ditch West; and modeled presence of salmonids includes winter steelhead, bull trout, pink salmon, and fall Chinook salmon (WDFW 2017a). In addition, two species of rare sucker, the Nooksack Dace and Salish Sucker, have been observed in Double Ditch (NLWID 2010). Federal and state listing status of fish species are shown in Exhibit 7.

Benson Ditch is generally a single roadside ditch along Benson Road that begins near the US-Canada border. Benson Ditch flows south along the east side of Benson Road until just south of the Lynden airport, where it crosses to the west side of the road. The ditch is directed toward Fishtrap Creek south of Isom Elementary School. According to the Whatcom County fish habitat conservation areas map, Benson Ditch has presumed potential/historical distribution of fish (Whatcom County 2017). Benson Ditch is modeled habitat for winter steelhead, pink salmon, coho salmon, and bull trout (WDFW 2017b). The ditch is typically dry from mid-June to early October (NLWID 2010).

Exhibit 7. Federal and State Listing Status of Fish in the Study Area.

FISH SPECIES	FEDERAL STATUS	STATE STATUS
Puget Sound Chinook	Threatened	Species of Concern
Puget Sound steelhead	Threatened	none
Bull trout	Threatened	Species of Concern
Coho salmon	none	none
Pink salmon	none	none
Fall chum	none	none
Salish sucker	none	State monitored
Nooksack dace	none	none

Source: WDFW 2017c

Habitat conditions in Double Ditch and Benson Ditch were assessed for the North Lynden Watershed Improvement District Drainage and Fish Habitat Management Plan (NLWID 2010). Results of those investigations are presented in Exhibit 8.

Exhibit 8. Ditch Characterization from North Lynden Watershed Improvement District Drainage and Fish Habitat Management Plan.

	DOUBLE DITCH¹	BENSON DITCH²
Habitat Conditions	Minimal habitat. Long glide sections with minimal riffles. Fine sand and silt substrate. Reed canarygrass encroaches into channel during summer.	Minimal habitat. This reach is usually dry from mid-June to early October.
Riparian Characteristics	Predominately reed canarygrass. Small areas with trees and shrubs associated with home landscaping.	Mostly grasses. Some woody vegetation where the ditch passes by farmsteads and homes.
Fish Passage Barriers	None	None
Spawning Habitat	Very limited due to lack of riffles, poor quality substrate	None
Fish Utilization	Transit, rearing for salmon and trout	Winter rearing for salmon and trout

1 The east and west branches of Double Ditch within the study area

2 Benson Ditch from East Badger Road to East Boundary Road (north of the study area)

4.2.2. Reconnaissance-Level Field Investigation

Within the study area, Herrera biologists identified Double Ditch (East and West), Benson Ditch, and nine connecting lateral/tributary ditches (see Exhibit 6). Characteristics of the ditches in the study area are summarized in Exhibit 9.

Exhibit 9. Ditches in the Study Area.

NAME	FLOWS TO	WIDTH OF OHWM	FLOW, SATURATION	WETTED DEPTH	NOTES
Benson Ditch	Fishtrap Creek	7 feet	Seasonal	12 inches	Glide habitat, fine substrate, iron bacteria
D-1	Benson Ditch	4.5 feet	Seasonal, saturated	N/A	Wetland fringes, no OHWM west of a concrete culvert that enters south of the barn.
D-2	D-1, Benson Ditch	1.8 feet	Seasonal, saturated	N/A	North-south segment contains wetland fringes, vegetated with pasture grasses and RCG. East-west segment is unvegetated.
D-3	No outlet	No evident OHWM	Seasonal, saturated	N/A	Wetland habitat, vegetated with RCG, one cedar growing in ditch. Eastern end of the ditch is filled in at new housing development.
D-4	Benson Ditch	3 feet	Seasonal, saturated	N/A	Wetland fringes, vegetated with RCG. Width of wetland including ditch is 9 feet near Benson Road.
D-5	Benson Ditch	No evident OHWM	Seasonal, saturated	N/A	Did not have permission to access. Wetland fringes, vegetated with RCG, observed from Benson Road.
D-6	Benson Ditch	No evident OHWM	Seasonal, saturated	N/A	Ditch is filled in except for a small section near Benson Road. There are signs of flooding on adjacent field.
Double Ditch East	Pepin Creek	11 feet	Perennial	16 inches	Wetland fringe is 1 to 2 feet wide on each side. Steep banks.
Double Ditch West	Pepin Creek	6.6 feet	Perennial	26 inches	Wetland fringe is 1 to 2 feet wide on each side. Steep banks.
D-7 north-south segment	Double Ditch East	3.5 feet	Seasonal, saturated	N/A	Wetland fringes, vegetated with RCG, cottonwood saplings.
D-7 east-west segment	Double Ditch	2.5 feet	Seasonal, saturated	N/A	Wetland fringes, vegetated with RCG.
D-8	Double Ditch	5 feet	Seasonal, saturated	N/A	Bare substrate transitioning to RCG-filled ditch to the west. Water observed in ditch near Double Ditch Road.
D-9	Bertrand Creek	6 feet	Seasonal, standing water	3 inches	1- to 2-foot wetland fringe along each site. Substrate is fine sand, small gravel.

N/A = Not applicable, no flow observed during site visit or no access; OHWM = ordinary high water mark; RCG = reed canarygrass

4.2.3. Stream Classification and Buffers

Streams designated as FWHCAs according to LMC 16.16.330 were classified. Stream classes and corresponding standard buffer widths are presented in Exhibit 10.

Exhibit 10. Preliminary Stream Classes and Standard Buffers for Ditches in the Study Area.

STREAM/DITCH	STREAM CLASS (CITY OF LYNDEN)	RATIONALE	BUFFER WIDTH (FEET)
Benson Ditch	Class B	Seasonal habitat for anadromous or resident fish populations	100
D-1	Class B	Seasonal habitat for anadromous or resident fish populations. Connects to Benson Ditch, no barriers present	100
D-2	Class B	Seasonal habitat for anadromous or resident fish populations. Connects to Benson Ditch via D-1, no barriers present	100
D-4	Class B	Seasonal habitat for anadromous or resident fish populations. Connects to Benson Ditch, no barriers present	100
D-5	Class B	Seasonal habitat for anadromous or resident fish populations. Connects to Benson Ditch, no barriers present	100
D-6	Class C	Fish presence unlikely, limited habitat	50
Double Ditch East	Class A	Documented fish presence, federally listed species	150
Double Ditch West	Class A	Documented fish presence, federally listed species	150
D-7	Class C	Fish presence unlikely. The ditch is partially filled in, no connection with fish bearing waters.	50
D-8	Class B	Seasonal habitat for anadromous or resident fish populations	100
D-9	Class B	Seasonal habitat for anadromous or resident fish populations. Connects to Bertrand Creek	100

5.0 References

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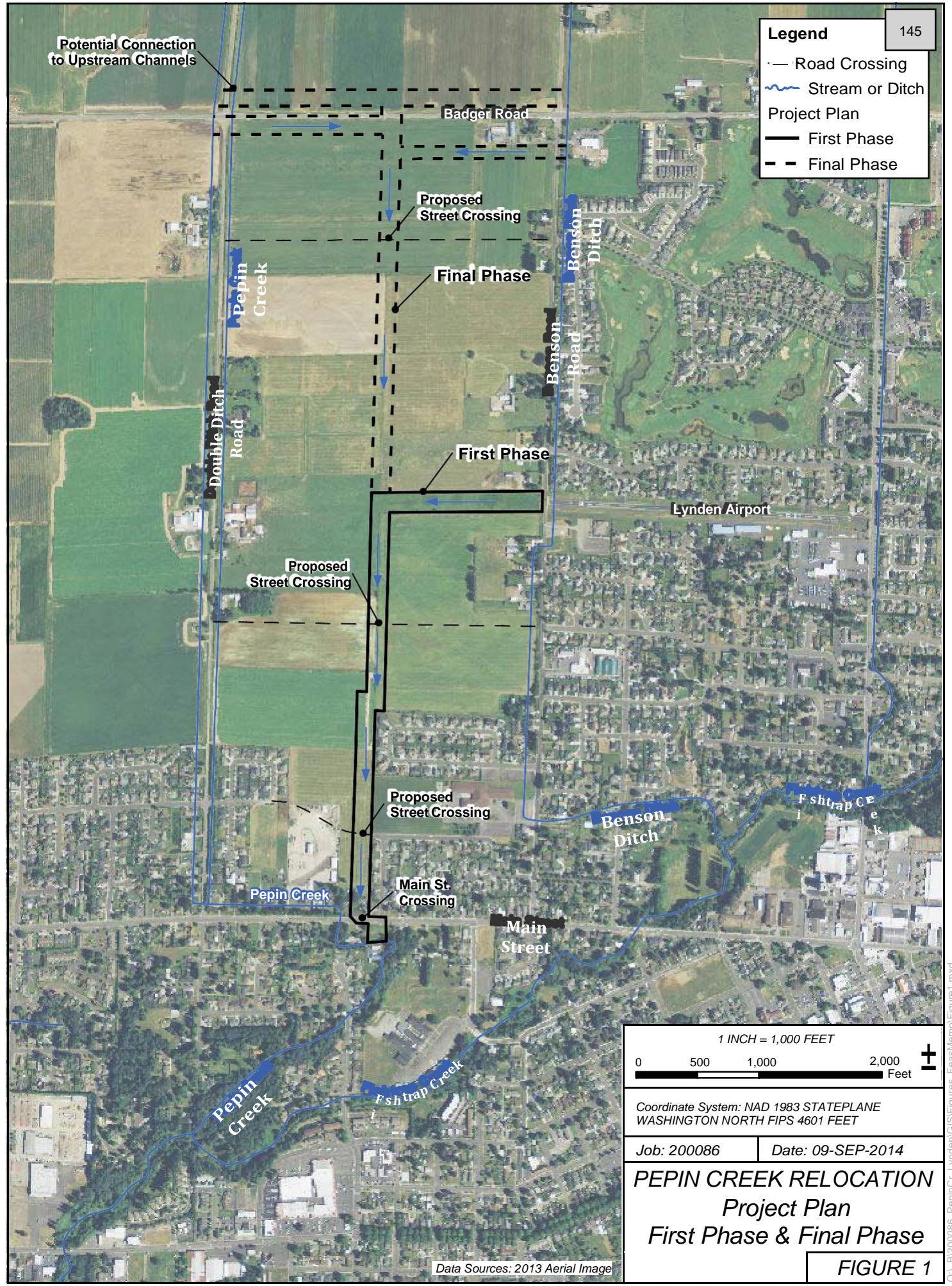
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Legend

- Road Crossing
- ~ Stream or Ditch
- Project Plan
- First Phase
- - Final Phase



1 INCH = 1,000 FEET

0 500 1,000 2,000 Feet

Coordinate System: NAD 1983 STATEPLANE WASHINGTON NORTH FIPS 4601 FEET

Job: 200086 Date: 09-SEP-2014

PEPIN CREEK RELOCATION
Project Plan
First Phase & Final Phase

FIGURE 1

Data Sources: 2013 Aerial Image

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Appendix B – Council Workshop

Session Name: New Session 11-30-2017 8-54 PM
 Date Created: 11/30/2017 6:48:42 PM

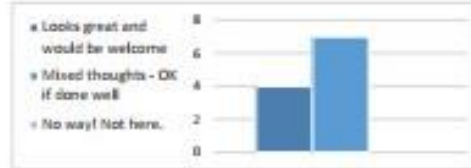
Active Participants: 12 of 12
 Questions: 7

Results by Question

1. Small Lot Housing (Multiple Choice)

Looks great and would be welcome
 Mixed thoughts - OK if done well
 No way! Not here.

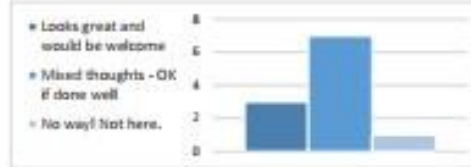
Responses		
Percent	Count	
36%	4	
64%	7	
0%	0	
100%	11	Totals



2. Detached Cottage Lots (Multiple Choice)

Looks great and would be welcome
 Mixed thoughts - OK if done well
 No way! Not here.

Responses		
Percent	Count	
27%	3	
64%	7	
9%	1	
100%	11	Totals



3. Townhome Lots (Multiple Choice)

Looks great and would be welcome
 Mixed thoughts - OK if done well
 No way! Not here.

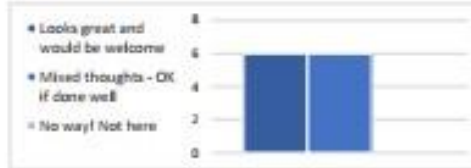
Responses		
Percent	Count	
9%	1	
91%	10	
0%	0	
100%	11	Totals



4. Attached / Clustered (Multiple Choice)

Looks great and would be welcome
 Mixed thoughts - OK if done well
 No way! Not here.

Responses		
Percent	Count	
50%	6	
50%	6	
0%	0	
100%	12	Totals



5. Mixed Housing with Density (Multiple Choice)

Looks great and would be welcome
 Mixed thoughts - OK if done well
 No way! Not here.

Responses		
Percent	Count	
0%	0	
33%	4	
67%	8	
100%	12	Totals



6. Stacked Units (Multiple Choice)

Looks great and would be welcome
 Mixed thoughts - OK if done well
 No way! Not here.

Responses		
Percent	Count	
0%	0	
9%	1	
91%	10	
100%	11	Totals



7. What unit count should be our goal in Pepin Creek? (Multiple Choice)

1,100 - 1,300
 1,300 - 1,700
 1,700 - 2,000

Responses		
Percent	Count	
0%	0	
8%	1	
92%	11	
100%	12	Totals



Appendix C – Transportation Analysis

As identified in the Existing Conditions Report in Appendix A, there are few roads serving the study area given its low intensity and agricultural development pattern. The Lynden Comprehensive Plan anticipates the need for transportation improvements in the PCSA. The Transportation Element forecasts growth of up to 1,096 households in the Subarea, which will require roadway improvements that support cars, bicycles, and pedestrians. Lynden’s Transportation Element is focused on intersection operations though adequate road extensions and design are also considered.

The County and cities tested different growth in the PCSA to support Comprehensive Plan Updates in 2016 with results included in an [Environmental Impact Statement \(EIS\)](#). Assumptions of different plans and studies regarding future growth are noted below.

Pepin Creek Growth Assumptions – Transportation Modeling

Scenario	Households
Whatcom County Alternative 1: 2013 No Action 2016	578
Whatcom County Alternative 2: Historic Shares 2016	727
Lynden Transportation Element 2016 Whatcom County Alternative 3: Multi-Jurisdictional Resolution 2016	1,096
Whatcom County Alternative 4 Targeted Land Use Change 2016	1,433
Whatcom County Preferred Alternative 2016	927
Pepin Creek Subarea Evaluation (WCOG) 2019	1,559

Source: Whatcom County Land Capacity Analysis and Transportation Analysis Zone Assumptions, 2016; Lynden Transportation Element, 2016; WCOG, 2019.

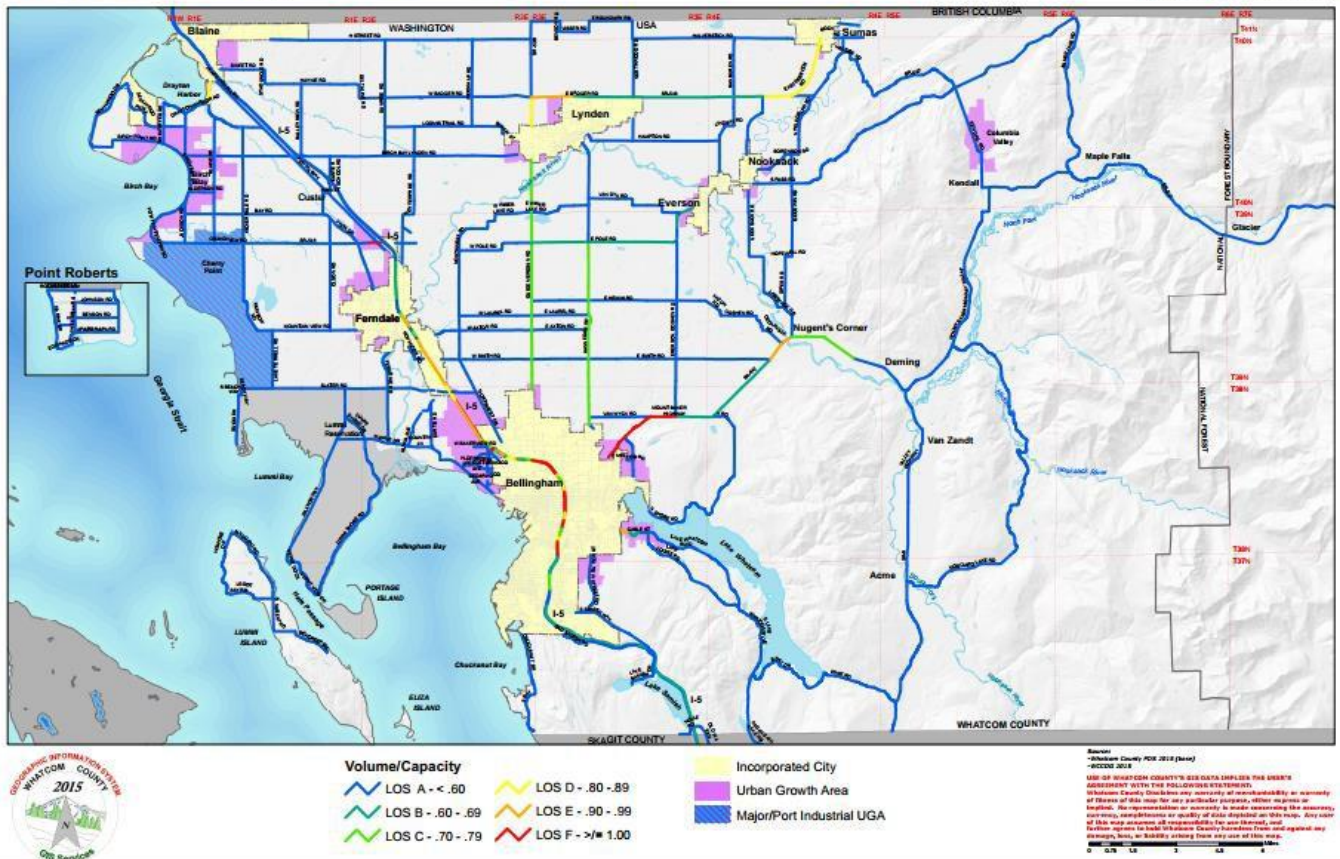
At a countywide scale, the 2016 analysis focused on the volume/capacity (V/C) ratios of roadways. To calculate the V/C of a road segment, projected weekday afternoon peak-hour traffic volume is divided by the road’s hourly carrying capacity. Roadway level of service (LOS) designations range from unrestricted flow of traffic (LOS A) to stop-and-go traffic (LOS F). At LOS C or better, a road segment is less than 80% full (or a V/C less than 0.80). The flow of traffic is generally stable, though individual users are significantly affected by the presence of other vehicles. At LOS D, the volume-to-capacity ratio is greater than or equal to 0.80 but less than 0.90. At LOS D, small increases in flow may cause some delays and decreases in speed during the afternoon peak hour. The adopted level of service is C for rural arterials and collectors, and D for rural primary routes and urban arterials.

Results of the Preferred Alternative tested in 2016 indicated roadway operations at LOS C or better except that Guide Meridian Road functioned at LOS D between the city limits and East Badger Road, and East Badger Road operated at LOS E between Guide Meridian and the city limits as shown below.

Exhibit 289. Whatcom County Transportation Analysis Map

Whatcom County | Comprehensive Plan

Map 6-5 Level of Service 2013



Additional analysis of other alternatives can be found in the [2016 Comprehensive Plan and Development Regulations Update and Urban Growth Area \(UGA\) Review EIS](#).

Recognizing the more focused subarea planning effort for the PSCA, the City of Lynden engaged the Whatcom Council of Governments (WCOG) to test greater numbers of households, evaluating about 1,969 households, or 1,042 above the Preferred Alternative evaluated in a 2016 Final Environmental Impact Statement. The households tested represent an occupancy rate of 97% of the 2,020 housing units the upper range considered in fall 2017.

The range of units and trips tested in the 2016 EIS and in 2018 for the Subarea Master Plan is listed below.

Exhibit 3029. Housing Units, Households and Trips

Alternative	Housing Units	Households	Trips
Whatcom County Alternative 1 2013 No Action	594	578	75
Whatcom County Alternative 2 Historic Shares	745	727	101
Whatcom County Alternative 3 Multi-Jurisdictional Resolution (Lynden Transportation Element)	1,124	1,096	156
Whatcom County Alternative 4 Targeted Land Use Change	1,470	1,433	206
Whatcom County Preferred Alternative 2016	951	927	132
Pepin Creek Subarea Master Plan (maximum tested)	1,600	1559	224

Source: WCOG, 2019.

In addition to the regional network tested in the 2016 EIS, WCOG added the effect of additional road extensions including the development of Pepin Parkway from Homestead Blvd and extended through the subarea to Double Ditch Road at the point of the bridge anticipated to cross Pepin Creek. The connection of Double Ditch Road to Badger Road is deleted.

Most of the units were added in the northern half of the study area. The results of the 2019 analysis by the WCOG indicated general consistency with the Preferred Alternative results, and:

- Congestion relief on most of Double Ditch Road
- Congestion relief on most of Benson Road
- Slight volume increase on Benson Road between Badger Road and Homestead Blvd.
- Volume increase on Double Ditch Road between the proposed Pepin Parkway and Main Street.

Overall, the WCOG found the model showed sufficient capacity.

Appendix D – Financial Analysis

To understand whether development will be feasible under the assumption that developers will pay the remaining cost of all improvements to support development, BERK completed a development feasibility analysis to estimate the level of City investment, if any, that is needed to make development of the Pepin Creek Subarea feasible. Since development feasibility analysis is by nature speculative, it has been completed to an order of magnitude precision, with final values rounded to the nearest 1,000. Where per square foot values are estimated, they are rounded to the nearest 0.10.

The subarea is 460 acres of which we expect approximately 270 acres to be developable. The remaining acreage is undevelopable for two reasons:

- Infrastructure to support new development will consume a portion of the acreage.
- Some of the land is unsuitable for development for environmental reasons.

The remaining acreage still must be purchased by the developer(s), as it is either where the necessary transportation and utility infrastructure for the development will be sited or it is, realistically, to be sold part and parcel with the developable land. Additionally, this land is where the environmental improvements needed to make the subarea developable, like the Pepin Creek downstream stabilization and realignment, will occur.

This share of undevelopable land, coupled with the variation in development allowable based on a midrange land use scenario, which assumes 1,381 new housing units for the development, means that not all the land will have the same value. However, as the developer will ultimately be responsible for all the infrastructure, it is to be expected that they will need to factor the cost of all the land into their feasibility assessment. For this reason, the currently undevelopable land is valued as if it is all created equally on a square footage basis.

The total land value per the Whatcom County Assessor is \$9,775,483. The assessor’s value for this property is likely to be low for two reasons:

- It is generally accepted that Whatcom County Assessor’s property assessments, like all county assessments in Washington state, are conservative. Coupled with the Whatcom County Assessor’s assessment, whereby 1/6th of County’s properties are annually physically inspected, leading to somewhat stale assessment values, it is expected that the assessment would be modestly below market value.
- Both the City of Lynden’s 2016 Comprehensive Plan and the forthcoming Pepin Creek Subarea Plan will signal to the market that the Pepin Creek Subarea is the next logical site for development in the City of Lynden. The subarea’s updated zoning, which will allow for more intensive development than elsewhere in the city, increases the development potential of the land and its value.

One of the parcels within the subarea, the Bovenkamp property, recently sold for 133% above market value, confirming that the Whatcom County Assessor’s assessments for these properties are likely significantly under market value. To account for this potential undervaluing, we assumed that the land will cost between 125% and 150% more than the Whatcom County Assessor estimates, for a total land value (rounded to the nearest \$1,000 of \$21,995,000 to \$24,439,000).

BERK then added the estimated cost of the infrastructure investments needed to make the land developable. The total infrastructure costs are \$98,229,000; developers will also need to contribute up

to \$17,139,591 in utility connection fees for water, sewer, and stormwater to support the development. The desire is that developers will bear these costs fully, except for an already-committed contribution of \$16,810,709 from the City to support the regional and local road improvements, and the creek realignment and downstream stabilization. Because this feasibility assessment seeks to identify the City of Lynden’s contributions to these infrastructure costs, if any, that will be necessary to support the development there are two bounds identified for this analysis:

- ~~Threshold Feasibility. Developers can buy the land and pay their existing commitments, for a total cost of between \$74,470,000 and \$76,914,000.~~
- ~~Full Feasibility. Developers can buy the land and pay the total infrastructure costs less the existing city commitment, for a total cost of between \$120,553,000 and \$122,997,000.~~

These analytic bounds and the resulting cost per square foot of developable land are shown in Exhibit 30.

Exhibit 30. Cost per Square Foot of Developable Land

	Threshold Feasibility (Existing Developer Commitment)		Full Feasibility (Total Infrastructure Costs less Existing City Commitment²)	
	Low	High	Low	High
Total Land Value	\$ 21,995,000	\$ 24,439,000	\$ 21,995,000	\$ 24,439,000
Total Infrastructure Costs	\$ 52,475,000	\$ 52,475,000	\$ 98,558,000	\$ 98,558,000
TOTAL COST	\$ 74,470,000	\$ 76,914,000	\$ 120,553,000	\$ 122,997,000
Cost per Square Foot of Developable Land \$	6.40	6.60	10.30	10.50

Source: Whatcom County Assessor’s Office, 2018, and BERK Consulting, 2019.

The values above present a range of costs for the developable land. For the project to be feasible under the bounds of the analysis, the value of the land must be greater than its costs, based on the assumption that developers will not pursue a project unless it is profitable. Since the value of the developable land is not known, the analysis compares the cost of the developable land to the value of land in comparable developments. BERK identified six comparable developments for the purposes of this comparison, including:

- ~~Homestead — Lynden, WA~~
- ~~Pacific Highlands — Ferndale, WA~~
- ~~Pacific Heights — Ferndale, WA~~
- ~~Skyview — Ferndale, WA~~
- ~~Douglas Place — Ferndale, WA~~
- ~~South Douglas — Ferndale, WA~~

Whatcom County Assessor’s data provides approximate land values for the land in these comparable developments. It is expected that the assessments for these properties also significantly under-values the land. Because the land is already developed, it is expected that that undervaluing is not nearly as significant. The Whatcom County Assessor’s potential undervaluing of the land is accounted for by adjusting these values upward by a low value of 25% and high of 50%.

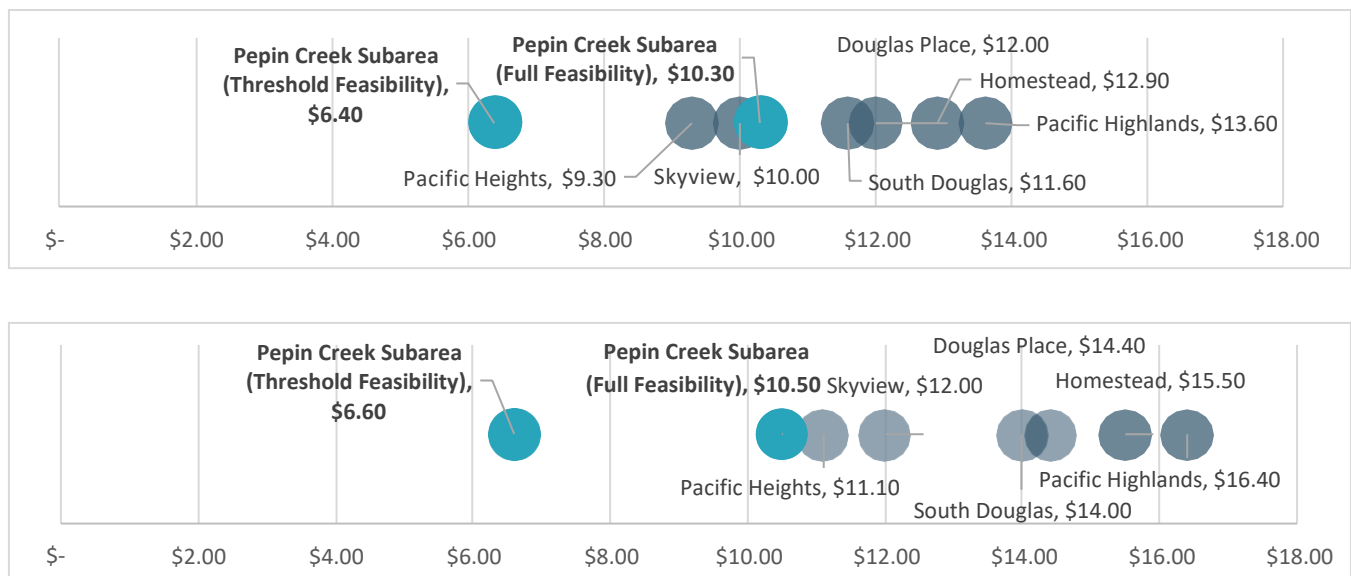
Exhibit 31. Per Square Foot Land Values for Comparable Developments in Whatcom County

Comparable Development	City	Per Square Foot Land Value
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Source: Whatcom County Assessor's Office, 2018; and BERK Consulting, 2018.

These potential values can then be compared to the per square foot values estimated for the cost of the Pepin Creek Subarea land, as shown in Exhibit 30.

Exhibit 32. Comparison of Pepin Creek Subarea Developable Land Costs to Land Values in Comparable Developments (Low (top), based on 25% adjustment to Assessor's value, and High (bottom), based on 50% adjustment to Assessor's values)



The comparison shows that in both feasibility scenarios (threshold and full feasibility), the Pepin Creek subarea developable land value is on the lower end and within the values of comparable developments. It is important to remember that cost of the land and value of the land are not the same thing, as the former does not account for the developer's profit. It is expected that for this project to be feasible the future value of the land must be within the values of comparable developments. Profit is not factored into this because developer's expectations for profit for this kind of development are not known.

Source: Pepin Creek Financial Mitigation Strategies Study. BERK Consulting, Inc February 11, 2021

To help indicate whether the planned capital projects will inhibit development, BERK analyzed comparable development costs from other housing and mixed-use developments within the region. The underlying assumption to this analysis is that the costs of existing infrastructure investments are capitalized into the land value. By comparing the fully developed land value for similar existing housing developments with the expected market value of the land within the Subarea plus necessary infrastructure and permitting development costs, some indication of the relative developer burden can be found.

The subarea is 460 acres of which we expect approximately 307 acres to be developable. The remaining acreage is undevelopable for two reasons:

- Infrastructure to support new development will consume a portion of the acreage.
- Some of the land is unsuitable for development due to critical areas (e.g. wetlands).

This undevelopable land, coupled with the variation in development allowable based on the theoretical midrange land use scenario, which assumes 1,568 new housing units for the development, means that not all the land will have the same value. However, as the developer will ultimately be responsible for all the infrastructure, it is to be expected that they will need to factor the cost of all the land into their feasibility assessment. For this reason, the currently undevelopable land is valued as if it is all created equally on a square footage basis.

The 2017 total land value per the Whatcom County Assessor is \$8,172,000. The assessor’s value for these properties is likely to be low for two reasons:

- Whatcom County Assessor’s property assessments are likely conservative, as shown by a comparison of sale values and assessed values. Coupled with the conservative assessment, Whatcom County Assessor’s assessment schedule is to inspect 1/6th of County’s properties annually, leading to a lag in assessment values.
- Both the City of Lynden’s 2016 Comprehensive Plan and the Pepin Creek Subarea Plan will signal to the market that the Pepin Creek Subarea is the next logical site for the development in the City of Lynden. The subarea’s updated zoning, which will allow for more intensive development than elsewhere in the City, increases the development potential of the land and its value.

One of the parcels within the subarea, the Boenkamp property, sold for \$3,500,000, significantly above the Whatcom County Assessor’s assessed market value. On a developable per acre basis, the Boenkamp property sold for 199% more per acre than the per developable acre value for the Subarea as a whole. Another pending sale is 656% more per acre. To account for this potential undervaluing, BERK used these two values, 199% and 656%, as the lower and upper bounds to estimate the market value of the Subarea developable acreage.

BERK then added the estimated cost of the infrastructure investments needed to make the land developable under City plans and requirements. This infrastructure cost includes regional road improvements beyond those connected to Pepin Creek Lite; inner development roads; water and sewer improvements; stormwater improvements; and utility connection fees. Across the Subarea these costs are estimated to be \$52,421,000. The maximum developer portion (98.7%) of the Pepin Creek Lite is \$30,085,000; after accounting for a \$3,900,000 grant, the assumed Pepin Creek Lite burden assumed in this analysis is \$26,185,000.

- **Current Infrastructure and Permitting Development Costs.** Developers can buy the land and pay their existing commitments, for a total cost of between \$68,689,000 and \$105,990,000.
- **Infrastructure and Permitting Development Costs Including Pepin Creek Lite.** Developers can buy the land and pay the total infrastructure costs less the existing city commitment, for a total cost of between \$94,874,000 and \$132,175,000.

These analytic bounds and the resulting cost per square foot of developable land are shown in Exhibit 31.

Exhibit 31. Cost per Square Foot of Developable Land for Pepin Creek Lite.

	Current Infrastructure and Permitting Development Costs		Infrastructure and Permitting Development Costs Including Pepin Creek	
	Low	High	Low	High
Total Land Value	\$16,268,000	\$53,569,000	\$16,268,000	\$53,569,000
Total Infrastructure Costs	\$52,421,000	\$52,421,000	\$78,606,000	\$78,606,000
TOTAL COST	\$68,689,000	\$105,990,000	\$94,874,000	\$132,175,000
Cost per Square Foot of Developable Land	\$5.10	\$7.90	\$7.10	\$9.90

Note: Square foot costs rounded to the nearest \$0.10 and Subarea totals rounded to the nearest \$1,000.
 Sources: Whatcom County Assessor’s Office, 2018; and BERK Consulting, 2021.

The values above present a range of costs for the developable land. For the Pepin Creek Lite project to be feasible under the bounds of the analysis, the value of the land must be greater than its costs, based on the assumption that developers will not pursue a project unless it is profitable. Since the value of the developable land is not known, the analysis compares the costs of the developable land to the value of the land in comparable developments. BERK used the same size comparable developments as identified in the Subarea Plan:

- Homestead – Lynden, WA
- Pacific Highlands – Ferndale, WA
- Pacific Heights – Ferndale WA
- Skyview – Ferndale, WA
- Douglas Place – Ferndale, WA
- South Douglas – Ferndale, WA

Whatcom County Assessor data provides approximate land values for the land in these comparable developments. It is expected that the assessments for these properties also under values the land. However, as the land is already developed and infrastructure costs will be capitalized into the value, unlike the Subarea properties. For this reason, BERK used the Whatcom County Assessor’s market land values for these developments, shown in Exhibit 32.

Exhibit 32. Per Square Foot Land Values for Comparable Developments in Whatcom County

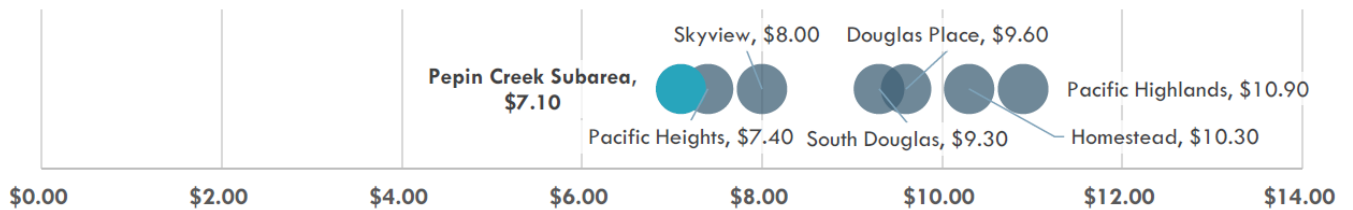
Comparable Development	City	Assessor Market per Square Foot Land Value
Pacific Highlands	Ferndale	\$10.90
Pacific Heights	Ferndale	\$7.40
Skyview	Ferndale	\$8.00
Douglas Place	Ferndale	\$9.60
South Douglas	Ferndale	\$9.30
Homestead	Lynden	\$10.30

Note: Square foot costs rounded to the nearest \$0.10 and Subarea totals rounded to the nearest \$1,000.
 Sources: Whatcom County Assessor’s Office, 2018; and BERK, 2018.

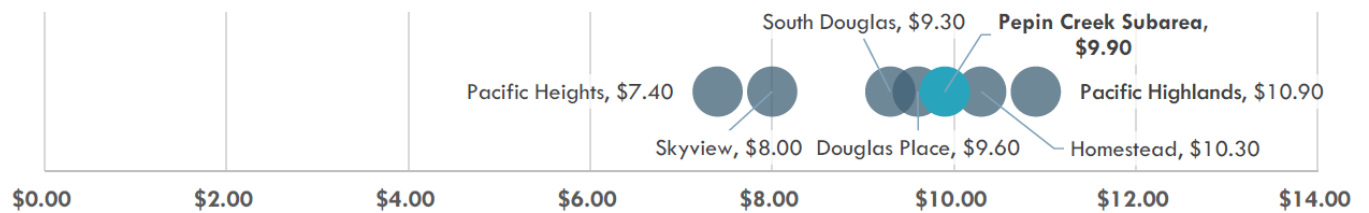
These potential values can then be compared to the per square foot values estimated for the cost of the Pepin Creek Subarea properties (Exhibit 33).

Exhibit 33. Comparison of Pepin Creek Lite Developable Costs to land Values in Comparable Developments.

Low: 199% Adjustment to Subarea Assessed Market Values



High: 656% Adjustment to Subarea Assessed Market Values



Note: Square foot costs rounded to the nearest \$0.10 and Subarea totals rounded to the nearest \$1,000.
 Sources: Whatcom County Assessor’s Office, 2018; City of Lynden, 2020; and BERK, 2021.

The comparison suggests that the costs of the City’s proposed developments for Pepin Creek Lite will result in development costs comparable to costs that developers were willing to pay in past developments. This analysis can only provide an indication of how the costs of the known and proposed development costs compare with existing developments. Ultimately, developers’ decisions will be made based on the market conditions at the time of development.

Appendix E – Flood Hazards

This appendix contains additional information to document the existing conditions related to flooding and flood hazards in the PCSA. The PCSA has experienced significant flooding and water inundation events in the past, which have endangered public safety and damaged or destroyed property. The most recent events were in 2009 and 2005. In 2005, the area was flooded as a result of heavy rainfall coupled with snow and ice melt and frozen ground.



North Lynden Flooding (looking south)



North Lynden Flooding (looking north)



Flooded fields in the PCSA

During this 2005 event, beginning north of the city and extending into Canada both Double Ditch and the Benson Road ditch systems were over-topped allowing water to sheet flow across roads and onto private properties. The drainage systems in developed areas which received the discharged water were not designed to handle such extreme conditions. The Homestead development on the east side of Benson Road north of the airport and the Dahlia Street and Pine Street areas were inundated with water. This flooding adversely affected emergency response, local traffic, and access to residences. Many insurance claims were filed based on the flooding, however, the City's insurance carrier denied the claims citing that the City's storm water system was adequate for the expected storm water volume and the storm event was far in excess of an expected or normal storm water condition. This left many city residents frustrated and without recourse for addressing their property damage.



Homestead Area (Emerald Way), Lynden (Four Photos)

During the 2009 flood event, the PCSA also experienced property damage and road closures:



Woodcreek Drive East



Pine Street



Double Ditch Road and Main Street Intersection – Looking South

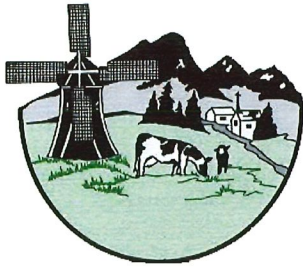
The Washington State Growth Management Act (GMA) requires cities to adopt policies and development regulations based on the best available science to protect critical areas. One such critical area designation required by GMA is “frequently flooded areas.” Lynden regulates frequently flooded areas within the city that are also part of the National Flood Insurance Program or within the 100-year flood plain designations of the Federal Emergency Management Agency. However, based on the known history of flooding in this basin under certain weather conditions, Lynden recognizes the need to address frequently flooded areas not presently captured in Lynden’s current flood management scheme. ~~This need would be addressed through adoption of a flood hazard mitigation overlay.~~

Lynden is required to consider the impacts of flooding and inundations of water prior to subdivision approval and may deny a subdivision application on based on such concerns. Also, the City may go beyond adopted regulations to ensure safety and prevent flood hazards when it is apparent that the regulations are not adequate to deter the type of flooding and inundations of water which occur in the PCSA. Prior to development, landowners ~~within the Flood Hazard Mitigation Overlay designation~~ will be required to implement mitigation measures to address potentially adverse environmental impacts to the natural and built environment.

~~A Flood Hazard Mitigation Overlay is recommended to include the entire PCSA. Its purpose is to~~ Development conditions within the PCSA must recognize and manage the flood hazards associated with a combination of surface flows from north of the city, ground water saturation, frozen and impervious soils, drainage limitations, heavy rainfall, and downstream constraints within the subarea. Based on the past history and these more recent flood records, development in the PCSA without proper mitigation will likely result in significant adverse impacts on area land development (housing and related ingress and egress), transportation (street systems, traffic movement, and traffic hazards) and public services and utilities (police, fire, emergency access, communications, and water and sewer).

~~The Flood Hazard Mitigation Overlay~~Flood area management is intended to assure that development in the subarea is designed and permitted to prevent cumulative negative impacts within the PCSA and the surrounding community. The City has a strong interest in preventing the future flooding of residential neighborhoods, avoiding the life safety concerns associated with flooded public roads and road closures, and protecting public and private property from flood damage, all of which has occurred in past storm events in the PCSA. The City has been working to design infrastructure which would mitigate these flooding events which has been referred to as the “Pepin Creek Realignment Project”. Acceptable mitigation strategies for the overlay will be further defined by the City and it is recommended that a subsequent study of potential mitigation for development in the PCSA be completed concurrently with the Pepin Creek Realignment Project design.

~~Note: A Flood Hazard Mitigation ordinance is likely to be presented for City Council approval concurrently with the Pepin Creek Subarea Plan and will be added to this appendix prior to finalization.~~



City of Lynden

Comprehensive Plan Amendment Application

I. APPLICANT INFORMATION

Name: City of Lynden Planning Department

Address: 300 4th Street, Lynden WA

Telephone Number: (360) 354-5532 Fax Number: _____

E-mail Address: guddeh@lyndenwa.org

II. CHECK THE APPROPRIATE BOXES

Comprehensive Plan Map Amendment

Comprehensive Text Amendment

III. SUMMARIZE THE CHANGES YOU ARE PROPOSING:

Updates the Comp Plan to be consistent with Pepin Lite infrastructure.

Updates the Comp Plan to be consistent with Pepin Lite infrastructure.

Updates the Comp Plan to be consistent with Pepin Lite infrastructure.

IV. FOR MAP AMENDMENTS:

A. Tax Parcel Number(s): NA

Site Address: _____

Total Acreage: _____

Property Owner(s): _____

Mailing Address: _____

City, State & Zip Code: _____

Phone Number: () _____

Please attach additional sheets if more than one parcel is involved

B. Existing Comprehensive Plan Designation:

C. Existing Zoning Designation:

D. Proposed Comprehensive Plan Designation:

E. Proposed Zoning Designation:

F. The present use of the property is:

G. The intended future use of the property is:

H. Surrounding land uses are:

V. For Text Amendments

Identify the section(s) of the Comprehensive Plan that you are proposing to amend, and provide the proposed wording (attach additional sheets as needed):

Pepin Creek Sub-Area Plan

Transportation Element and Capital Facilities Plan

VI. For All Amendments:

- A. *Describe how the proposed amendment to the plan is supported by or consistent with the existing goals and policies of the comprehensive plan and the State Growth Management Act?*

See attached

- B. *Have circumstances changed sufficiently since the adoption of the comprehensive plan to justify the proposed change? If so, the circumstances that have changed should be described in sufficient detail so that a finding of changed circumstances can be made and a decision as to appropriateness of the proposed plan amendment can be reached.*

See attached

- C. *Have the underlying assumptions found in the comprehensive plan upon which the land use designation, density or other provisions are based changed, or is new information available which was not considered at the time the plan was adopted? If so, the changed assumptions or new information should be described in sufficient detail to enable the Planning Commission and City Council to find that the land use designation or other sections of the plan should be changed. Examples of the underlying assumptions include expected population growth, utility or roadway capacities, available land supply, or demand for land with the existing or proposed land use designation.*

See attached

D. Does the proposed amendment promote a more desirable land use pattern for the community as stated in the goals and policies in the comprehensive plan? Are there environmental constraints (such as wetlands, steep slopes, significant stands of trees, etc.) present on the site to such a degree that development of the site is economically or physically unfeasible under the existing land use designation? If so, a description of the qualities of the proposed plan amendment that would make the land use pattern more desirable and/or would result in less environmental impact should be provided in sufficient detail to enable the Planning Commission and City Council to find that the proposed amendment is in the community's long term best interest.

See attached

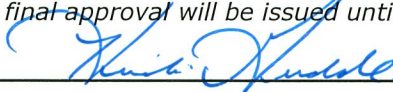
E. What impacts would the proposed amendment to the plan have on the current use of other properties in the vicinity? What measures should be taken to ensure compatibility with the uses of other property in the area?

See attached

F. How will the public interest be served by this amendment?

See attached

By signing this application, I certify that all the information submitted is true and correct. I also understand that no final approval will be issued until all final review costs are paid in full.

Applicant's Signature:  **Date:** 3.26.21

Property Owner's Signature: _____ **Date:** _____

Pre-application meeting date: _____
(Applications will not be accepted without a pre-application meeting)

Fee's (CPA \$600.00) date paid: _____ receipt # _____

III. Summarize the Changes Proposed

The City of Lynden is proposing to amend the Comprehensive Plan to update the Pepin Creek Sub Area Plan (PCSA) regarding planned infrastructure improvements known as “Pepin Lite”.

These long-range improvements include bridge construction, the relocation of a portion of Pepin Creek, improvements to the south end of Double Ditch Road and the northern end of Benson Road (as they exist within the PCSA), and to plan for the diagonal connection of these improved roadways with the construction of Pepin Parkway. The scope of Pepin Lite has commonly been described as these 13 projects:

1. Benson Road Pedestrian Improvements – South
2. Main Street Bridge Construction
3. Pine Street Bridge Construction
4. Pepin Creek Realignment – Main Stem
5. Pepin Creek Realignment East / West Connection
6. Pepin Creek Realignment Downstream of Main Street
7. Double Ditch Road Cross Culvert
8. Double Ditch Roadway Improvements
9. Benson Road Pedestrian Improvements – North
10. Benson Roadway Improvements
11. Pepin Parkway Bridge
12. Pepin Parkway Roadway Improvements
13. Main Street / Double Ditch Road Intersection Improvements

In order to consistently reflect these planned infrastructure improvements throughout the City’s Comprehensive Plan, the proposed changes will most affect the Pepin Creek Sub Area Plan, the Capital Facilities Plan, and the Transportation Element portions of the City’s Comprehensive Plan. The amendment is consistent with the City Council’s Resolution of Intent (Resolution 1031) and must be completed prior to the lifting of the development moratorium on this area.

As the amendment is needed prior to the lifting of the moratorium it is being presented outside of the typical calendar for Comprehensive Plan Amendment.

VI. For All Amendments:

- A. Describe how the proposed amendment to the plan is supported by or consistent with the existing goals and policies of the comprehensive plan and the State Growth Management Act.***

The proposed amendment meets the overarching goal to establish a long-range plan for the City which guides future decisions. Although the amendment relates primarily to transportation infrastructure the result of these improvements affects utility networks, the development of

open spaces (specifically Benson Road Park) and facilitates the construction of a variety of housing types. More specifically the amendment addresses the following goals.

Land Use: Goal LU-1 of the Comprehensive Plan relates to the planning for Urban Growth Areas adequate to accommodate projected population growth over the 20-year planning period.

- The Pepin Lite infrastructure detailed in the Comprehensive Plan amendment represents a plan to systematically improve roadways within the Pepin Creek Sub-area as development occurs. This area has been identified as the primary location for residential growth in the next 20 years.

Land Use: Goal LU-2 relates to phased annexations and development and the prioritization of infill over expansion into agricultural and rural lands.

- The Pepin Lite infrastructure improvements facilitate growth and development first within areas that are already part of the City limits but allow for future growth of the roadway network to adjacent urban growth area (UGA). Initial changes will include the construction of the Main Street bridge which will allow for the relocation of Pepin Creek. Moving Pepin Creek away from Double Ditch Road north of Main Street will allow for safer access to as new development occurs. Later phases will include the construction of Pepin Parkway which will provide immediate vehicular and pedestrian access to properties already within the City. Future roadways accessing development within the UGA will stem from the initial Pepin Lite infrastructure improvements.

Housing: Goal H-2 states that the City will strive to provide a mix of single-family and multifamily homes that achieves the density necessary to accommodate projected population growth over the 20-year planning period.

- Roadway improvements and the construction of Pepin Parkway provide vehicular access to parcels zoned RM-3, RM-PC, RMD, and also public open spaces. This facilitates the growth of a wide variety of housing types as RM-3 is geared toward apartments, RM-PC is designed to accommodate townhomes, and RMD is primarily single family residential on a variety of lot sizes. Additionally, the Pepin Creek Sub-Area will be subject to a minimum density so each of these zoning categories will fulfill the density that is expected so that the overall density goal is achieved.

Transportation Element Goal 1 states that the City will encourage public participation and the involvement of other agencies in the city planning process including the enhancement of the transportation network.

- The proposed plan for the transportation network and associated infrastructure are being brought forward, within the setting of public hearings, as a comprehensive plan amendment. This allows for public review and comment of these proposals.

Transportation Element Goal 3 states that the City will maintain levels of service that promote mobility for people and goods consistent with adopted standards.

- Expansion of an improved transportation network into the Pepin Creek Sub-Area promotes safe and efficient vehicular and pedestrian movement. Existing conditions

include deep roadside ditches on both Benson Road and Double Ditch Road. These roads typically include no accommodations for pedestrians except improvements which have already begun on Benson Road. Projects in this area are more technical and costly because improvements to Double Ditch Road require the relocation of Pepin Creek. Careful research and planning has been done to develop the “Pepin Lite” plan. It is critical that the plan be well developed so that cost sharing and full implementation is achieved and level of service is maintained throughout the sub-area as development occurs.

- More specifically the improvements create Pepin Parkway, a diagonal arterial roadway that connects the intersection of Main and Double Ditch to the intersection of Benson and Badger Road. This arterial will be built to City standard and designed to accommodate regional traffic – even traffic associated with the full build out of the Pepin Sub-Area.
- Moving regional traffic through the sub-area in this manner will reduce the amount to traffic that moves past Isom Elementary and the west end of the airport runway on Benson. This helps to create safer environments in both of these critical areas.

Transportation Element Goal 7 states that the City will establish a stable, long term financial foundation for continuously improving the quality, effectiveness, and efficiency of the transportation system.

- The proposed amendment adapts the City’s long-range plan to include the Pepin Lite plan. Financial considerations for implementation are a crucial component. The Pepin Lite infrastructure projects are supported by a financial mitigation study that divides the cost of the infrastructure projects most relevant to growth within the sub-area to development as it occurs. The intent is that this cost sharing will be implemented through a SEPA mitigation fee. This plan is consistent with Goal 7. It recognizes that the city-wide transportation impact fee (TIF) is not adequate to cover the needed infrastructure improvements in this area.
- Pepin Lite is a revised version of a larger, more costly, plan for the Pepin Creek Sub-area. The high cost of these infrastructure improvements was found to be prohibitive. The Comprehensive Plan Amendment is needed – to recognize the reduced scale of infrastructure improvements in this area.

B. *Have circumstances changes sufficiently since the adoption of the comprehensive plan to justify the proposed change? If so, the circumstances that have changes should be described in sufficient detail so that a finding of changes circumstances can be made and a decision as to the appropriateness of the proposed plan amendment can be reached.*

- Yes, circumstances have changed since the adoption of the Pepin Creek Sub-Area, the Transportation Element and the Capital Facilities Plan. Additional engineering, cost estimating, and due diligence regarding permitting were completed.
- Results from this study concluded with infrastructure costs that would be, at a minimum, unpalatable and, at worst, insurmountable. Also, it could be difficult to secure approvals from outside agencies for some elements of the existing plan.

- As a result, City staff created alternate designs for the Pepin Creek Sub-area which would reduce costs and seeks avoid resistance from permitting / reviewing agencies.

C. *Have the underlying assumptions found in the comprehensive plan upon which the land use designation, density or other provision are based changed, or is new information available which was not considered at the time the plan was adopted?*

- Yes, new information is available that led to the proposed comprehensive plan amendment. Additionally, the City Council indicated a preference to address improvements within the sub-area through a phase approach. This shift as well as the new information discussed below developed into the Comprehensive Plan amendment that is now presented.
- New information included additional traffic study to support one diagonal arterial roadway (rather than both Double Ditch and Benson Road). These demonstrated that the plan will be able to handle the traffic generated after full build out of the sub-area.
- Additional engineering estimates were completed on the Pepin projects laid out in the Comprehensive Plan (the full relocation of the creek within the sub-area) as well as cost estimates on Pepin Lite – the reduced plan.
- Review of possible permitting difficulties, especially those related to the realignment of the Benson Road ditch, were researched.
- Review of outside funding found that grants and loans associated with habitat enhancement were difficult to acquire or unavailable. Alternately, funding associated with roadway enhancement projects was somewhat more available.

D. *Does the proposed amendment promote a more desirable land use pattern for the community as stated in the goal and policies in the comprehensive plan? Are there environmental constraints (such as wetland, steep slopes, significant stand of trees, etc.) present on the site to such a degree that development of the site is economically or physically unfeasible under the existing land use designation? If so, a description of the qualities of the proposed plan amendment that would make the land use pattern more desirable and/or would result in less environmental impact should be provided in sufficient detail to enable the Planning Commission and City Council to find that the proposed amendment is in the community's long term best interest.*

- The proposed amendment to accommodate Pepin Lite infrastructure projects promotes a desirable land use pattern for the community in that it is an achievable land use pattern that shares costs with private development, it promotes safe multi-modal transportation, it facilitates a variety of housing types, and provides access to public open spaces. The plan also enhances the habitat of the Pepin Creek corridor in the areas where the Creek will be relocated away from Double Ditch Road. The existing plan for full Pepin Creek and Benson ditch realignment and the improvement of all of Double Ditch Road and all of Benson Road is also a desirable land use pattern. However, the cost of these improvements prohibit its implementation. If improvements cannot be implemented then growth in this area does not occur as planned or, perhaps worse, growth occurs in this area but the supporting infrastructure is not constructed.

- Environmental constraints have been considered in this amendment. It is anticipated wetlands are present in some areas of the Pepin Creek Sub-Area. These were discussed in the Existing Conditions Report (Appendix A of the Pepin Creek Sub-Area Plan). It was assumed that 25-50% of the sub-area could be considered wetlands due to soil types and ground water levels. The cost associated with mitigation was also discussed in this report and factored into the net developable land which ultimately assisted in the creation of estimated unit numbers. The shift to Pepin Lite infrastructure does not change these baseline conditions or mitigation requirements.

E. What impacts would the proposed amendment to the plan have on the current use of other properties in the vicinity? What measure should be taken to ensure compatibility with the uses of other property in the area?

- The use of Pepin Lite for infrastructure planning will affect other properties in a variety of ways. Overall, as the improvements appear to be fundable through private development, it appears that an improved transportation network will be constructed simultaneously to new development. This means that the level of service can be maintained despite a growing population in the area.
- Pepin Lite affects the properties on the south end of Benson Road and the north end of Double Ditch Road in that it is now unlikely that those streets will be improved to arterial standards. Instead, regional traffic that currently uses these streets will be redirected to Pepin Parkway and pass through traffic additionally discouraged with traffic calming measures. Although not improved to arterial standards the south end of Benson Road has already seen pedestrian improvements which will continue in the future and meet up with the new Pepin Parkway. Reduced traffic in this area will be beneficial for traffic flow and safety at Isom Elementary and also for reducing potential airplane / vehicular conflicts at the west end of the airport runway.
- The properties that are identified as the location for Pepin Creek to shift to the east will be impacted as the area of the creek and associated buffers will reduce the developable area within their parcels. Simultaneously the presence of the creek channel may be advantageous in that it reduced ground water levels thereby facilitating stormwater planning.
- Pepin Lite lays out a plan by which most properties already within the City Limits have easy access to Pepin Parkway or improved Double Ditch. This facilitates efficient roadway networks and new development. It also provides ready access to public open space along the southern edge of the Benson Park property.
- The property that may benefit the most from a shift to the Pepin Lite infrastructure program is the properties at the north end of the sub-area. The previous plan called for this area to be heavily dominated by the realignment and associated buffers of Pepin Creek and Benson ditch. Now, as the realignment of Pepin has shifted south and the Benson realignment was abandoned, this property becomes less constrained.

F. How will the public interest be served by this amendment?

- The proposed amendment meets the overarching goal of the Comprehensive Plan to establish a long-range plan for the City which guides future decisions. The Pepin Lite infrastructure projects represent an efficient expansion of a multi-modal transportation network, it improves habitat along the Pepin Creek corridor, it provides better access to public open spaces, and it facilitates growth of a variety of housing types within an area that has been designated to receive this growth.
- A majority of the Pepin Lite infrastructure will be funded by private development. Therefore, the public good is served as the remainder of the City (taxpayers) are not financially supplementing private development on property that is fundamentally constrained due to location and environmental conditions.
- The comprehensive plan amendment, more immediately, provides the public an opportunity to review and respond to the scope of the Pepin Lite project. The amendment also is one more step toward lifting the moratorium that is currently prohibiting development and inhibiting land transactions in the Pepin Creek Sub-Area.

CITY OF LYNDEN



PLANNING DEPARTMENT
Heidi Gudde, Planning Director
(360) 354-5532

PLANNING COMMISSION MINUTES

7:00 PM June 10, 2021

1. CALL TO ORDER

2. ROLL CALL

Staff: Heidi Gudde, Mike Martin, Dave Timmer, Catherine Moore (Carmicheal Clark)

Planning Commission: Diane Veltkamp, Tim Faber, Blair Scott, Bryan Korthuis, Karen Timmer, Gerald Veltkamp

3. APPROVAL OF MINUTES - April 15 and April 22, 2021 meetings

Motion to approve minutes of the April 15 meeting (T Faber), B Korthuis second.

D Veltkamp: Correction on Page 8 – “25 ft” to garage door rather than “21.5 ft” as is stated

Motion approved unanimously.

Motion to approve minutes of the April 22 meeting.

T Faber (motion) Bryan 2nd. No corrections. **Approved unanimously.**

4. PUBLIC HEARING

D Veltkamp gives overview of the public hearing. Suggests going through each page where there are redlines and ensure each one gets an up or down from the Commission.

A. CPA #21-01, Pepin Creek Sub-Area Comprehensive Plan Amendment

Gudde gives an overview of the amendment application and the reason for these updates being proposed at this time. To align Pepin Lite with the Pepin Creek Subarea, and infrastructure plans (Transportation Element).

After several background questions from the Commissioners (regarding minimum densities, wetlands, and stormwater regulations) the Commission proceeded to go through each page of the proposed updates to the Pepin Creek Subarea Plan and the Transportation Element.

Discussion on the Pepin Creek Subarea updates included: *(typos and Scrivener’s errors are not listed below)*

Page 14: Ensure the language regarding the Benson Park is consistent with the Park Plan.

Page 21 – Benson Road pedestrian accommodations in light of the existing fish bearing ditch along Benson Road.

Page 22 – Discussion about the wording “When feasible” and clarification on how Pepin Creek Parkway will be built.

Page 27 – Clarification on where the limited 75 ft Pepin Creek corridor is.

Page 132 – Removal of the Flood mitigation strategy language and whether that will impact flood insurance, stormwater accommodations and surrounding neighborhoods.

Discussion on the Transportation Element updates: The Commission recognized the proposed updates within the Transportation Element but had no suggestions for edits.

Motion to close the public portion of the hearing (Blair Scott), Bryan Korthuis second. Motion approved.

No further discussion

Motion to approve CPA 21-01 as presented (K Timmer), Second (B. Scott). Approved unanimously.

The Commission goes through items rationalizing the approval of the CPA as were listed in the CPA application. The CPA application adequately states the rationale for this amendment. Findings are consistent with the application rationale.

5. ADJOURNMENT

Prior to adjournment, D Veltkamp states concerns with the way that the Lyngrove multifamily development on Grover St near Vinup Road has been built out. No further discussion.

Motion to adjourn (B Scott). Karen Timmer second. Meeting adjourned 8:31pm.

Appendix A: The Transportation Element

Adopted by Lynden City Council on:
February 6, 2017

Section 4 Update: July 2021

Field Code Changed

CITY OF LYNDEN TRANSPORTATION ELEMENT

Prepared for:
City of Lynden



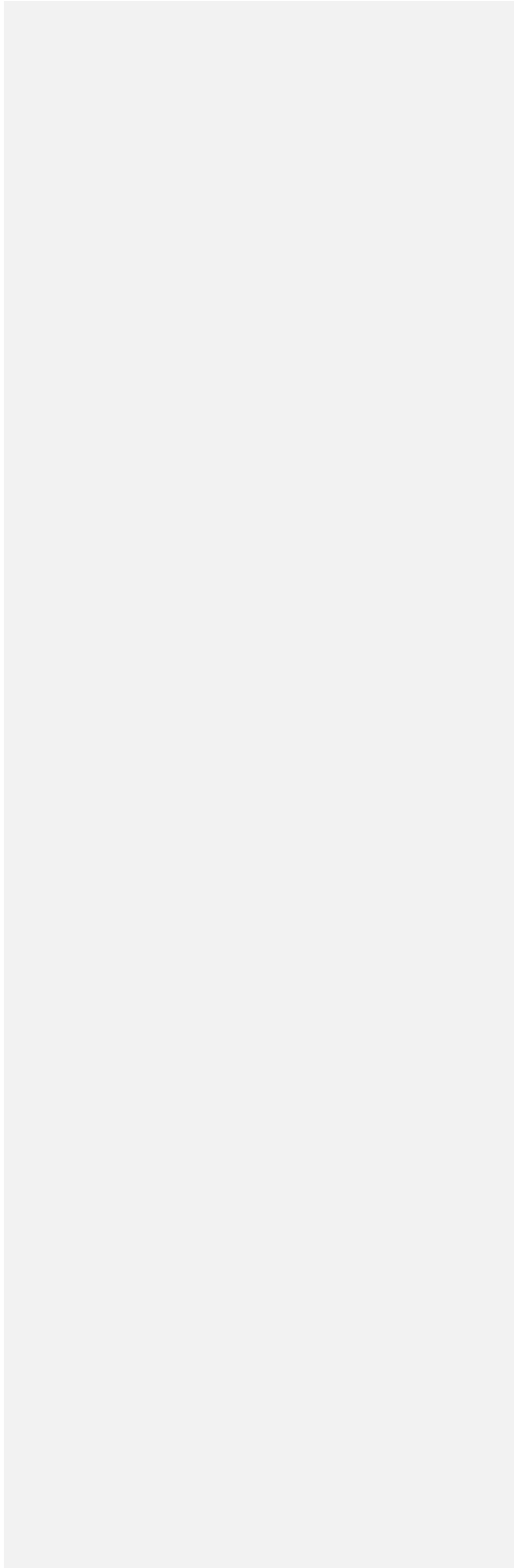
September 2016

Prepared by:



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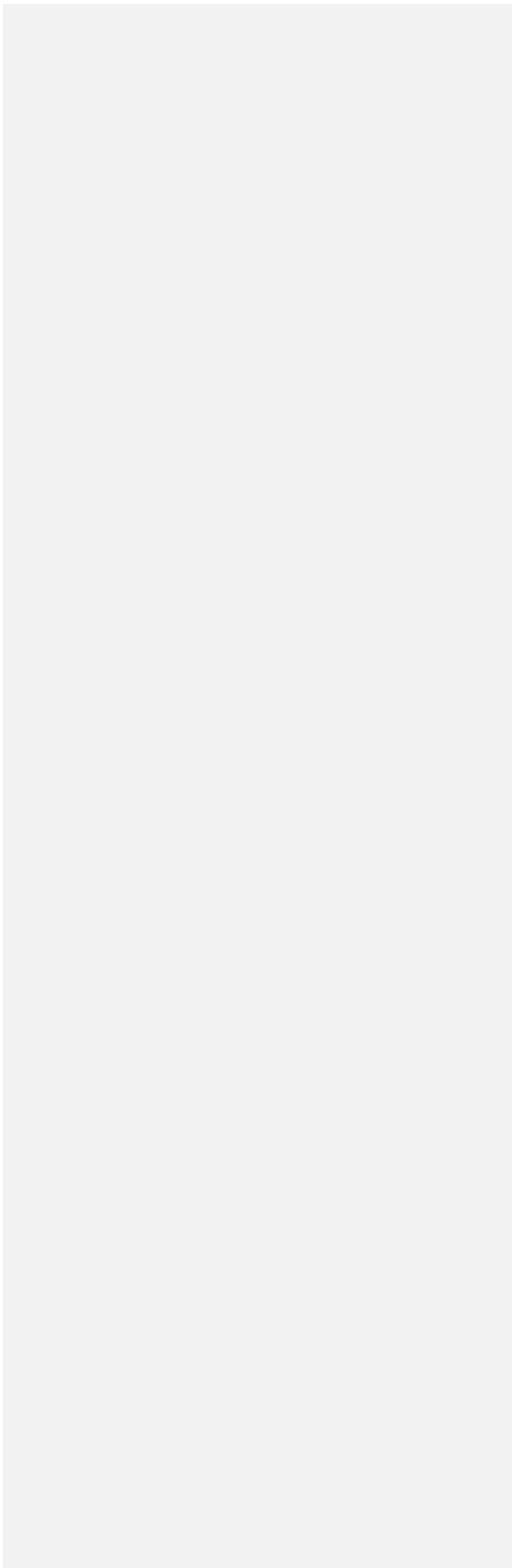


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Introduction

The City of Lynden is located in rural Whatcom County approximately 11 miles north of the Interstate 5 (I-5)/Guide Meridian (SR 539) interchange near the Bellis Fair Mall in Bellingham, Washington. The north city limits are 3½ miles from United States border with Canada.

Lynden has a population of approximately 13,000. The City is roughly 5 square miles in size and extends from the Nooksack River on the south to Badger Road a state highway (SR 546) to the north. Another state highway, SR 539, runs through the community. Guide Meridian (as SR 539 is called) links Bellingham and I-5 to the Canadian Border.

The City adopted its previous Transportation Plan as part of its Comprehensive Plan in 1995. The 1995 Transportation and Comprehensive Plans were prepared to meet the requirements of the Washington State Growth Management Act (GMA). In 2003, the City identified a need to update the Transportation Plan to address the impacts of growth within the City and its Urban Growth Area (UGA). The update was also needed to address changes in available transportation funding, development standards, and changes in the GMA.

The Transportation Element provides the framework to guide the growth and development of the City's transportation infrastructure. It also integrates land use and transportation by ensuring existing and future developments are adequately supported by the transportation system. The Transportation Element addresses the development of a balanced, multimodal transportation system by recognizing the regional nature of the transportation system and the need for continuing interagency coordination.

The Transportation Element establishes the City's goals and policies for developing the transportation system within the City. The Transportation Element update is based on the 2004 Transportation Plan, combined with projections of future growth and transportation needs in 2036. The transportation element is comprised of five sections:

- Goals and Policies
- Existing Condition of Transportation Facilities
- Travel Forecasts Evaluation
- Transportation Systems Plan
- Financing Program

The Transportation Element is intended to serve as a guide for making transportation decisions to address both short and long-term needs. To meet Growth Management Act (GMA) requirements, the Transportation Element must identify existing transportation system characteristics, establish standards for levels of service, and identify existing and future deficiencies based on land use growth projections. The Transportation Element also discusses roadway mobility and accessibility needs, identifies improvements necessary to enhance safety, bicycle and pedestrian travel, and public transit. Consistent with the other elements of the Comprehensive Plan, the Transportation Element establishes a policy framework for making

2016, [2021 Pepin Creek Update](#)--

decisions consistent with the City's vision, and describes a strategy for accomplishing the City's vision over the 20-year planning horizon.

[2021 Update: In March of 2020, the City Council adopted the Pepin Creek Subarea Plan after intensive review of the growth needs and goals of the community. Subsequent engineering and financial analysis resulted in a more detailed infrastructure plan which was dubbed "Pepin Lite". In March of 2021, the City Council passed Resolution 1031 which was a resolution of intent which outlined the steps toward lifting the long-standing moratorium on development in the Pepin Creek area and accomplishing the goals of the Pepin Creek Subarea Plan. The municipal code and portions of the Comprehensive Plan were updated in 2021 to assure alignment throughout the City's policies, plans, and standards. See Section 4.3 "Pepin Creek – Transportation Systems Plan" for more information.](#)

Plan Development

The development of the Lynden Transportation Element Update was approved by the Lynden City Council to provide an update to the adopted 2004 Lynden Transportation Element. The purpose of the 2016 Transportation Element is to provide an update to the existing Transportation Element by identifying and evaluating the transportation improvement plans for the City through the years 2016 and 2036.

The plan was developed to address future land use growth and identify transportation needs to support the expected growth. The plan is needed to satisfy Growth Management Act (GMA) requirements and to update the County's transportation improvement projects funding program. The following sections summarize the regulatory setting and regional planning efforts that guided the development of the Transportation Element.

Growth Management Act Requirements

Under the Growth Management Act (RCW 36.70A.070), referred to herein as the GMA, the Transportation Element is required to assess the needs of a community and determine how to provide appropriate transportation facilities for current and future residents. The Transportation Element must contain:

- Inventory of existing facilities;
- Assessment of future facility needs to meet current and future demands;
- Multi-year plan for financing proposed transportation improvements;
- Forecasts of traffic for at least 10 years based on adopted land use plan;
- Level of service (LOS) standards for arterials and public transportation, including actions to bring deficient facilities into compliance;
- Transportation Demand Management (TDM) strategies, and;
- Identification of intergovernmental coordination efforts.

Additionally, under GMA's Concurrency Mandate, development may not occur if the development causes the transportation facility to decline below the City's adopted level of service standard unless existing infrastructure exists or strategies to accommodate the impacts of the development are made *concurrently* with the development; specifically, the impacts must



be mitigated within six years of the development’s completion. This mandate extends to include state highways, which applies to Lynden.

Finally, the Transportation Element must include a reassessment strategy to address how the plan will respond to potential funding shortfalls.

2021 Update: The detailed study that was conducted on the Pepin Creek Subarea is consistent with the requirements of the Growth Management Act. As the planned infrastructure associated with the Pepin Lite Plan represents a shift in the arterial roadway network and is slated to accommodate the bulk of residential development in the next 15-20 years, the City looked closely at the expected demand and concurrency as well as potential funding. See Section 4.3 for more information.

Countywide Planning Policies

The GMA also requires that counties adopt Countywide Planning Policies (CWPPs) to guide and coordinate issues of regional significance. Whatcom County County-Wide Planning Policies were adopted in 1993, 2005, and is in the process of being updated as of August 2016. Transportation issues are discussed throughout the document, while section J specifically addresses transportation facilities and strategies.

Healthy Communities

Recognizing the growing need for physical activity among citizens, the Washington State Legislature amended the GMA in 2005 with the Healthy Communities Amendment, ESSB 5186. Comprehensive plans are directed to address the promotion of Healthy Communities through urban planning and transportation approaches. The two amendments to the GMA require that communities:

1. Consider urban planning approaches that promote physical activity in the Land Use Plan; and
2. Include a bicycle and pedestrian component in the Transportation Element.

Clean Air Conformity Act

The Transportation Element is also subject to the Washington State Clean Air Conformity Act that implements the directives of the Federal Clean Air Act. Because air quality is a region wide issue, the City must support the efforts of state, regional, and local agencies as guided by WAC 173-420-080.

Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) was enacted on July 26, 1990, and provides comprehensive civil rights protections to persons with disabilities in the areas of employment, state and local government services, and access to public accommodations, transportation, and telecommunications. Of the five titles or parts to the ADA, Title II is most pertinent to travel within the public right-of-way. Part 35, Subpart D – Program Accessibility § 35.150 (d)(3)) of Title II requires local agencies to conduct a Self-Evaluation and Transition Plan that, at a minimum, shall:

- (i) Identify physical obstacles in the public entity's facilities that limit the accessibility of its programs or activities to individuals with disabilities;
- (ii) Describe in detail the methods that will be used to make the facilities accessible;
- (iii) Specify the schedule for taking the steps necessary to achieve compliance with this section and, if the time period of the transition plan is longer than one year, identify steps that will be taken during each year of the transition period; and
- (iv) Indicate the official responsible for implementation of the plan.

Transportation Impact Fees

A funding program for constructing the transportation projects identified in the Plan and the Capital Facilities Element of the Comprehensive Plan is supplemented by a transportation impact fee (TIF) program to assist in funding projects that will accommodate traffic growth associated with the future land use development of the City and its arterial system. The findings of this Plan update will provide the City with documentation and justification for grant applications to provide funding for transportation improvement projects, and a guide for prioritizing its transportation needs to maintain adopted level of service standards.



1. Goals and Policies

The City of Lynden Transportation Element consists of several components. In order to effectively implement the Plan, the City has identified overall goals and more specific policies for transportation. The goals and policies provide a framework for decision making related to transportation projects and programs. The transportation goal and policies will be used to implement plan projects and programs, review new land use development applications, and coordinate with other City planning processes.

Vision Statement

To develop a transportation system for the City of Lynden that maintains the livability of the community by encouraging the use of alternative modes of transportation; promoting economic wellbeing; ensuring environmental protection; and the safety of the residents, employees, and visitors of the City.

Goals and Policies

1. Public Participation and Agency Coordination

Encourage public participation and the involvement of other agencies in the city planning process including in the enhancement of the transportation network.

- A. Encourage and solicit public participation in transportation-related decisions to help ensure that planning and implementation have public support.
- B. Provide programs and forums to help the public and stakeholders understand transportation issues, requirements, planning concepts, and funding programs.
- C. Coordinate the preparation of the Lynden Transportation Element and updates with the State Highway Systems Plan, the Whatcom Transportation Plan in coordination with Whatcom Council of Governments (WCOG), Whatcom County, and the Whatcom Transportation Authority (WTA).
- D. Coordinate with the Washington State Department of Transportation (WSDOT) when considering improvements to intersections and roadways on SR 546 and SR 539.
- E. Coordinate with Whatcom County to preserve options for future collector roads and grid systems in the City's unincorporated UGA.
- F. Coordinate with WSDOT to identify possible locations for future collector roads intersecting with Guide Meridian between East Badger Road and Main Street. The collector roads will provide for access and circulation to help reduce the impact of future development on the state highways.

2. Land Use Planning, Development Review, and Standards

Encourage land use patterns and policies that facilitate the reduction of vehicle miles traveled by enhancing local and regional non-motorized network connectivity.

- A. Review land use policies and implementing regulations, standards, and incentives to ensure they support and encourage alternative transportation modes such as bicycling, walking, transit, and transportation demand management programs.

- B. Ensure that transportation policies, projects, and programs are coordinated and consistent with land use plans and further the City’s land use and environmental goals.
- C. Ensure that public and private projects systematically implement the policy objectives of the Transportation Element through the development review process.
- D. Require new development projects to comply with the City’s transportation concurrency program (see Policy 3B).
- E. Develop a framework for clean transportation programs to reduce greenhouse gas (GHG) emissions per the City’s adopted GHG Resolution 823.
- F. Incorporate environmental factors into the transportation planning process with an emphasis in encouraging health and human safety.

3. Streets and Highways

Maintain levels of service (LOS) that promote mobility for people and goods consistent with adopted standards.

- A. Maintain a level of service (LOS) E or better for City street intersections and LOS D or better for state highway intersections. Apply Whatcom County’s LOS D standard for county roads in the unincorporated part of the City’s UGA, if requested by the County.
- B. Require transportation improvements to be constructed or funding strategies approved to ensure that the highway, arterial, and collector road system is adequate to serve increased travel demands concurrent with new development. Concurrency shall be defined as having a financial commitment in place to resolve the deficiency within six years. New developments will not be approved by the City unless this concurrency requirement is met. The concurrency requirement will not apply to SR 539 and SR 546 serving Lynden, since both are designated as Highways of Statewide Significance (HSS). Mitigation of impacts where LOS standards are not met along HSS should be coordinated with WSDOT.
- C. Require urban street standards on roadways serving urban development within the City. The urban street standards will be defined based on street classification.
- D. Classify streets to reflect their desired use.
- E. Street standards for arterials, collectors, and access streets will provide guidance on number and width of lanes, intersection spacing, driveway access, right-of-way width, setbacks, lighting, landscaping, and other appurtenances. The street standards should identify design needs for accommodating transit, pedestrians, and bicyclists as appropriate for each roadway classification and consistent with the design policies in adopted sub-area plans.
- F. Develop the arterial, collector, and access street system based on the Transportation Systems Plan, subarea plans, expansion of the existing grid system, or other means of assuring adequate connectivity of adjacent developments and minimizing impacts to arterials and state highways.
- G. Maintain the existing and future arterial, collector, and access street system and associated facilities (e.g., sidewalks, traffic signs) through a systematic Pavement Management System and operations program.



- H. Maximize the efficiency of the arterial street system through use of suitable traffic control, including signs, signals, lane markings, and coordination of signals, as appropriate.
- I. Provide adequate system-wide capacity on arterial streets to avoid diversion of excess traffic from congested arterials to local streets and through neighborhoods.
- J. Limit and provide access to the street network in a manner consistent with the function and purpose of each road. The street standards should define driveway spacing standards and encourage use of shared driveways, where practical.
- K. Begin to develop level of service standards that promote the movement of people across multiple transportation modes.
- L. Consider multiple transportation modes in concurrency standards and encourage development that can be supported by transit.
- M. New access points to Guide Meridian or East Badger Road will be discouraged. Potential new collector roads connecting to Guide Meridian between East Badger Road and Main Street, as identified in the Transportation Element, will be coordinated with WSDOT and Whatcom County. All new accesses to the state highways in the City planning area must be approved by WSDOT.
- N. Establish truck routes to encourage through trucks to use the most appropriate routes.
- P. As appropriate, the City will consider traffic calming measures to discourage through traffic in residential areas, while maintaining the street grid for access and circulation.
- Q. Ensure City roadways are designed to encourage safe and efficient travel for emergency response vehicles.

4. Pedestrians and Bicyclists

Encourage the enhancement of the non-motorized network by implementing programs and policies that enforce the development of facilities for all users.

- A. All new streets shall require installation of sidewalks, in accordance with City standards.
- B. Maintain an annual program to construct missing sidewalk links, repair existing sidewalks, improve crosswalk markings, and install curb ramps at intersections to improve safety and connectivity. Arterial streets and highways should be a high priority.
- C. Encourage pedestrian and bicycle connections between adjacent developments even when topographic or other constraints prevent connections for motorized vehicles. Where cul-de-sacs are allowed, they should be designed to encourage or support pedestrian connectivity.
- D. Develop both street-oriented and separate pedestrian and bicyclist connections to encourage non-automobile access from residential areas to schools, sports facilities, and commercial areas.
- E. Ensure that new sidewalks meet ADA requirements and that existing ones are upgraded (e.g., ramps at intersections).

- F. Design and construct arterials to support safe use by bicyclists.
- G. Require an appropriate amount of bicycle parking at commercial and institutional facilities along with automobile parking.
- H. Encourage the safe mobility of pedestrians and bicyclists through outreach and education programs.

5. Parking

Encourage parking management strategies and policies in downtown and in new developments.

- A. Encourage shared use of parking lots in the downtown area and other areas of high use.
- B. Minimize curb cuts, including limiting the number of driveways permitted for each parcel, and encourage shared driveways to maximize the amount of curb space that could be used for parking, if roadway width and volumes allow on-street parking.
- C. Evaluate establishing minimum and maximum parking requirements based on zoning, land use plans, and location within the City.
- D. Develop additional downtown public parking facilities.

6. Public Transit and Transportation Demand Management

Encourage transit as viable regional transportation mode through programs and policies.

- A. Encourage Whatcom Transit Authority (WTA) to continue to provide service to/from and within the City of Lynden at a service frequency and route coverage that supports convenient use of transit to meet more of the local area travel demands particularly in areas of new growth.
- B. Incorporate design features to support transit service in the street standards, as appropriate for each roadway classification.
- C. Work with WTA to provide transit shelters along arterial streets where the number of transit users warrant their use.
- D. Promote the use of alternatives to the single-occupant automobile as a means of reducing the demand for construction of new streets and highways implementing Community Trip Reduction provisions where appropriate.
- E. Continue coordination with Whatcom Transportation Authority on paratransit services that promote the mobility of people with special needs.

7. Implementation and Financing

Establish a stable, long term financial foundation for continuously improving the quality, effectiveness, and efficiency of the transportation system.

- A. Prioritize City transportation improvement projects, programs, and participation with other agencies to reflect the City's Transportation Vision and Comprehensive Plan goals. As a minimum, the City will consider the following objectives:



- Transportation safety of all modes
 - Maintenance and preservation of the existing transportation system
 - Upgrade or expand the transportation system to support growth within the City and maintain concurrence
 - Expand facilities and services to improve connectivity of the transportation system
- B. Fund and implement the Transportation Element based on the relative benefits to various user groups. Funding of transportation improvements and programs will include state and federal grants and loans, City transportation portion of the general fund, the Transportation Benefit District (TBD), developer improvements, developer mitigation, and other traditional or non-traditional funding programs.
- C. Continue to partner with WSDOT, Whatcom County, the Whatcom Council of Governments (WCOG), and WTA to fund improvement projects and programs that serve the City.
- D. Work with the state to fund safety and operational improvements along East Badger Road.
- E. Ensure that new growth pays a proportionate share of the transportation improvements needed to support growth and adequately mitigate its impacts to the transportation system.
- F. Require that new developments be financially responsible for street improvements adjacent to and internal to the development.
- G. Develop an annual Six-Year Transportation Improvement Program so it is financially feasible, leverages available City funds, and is consistent with the overall priorities of the Comprehensive Plan and Transportation Element.
- H. If probable funding falls short of meeting the needs identified in the Transportation Element, the City will review and reassess the improvement needs, priorities, and LOS standards in the Plan, as needed. As a final measure, the City will reassess land use plans to ensure that new development will be supported by adequate infrastructure.

2. Existing Transportation Facilities and Conditions

This chapter summarizes key elements of the existing transportation system serving the City of Lynden that represent the transportation system in its current condition. The inventory of transportation facilities is presented through maps, figures, and descriptions that provide a foundation for identifying and prioritizing the City’s transportation improvement projects and programs presented later in the Plan. The passenger transportation system within the City of Lynden consists of streets and highways, pedestrian and bicycle facilities, and transit service. Following a description of the planning area, subsequent sections describe the existing multimodal transportation system within the current City Limits and Urban Growth Area (UGA) for the travel modes within the City’s transportation network.

2.1. Planning Context

An inventory of the existing transportation system was conducted in 1994, with an update completed as part of the 2004 Transportation Plan. This 2016 Plan provides additional updates to the 2004 Plan. The transportation system inventory and analysis helped identify key transportation issues to be addressed in this update of the Transportation Plan. The existing inventory covers the arterial and collector street system, intersection traffic control, roadway volumes, transportation operations and safety, transit service, and non-motorized facilities.

Long-range transportation elements build on existing transportation facilities available for residents to travel to home, work, and other destinations. Regional travel is an important component of the City’s transportation network, as the City is a major gateway to traffic traveling to and from B.C and other points north. Lynden residents also travel to and from Bellingham, the largest trip generator in Whatcom County, on business and leisure trips.

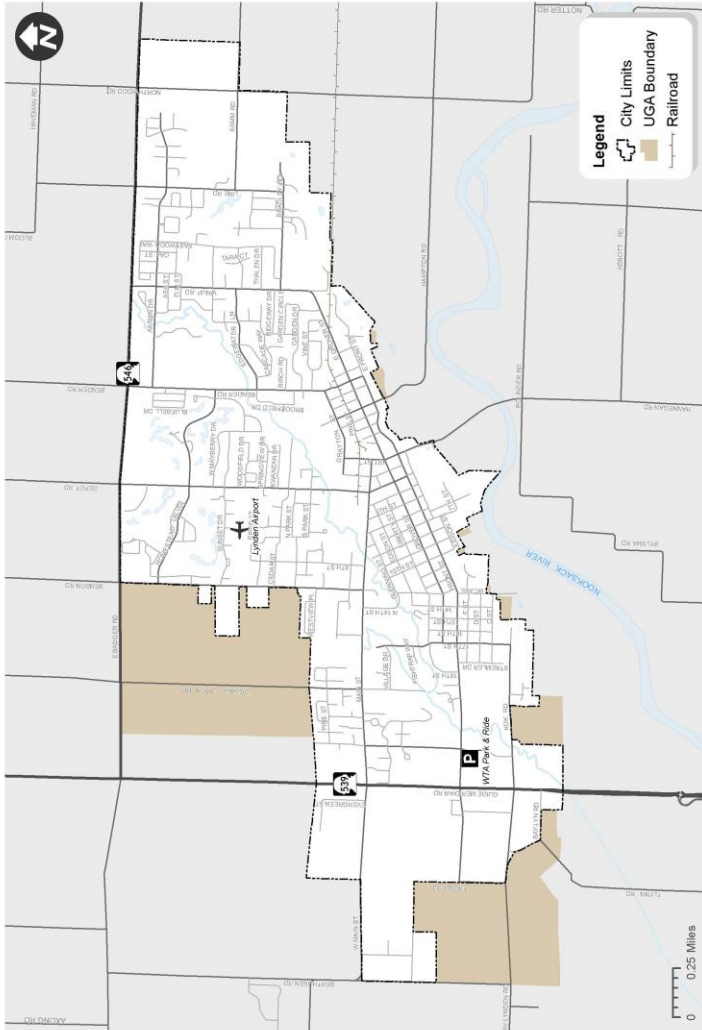
Most travel within the City of Lynden occurs on streets and highways, which provide public space for vehicles, transit, bicycles, and pedestrians. Roadways are classified by their intended function and desired mobility to provide a hierarchy of roadways. The City recognizes two functional classification systems that are maintained at the City and State levels as described in the sections that follow.

2.2. Roadway Network

The roadway network provides mobility and access for a range of travel modes and users. This section provides an overview of the existing roadway network and includes descriptions of functional classification systems for roadways, concurrency management, level-of-service standards (LOS), and State Environmental Policy Act (SEPA) requirements. Figure 2-1 shows the existing roadway network serving the City of Lynden.



Figure 2-1 Roadway Network



Roadway Network
 City of Lynden Transportation Element Update
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FIGURE 2-1

As shown in the figure, roadways near the center of the City are laid out in a grid pattern with approximately 30 blocks. Residential neighborhoods surround the city center area to the east, north, and west, in non-grid pattern. Many of these roadways end at cul-de-sacs. Regional routes cross through the City on the west (SR 539) and adjacent to the northern city limits (SR 546). Table 2-1 summarizes the number of lanes and speed limits for the primary north-south and east-west roadways within the City of Lynden.

Table 2-1 Existing Major Roadways

Roadway	Number of Lanes	Speed Limit (mph)
North-South Roadways		
SR 539 (Guide Meridian Road)	2 to 4	40
Benson Road	2	25-35
19th Street	2 to 3	25
Line Road	2	25
Depot Road/3rd Street	2 to 3	25-35
Bender Road	2 to 3	25
Vinup Road	2 to 3	25
East-West Roadways		
Grover Street	2 to 3	25
Homestead Boulevard	2	25
Front Street	2 to 3	25
Main Street	2 to 3	25-35
Birch Bay Lynden Road	3	25-35
Aaron Drive	2-3	25

As shown in the table, the primary north-south roadway within the City of Lynden is SR 539, which has a maximum of three lanes and a speed limit of 40 mph. SR 539 transitions from three lanes to two lanes at Front Street and serves both local and regional traffic through the City. Other major north-south roadways include Depot Road/3rd Street, which starts at Front Street and continues through the northern city limits at SR 546, Bender Road which runs through city limits north to SR 546 (East Badger Road), and Vinup Road and Line Road which also do the same. Berthusen Road extends from Birch Bay-Linden Road along the western city limits and the UGA.

The primary east-west roadways are Main Street, Grover Street, and Front Street which extend from west of SR 539 through the downtown area. These roadways generally have a speed limit of 25 mph, though Main Street has a 35 mph speed limit in areas. These roadways connect to most of the major north-south roadways described in the previous section.

Roadway Functional Classification

Roadways are classified by their intended function to provide for a selection of roadways that provide varying degrees of access and mobility. The City of Lynden maintains a functional classification that is tied to the City's roadway plans and street standards. In addition to the City's functional classification system, there are federal and state roadway designations.



Federal and state grant programs provide funding for improvement projects that are on streets classified by federal or state roadway designations.

City of Lynden Functional Classification

The City’s Functional Classification defines the characteristics of individual roadways to accommodate the travel needs of all roadway users. The functional classification of the City of Lynden street system establishes four types of streets: major arterials, secondary arterials, collector streets, and access streets. Table 2-2 describes the roadway characteristics of the classifications included in the City’s functional classification system.

Table 2-2 Roadway Functional Classification

Classification	Description
State Highways	State Highways connect major regions with one another, and WSDOT classifies certain State highways as Highways of Statewide Significance (discussed in a following section). The City of Lynden is served by two state highways: SR 539 and SR 546.
Major Arterial	Major Arterials are transportation arteries that connect focal points of traffic interest within the City, provide connections with other cities or outlying areas, or have relatively high traffic volumes within the City. Major arterials are generally intended to serve predominantly “through” traffic with minimum direct service to abutting land uses.
Secondary Arterial	Secondary Arterials are routes that serve lesser points of traffic than major arterials, provide connections to outlying districts, or distribute traffic to/from major arterials. Secondary arterials serve trips of moderate length and may provide more direct access to abutting properties than major arterials.
Collector Streets	Collector Streets provide for movement within the City, including connecting neighborhoods with smaller community centers. They also provide connections to major and secondary arterials. Property access is generally a higher priority on collector streets than on arterials.
Access Street	Access Streets are defined as land service streets and primarily serve access to abutting property. They are tributary to major and secondary arterials and generally discourage through traffic.

An inventory of selected major roadways grouped by their respective City of Lynden functional classification is found below. General descriptions of the facility are included.

The City of Lynden is served by two state highways: SR 539 and SR 546.

- **Guide Meridian (SR 539)** is classified as a rural principal arterial by WSDOT. It provides regional north-south travel between I-5 in the City of Bellingham, about 11 miles south of Lynden, and the U.S.-Canada border, about 3½ miles north of Lynden. It is a 4/5-lane, two-way highway from Bellingham to Birch-Bay Lynden Road.

- **Badger Road (SR 546)** is classified as a rural principal arterial by the WSDOT and provides east-west access between Guide Meridian to the west and SR 9 to the east. It is a two-lane, two-way highway with a current posted speed limit of 50 mph within the City of Lynden.

Major and secondary arterials provide connections to the state highways and the regional arterial system.

- **Main Street** is a two-lane road having asphalt or chip seal pavement 38 to 41 feet wide. It has sidewalks from Guide Meridian to 1st Street.
- **Front Street** has three lanes with the center lane used as a two-way left-turn lane from Guide Meridian to 17th Street with a posted speed limit of 25 mph. It has a bike path and a 60- to 80-foot right-of-way.
- **Birch Bay-Lynden Road/Kok Road** is a two-lane roadway with two-way left-turn lanes along some segments with a posted speed limit ranging from 25 to 35 mph. West of the City limits, it is a designated bike route by Whatcom County.
- West of Guide Meridian, **Badger Road** is a County arterial that connects the Lynden study area with I-5 near the City of Blaine.
- **Grover Street** is a two-lane roadway connecting 17th Street to Vinup Road. It has left-turn lanes at some intersections. It has a posted speed limit of 25 mph.
- **First Street** is a two-lane, north-south arterial on the east side of downtown Lynden. It connects with Hannegan Road to provide the primary route to/from Bellingham or other areas south of the City from eastern Lynden.
- **Depot Road** is a north-south, two-lane arterial between Main Street and Badger Road.
- **Bender Road** is a north-south, two-lane arterial between Badger Road and Drayton Street.
- **Aaron Drive** is a two-lane roadway running from Bender Road to the west and Bluestem St, just west of Northwood Road.

Collector streets direct traffic from neighborhoods to the arterial system and the state highways. They can provide a higher level of direct access than arterials.

- **Benson Road** is a north-south, two-lane road. It currently serves primarily rural levels of development within the City and the urban growth area.
- **East Homestead Boulevard** is a two-lane, east-west roadway that connects between Benson and Bender Roads.
- **W Front Street** is a two-lane roadway connecting Guide Meridian to Tromp Road in the west part of Lynden. The roadway will serve future growth in the City's west subarea.
- **BC Ave** is a two-lane, north-south roadway running from the banks of the Nooksack River to Glenning Street through primarily residential neighborhoods.

There are numerous local streets that are not described in detail. A map depicting the functional classification designations for City roadways is provided in Figure 2-2.



Federal Functional Classification

The Federal Functional Classification system provides a hierarchy of roadways as defined by the Federal Highway Administration (FHWA). This classification system defines the role of travel through a network of roadways, rather than focusing on individual roadways. As a result, the Federal Functional Classification differs in several ways from the City's Functional Classification. Changes to the Federal Functional Classification may be submitted through the Washington State Department of Transportation (WSDOT).

National Highway System

The National Highway System (NHS) includes the Interstate Highway System as well as other roads important to the nation's economy, defense, and mobility as defined by the Federal Highway Administration (FHWA). Both SR 539 and SR 546 are classified as NHS facilities.

Highways of Statewide Significance

WSDOT designates interstate highways and other principal arterials that are needed to connect major communities in the state as Highways of Statewide Significance (HSS). This designation assists with the allocation of some state and federal funding. These roadways typically serve corridor movements having travel characteristics indicative of substantial statewide and interstate travel. SR 539 and SR 546 are classified as Highways of Statewide Significance.

Figure 2-2 Roadway Functional Classification and Intersection Traffic Control

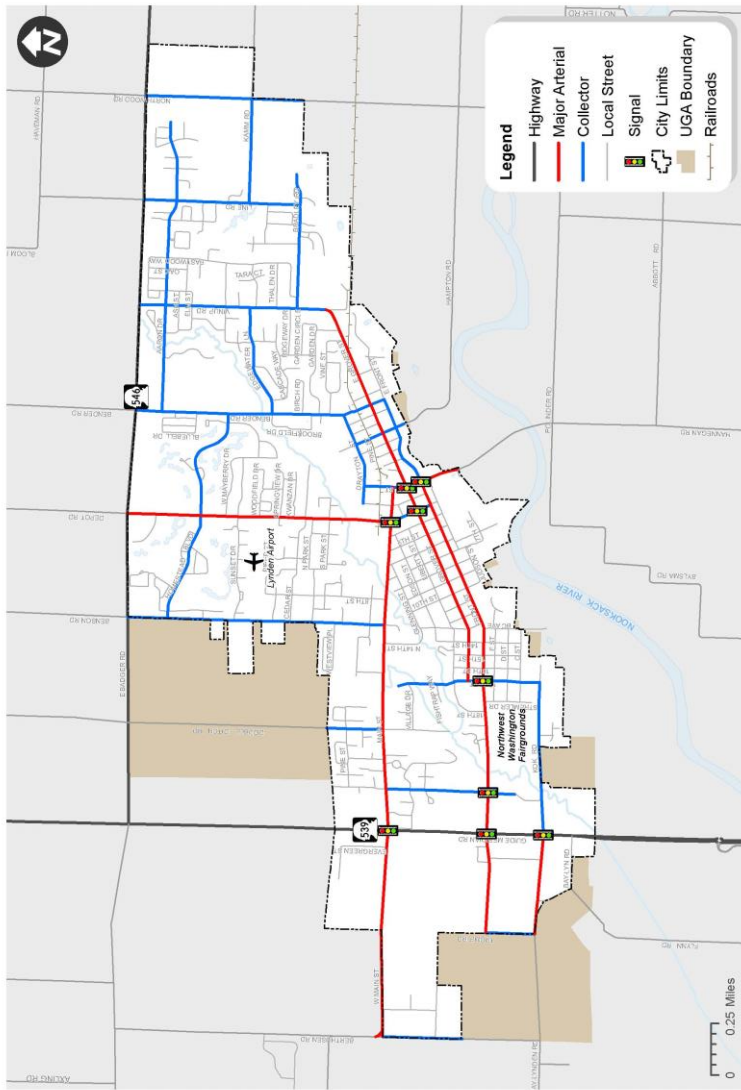


FIGURE 2-2
Roadway Functional Classification and Intersection Traffic Control
 City of Lynden Transportation Element Update
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Level of Service Standards

Traffic volumes were used to evaluate traffic operations in and around Lynden as part of the Transportation Element. Traffic operations were evaluated based on LOS (level of service) methodologies of the Highway Capacity Manual (HCM, 2010) using Synchro 8 software. The HCM is a nationally recognized and locally accepted method of measuring traffic flow and congestion. Criteria range from LOS A, indicating free-flow conditions with minimal vehicle delays to LOS F.

Signalized intersection LOS is defined in terms of a weighted average control delay for the entire intersection. Control delay quantifies the increase in travel time that a vehicle experiences due to the traffic signal control and provides a surrogate measure for driver discomfort and fuel consumption. Signalized intersection LOS is stated in terms of average control delay per vehicle.

Unsignalized intersection LOS criteria can be further reduced into two intersection types present within the City of Lynden: all-way stop and two-way stop control. All-way stop control intersection LOS is expressed in terms of the weighted average control delay of the overall intersection or by approach. Two-way stop-controlled intersection LOS is defined in terms of the average control delay for each minor-street movement (or shared movement) as well as major-street left-turns.

City's Level of Service (LOS) Standards

The City has established the following LOS standards for intersections. The levels of service shall be measured using methodologies identified in the latest edition of the *Highway Capacity Manual (HCM)*.

Traffic Signals, Roundabouts, and All-Way Stop Controlled Intersections – LOS D or better based on overall average delay per vehicle.

Unsignalized Two-Way Stop Controlled Intersections – LOS E or better for worst traffic movement. On a case-by-case basis, the City may allow the level of service for traffic movements from the minor streets at two-way stop controlled intersections to operate below the adopted standard, if the City determines that no significant safety or operational issues will result.

The lower LOS standard for unsignalized, two-way stop controlled intersections reflects the desire to minimize delays on the major street and through street traffic, while supporting safe and efficient operations from the minor streets.

The City typically will apply the intersection LOS standard to the weekday PM peak hour. The City may, however, define additional evaluation periods for intersection review in order to identify if potential impacts would occur. These could include weekday AM peak hour, weekends, or other time periods depending on the type and location of a proposed development.

Whatcom County Level of Service Standards

Whatcom County has adopted level of service standards based on the volume-to-capacity (v/c) ratio of roadway segments during the PM peak hour. The County has adopted the following LOS standards:

- County arterials and collectors outside of urban growth areas – v/c less than or equal to 0.75, except corridors designated by Whatcom Council of Governments (WCOG) as primary routes which have a LOS standard requiring a v/c less than or equal to 0.90 (designated regional routes in the Lynden area are discussed in the Roadway System section).
- County arterials and collectors within a city’s urban growth area – v/c less than or equal to 0.90
- County arterials and collectors within an urban growth area not associated with a city (such as Birch Bay) – v/c less than or equal to 0.90

Whatcom County LOS standard is adjusted within urban areas to increase the allowable v/c threshold by 0.05 where transit service or adequate non-motorized facilities are available or will be provided by a development.

Policy 6A-5 of Whatcom County’s Comprehensive Plan relates to LOS standards within city urban growth areas (UGA’s): *“Encourage extension of city concurrency review authority and LOS standards into their respective UGA’s to provide greater consistency in concurrency review for urban areas.”*

State Highway Level of Service Standards

Cities in Washington are required to include the LOS standards for all state routes in the Transportation Element of their local comprehensive plan. SR 539 and SR 546 are state highways serving the City of Lynden and are designated as highways of statewide significance (HSS). The LOS standards for HSS facilities are set by WSDOT. The LOS standard for facilities in urban areas is LOS D and for facilities in rural areas is LOS C. Both SR 539 and SR 546 within the City of Lynden vicinity are designated as urban and have a LOS D standard.

WSDOT applies these standards to highway segments, intersections, and freeway interchange ramp intersections. When a proposed development affects a segment or intersection where the level of service is already below the state’s adopted standard, then the pre-development level of service is used as the standard. When a development has degraded the level of service on a state highway, WSDOT works with the local jurisdiction through the SEPA process to identify reasonable and proportional mitigation to offset the impacts. Mitigation could include access constraints, constructing improvements, right-of-way dedication, or contribution of funding to needed improvements.

Traffic Volumes

Traffic counts were collected at several locations on State Highways and City roadways in June 2015. Traffic volumes in urban areas are typically highest during the weekday PM peak hour. This reflects the combination of commuter work trips, shopping trips, and other day-to-day



activities that result in travel between 4:00 and 6:00 p.m., Monday through Friday. Therefore, the weekday PM peak hour is typically used to evaluate transportation system needs. Existing weekday PM peak hour volumes by direction at key locations are shown in Figure 2-3.

Roadways with the highest PM peak hour traffic volumes include SR 539 where traffic volumes are between 1,100 and 1,365 vehicles per hour. Front Street through downtown also has high traffic volumes between 565 and 625 during the PM peak hour. S 1st Street at Front Street, a major gateway into downtown, East Lynden and northeast Whatcom County, has approximately 1,080 vehicles during the peak hour.

In the 2004 Plan, average daily traffic volumes Main Street west of Guide Meridian Road were 6,000 vehicles, in 2015 5,350 vehicles. West of Depot Road on Main Street, 5,000 daily vehicles were counted in 2004 while 4,300 were counted in 2015. Additionally, 17,100 daily vehicles were reported in the 2004 plan on Guide Meridian Road south of Kok road, while 13,650 vehicles were reported in 2015. Since 2015 traffic volumes were collected during the PM peak hour, daily vehicle estimates were determined by multiplying the peak hour roadway volumes by a factor of 10.

Traffic volumes at these locations in 2015 were 18 percent lower than in 2004. This could be attributed to changes in travel patterns since that time, seasonal fluctuation, or a number of other factors. In general, volumes in the central downtown area are closer to 2004 volumes than those found on state routes. A comparison between 2015 volumes and 2036 forecast volumes is found in Figure 3-7.

Traffic Operations

Intersection traffic operations evaluate the performance of signalized and stop-controlled intersections according to the industry standards set forth in the *Highway Capacity Manual 2010* (Transportation Research Board, 2010). Peak hour traffic operations were evaluated at the study intersections based on level-of-service (LOS) methodology, and evaluated using Synchro version 8.0. The PM peak hour intersection operations were selected due to the higher typical traffic volumes occurring during that time period for a single hour between 4 and 6 p.m.

In the 2004 Transportation Plan, the Depot Road & Main Street intersection was LOS E while current analysis shows this location has improved to LOS A. This intersection has been signalized since that plan and is the reason for the LOS improvement. The intersections of Badger Road (SR 546) / Bender Road and Badger Road (SR 546) / Depot Road have also improved since the last plan. Roundabouts have been installed in place of stop signs at both locations. These locations were not analyzed for this update of the Transportation Element because of those recent projects to improve previous intersection operational deficiencies. Existing LOS results at several intersections in City of Lynden are shown Figure 2-4. The results of the analysis indicate that all of the intersections studied currently meet City LOS standards.

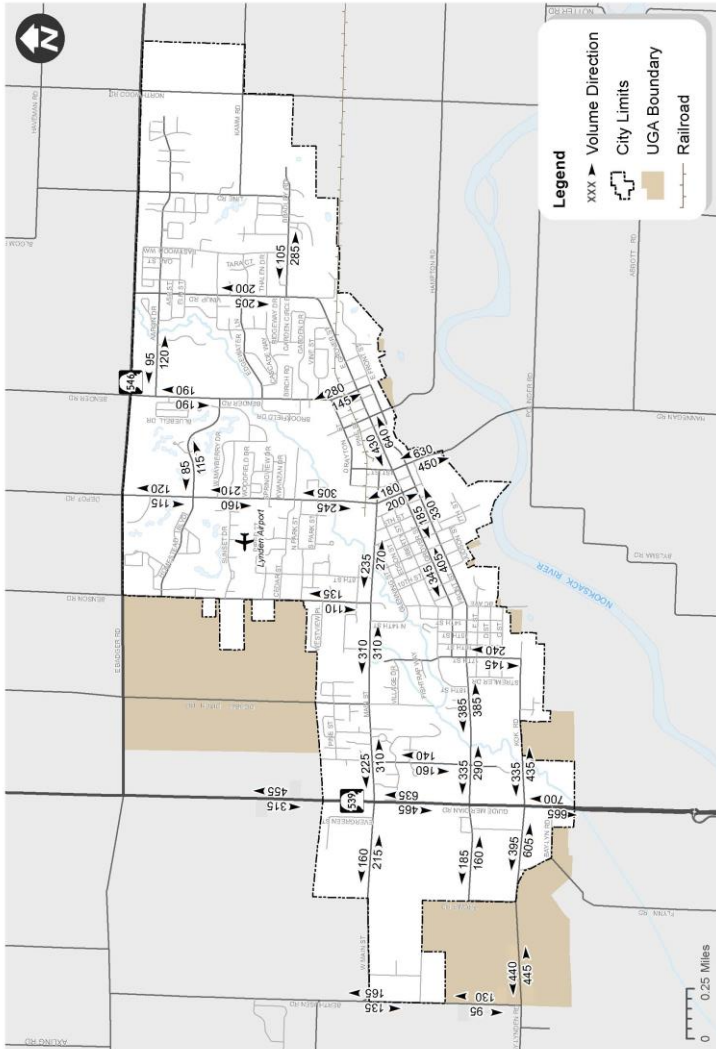
The Bender Road / E Grover Street is a two-way stop controlled (TWSC) intersection that operates at LOS D in existing conditions, which is at the adopted standard of LOS D for TWSC intersections. TWSC level of service is based on the worst intersection movement, which in this

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City of Lynden
Transportation Element

case is the northbound approach on Bender Road. This is typical of TWSC intersections, where the minor approach experiences delay due to waiting for gaps to cross onto the major roadway. Level of service standards are discussed earlier in this chapter.

Figure 2-3 Existing (2015) Traffic Volumes

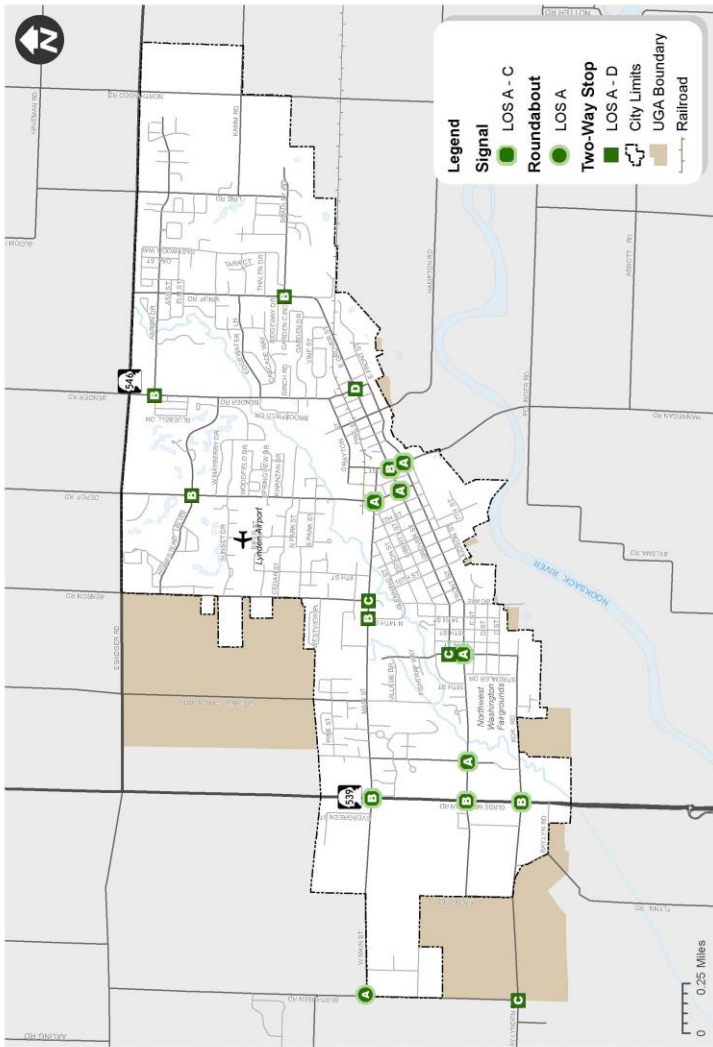


Existing (2015) PM Peak Hour Traffic Volumes
 City of Lynden Transportation Element Update
 transpogroup

FIGURE 2-3

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Figure 2-4 Existing (2015) Intersection LOS



Existing (2015) Intersection LOS
 City of Lynden Transportation Element Update
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FIGURE 2-4
 transpogroup

Traffic Safety

Collision records for the most recent complete five-year period were reviewed for all collisions reported in City of Lynden. Historical safety data was collected from WSDOT for the period of January 1, 2010 to December 31, 2014. A review of collision history was performed to identify potential safety issues for vehicles, pedestrians, and cyclists. The most recent collision data during a five-year period for all roadways in the City of Lynden, including SR 539, were used for analysis.

Crash rates were compiled by study intersection to identify potentially problematic locations. Crash rates were analyzed to identify the average crash frequency based on the number of vehicles traveling through the study intersections. Intersections that averaged fewer than two collisions per year were not included in the summary tables due to the low number of incidents available to identify crash patterns. The typical measure for determining crash rates at intersections is the number of crashes per million entering vehicles (MEV).

Critical Crash Rate

The critical crash rate calculated for each intersection compares that location to other intersections in the City that have similar characteristics. Two groups of intersections were evaluated that included signals and two-way stop-controls since no study locations were all-way stop controlled. This is consistent with guidance provided in Chapter 4 of the *Highway Safety Manual* (AASHTO, 2010). The critical crash rate for a site is a function of the average crash rate associated with the control type at the site, the traffic volume at the site, and a level of confidence factor. Sites where the observed crash rate exceeded the critical crash rate were identified.

Weighted crash rate calculations are based on intersection control type and intersection total entering volumes. The outcome is a proportion of collisions to vehicles entering the intersection, which can be useful in identifying locations for improvement that will serve the highest number of users. The weighted average crash rate is also used in Critical Crash Rate calculations. Table 2-3 summarizes the factors and calculations used to determine the critical crash rate for the study intersections.

Table 2-3 Intersections with Crash Rates Exceeding the Critical Crash Rate

Intersection	Peak Hour TEV ¹	Intersection Control	Observed Crash Rate ²	Weighted Average Crash Rate ³	Critical Crash Rate ⁴	Observed Greater than Critical?
SR 539/Front Street	1,665	Signal	0.92	0.57	0.74	Yes
SR 539/Kok Road	2,165	Signal	1.01	0.57	0.27	Yes

1. Total Entering Vehicles.
 2. Crashes per MEV.
 3. Calculated according to Equation 4-10 in the *Highway Safety Manual*.
 4. Calculated according to Equation 4-11 in the *Highway Safety Manual*.

As shown in Table 2-3, five intersections had an observed crash rate higher than the critical crash rate. The locations with observed crash rates exceeding the critical crash rates for signalized intersections include SR 539/Front Street and SR 539 / Kok Road. All locations were signal controlled intersections. SR 539/Front Street and SR 539 / Kok Road were also identified in the 2004 Transportation Plan as being locations with high accident rates. SR 546 / Bender Road was identified in the 2004 plan as having the highest accident rate. This location was improved to a roundabout in September 2013 by WSDOT.

Collision Summary

The intersections identified in Table 2-3 have observed crash rates higher than the critical crash rate. Consistent with guidance provided in the *Highway Safety Manual*, these were the locations flagged for further review. The type and severity of reported collisions provides insight into the circumstances that resulted in higher crash rates at these intersections. Table 2-4 summarizes the type and severity of reported collisions during the study period at the intersections identified for further review based on the critical crash rate analysis.

Table 2-4 Collision Types for Intersections Exceeding Critical Crash Rate

Intersection	Type of Collision						Severity			Total Collisions
	Rear-End	Turning	Fixed Object	Angle	Ped/Bike	Other ¹	PDO ²	Injury	Fatality	
1st Street/Grover Street	2	2	0	6	0	1	9	2	0	11
1st Street/Front Street	2	2	1	6	1	1	9	4	0	13
19th Street/Front Street	5	1	0	4	1	1	8	4	0	12
SR 539/Front Street	25	1	1	1	0	0	20	8	0	28
SR 539/Kok Road	21	12	0	3	0	4	31	9	0	40
Total	55	18	2	20	2	7	77	27	0	104

Data source: WSDOT

1. Other includes sideswipes and parking collisions

2. Property Damage Only

As shown in the table, rear-end collisions were the most frequent type of crash reported at these intersections. This type of collision is common at signalized intersections, when drivers may rapidly alter vehicle speeds while approaching the intersection in response to signal timing changes or turning vehicles. While there were no recorded fatalities at any of the intersections, there were 27 injury collisions, or approximately one-quarter of the total collisions at these intersections. Roadway capacity improvements are included in the project list (O-4) on SR 539 as part of a WSDOT project, which may help to improve safety conditions on the corridor. In addition, signal improvements at the 1st Street & Grover Street intersection are included in the project list (C-4), which may help to improve safety conditions.

Freight Routes

The Washington State Freight and Goods Transportation System (FGTS) classifies highways, county roads, and city streets according to the average annual gross truck tonnage they carry. Truck tonnage values are derived from actual or estimated truck traffic count data that is



converted into average weights by truck type. Lynden, via SR 539, is a major freight gateway to the Canadian border.

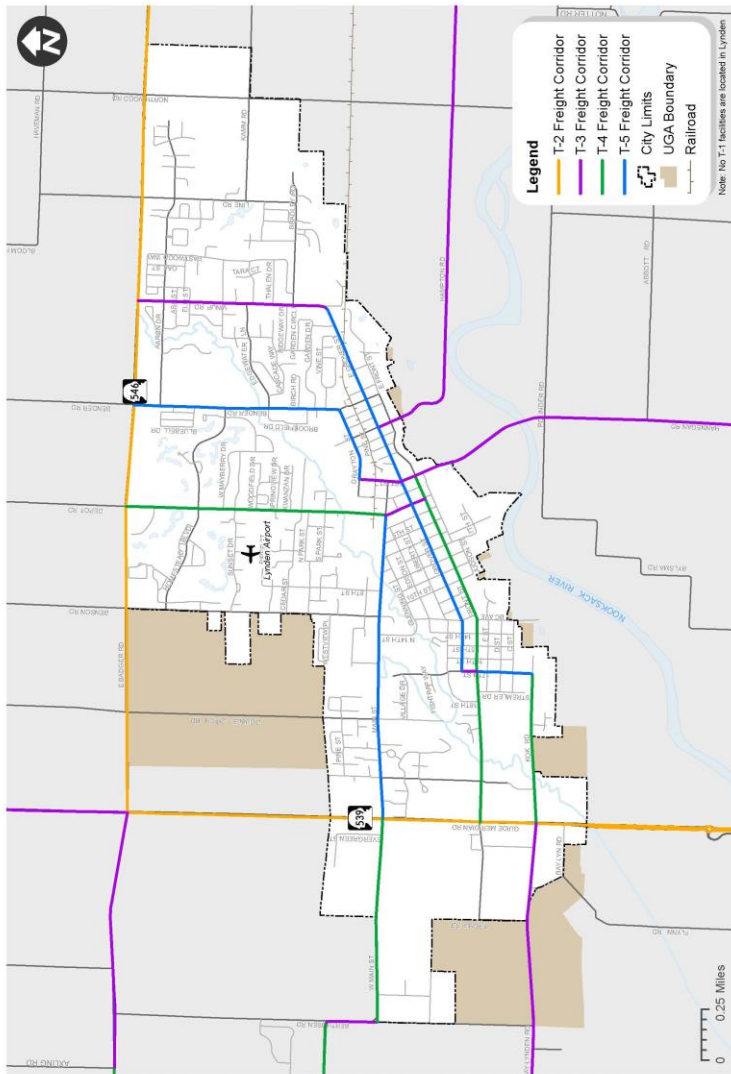
The FGTS uses five truck classifications, T-1 through T-5, depending on the annual gross tonnage the roadway carries:

- T-1: more than 10 million tons per year
- T-2: 4 million to 10 million tons per year
- T-3: 300,000 to 4 million tons per year
- T-4: 100,000 to 300,000 tons per year
- T-5: at least 20,000 tons in 60 days and less than 100,000 tons per year

Routes with the highest annual gross tonnage, T-1 and T-2 routes, are also identified as Strategic Freight Corridors. SR 539 and SR 546 are both designated T-2 routes, while 1st Street, Vinup Road, and Nooksack Avenue north to E Grover Street are classified as T-3 routes. W Main Street, E Grover Street, Bender Road, and short segments of other roadways are designated as T-4 and T-5 corridors in city limits. Freight routes are illustrated in Figure 2-5.

Freight corridor classifications were collected in August 2016 from WSDOT's Freight and Goods online map. Although the map represents the most current WSDOT data, there are discrepancies between WSDOT classifications and those truck routes adopted and implemented by the City – primarily related to the designation for Vinup Road. Measures should be taken to align the freight corridor data and designation between the City and WSDOT.

Figure 2-5 Freight Routes



Freight Routes
 City of Lynden Transportation Element Update
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2.3. Transit

The following section describes the existing service, ridership and facilities provided by Whatcom Transportation Authority (WTA). WTA currently operates two bus routes providing 10 weekday trips through Lynden, and maintains 53 bus stops and one park & ride facility.

Fixed Route Service

Transit service is operated by Whatcom Transportation Authority, which operates two routes through the City of Lynden.

- **Route 25X** provides express regional service to Bellingham and Western Washington University via Guide Meridian Road. The route only operates once per weekday in the morning and evening.
- **Route 26** provides service to Cordata Station and Park and Ride and Whatcom Community College via Aaron Drive, Grove Street, 19th Street, and Guide Meridian Road. The route runs Weekdays and Saturdays from 7am to 7pm.

These routes serve both local communities and commuters and the most recent ridership data available from Whatcom Transportation Authority are summarized in Table 2-5 and transit facilities are displayed in Figure 2-6.

Table 2-5 Existing (2015) Fixed Route Ridership Summary

Route	Description	Type of Service	Average Weekday Daily Boardings
25X	Express service from WWU to Downtown Lynden	Weekday	50
26	Commuter service from Cordata P&R to Downtown Lynden	Weekday, Saturday	240

Existing routes are strategically placed throughout the City to serve all members of the community. As shown in the table, Route 26 has the highest average weekday boardings (240 daily) of the two transit routes serving the City of Lynden. WTA had a 74 percent increase in transit boardings system-wide between 2004 and 2014¹. There were 290 average weekday daily boardings in 2015 and 263 daily boardings in 2003; and increase of 10 percent. However, since 2004, Route 80 was rerouted so it no longer serves Lynden, and Route 25X express service to Western Washington University was added. Route 26 continues to serve Downtown Lynden. As the City continues to expand to the east, WTA should be approached about the viability of extending service in that direction.

¹ Whatcom Transportation Authority *Service Performance Report* (2014)

Paratransit Service

Whatcom Transportation Authority also provides paratransit services for patrons who cannot use fixed-route bus services due to disability, in accordance with the Americans with Disabilities Act (ADA). This service provides curb-to-curb paratransit service that mirrors local fixed-routes during hours of fixed-route operation. In 2014, there were approximately 5,895 paratransit boardings in the City of Lynden representing 8 percent of total ridership². Paratransit service is described in Employment Access and Coordinated Human Services (EACH)³.

Vanpool Program

Whatcom Transportation Authority has a van fleet of 39 vehicles. There are currently 3 vanpool groups that originate in Lynden.

Park-and-Ride

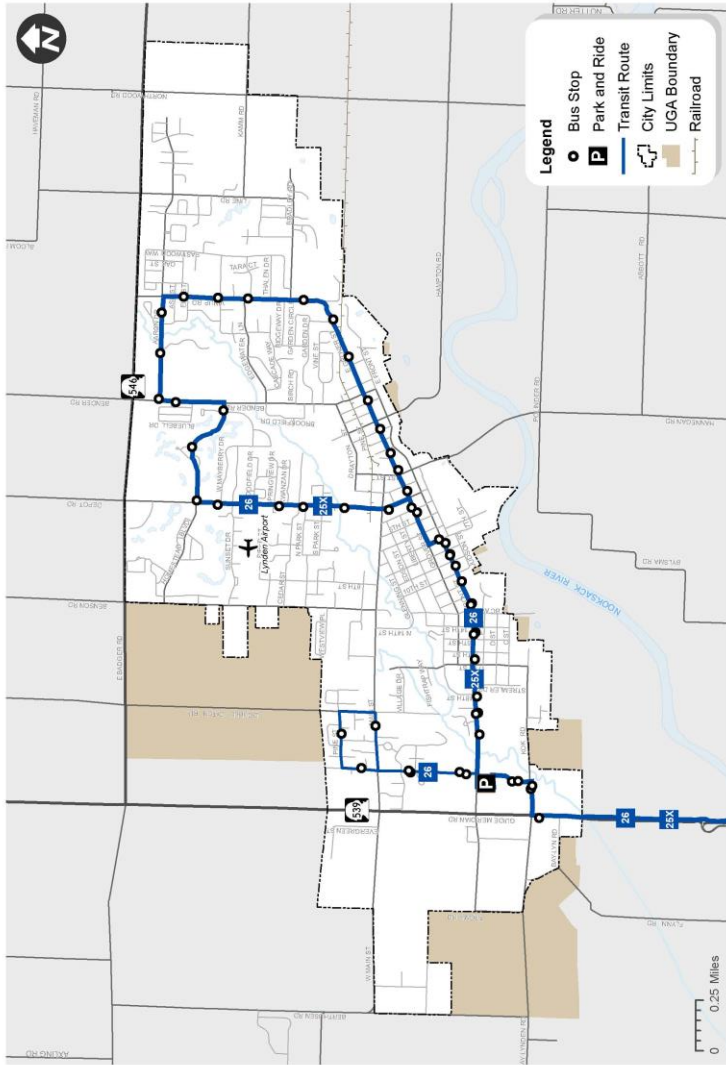
The Lynden Station Park and Ride is located just west of the Front Street / 19th Street intersection. This facility has 89 parking stalls and a covered waiting area for transit passengers. The park and ride is served by Routes 25X and 26.

² Whatcom Transportation Authority data received July 2015

³ <http://wcog.org/wp-content/uploads/WCOG-EACH-Plan-20142.pdf>



Figure 2-6 Existing Transit Service



Existing Transit Service
 City of Lynden Transportation Element Update

FIGURE 2-6
 transpogroup

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2.4. Non-Motorized

The non-motorized transportation network consists of facilities for residents and visitors to participate in active transportation modes and recreational activities in the City of Lynden. A combination of on-street facilities and off-street pathways provide the core network for walkers, cyclists, and other non-motorized users to travel. These facilities can be used for many of the same purposes as personal vehicles and transit, including commuter travel, grocery store trips, and other errands within the City. Non-motorized facilities, particularly off-street pathways, are also used for recreational trips or for access to parks and other destinations.

A well-established system encourages healthy recreational activities, reduces travel demand on City roadways, and enhances safety within a livable community. Pedestrian and bicycle facilities also provide access to/from transit stops. Good transit access can increase the use of non-auto modes.

The City's existing transportation system includes a variety of pedestrian and bicycle facilities. The core facilities are located along arterials or collectors, with sidewalks existing on one or both sides of many of these study area roadways. The City has developed standards for the implementation and design of pedestrian and bicycle facilities including sidewalks, bike lanes, wider roadway shoulders, and multi-use pathways. The city encourages retail and commercial developers to design new facilities in a pedestrian and bicycle friendly way. Non-motorized facilities in the City of Lynden include multi-use pathways that connect parks and neighborhoods. Existing facilities are illustrated in Figure 2-7.

Sidewalks

Every trip begins and ends with a walk. People walk to their cars and drive somewhere where they will walk into a building or facility or they need to walk to a transit station. The City hopes to connect more destinations with walking paths and encourage walking between trip destinations. The City of Lynden will continue to develop pedestrian facilities as part of its transportation system improvements.

Sidewalks are the primary pedestrian facility within downtowns and developed areas. Along with off-street trails, sidewalks are the primary facility type for pedestrians. Sidewalks within the City of Lynden are typically provided on both sides of the street in the downtown and adjacent neighborhoods. Where sidewalks are not available, pedestrians must use the roadway shoulders. Lynden does have several shared-use pathways within City limits.

Bicycle Facilities

Bicycling is an important and growing mode of travel for people in the region. When appropriately planned, bicycle routes have a role in reducing congestion, improving air quality, providing travel choices, encouraging exercise and recreation, and providing greater mobility for those without access to a vehicle. The City encourages the use of bicycles; endeavors to coordinate linkages; considers impacts on bicycles when designing and engineering roadways and emphasizes continuous bicycle linkages to existing facilities. The City is interested in incorporating adjacent bicycle lanes or other design treatments, as appropriate, into roadway construction projects whenever the right-of-way is sufficient and funding can be secured.



There are limited formal bicycle facilities in Lynden. For the most part, bicyclists share the road with motorized traffic or use paved roadway shoulders, where available. Currently, in the City of Lynden there are 13 miles of bicycle routes. These County-designated facilities include marked bike routes, roadways with wide shoulders, and roadways with low volumes that are suitable for bicyclists.

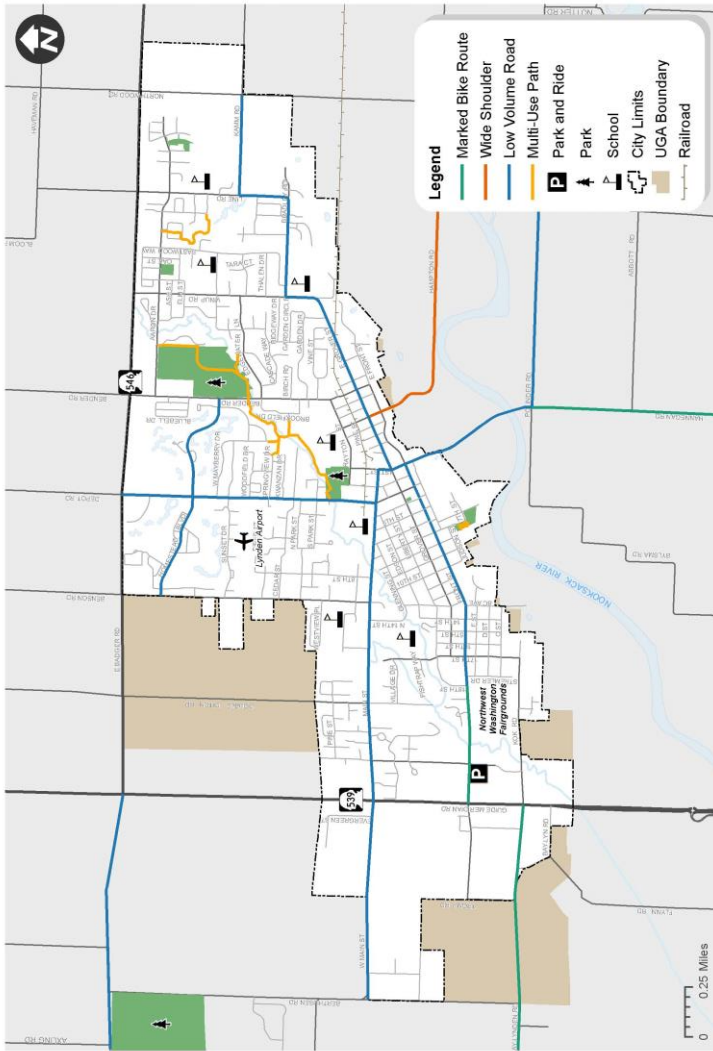
The bicycle routes in the City are primarily located on arterials and collectors. There are marked bicycle routes along Front Street from SR 539 to 18th Street, and along Birch Bay-Lynden and Kok Roads and Hannegan Road. Grover Street, Main Street, and Depot Road are low volume roadways that are preferred for bicycling, while Hampton Road has a wide shoulder for bicycling.

Off-Street Facilities

Off-street facilities include multiuse pathways and unpaved trails that are used by all types of non-motorized users. These facilities are generally used for recreational purposes, but may also serve commuter and utility travel between neighborhoods and to surrounding areas. Standard trails are separated from the roadways and vary in width from approximately 5 feet to 12 feet wide. ADA access is provided on many trails, but some may not include these features. The City currently maintains over 2 miles of multi-use pathways, which are used by pedestrians and bicyclists.

Jim Kaemingk Sr. Trail, which follows a portion of Fishtrap Creek, is a pedestrian trail that links the northeast area of the City to the area north of downtown and the City Park. The trail begins at City Park along Depot Road and ends at Aaron Drive, near the Lynden Manor assisted living facility. Other multi-use pathways in the city are located south of Aaron Drive, East of Alex Drive (between Brice Loop and Mercedes Drive), and west of S 6th Street at Patterson Park. A pedestrian bridge is located on 8th Street.

Figure 2-7 Existing Non-Motorized Facilities



Existing Non-Motorized Network
 City of Lynden Transportation Element Update
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transpogroup 

FIGURE 2-7

2.5. Rail Facilities

Existing rail transportation within the City of Lynden consists of freight services that use a single-tracked line running through the City. BNSF operates the rail spur that runs through city limits from the eastern end of Front Street, west to Depot Road, just north of Main Street. The rail spur begins at Sumas where it connects to a north-south rail line that runs north into Canada and south along the Cascade foothills.

At-Grade Rail Crossings

Rail lines within the City of Lynden intersect roadways at several at-grade street crossings. The rail spur crosses E Grover Street just west of Vine Way before continuing into the downtown street grid where it crosses three collector roads. The rail spur ends just west of Depot Road.

Safety for all at-grade rail crossings is of potential concern for all modes near the crossing when the rail line is active. At-grade rail crossings typically include warning systems and signage to inform drivers of the conflict zone with rail traffic. Highly active crossings include gate arms to stop vehicle traffic, but spur tracks may not include these types of warning devices.

2.6. Air Facilities

There is one small general aviation airport located on approximately 15 acres within the City between Benson and Depot Roads, just south of Sunrise Drive with a physical address of 8635 Depot Road. The airport handles small private aircraft and has fueling facilities (100LL). There are adjacent private hanger facilities, but no major passenger or airfreight facilities exist at the airport. The Lynden Municipal Airport “Jansen Field” was deeded to the City by Lynden Transport, Inc. and is currently operated by the City of Lynden with the assistance of an appointed Airport Advisory Board. The asphalt runway is 2,425 feet in length and 40 feet in width. Because of the proximity of the Airport, consideration should be given in the future reconstruction of Benson Road to possible greater separation between landing and departing aircraft and the roadway.

3. Travel Forecasts Evaluation

The City of Lynden maintains its transportation system to accommodate future growth and development. The Growth Management Act (GMA)⁴ requires that the transportation planning horizon be at least ten years in the future. For the 2016 Transportation Element, the City decided that a longer-range horizon should be used and selected 2036 as the forecast year for travel. The longer-range horizon year allows the City to better plan for and scale transportation facilities that are needed as the City changes over the next two decades.

The regional travel demand model from the Whatcom Council of Governments (WCOG) was used to support the City’s transportation planning efforts. The travel demand model provides a tool for forecasting traffic volumes based on the projected growth in housing and employment. The model is also useful in evaluating land use and transportation improvement alternatives.

3.1. Land Use Forecasts

Land use forecasts are based on anticipated changes in population and employment opportunities within the City limits, UGA, and adjacent areas. The land use forecasts for the City of Lynden are consistent with City planning efforts for subareas and other elements of the Comprehensive Plan. Forecast land use assumptions generate various types of trips that are applied to the transportation network in the travel demand model. The land use forecasts developed as part of the travel demand model are intended for planning purposes only and not to restrict or require specific land use actions.

Future forecasts must incorporate growth in travel demand entering and exiting the City to develop a consistent picture with neighboring jurisdictions and regional growth strategies. These travel demands external to the City are based on regional and citywide population and employment trends.

To develop existing and forecast travel demand, Forecast Analysis Zone (FAZs) boundaries were subdivided and combined with the City’s land use data to smaller Traffic Analysis Zones (TAZs) that better fit the transportation system of the City. The result is land use within the travel demand model that reflects current conditions and future planning.

Land use forecasts within the City and UGA show an overall increase in the number of households and employees between 2013 and 2036. The City is anticipated to increase by approximately 1,400 households and 1,700 jobs, while the UGA is expected to add approximately 1,100 households and 460 jobs. Figure 3-1 shows the existing and forecast land use for the City and UGA.

⁴ Washington State 36.70A RCW. Available at <http://apps.leg.wa.gov/rcw/default.aspx?cite=36.70A>.



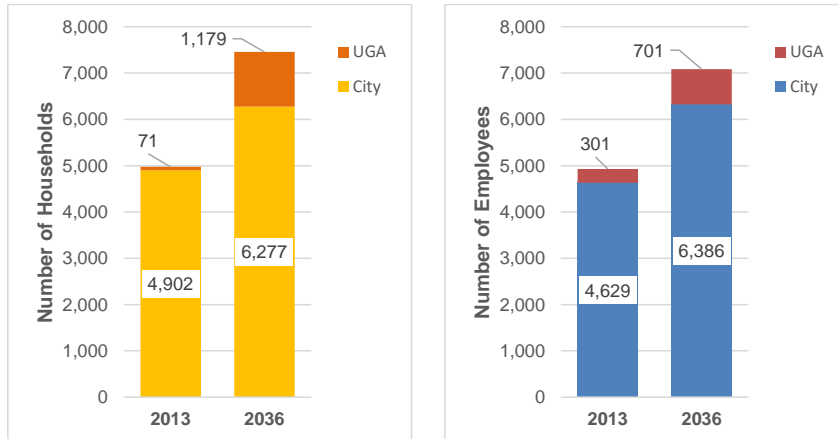


Figure 3-1 2015 and 2036 Household and Employment Growth for the City and UGA

As shown in Figure 3-1, the UGA makes up a smaller proportion of the overall number of households and employees, but is anticipated to add a large percentage of anticipated growth along with the City. The Lynden area is planning for approximately 7,460 total households and 7,090 total employees by 2036 for the City and UGA. A breakdown of the growth in households and employment is shown in Table 3-1.

Table 3-1 Change in 2013 Existing and 2036 Forecast Land Use

Planning Area	Households				Employment			
	2013	2036	Diff.	Percent Change	2013	2036	Diff.	Percent Change
City	4,902	6,277	+1,375	28%	4,629	6,386	+1,757	37%
UGA	71	1,179	+1,108	1,560%	301	701	+400	133%
Total	4,973	7,456	2,483	49%	4,930	7,087	+2,157	44%

As shown in the table, the number of households is anticipated to increase by approximately 28 percent in the City and over 1,500 percent in the UGA, representing annual growth rates of 1 and 13 percent, respectively, over the planning horizon. The large percent growth in the UGA is due to a relatively small number of households in the base year of 2013. The overall growth in households is 49 percent from 2013 to 2036 across both planning areas.

Employment growth is expected to have a greater increase outside the City, where the number of jobs is anticipated to increase by 133 percent as compared to 37 percent in the City, representing annual growth rates of 1.5 and 4 percent respectively. However, the growth in the actual number of employees is expected to be higher inside the City than in the UGA with a growth of 1,760 employees inside the City and 400 in the UGA.

Households

Forecast household growth totals are roughly split between the City and UGA. While the total number of households in the UGA area is anticipated to grow by 1,100, it represents 44 percent of total growth across the planning area. More than 1,400 new households are expected between 2013 and 2036 within the existing city limits.

The 2004 Transportation Plan included a 4 percent growth rate during the 2002-2022 planning period while a 2 percent growth rate is anticipated for the 2013-2036 planning period. A 2 percent annual growth rate occurred between 2002 and 2013. Changes between household land use assumptions is found in Figure 3-2.

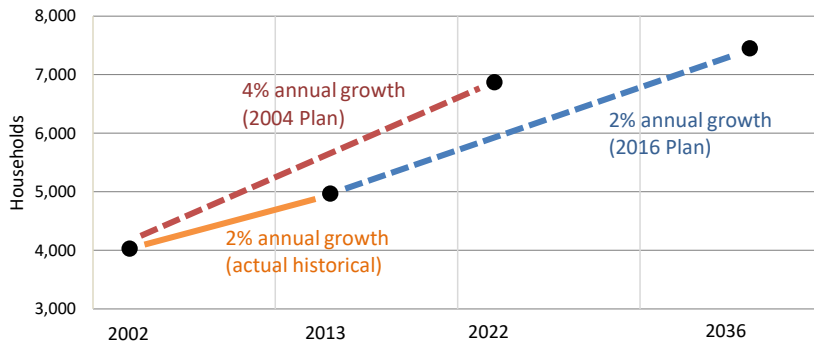


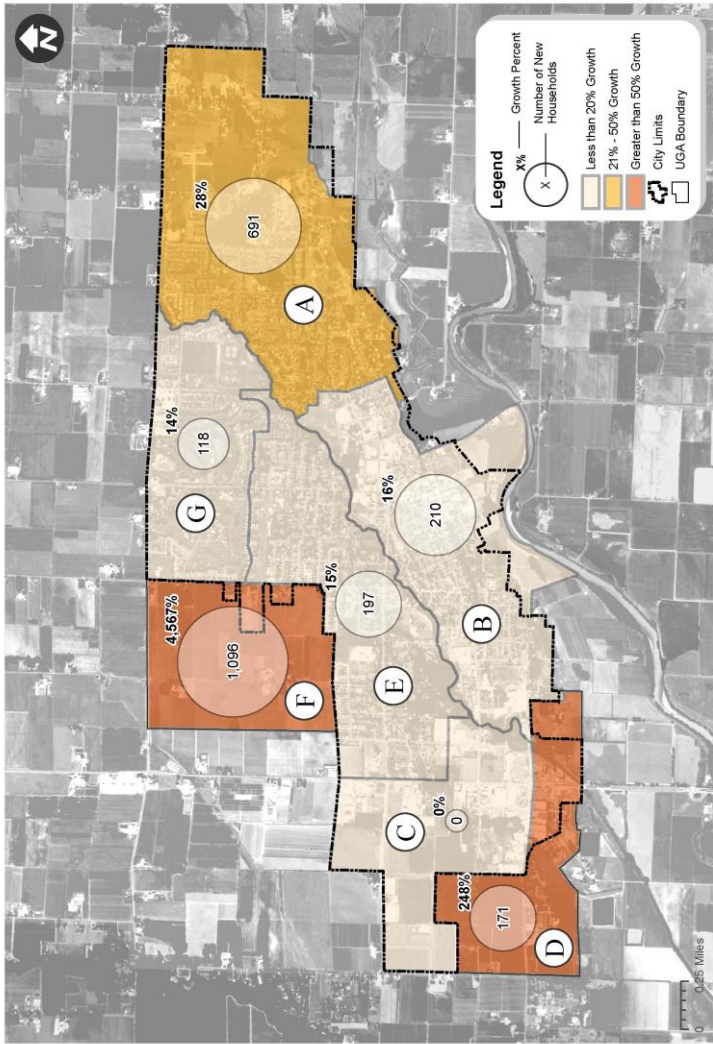
Figure 3-2 Household Annual Growth Rates for 2004 and 2016 Transportation Plans

Figure 3-2 shows household growth between the previous transportation plan and this plan update. To further understand land use changes, seven districts were mapped based on TAZ boundaries, land use, travel patterns, and other features.

Figure 3-3 illustrates household growth by these districts shown within the planning area. The circles on the figure represent the total number of new households anticipated within the district between 2013 and 2036. For example, in the northeast portion of the City (District 1) there are 691 new households forecast for this area. This represents a 51 percent increase over the planning horizon, which is represented by the shading of the district area.

As shown in Figure 3-3, the highest household growth percentages are in the UGA area located in the northwest portion of the planning area (District 6), in the southwest portion of the planning area within the UGA (District 4), and in the largely residential area on the eastern section of the City (District 3).





Housing Growth by District
 City of Lynden Transportation Element Update
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Employment

The majority of employment growth is anticipated to occur within the existing city limits, constituting over 90 percent of the forecast employment growth between 2013 and 2036. Employment growth is about 10 percent of total growth and represents approximately 700 total jobs in 2036 in the UGA.

Employment sectors influence the time of day and types of trips that occur on the transportation system. The general categories of employment types include Government/Education, Manufacturing, Warehousing, Services, and Retail. The job-type share is anticipated to change slightly over the planning horizon as shown in Figure 3-4.

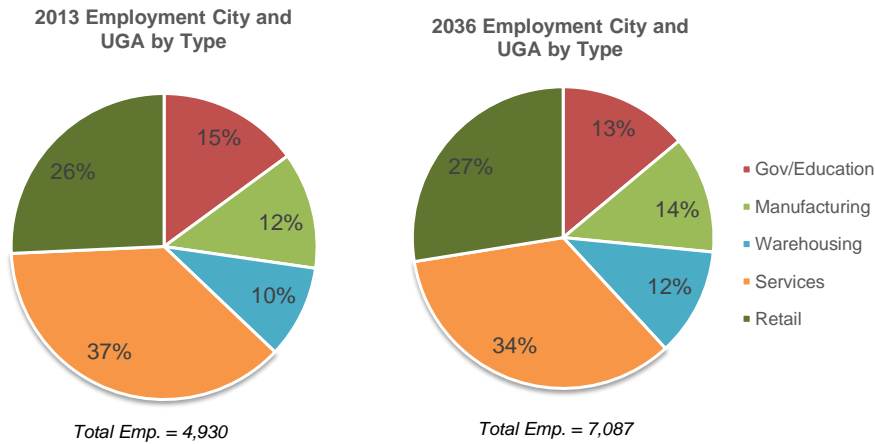


Figure 3-4 2015 and 2036 Employment Sectors in the City and UGA

Changes to employment type are forecast to include more manufacturing, warehousing, and retail jobs, while services and government/education jobs see a decrease as a share of total employment in 2036. Other sector jobs such as agriculture and construction were anticipated to have little-to-no change and therefore were not included in the analysis.

Figure 3-6 illustrates employment growth by land use districts that aggregate totals for areas within the City and UGA. Similar to the figure showing growth in the number of household, the circles represent the number of new jobs anticipated between 2013 and 2036 while the shading of the district area represents the growth percentage.

The figure also shows the growth for each of the seven districts. Districts are based on TAZs boundaries and are grouped together based on a combination of land use, travel patterns, geography, and City and UGA boundaries. The 2004 Transportation Plan assumed a 4 percent growth rate during the 2002-2022 planning period while a 2 percent growth rate is used for the 2013-2036 planning period. A 2 percent annual growth rate occurred between 2002 and 2013.



More than 1,600 new employees of the employment sections found in Figure 3-4 are expected by 2036 within the City and UGA areas. The areas with the highest increase in jobs include the City area west of SR 539 (District 3) and the central city area (District 2). The central city and District 3 areas are anticipated to contain 90 percent of total job growth by 2036. The growth in annexation areas (Districts 4 and 6) and along SR 539 was anticipated in the 2004 Transportation Plan. A comparison of the forecast growth to the number of employees in the City and UGA is shown in Figure 3-5.

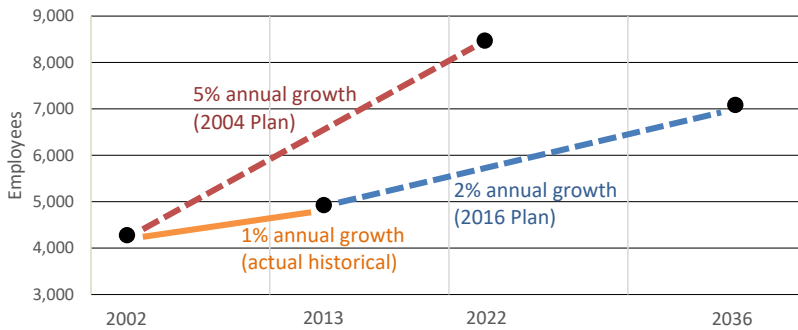


Figure 3-5 Employment Annual Growth Rates for 2004 and 2016 Transportation Plans

As with household land use assumptions in the 2004 Transportation Plan, the current forecasts assume less growth during the planning period than was expected in 2004. A 5 percent annual growth rate was expected in the previous plan while a 1 percent growth rate has occurred between 2002 and 2013. A 2 percent annual growth rate is anticipated to the 2036 planning horizon.

Figure 3-6 Employment Growth by District

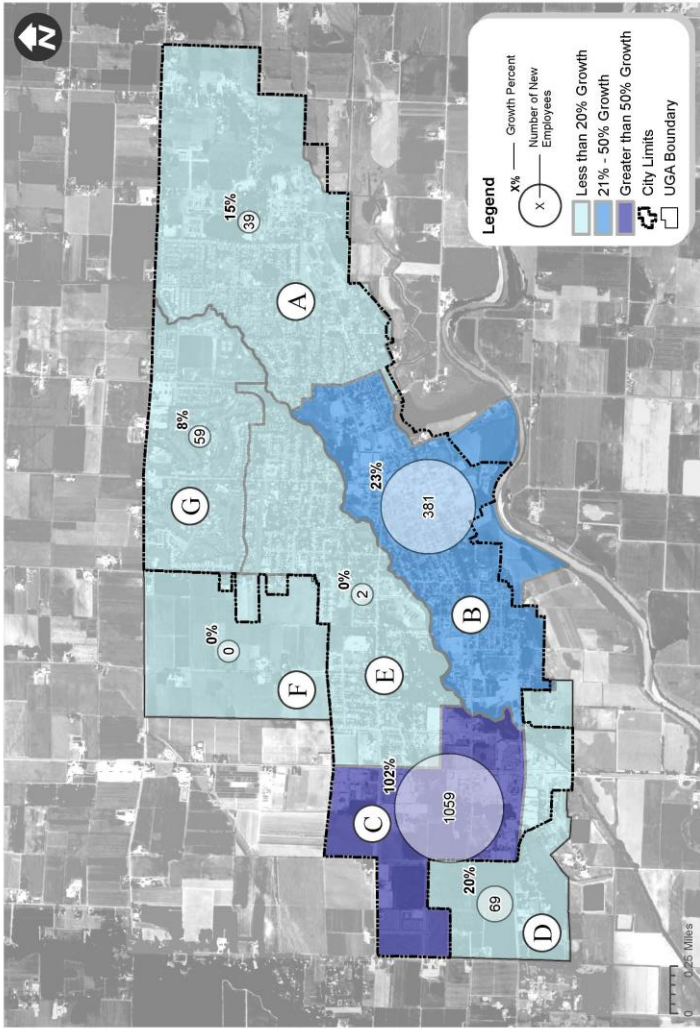


FIGURE 3-6
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Employment Growth by District
 City of Lynden Transportation Element Update

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3.2. 2036 Forecast Travel Conditions

Forecast travel conditions estimate where future bottlenecks may occur based on future travel demand. Travel demand is based on anticipated changes to land use and the types of trips generated based on the population and employment forecasts described in the previous section. The aggregation of those trips on City roadways provides planners with a future snapshot of the transportation system as a whole. The future baseline transportation system evaluated under forecast travel conditions includes committed transportation system projects and serves as a base for developing the intersection and roadway projects included in the Transportation System Plan.

Traffic Volumes

Traffic volumes in urban areas are typically highest during the weekday PM peak hour. This reflects the combination of commuter work trips, shopping trips, and other day-to-day activities which result in travel between 4:00 and 6:00 p.m., Monday through Friday. Therefore, the weekday PM peak hour is typically used for evaluating transportation system needs. The forecast traffic volumes show moderate changes in overall growth on roadways the City.

A comparison of 2013 and 2036 traffic volumes is shown in Figure 3-7. The 2036 baseline model network was developed based on committed capacity improvement projects identified in prior plans and project lists prepared by WSDOT, Whatcom County, the City of Lynden, and the other adjacent cities. Committed improvements are defined as improvements anticipated to be funded or are expected to be funded by 2036. No committed capacity improvements were identified within the study area or assumed in the future baseline network. This scenario provides a baseline for identifying future traffic operations deficiencies, which were then used to establish a framework for the Transportation Systems Plan.

The 2036 baseline model was reviewed to understand general areas where weekday PM peak hour volumes are expected to approach or exceed the capacity of the roadway. While this does not necessarily mean the roadways would need widening, it does mean that these sections of roadway may need to be monitored closely and/or improved to more urban standards. Intersection related capacity concerns are discussed more in detail in the following section. Roadways with the highest PM peak hour traffic volumes include SR 539 south of Kok Road where traffic volumes are between 925 and 1,060 vehicles per hour. Grover Street through downtown also has high traffic volumes between 500 and 730 for both directions during the PM peak hour.

Figure 3-7 Traffic Volume Growth (2015 – 2036)

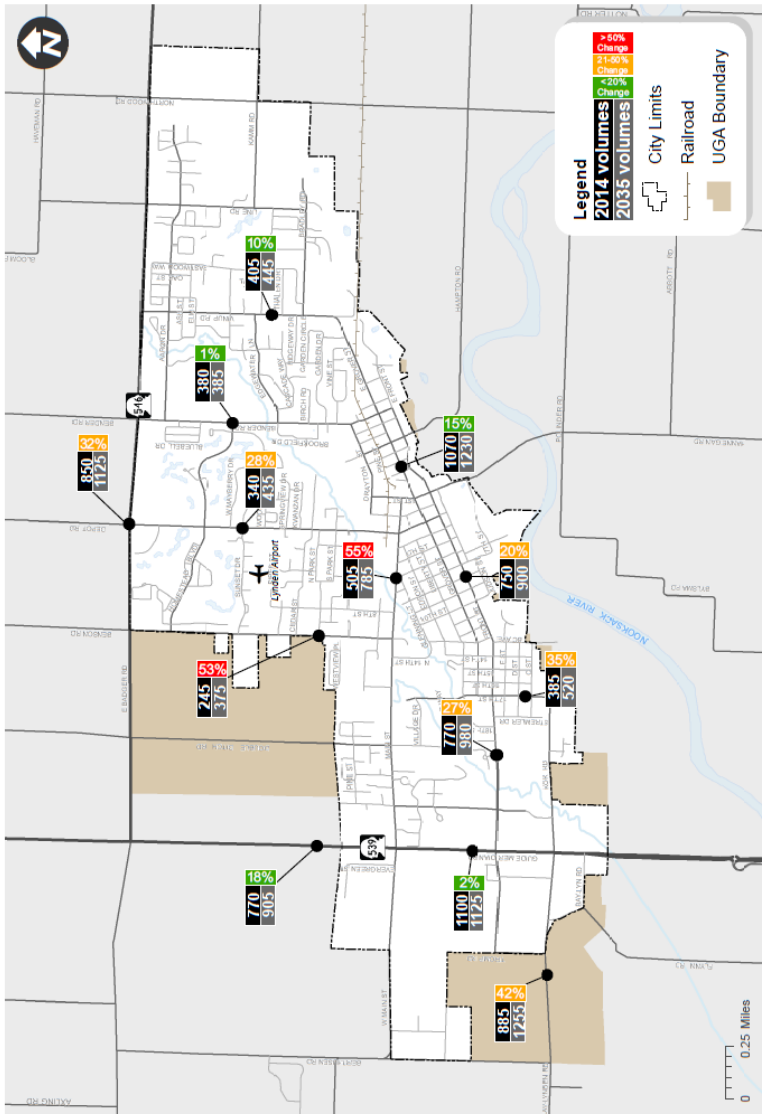
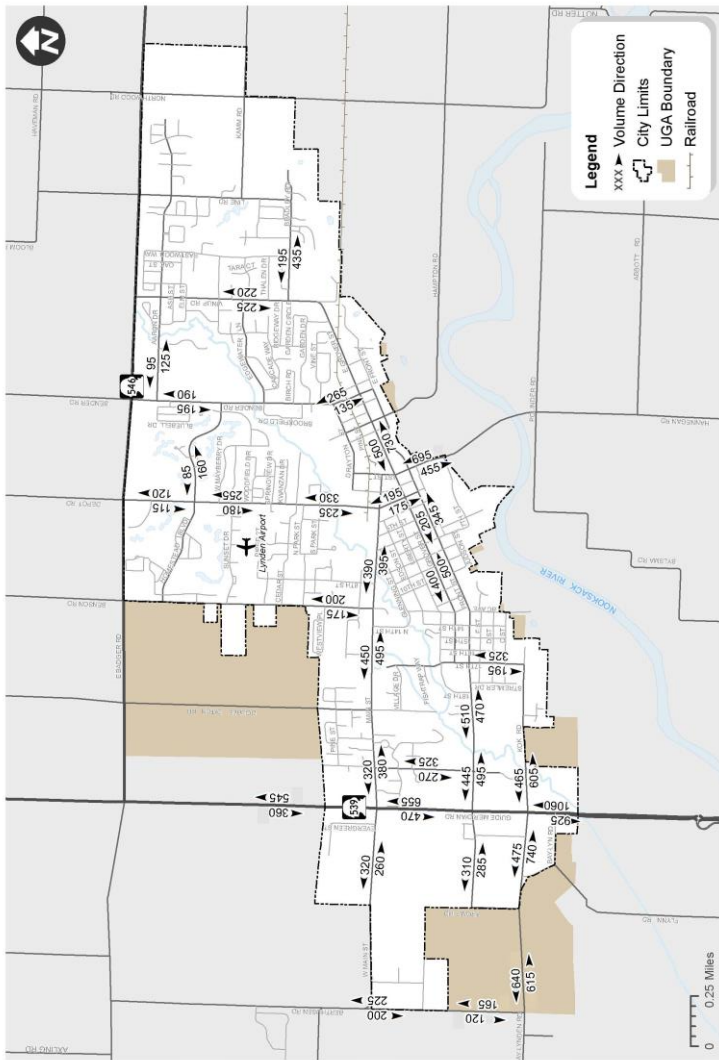


FIGURE 3-7
transpogroup Traffic Volume Growth (2015 - 2036)
City of Lynden Transportation Element Update

Figure 3-8 Future (2036) PM Peak Hour Traffic Volumes



Future (2036) PM Peak Hour Traffic Volumes
 City of Lynden Transportation Element Update
 transpogroup **3-8**

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Baseline Evaluation

The 2036 baseline model network was developed based on committed capacity improvement projects identified in prior plans and project lists prepared by WSDOT, Whatcom County, the City of Lynden, and the other adjacent cities. Committed improvements are defined as improvements anticipated to be funded or are expected to be funded by 2036. No committed capacity improvements were identified within the study area or assumed in the future baseline network. This scenario provides a baseline for identifying future traffic operations deficiencies, which were then used to establish a framework for the Transportation Systems Plan.

The 2036 baseline model was reviewed to understand general areas where weekday PM peak hour volumes are expected to approach or exceed the capacity of the roadway. While this does not necessarily mean the roadways would need widening, it does mean that these sections of roadway may need to be monitored closely and/or improved to more urban standards. Typically, a roadway with a vehicle-to-capacity ratio over 1.0 is identified as having a capacity issues. There were no roadways in 2035 that were identified as having capacity issues.

Traffic Operations

As described in the Existing Conditions, intersection traffic operations evaluate the performance of signalized and stop-controlled intersections according to the industry standards set forth in the *Highway Capacity Manual 2010* (Transportation Research Board, 2010). Peak hour traffic operations were evaluated at the study intersections based on level-of-service (LOS) methodology, and evaluated using Synchro version 8.0.

City of Lynden LOS standards are identified in the Existing Conditions section of this Element for intersections within the incorporated areas of the city. For these intersections the standard is LOS D at roundabouts and all-way stop controlled intersections, and LOS E at signalized and two-way stop-controlled (TWSC) intersections. The results of the LOS analysis indicate that all of the study intersections will meet City LOS standards, with the exception of Berthusen Road/Bay-Lynden Road. Three additional intersections are at the LOS D threshold. Intersections at or exceeding the City’s LOS standards in 2036 baseline conditions are shown in **Error! Reference source not found.** The forecast levels of service (LOS) for all the i ntersections reviewed under forecast conditions are shown Figure 3-9.

Table 3-2 Forecast Conditions (2036) LOS Summary of Intersections Approaching City LOS Standards

Intersection	Intersection Control	2015 PM Peak Hour			2036 PM Peak Hour		
		LOS ¹	Delay ²	WM ³	LOS ¹	Delay ²	WM ³
Berthusen Road / Bay-Lynden Road	TWSC	C	17	SB	E	36	SB
Benson Road / Main Street	TWSC	C	17	SBL	D	34	SBL
Bender Road / Grover Street	TWSC	D	33	NB	D	31	NB
17th Street / Grover Street	TWSC	C	19	WB	D	34	WB

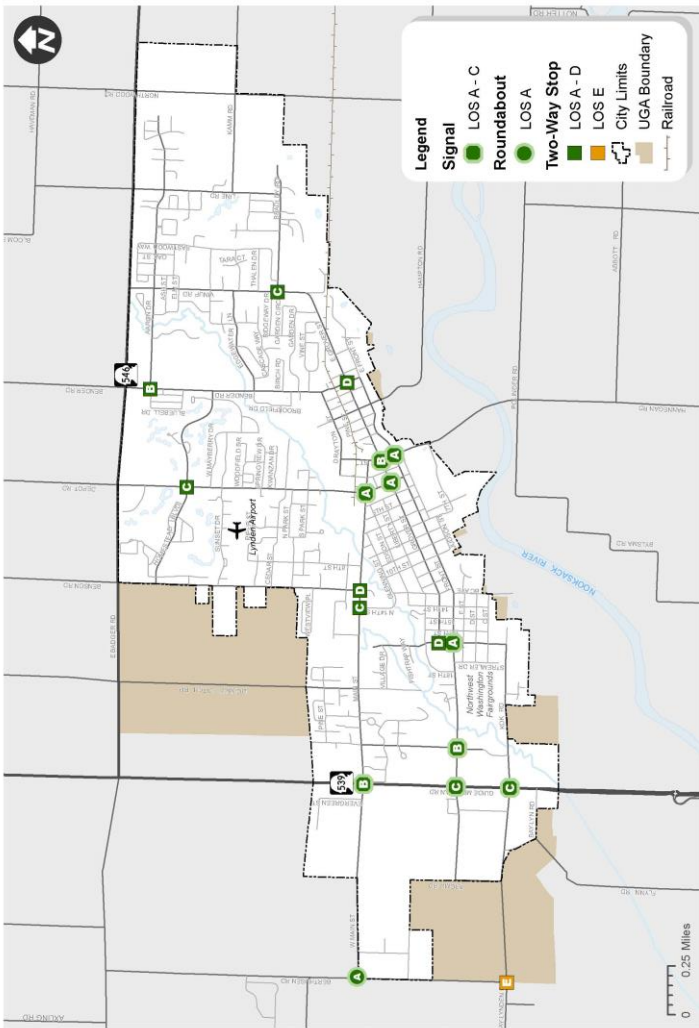
¹ – Level-of-service based on 2010 *Highway Capacity Manual* methodology.

² – Average delay in seconds per vehicle

³ – Worst movement reported for unsignalized intersections



Figure 3-9 Future (2036) Forecast Intersection LOS



Future (2036) Forecast Intersection LOS

City of Lynden Transportation Element Update



FIGURE

3-9



C:\Projects\14114220_05 - Lynden Transportation Element Update\CISMO\07 figures\Drawings\3-9 - Future 2036 Forecast Intersection LOS.mxd

As shown in **Figure 3.9**, only one of the intersections analyzed under 2036 forecast conditions is anticipated to be close to but not exceed city LOS standards. The Berthusen Road / Birch-BayLynden Road intersection is currently two-way stop controlled, and the expected traffic increases associated with land use growth in the City increase congestion levels to LOS E. The lower level of service is due to the high delays experienced by side street vehicles on Berthusen Road trying to find gaps in traffic to turn onto Bay-Lynden Road. As described above, two-way stop controlled intersections have an LOS standard of E in the City of Lynden.

3.3. Transit

Transit service in Whatcom County is expected to continue being provided by Whatcom Transportation Authority in 2036. The 2015 *Strategic Plan*, which is in the process of being updated as of September 2016, contains the transit agency’s 20-year vision and establishes the standards and policies to support it. While Whatcom Transportation Authority also provides paratransit, and vanpool services, the influence of future transit service in the City of Lynden will be based on fixed-route service.

Future Service and Facilities

The City of Lynden works with Whatcom Transportation Authority to identify potential corridors to prioritize transit in the City and UGA. These transit emphasis corridors are arterial streets, highways, or freeways where high levels of transit service are already operated or may be operated in the future.

As the main transit provider in Whatcom County, Whatcom Transportation Authority seeks to implement long-term corridor-based fast, frequent and reliable fixed-route transit service in the City of Lynden. The following points summarize considerations for expanding the role of transit service as part of the City’s future transportation system:

- As development occurs and traffic congestion increases, buses will need effective priority paths to maintain fast, frequent, and cost effective service. Infrastructure needs may include improvements such as queue-jumps, transit signal priority, transit priority lanes, and other transit priority infrastructure along designated transit emphasis corridors.
- Some traffic calming and pedestrian improvements are not compatible with transit operations, if not designed to accommodate buses. Particular attention to transit needs may include coordinating with Whatcom Transportation Authority when designing future road improvements on arterials that have existing and planned transit service.
- Access to transit via walking, bicycling, and driving requires consideration when making infrastructure improvements and locating future developments. As roadways within the City are improved, work to maintain effective and efficient access to the Lynden Park & Ride. Public facilities and private developments requiring transit access can also take advantage of increased transit facilities.



3.4. Plan Framework

The baseline evaluation summarized in this chapter provides a framework for the City to establish a long-range multimodal transportation system plan. Transportation system improvements are required to safely and more efficiently accommodate the projected growth in population and employment within the City and its UGA. The recommended improvements are based upon analyses of the existing transportation system, forecasts of future travel demands, anticipated availability of funding resources, and the desire of the community to create an efficient transportation system that puts a priority on community livability.

4. Transportation Systems Plan

The transportation system plan provides a long-range strategy for the City of Lynden to address current and forecast transportation issues and needs. Transportation system improvements are needed to accommodate the projected growth in population and employment within the City and its UGA. The improvements are based upon analyses of the existing transportation system, forecasts of future travel demands, anticipated availability of funding resources, and the desire of the community to create a safe and efficient transportation system that puts a priority on multimodal connectivity and community livability.

4.1. Vehicle and Non-Motorized Networks

Streets and state highways are the core of the transportation system serving the City of Lynden and surrounding communities. These facilities provide for the overall movement of people and goods, for a wide range of travel modes. Streets and highways serve automobile trips, trucks, transit, vanpools, carpools, and bicycle and pedestrian travel. Therefore, the streets and highways establish the framework for the overall transportation system for the City.

Main Street and Grover Street provide east-west access within the city, while Depot Road, 1st Street, Bender Road, and Vinup Road are primary north-south connections. 1st Street, Birch Bay-Lynden Road, Hannegan Road, and Hampton Road provide access to regional county roadways. Guide Meridian Road (SR 539) and Badger Road (SR 546) are classified as state highways and provide primary regional connections to adjacent cities and counties.

Vehicles and non-motorized modes operate on the same roadway network in most locations. Through a roadway classification system, roadways are given a functional classification which assigns priority to these roadways. The following sections describe the roadway functional classification system and bicycle network classification system.

Roadway Functional Classification

Functional classification is a way to group highways, roads, and streets that comprise the transportation system. The functional classification of a roadway depends on types of trips that occur on it, the basic purpose for which it was designed, and the relative level of traffic it carries. Higher classifications (e.g., freeways, principal arterials) provide a high degree of mobility with higher traffic volumes, generally at higher speeds, and should have limited access to adjacent land uses. Lower classifications (e.g., local access streets) provide access to adjacent land and are not intended to serve through traffic, carrying lower volumes at lower speeds. Collectors balance the function between mobility and access.

Based on state law, cities and counties are required to adopt a roadway functional classification system that is consistent with State and Federal guidelines. In Washington, these requirements are codified in RCW 35.78.010 and RCW 47.26.090. Each local jurisdiction is responsible for defining its transportation system into at a minimum, three functional classifications: principal arterial, minor arterial, and collector. All other roadways are assumed to be local streets. The core of the street and highways system includes arterials and collectors.



In Lynden, the roadway functional classification system is based on the Revised Code of Washington (RCW) 35.78.10. This classification system defines the role of travel through a network of roadways, rather than focusing on individual roadways. The functional classification system has five broad categories of roadways: state highways, major arterials, secondary arterials, collector streets, and access streets. Functional classification roadway definitions are summarized in Table 2-2 and shown in Figure 2-2 of the Existing Transportation Facilities and Conditions chapter.

Non-Motorized Network

The non-motorized transportation network within the City of Lynden and its UGA serves pedestrians, cyclists, and other types of non-motorized users. The future non-motorized transportation network builds upon previous planning efforts that have identified future routes for bicyclists and pedestrians. These plans identify future pedestrian and bicycle routes for the City of Lynden through a combination of on-street facilities and off-street pathways provide the core network for walkers, cyclists, and other non-motorized users to travel.

The future non-motorized network in the City of Lynden builds on the existing pedestrian and bicycle networks described in the Existing Transportation Facilities and Conditions. Future facilities for walking and bicycling expand on the types of facilities already present in the City, which include sidewalks, bicycle lanes, striped shoulders, shared roadways, and multiuse pathways. In addition to those facilities, future non-motorized facilities in the City of Lynden may include:

Pedestrian Facilities

Sidewalks, walkways, and trails are integral to the City’s overall transportation system. The City desires to have sidewalks on both sides of streets, unless special circumstances make it prohibitive. The City’s Transportation Plan includes a program to enhance pedestrian connections and safety. The ADA Transition Plan will provide for constructing missing sidewalk links, repair or replacement of existing substandard sidewalks, improvements to crosswalk markings, and installation of curb ramps to meet the standards of the ADA (Americans with Disabilities Act).

Bicycle Facilities

Bicycles generally operate on the same roadways as vehicles within the city. Lynden has adopted a bicycle network classification system that identifies the types of bicycle facilities to be used within the city. The class type is generally based on the roadway functional classification system, with higher class bicycle facilities utilized on urban arterials and collectors. City defines bikeways in the following categories, consistent with national guidelines as follows.

- **Bike Lanes** – A portion of the road that is designated by signs and/or pavement markings for exclusive bicycle use. Bicycle lanes may be signed as part of a directional route system. Bicycle lanes are one-way facilities and carry bicycle traffic in the same direction as adjacent motorized traffic. The minimum width of the bike lane is 5 feet on a curbed road and 4 feet as a shoulder bike lane.

- **Marked Bike Routes** – Roadways that provide a widened paved outer curb lane to accommodate bicycles in the same lane as motor vehicles. Lane widths are typically increased at least 3 feet to improve conditions for bicyclists sharing the travel lane with vehicles.
- **Low Volume Roads** – A publicly maintained facility that is not designated with signs and/or pavement markings as a bikeway, but is preferred by bicyclists. Residential streets off of main arterials with low volumes of cars designed to provide a safe and pleasant travel priority for people walking and bicycling. A network of low volume roads can benefit from specific signage, traffic calming and diverters to create a low street environment for non-motorized travel.

Pedestrians and bicyclists benefit from facilities that improve the experience of walking down the street or parking a bicycle at the end of a trip. Street furniture and bicycle racks in areas with high non-motorized activity are part of a safe, convenient, and accessible non-motorized network of facilities.

Multi-Use Pathways

A separate, paved multipurpose trail for the principal use of bicycles and other non-motorized modes. Multi-use paths are a minimum width of 10 feet. Multi-use paths are part of a transportation circulation system and are built to provide access for people with disabilities. Facilities typically include wayfinding at trail entrances and may include striping to provide sufficient separation for users traveling at different speeds.

These types of facilities constitute a portion of the potential options for non-motorized travel within the City of Lynden. The specific application of the type of facility or specific treatment depends on overlapping demands for the location, available right-of-way, and a range of other considerations.

The project list that follows the Transportation Projects & Programs section includes projects that will complete the future vehicle and non-motorized transportation networks. Additional detail on these projects is found in the following section. The future non-motorized network is illustrated in Figure 4-1.



Figure 4-1 Future Non-Motorized Network (See Section 4.3 regarding 2021 Pepin Creek area updates.)

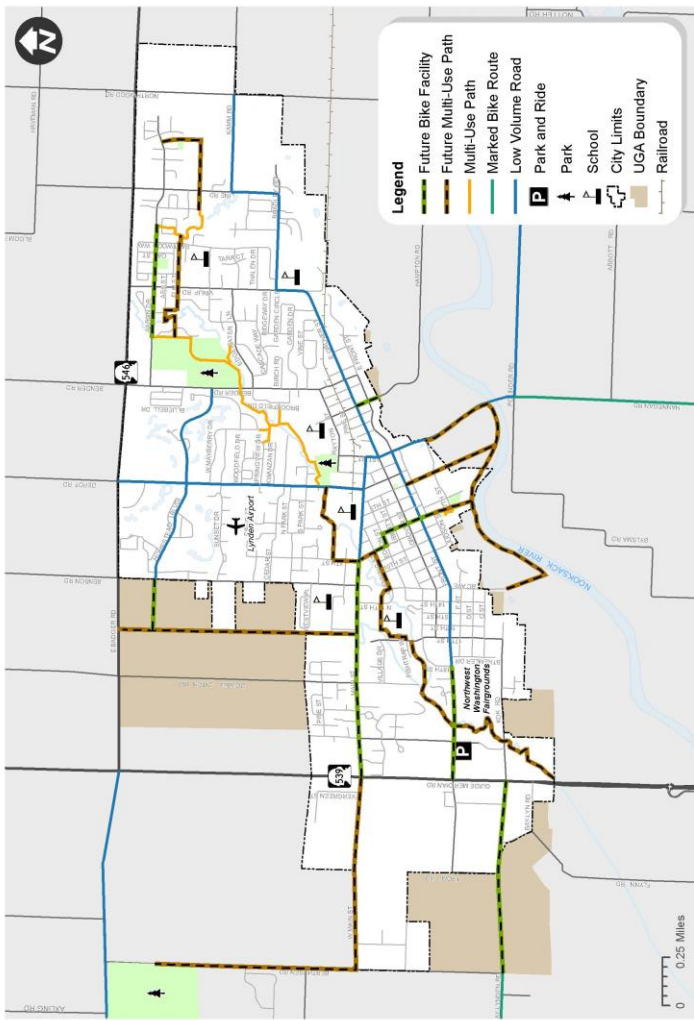


FIGURE 4-1
Future Non-Motorized Network
 City of Lynden Transportation Element Update
 transpogroup

4.2. Transportation Projects & Programs

Regional roadways and local streets provide for the overall movement of people and goods, for a wide range of travel modes. Streets and highways serve automobile trips, trucks, transit, vanpools, carpools, and bicycle and pedestrian travel. Therefore, the streets and highways establish the framework for the overall transportation system for the City. Based on an evaluation of existing and forecast traffic volumes, traffic operations, safety, capacity deficiencies, and circulation needs, a recommended list of transportation improvement projects and programs were identified. The project list is organized into the following categories:

- **Safety and Capacity** include upgrading intersections through added turn lanes or modifications to traffic controls. Where applicable, improvements may also include upgrading traffic signals and implementing Intelligent Transportation Systems (ITS), which could encompass modifications to vehicle detection and coordinated signal timing.
- **Corridor Upgrades** include modifying roadways to current City design standards and incorporating multimodal improvements to serve higher traffic volumes and non-motorized travel.
- **Multimodal Connections** are new roadways that incorporate non-motorized facilities into the roadway cross section including sidewalks, bike lanes, or shared facility markers.
- **Active Transportation** improvements add pedestrian and bicycle facilities to roadways or construct off-street multiuse pathways to complete gaps in the existing non-motorized network.
- **Citywide Programs** includes maintenance and operations and an annual pavement preservation project.
- **Other Agency** improvements include projects developed by other agencies that enhance the City's transportation system.

Table 4-1 and Figure 4-2 identify each of the projects and their locations and provides a brief description of each project including the project limits. The table identifies projects that are currently part of the City's six-year Transportation Improvement Program (TIP). This highlights the projects that are currently identified for planning, design, or construction. Planning level cost estimates have been prepared for each project based on similar, recent projects.



Table 4-1 Project List. (See Section 4.3 regarding 2021 Pepin Creek area updates.)

Project ID	Location (Street)	Description	Benefits				Impacts				Total Cost Estimate	SF Eligible	Smart Eligible	Developer Funded %	Other Agency Transportation Funds	General City Transportation Funds
			Capacity	Safety	Connectivity	Mobility	Vehicle	Pedestrian	Bicyclist	Transit						
C-1	4th St - Lynden Road and Northwest Road	Upgrade intersection operations and install roundabouts to improve future level of service when needed.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$112,000
C-2	17th Street and Grove Street	Realign intersection operations and install traffic signal to improve future level of service when needed.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$144,000
C-3	7th Street and First Street	Realign intersection to 7th Street off-ramp additional to intersection. (See Project R-1.1) Evaluate intersection operations and install improvements (signal control roundabout) to improve future level of service when needed.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$92,000
C-4	1st Street and Grove Street	Add left turn signal heads and adjust signal timing to provide for increased left turns on Grove Street.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$15,000
C-5	17th Street and First Street	Add left turn signal heads and adjust signal timing to provide for increased left turns on First Street.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$15,000
C-6	1st Street and Grove Street	Evaluate intersection operations and install traffic signal to improve future level of service when needed.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$44,000
R-1	7th Street from Johnson Street to Grove Street	Upgrade corridor to City standard (i.e. 36' width) including sidewalks. Consider intersection and signal timing improvements as needed.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$0
R-2	1st Street from Redger Road to Nelson Lane	Upgrade to City standard (i.e. 36' width) including sidewalks and bicycle facilities.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$0
R-3	1st St between First and Grove	Upgrade corridor to NCD standards (i.e. 36' width) including sidewalks. Complete intersection and signal timing improvements as needed.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$40,000
R-4	4th St between First and Grove	Upgrade corridor to NCD standards with two one way travel lanes with angled parking and center median with turner's market area.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$84,000
R-5	6th St between First and Grove	Upgrade corridor to NCD standards (i.e. 36' width) including sidewalks.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$39,000
R-6	Main Street from Northwest E. 5 mile to existing highway	Upgrade corridor to City standard (i.e. 36' width) including sidewalks and bicycle facilities.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$0
R-7	Redger Road from Village Road to 1st Road	Upgrade corridor to City standard (i.e. 36' width) including sidewalks and bicycle facilities.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$0
R-8	1st Road Box Culvert Bridge Reconstruction	Construct box culvert on 1st Road near the ICA ramp/round.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$0
R-9	1st Road from Redger Road to Redger Road	Upgrade corridor to City standard (i.e. 36' width) including sidewalks and bicycle facilities, and other safety measures to address loading of new school along 1st Road.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$0
R-10	1st Road from Avenue Drive to Redwood Way	Upgrade corridor to City standard (i.e. 36' width) including sidewalks and bicycle facilities, and other safety measures to address loading of new school along 1st Road.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$66,000
R-11	Northwood Road from Redger Road to 5th Street	Upgrade corridor to City standard (i.e. 36' width) including sidewalks and bicycle facilities.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$0
R-12	1st Road from 1st Road to Northwood Road	Upgrade corridor to City standard (i.e. 36' width) including sidewalks and bicycle facilities.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$4,995,000
R-13	4th Street from First Street to new RiverView Road (Project 21)	Upgrade corridor to City standard (i.e. 36' width) including sidewalks and bicycle facilities.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$0
R-14	W Front Street and Young from Dohler Drive to 4th St - Lynden Road	Upgrade corridor to City standard (i.e. 36' width) including sidewalks and bicycle facilities.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$1,380,000
R-15	Double Drive Road from Main Street to Village Drive	Maintain existing roadway with cross section, but complete other upgrades to City standards, including sidewalks.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$48,000
R-16	South Drive Road from Main Street to northern City limits	Upgrade corridor to City standard (i.e. 36' width) including sidewalks.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$1,380,000
R-17	17th Street from Grove Street to Village Drive	Upgrade corridor to City standard (i.e. 36' width) including sidewalks.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0%		\$1,608,000

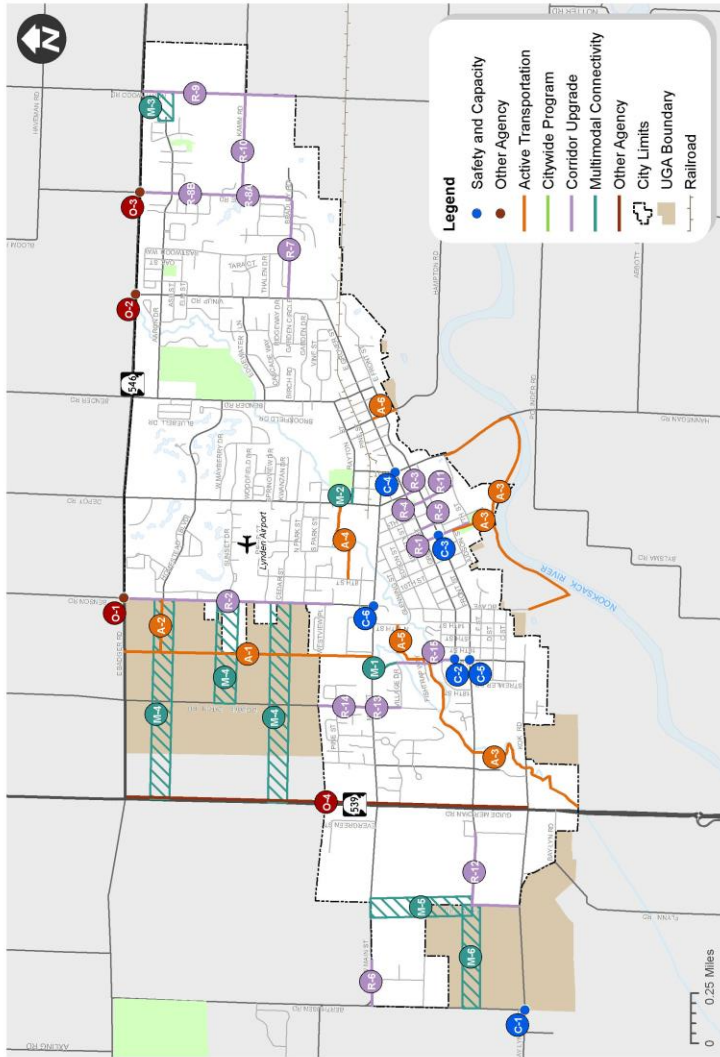


DRAFT Transportation Improvement Projects and Programs
City of Lynden Transportation Element Update

Project ID	Location (Address)	Description	Benefit						Relative Priority	Time Frame	Total Cost Estimate	TIF Eligible	Grant Eligible	Developer Funded %	Other Agency Transportation Funds	General City Transportation Funds
			Crackity	Safety	Connectivity	Mobility	Vehicles	Public Transit								
M-1	Connection on 17th Street between Village Drive and Main Street	New roadway connection adjacent to Lynden City park with pedestrian facilities. Developer funded roadway serving new developments in Eastern Subarea. Alignment will be assigned as part of future subarea studies. Area generally bounded by 17th Street to the east, 18th Street to the south and Bagler Road to the north.	✓	✓	✓	✓	✓	✓	Medium	Short	\$100,000	Y	N	40%		\$0
M-2	Dayton Street from 2nd Street to Depot Road	Developer funded roadway serving new developments in Eastern Subarea. Alignment will be assigned as part of future subarea studies. Area generally bounded by 17th Street to the east, 18th Street to the south and Bagler Road to the north.	✓	✓	✓	✓	✓	✓	Medium	Mid	\$1,500,000	Y	N	0%		\$119,000
M-3	East Subarea	Developer funded roadway serving new developments in Eastern Subarea. Alignment will be assigned as part of future subarea studies. Area generally bounded by 17th Street to the east, 18th Street to the south and Bagler Road to the north.	✓	✓	✓	✓	✓	✓	Medium	Mid	100% Developer	N	N	100%		\$0
M-4	North Subarea	Developer funded roadway serving new developments in Eastern Subarea. Alignment will be assigned as part of future subarea studies. Area generally bounded by 17th Street to the east, 18th Street to the south and Bagler Road to the north.	✓	✓	✓	✓	✓	✓	Low	Long	100% Developer	N	N	100%		\$0
M-5	West Subarea - North-South Connection	Developer funded roadway extending 17th Street to 18th Street and serving new developments in West Subarea. Alignment will be assigned as part of future subarea studies.	✓	✓	✓	✓	✓	✓	Low	Long	100% Developer	N	N	100%		\$0
M-6	West Subarea - East-West Connection	Developer funded roadway extending 17th Street to Berthoun Road serving new developments in West Subarea. Alignment will be assigned as part of future subarea studies.	✓	✓	✓	✓	✓	✓	Low	Long	100% Developer	N	N	100%		\$0
A-1	Pepin Creek New Connection - Bagler Road to Main Street Connection	1/2 mile path with 1' shoulder on each side adjacent to new creek alignment. Provide north-south connectivity.	✓	✓	✓	✓	✓	✓	Medium	Mid	100% Developer (with TIF)	N	N	100%		\$0
A-2	Reconnected 3rd St Street Bicycle Connection	Bicycle and pedestrian facilities on Reconnected 3rd Street providing safe connection with 1st Street and 2nd Street.	✓	✓	✓	✓	✓	✓	Medium	Long	100% Developer (with TIF)	N	N	100%		\$0
A-3	North Street Third Street Project	Revised path based on south side including new path adjacent to North Street, 1st Street and 2nd Street.	✓	✓	✓	✓	✓	✓	Medium	Long	\$2,500,000	N	Y	0%		\$1,100,000
A-4	Depot to 8th Street Trail	New trail from 8th Street to Depot Road on north side of existing creek. Includes new 60' single access track. (Funded Private)	✓	✓	✓	✓	✓	✓	Medium	Short	\$2,500,000	N	Y	0%		\$1,100,000
A-5	Highway Elementary School Trail	Revised path with 1' shoulder on each side on north side of Highway Elementary School. Includes 17th Street and 18th Ave. (Funded Private)	✓	✓	✓	✓	✓	✓	Medium	Short	\$400,000	N	Y	0%		\$87,500
P-1	Street Opening, Maintenance and Operations Program	Annual program to maintain and operate the City's transportation roadway infrastructure.	✓	✓	✓	✓	✓	✓	Medium	Ongoing	\$10,000,000	N	N	0%		\$9,000,000
P-2	Bicycle Facilities and Pathway Program	Strategic program to maintain and operate the City's transportation roadway infrastructure.	✓	✓	✓	✓	✓	✓	Medium	Ongoing	\$200,000	N	N	0%		\$200,000
P-3	Sidewalk / Curbcut Improvement Program	Strategic program to maintain and operate the City's transportation roadway infrastructure.	✓	✓	✓	✓	✓	✓	High	Ongoing	\$500,000	N	N	0%		\$500,000
O-1	1st St and Beacon Road	Upgrade intersection to a roundabout consistent with design at adjacent intersection on 1st St.	✓	✓	✓	✓	✓	✓	Medium	Mid	\$1,000,000	N	N	0%		\$1,000,000
O-2	1st St and 1st Ave / 1st St and 2nd Ave	Upgrade intersection to a roundabout consistent with design at adjacent intersection on 1st St.	✓	✓	✓	✓	✓	✓	Medium	Mid	\$1,000,000	N	N	0%		\$1,000,000
O-3	1st St and 1st Ave	Upgrade intersection to a roundabout consistent with design at adjacent intersection on 1st St.	✓	✓	✓	✓	✓	✓	High	Mid	\$1,000,000	N	N	0%		\$1,000,000
O-4	1st St (1st St to 1st St) from 8th St to 1st St (1st St to 1st St)	Upgrade roadway capacity as part of WCDOT project. Widened roadway to 4 travel lanes between 8th and Main Street. Lane and shoulder widening north of Main Street with safety improvements. Possible roundabouts at Main and Bagler intersections.	✓	✓	✓	✓	✓	✓	High	Mid	\$1,600,000	N	N	0%		\$21,610,000



Figure 4-2 Transportation Improvement Projects



Transporation Improvement Projects
 City of Lynden Transportation Element Update
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FIGURE 4-2
 transporation 

Safety and Capacity Improvement Projects

Intersections with safety or capacity, identified under existing or forecast conditions, have projects that fit into this category. These projects include adding turn lanes or modifications to traffic control at intersections. Where applicable, intersection improvements may also include upgrading traffic signals or roundabouts, and implementing Intelligent Transportation Systems.

Project C-1 is identified as exceeding the level of service threshold by 2035 adjusting for additional traffic volume. The project at Berthusen Road & Birch Bay-Lynden Road, is a Two-way stop-controlled intersection, operates at LOS E in the future. Considerations should be made to upgrade this intersection to either a signal or roundabout in the future to mitigate the level of service deficiency. **Project C-2** at 17th Street and Grover Street addresses future operations issues by installing a traffic signal when warranted. **Project C-3** at Front Street & 7th Street is recommended by the city to be monitored for future level of service deficiencies. Other projects in this category are recommended to install left-turn signal heads and adjust signal timing (**C-4 to C-6**) to address future safety and capacity issues.

Corridor Upgrades

These projects include reconstructing and widening of roadways to urban road standards and incorporating improvements to non-motorized facilities. These projects are intended to serve both the growth in vehicular traffic, as well as the range of non-motorized users through the addition of multimodal facilities. Seventeen roadway projects were identified for corridor upgrades and are expected to serve as examples of complete streets in the City. Projects in this section generally address upgrading corridors to city standards. Included in these projects are improvements on corridors serving the downtown area such as Front Street and Grover Street (**R3 to R-5**). Compact roundabouts, complete streets provisions, and other context-sensitive design treatments may be considered at these intersections to encourage safety for all roadways users. Roadways in this area may see an increase in vehicle and non-motorized traffic due to the completion of roadway projects connecting this area to the riverfront area (**R-12, A-3**). Most of these projects are identified in the most recent Transportation Improvement Program (TIP).

Multimodal Connections

New roadways are needed to serve the growth of the City and fill gaps in the roadway network. Multimodal connections are new roadways that meet City standards and incorporate bicycle and/or pedestrian facilities into the street cross section. **Projects M-1 and M-2** to provide access between existing roadways to complete the street network grid. **Projects M-3 to M-6** are future projects to be completed by developer funds in support of new developments occurring in the East, North, and West subareas. The actual alignments of future streets will be determined and designed at a later date as part of subarea studies.

In the East Lynden subarea, extension of Aaron Road as a collector will be important. A second east-west collector road will also be desirable to connect between Line and Northwood Roads. The City will work with Whatcom County to preserve right-of-way to support viable roadway corridors in the unincorporated UGA.



In the north subarea, possible collector streets include extension of Homestead Boulevard between Benson Road and Guide Meridian. This would minimize the need for direct access to Badger Road. Another potential east-west corridor to serve growth in the north part of the City would be Cedar Drive. Since much of this area is outside of the City's current UGA, the City will need to coordinate with Whatcom County to preserve the future street corridors. The City will also need to coordinate with WSDOT about potential new intersections of these collector roads with Guide Meridian between Main Street and Badger Road.

Active Transportation

Active transportation is drawing increased focus within local, state and federal planning circles as smart growth, active living, growth management, and sustainability programs stress smarter decision-making and place greater importance on system connectivity. The quality of connectivity for active transportation modes is inversely related to the number and severity of environmental and infrastructure barriers to walking and bicycling. The physical barriers that affect travel behavior occur at the neighborhood level and these barriers take many forms. Significant barriers to connectivity include inadequate networks (lack of optional routes) or disconnected routes, rail lines, freeways or major arterials, and natural features such as rivers or steep terrain.

A viable active transportation network consists of connections to pedestrian generators, such as major employers, the downtown, schools, residential areas, parks, and transit stops. Land use and neighborhood street design patterns can also form barriers to pedestrian travel. For example, long block lengths and the lack of mid-block crossings cause pedestrians to travel further to reach local destinations, often resulting in a decision to utilize a vehicle for short trips that would otherwise be completed on foot. Connectivity to schools, transit stops, parks, and other destinations were used to identify critical gaps in the pedestrian and bicycle networks to be included in these active transportation plans. Segments of arterials and collectors that do not have sidewalks or adequate walkways on both sides of the street would be improved as part of identified improvement projects or through the ADA Transition Plan discussed Citywide Programs.

Active Transportation Project A-1 provides a new paved multi-use path between Badger Road and Main Street adjacent to Pepin Brook. Project A-2 provides safe bicycle connectivity between Benson Road and the new Pepin Brook multi-use path. **Project A-3** was selected from Lynden's 2014 Park and Trail Master Plan, a multi-use pathway which primarily runs adjacent to Fishtrap Creek. **Project A-6** was informed by the Whatcom County Bicycle and Pedestrian plan. The project is the in-city portion of the county designated bicycle system and is classified as Class II bike lanes.

A **Safe Routes to Schools project (A-5)** would improve pedestrian connections to Fisher School by paving multi-use pathways adjacent to the school and providing sidewalk and crossing treatments to the existing sidewalk network as necessary.

Citywide Programs

Citywide programs include ongoing transportation costs within the City of Lynden. The **Citywide Programs** include an annualized budget over the planning horizon for completing a range of pothole repairs, pavement patching, shoulder restoration and mowing, crack sealing, sign replacements, striping and other maintenance tasks.

Non-motorized citywide programs are identified in the projects **P-2 Bicycle Facilities and Pathways Program** and **P-3 Sidewalk/Crossing Improvement Program**. These programs overlap with some projects identified in the Active Transportation projects list, though the intention of project **P-2** is to stripe other bicycle facilities identified by the City.

An area of focus is in relation to Title II of the American with Disabilities Act (ADA), which requires local agencies to conduct what is known as a Self-Evaluation and Transition Plan. As part of the development of the citywide pedestrian network, a strategy to address Lynden’s plan for complying with federal ADA requirements is needed. The **Sidewalk/Crossing Improvement Program (P-3)** includes funding for the installation of ADA-accessible curb ramps at intersections.

Other Agency Projects

Other Agency improvements include projects developed and funded (at least partially) by other agencies such as WSDOT and Whatcom County that impact the City’s transportation system.

The **State Route 546 Corridor Projects (Projects O-1 through O-4)** led by WSDOT are anticipated to continue over the planning horizon of the Transportation Plan. These projects address capacity and safety issues by upgrading the intersections to roundabouts. Other intersections on the corridor including SR 546 & Depot Road and SR 546 & Bender Road have been upgraded since the previous Transportation Plan.

Project O-5 addresses potential safety issues on SR 539 corridor in City Limits as a result of analysis of recent collision data. The project calls for a safety study to look further into potential issues causing higher collision rates on the corridor.

Project O-6 widens SR 539 (Guide Meridian Road) from Birch Bay-Lynden Road to Main Street as part of a WSDOT project. This project also assumes a possible roundabout at Main Street and at SR 546 to address potential future safety and capacity issues. Additional studies are necessary to determine feasibility for roundabouts at these locations.



Figure 4-3 Safety and Capacity Projects

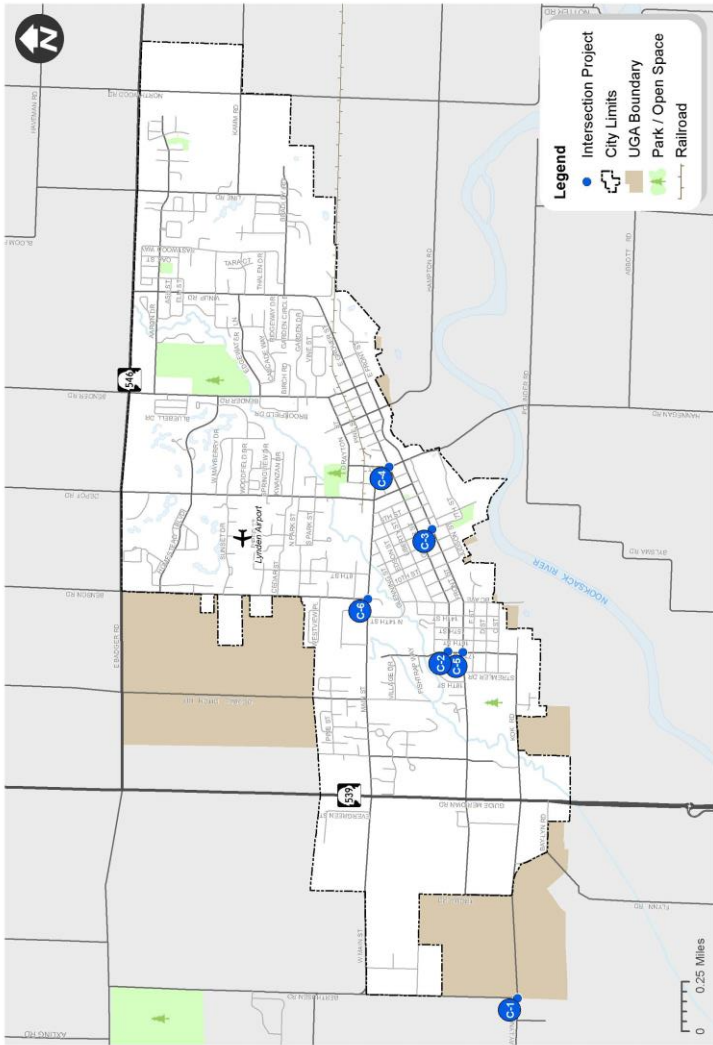


FIGURE 4-3
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Safety and Capacity Projects
 City of Lynden Transportation Element Update

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Figure 4-4 Multimodal Connections and Corridor Upgrade Projects (See Section 4.3 regarding 2021 Pepin Creek area updates.)

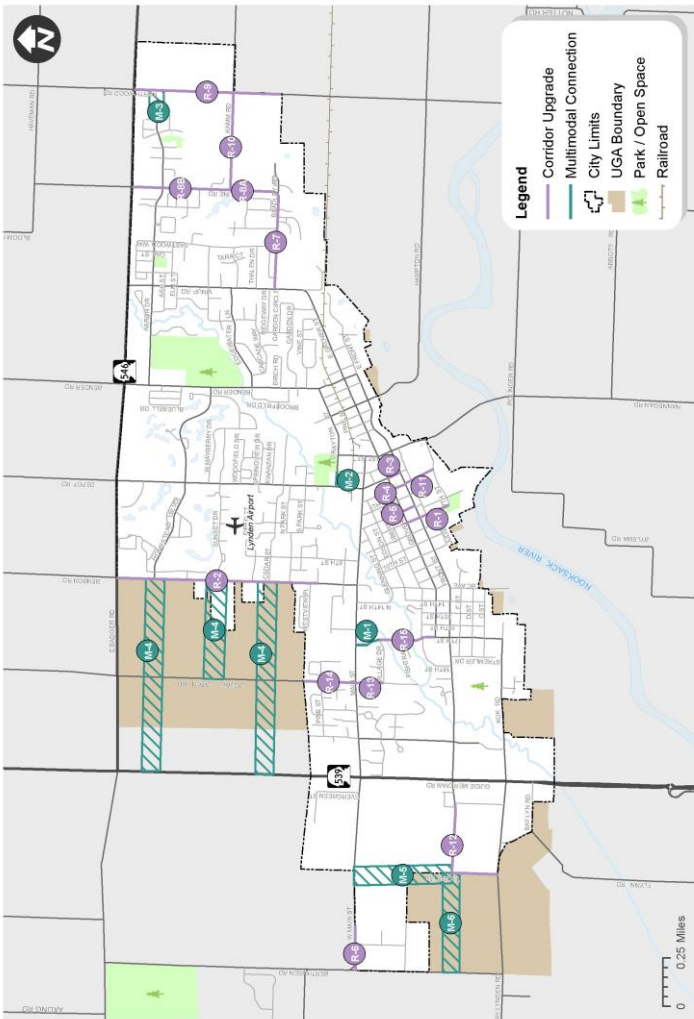
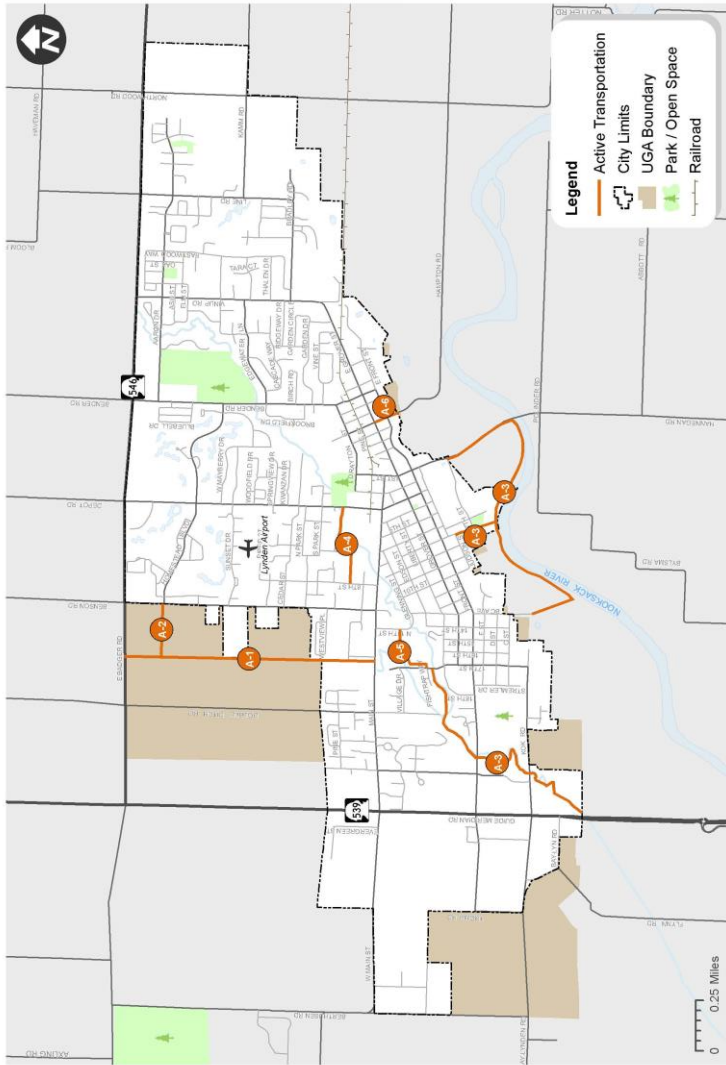


FIGURE 4-4
Multimodal Connections and Corridor Upgrade Projects
 City of Lynden Transportation Element Update
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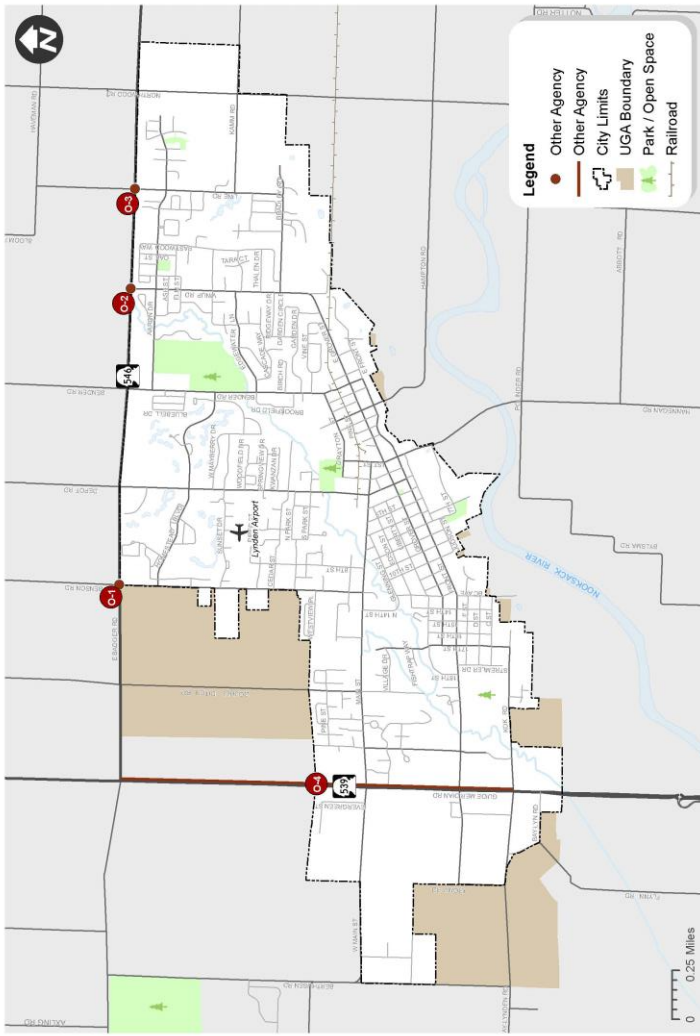
Figure 4-5 Active Transportation Projects (See Section 4.3 regarding 2021 Pepin Creek area updates.)



Active Transportation Projects
 City of Lynden Transportation Element Update
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FIGURE 4-5
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Figure 4-6 Other Agency Projects



Other Agency Projects
 City of Lynden Transportation Element Update
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FIGURE 4-6

4.3. Pepin Creek - Transportation Systems Plan Update

This section represents a 2021 update to the City of Lynden Transportation Element to document the infrastructure planning associated with the Pepin Creek Subarea. The municipal code, the Six Year Transportation Improvement Program (STIP), and portions of the Comprehensive Plan were updated to assure alignment throughout the City's policies, plans, and standards.

In March of 2020, the City Council adopted the Pepin Creek Subarea Plan after intensive review of the growth needs and goals of the community. Subsequent engineering and financial analysis resulted in a more detailed infrastructure plan which was dubbed "Pepin Lite".

In March of 2021, the City Council passed Resolution 1031 which was a resolution of intent which outlined the steps toward lifting the long-standing moratorium on development in the Pepin Creek area and accomplishing the goals of the Pepin Creek Subarea Plan and the Pepin Lite infrastructure.

In May of 2021 the City Council adopted an updated Six Year Transportation Improvement Program (STIP) through Resolution 1036 that included the Pepin Lite projects. The map reflecting these projects is shown in Figure 4-7 "2022 – 2027 Transportation Improvement Projects". This represents a shift from some of the Pepin Creek area projects shown above in Figure 4-4 "Multimodal Connections and Corridor Upgrade Projects" and Figure 4-5 "Active Transportation Projects".

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2016, 2021 Pepin Creek Update--

City of Lynden
Transportation Element

Figure 4-7: 2022 – 2027 Transportation Improvement Projects.

Project Number does not reflect priority

Project Number	Project Name
1	Peppin Street Bridge
2	Peppin Street Bridge
3	Peppin Creek Main Street
4	Ballantyne Pepin Creek Corridor
5	Double Ditch Road
6	Peppin Street Bridge
7	Peppin Street Bridge
8	Benson Road
9	Reimagine The Extension - Depot to Bk Street
10	Reimagine The Extension - Depot to Bk Street
11	Reimagine The Extension - Depot to Bk Street
12	Reimagine The Extension - Depot to Bk Street
13	CRAB Drive Street & Street Utility Improvements
14	Main Street Corridor Conversion
15	Temple Road
16	Temple Road
17	3rd St
18	4th Street
19	5th Street
20	Northwood Road
21	Northwood Road
22	E. Badger Road (SR-54) Intersections w/ City Avenues
23	Front Street
24	Front Street (W411 Avenue)
25	Reimagine The Extension to Dickinson Park
26	Avenue Maintenance Overlay - Vinup Road
27	Avenue Maintenance Overlay - Front Street
28	Intersection Repairs and ADA Intersections (1st Street & Main Street)

Project Type

- Motorized
- Non-Motorized
- Non-Motorized Road Drainage
- Overlay

Updated: 28 Mar 2021

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2022 - 2027 Six Year
Transportation Improvement Program
In Priority Order

Ref No.	Project	Description	Termini	Classified	Phase	2022 - 2027					Funding Sources (\$ in thousands)				
						2022	2023	2024	2025	2027	Local	State	TIB	Federal	Total
1	Main Street Bridge Pepin Life Concept	Bridge and approaches	Main Street over relocated Pepin Creek (Double Ditch)		PE Const	X					400	DOC 2,800			400 2,800
2	Pine Street Bridge Pepin Life Concept	Vehicular Bridge and approaches	Pine Street over relocated Pepin Creek (Double Ditch) Development Mitigation Project		PE Const	X	X				421				421 2,387
3	Pepin Creek Main Stem Pepin Life Concept	Upstream (Pepin Life) Phased Relocation	Main Street to East/West Creek Corridor Development Mitigation Project		PE Const	X	X				421 8,136	DOE DOE?			421 8,136
4	East/West Pepin Creek Corridor Pepin Life Concept	Upstream (Pepin Life) Phased Relocation	North end of Pepin Main Stem to Double Ditch Road Development Mitigation Project		PE Const	X		X			151 1,508				151 1,508
5	Double Ditch Road	Widen/Improve to City Arterial Street Standard (40') Prerequisite: Construct Cross-Culvert to the North and relocate Pepin Creek into new channel	Main Street to City Limits (Pepin Parkway) Connect to Future Pepin Parkway Include Water & Sewer Trunk Lines Development Mitigation Project		PE Const		X	X			581 5,231				581 5,231
6	Pepin Parkway Bridge	Pepin Parkway Arterial (Center Median Stormwater) Arterial Street - driveway access and parking restricted	On Pepin Parkway over the relocated Pepin Creek Development Mitigation Project		PE Const		X	X			265 2,396				265 2,396
7	Pepin Parkway Arterial	Pepin Parkway Arterial (Center Median Stormwater) Arterial Street - driveway access and parking restricted	Benson Road to Double Ditch		PE Const			X	X		588 5,294				588 5,294
8	Benson Road	Widen to the west to avoid ditch on east. Pedestrian on west side - possible 10' separated trail Arterial Street - driveway access and parking restricted	Sunrise Drive to Badger Road Connect to Future Pepin Parkway Construction Development Dependent		PE Const		X				478 4,306				478 4,306
9	Kaemingk Trail Extension - Depot to 8th Street	Paved Trail and Widened Sidewalk on 8th St Trail: Park Impact Fee Funds, Sidewalk: Street Funds	North 8th Street to Depot Road and 8th Street to Main		PE Const						800	DOC? 200			800 1,000
10	Judson Area Streets - Low Impact Development	Stormwater Low Impact Development Ecology Stormwater Grants Phased Construction (Grant Dependent), Utility Fund Match	8th, 9th and 10th Streets between Front and Judson and Judson from 10th to 7th		PE Const	X	X	X	X		50 650	120 1,950			170 2,600

2022 - 2027 Six Year
Transportation Improvement Program
Keyed to Map

Ref No.	Project	Description	Termini	Classified	Phase	Funding Sources (\$ in thousands)						Total			
						2022	2023	2024	2025	2026	2027		Local	State	TIB
11	South Park Street & Water Utility Improvements	Grind & Churn Milling Process Sewer Utility Fund Project	Depot Road to North Park		PE Const	X X						150 1,200			1,350
12	Cedar Drive Street & Sewer Utility Improvements	Replace Sewer and Repair Road Sewer Utility Fund Project	Depot Road to 124 E Cedar		PEROW Const	X X						110 1,100			1,210
13	Main Street Corridor Completion	Reconstruct Street & Roundabout at Berthusen Surface Transportation Block Grant (STBG) through Whatcom County Council of Governments (WCOG)	Intersection at Berthusen Road east 0.5 miles		PE Const		X X					125 1,000			1,125
14	Tromp Road	Upgrade to Full City Standard Community Economic Development (CEDS) listed	Front Street north to Alderwood right-of-way, then west to Curt Library		PE Const			X X				100 1,000			1,100
15	Bradley Road Pedestrian Improvements	Sidewalk Applying for 2021 TIB Funds (TIB = 62%)	Vinup Road to Line Road		PE Const			X X				22 120	62 450		328
16	Line Road	Upgrade to Full City Standard Planning Purposes Only	Aaron to Badger Road		PE Const			X X				50 1,500			1,550
17	3rd Street	Street Reconstruction Planning Purposes	Glover Street to Front St Historic Business District		PE			X				20			20
18	4th Street	Street Reconstruction/Centennial Park Integration Planning Purposes Only Community Economic Development (CEDS) listed	Glover Street to Judson St Historic Business District		PE			X				20			20
19	6th Street	Street Reconstruction Planning Purposes	Glover Street to Front St Historic Business District		PE			X				20			20
20	Northwood Road	Upgrade to Full City Std Planning Purposes Only	South City limits to Badger		PE			X				70			70
21	Kanni Road	Upgrade to Full City Standard Planning Purposes Only	Line Road to Northwood		PE			X				70			70
22	E Badger (SR 546) Intersections w/ City Arterials	Channelization/Roundabout & Lighting Planning Purposes Only	Roundabout or Intersection Improvement at Line, Vinup, & Benson Roads		PE			X				500	WSDOT 500		1,000
23	Judson Street Alley	Widen and Reconstruct Recessed Utility Pole Community Economic Development (CEDS) listed	5th Street to 7th Street Possible Directional Restrictions		ROW/PE			X				50			50



2022 - 2027 Six Year
Transportation Improvement Program
In Priority Order
Keyed to Map

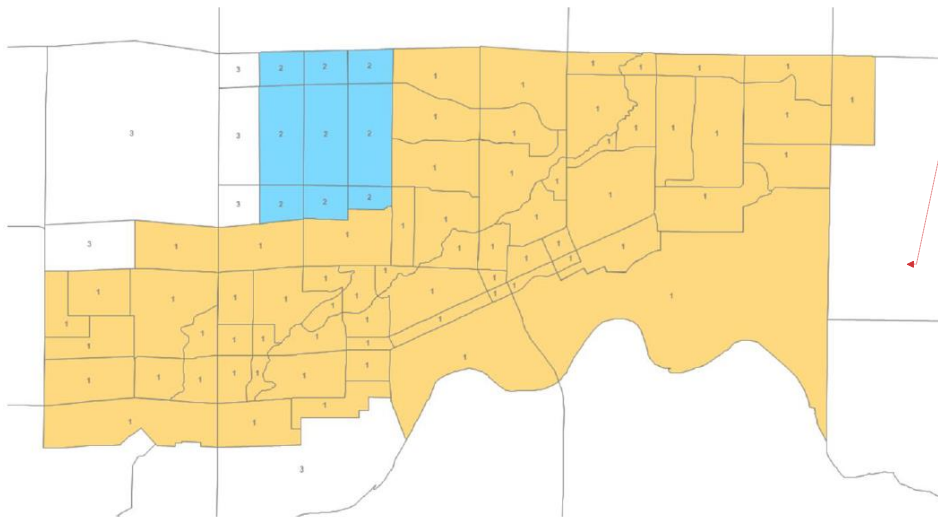
Net No.	Project	Description	Termini	Classified	Phase	Funding Sources (\$ in thousands)						Total			
						2022	2023	2024	2025	2026	2027		Local	State	TIB
24	Dryden Street Extension	Eliminate Gap and Resurface Existing Street	1st Street to Depot Road Possible Directional Restrictions		ROW/PE				X			50			50
25	Front Street (West) Arterial	Upgrade to Full Arterial City Standard Estimate: \$1,000,000 Utilities: \$700,000	Dufferin Drive to Tromp Road west of Guide Meridian		PE							50			50
					Const			X						3,300	
26	Koenigsk Trail Extension to Dickinson Park	Paved Trail w/ 2 Bridges 2019 Parks & Trails Bond	17th Street to existing Ridgecreek Trail		PE	X						200			200
					Const		X							2,500	
27	Arterial Maintenance Overlays Classified Routes	Grind and Overlay w/ ADA Upgrades	Birch Bay Lynden Rd, Vinup Rd, Front St		Const				X			4,500			4,500
28	Intersection Repairs and ADA Classified Routes	Replace Asphalt w/ Concrete, ADA Upgrades	Intersections: Main & 3rd, Main & 1st,		Const				X			4,500			4,500
29	Wayfinding Signage	City Implementation of County-wide Program	Various Arterial Roadway Locations		Const			X				150			150
					Const	X	X	X					200		200
30	Miscellaneous Chip Seal/Maintenance Chip/Seal seals	Miscellaneous Streets	Various Locations		Const	X	X	X				50			50
31	Non-Motorized Facilities	Non-Motorized Facilities/ADA Sidewalks	Various Locations		Const	X	X	X				50			50
					TOTAL:								\$56,780	\$5,020	\$410



As funding through the use of transportation impact fees (TIF) is a critical component to the implementation of the Pepin Lite plan, the City's consultant, Transpo Group, conducted a Transportation Impact Fee analysis. The 2021 updated TIF analysis focused on several items:

- Updated project list and project costs
- Updated growth trips based on revised land use in the Pepin Creek Subarea
- Updated TIF to include a citywide rate and a Pepin Creek overlay rate. See Figure 4-8 for map of overlay area.

Figure 4-8: Overlay Area (blue). Source: Transpo Group, 2021



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The review of the updated project list included the removal of completed project and the addition of new project, mostly in the Pepin Creek Subarea. Project costs were reviewed and updated to 2021 dollars based on direct project cost estimates or on WSDOT's History and Forecast of Construction Cost Index.

The revised TIF analysis used the latest Whatcom Council of Governments (WCOG) travel demand model. In December 2020, the WCOG staff developed a future model scenario to reflect the Pepin Creek land use and new street network. Trip tables from the future model scenario, and the existing year WCOG model, were used to determine the total 20-year growth trips in the City and Pepin Creek Subarea.

Table 1 shows the final allocations of growth trips and TIF eligible project costs to the Citwide area and the Pepin Creek Overlay area. Based on these allocations, the TIF rate (cost-per-trip) for each area are then calculated. These reflect the maximum trip rates justified by this analysis, but adopted rates may be lower.

Table 1. Calculation of Transportation Impact Fee Rate (2021 Update)

	Growth Trips ¹	Non-Pepin Creek TIF Project Costs ²	Pepin Creek TIF Project Costs ³	Total TIF Project Costs	Cost per Trip
Citywide	2635	\$6,501,200	\$1,237,150	\$7,738,350	\$2,936.76
Pepin Creek Overlay	603	\$0	\$11,134,350	\$11,134,350	\$18,464.93

1. Number of trips starting and/or ending in each area. The Citywide area includes all growth trips in both the City and the Pepin Creek Subarea. The Pepin Creek Overlay only includes growth trips in the Pepin Creek Subarea.
 2. Reflects the TIF eligible project costs for all projects within the city, outside of the Pepin Creek Subarea.
 3. Reflects the TIF eligible project costs for the Pepin Creek Subarea. Some of these costs (10 percent) were allocated to Citywide growth because the new capacity would provide some minor benefit to non-Pepin Creek growth areas. The remaining costs were allocated to the Pepin Creek Overlay area.

4.3.4.4. Public Transportation and Travel Demand Management Plans

Public transportation and travel demand management plans are vital components to a complete transportation system. The following sections describe these efforts in the City of Lynden.

Public Transit

In order to provide mobility options within the City, the Transportation Plan has been coordinated with the WTA (Whatcom Transportation Authority). Transit service within Lynden is focused on the Transit Center/Park-and-Ride lot located at the Front Street/19th Street intersection. Transit service is provided to Bellingham and Western Washington University six days a week. A local circulator bus provides connections between the Transit Center, downtown Lynden, and outlying neighborhoods. WTA regularly reviews its service plans and route structure.

WTA will need to monitor development activity within the City and may consider modifying the route structures to provide service to new urban areas as they develop. As the urban areas of the City expand, the City would encourage WTA to consider one or more additional routes to provide adequate coverage and increased service frequency. Increased service frequency and coverage is desired by the City to make transit use more convenient to meet growing local area travel demands. The decision on new routes or additional service frequency will depend on actual transit demands, land use density, and cost of service versus revenues. Continuation of the paratransit service will also provide mobility options for residents of Lynden.

The City will also continue to coordinate with WTA in the evaluation of accessibility to public transportation to/from new developments. The City's requirements for sidewalks on all streets will support accessibility to transit service.

Transportation Demand Management Program

In addition to potential future increases in transit service, transportation demand management (TDM) programs can support the mobility needs of the community. The TDM programs target travel behavior rather than the transportation infrastructure. These programs should be coordinated with WTA, Whatcom County, and WCOG (Whatcom Council of Governments) to provide a broader basis for reducing single-occupant vehicles and expanding alternative transportation choices.

Lynden is a growing community in a rural setting. TDM strategies are typically most effective in denser and larger urban settings. However, TDM program strategies coordinated with WTA, Bellingham, and Whatcom County can provide alternatives for residents and employees within Lynden. Potential TDM strategies for the City of Lynden include the following options:

- **Transportation Coordinators.** Transportation Coordinators (TCs) can be designated for large employment centers or higher density residential areas. The TC would assist employees or residents in coordinating with WTA regarding carpool or other ridesharing programs. They would be a focal point for providing educational and promotional materials from WTA to employees and residents. One TC could serve several employers or developments.
- **Flexible/Alternative Work Schedules.** Flexible work schedules allow employees to adjust start/end times to accommodate carpools, vanpools, or transit options. Alternative work schedules may be used to reduce the number of days an employee commutes during peak travel periods. These programs help reduce the need for adding capacity to highways and arterials, and reduce the levels of peak hour congestion.
- **Telecommuting.** The use of telecommunications technology can allow some employees to work from home. This reduces the need for travel to/from a work site for some week days.
- **Site and Street Design.** Sidewalks and/or other hard surface pathways that connect a development to adjacent pedestrian and bicycle facilities should be provided. Site designs should provide reasonably direct pedestrian and access to arterials or collectors to existing or future transit stops. Transit shelters should be considered along arterial streets where the volume of transit riders warrant them.

4.4.4.5. Freight System

The City of Lynden transportation system supports significant trucking activity due to its location near the U.S./Canada border. In addition, local industry and agricultural uses generate truck traffic. The City's Transportation Plan has been developed to support efficient movement of freight and goods through and within the City. The primary route for trucks traveling through the City are the two state highways: Guide Meridian (SR 539) and Badger Road (SR 546). Other roadways including West Badger Road, Loomis Trail Road, Bender Road, E Grover Street, Hannegan Road, and Birch Bay-Lynden Road would also serve truck travel.

Trucks entering/exiting the City to/from a destination within the City should use only major and secondary arterials to connect in the most direct manner between the state highways or county



arterials and the local origin/destination. Depot Road should be the primary north- south arterial for trucks traveling between downtown and Badger Road (SR 546). Between 17th Street and First Street, trucks should use Grover Street instead of Front Street to minimize the impacts within the historic business district, except as needed for local deliveries. Trucks should limit travel on non-arterial streets to the shortest distance between the origin/destination within the City and the arterials.

4.5.4.6. Waterborne, Rail, and Air Transportation

Currently there are no waterborne transportation serving Lynden. In the past, the Nooksack River has served some travel needs of the community. The Transportation Plan does not identify waterborne transportation to be a component of the City’s transportation system.

A rail spur traverses through a portion of Lynden. It extends from just west of Depot Road to beyond the eastern City limits. It provides freight service to the industries located along the corridor, including the dairy products plant at Depot Road. These could include improvements to signing and markings, and possible crossing gates and signals. The priorities would be the crossing at Depot Road north of Main Street and Grover Street west of Vinup Road.

The existing air facility, the Lynden Municipal Airport, located between Benson and Depot Roads is expected to continue to serve local business and recreation flights. The City adopted a separate Airport Layout Plan in 2008 which identified future improvements at the airport.

5. Financing Program

The list of transportation improvement projects must be funded and implemented to meet existing and future travel demands in and around the City of Lynden. Estimated project costs and future revenues are presented and options to fund the projects are described. Implementation strategies are discussed and include items such as coordination with WSDOT, Whatcom County, and Whatcom Council of Governments to prioritize and fund regional improvements. Other strategies include refining the transportation concurrency and impact fee programs to ensure development helps fund transportation improvements necessary to support new growth. The implementation plan sets up the framework for the City to prioritize and fund the improvements identified in the transportation systems plan.

The Growth Management Act (GMA) requires the Transportation Element of the Comprehensive Plan to include a multi-year financing plan based on the identified improvement needs in the transportation systems plan. The financing plan is to be the basis in developing the required 6-year Transportation Improvement Program (TIP). If probable funding is less than the identified needs, then the transportation financing program must also include a discussion of how additional funding will be raised or how land use assumptions will be reassessed to assure that level of service standards will be met. Alternatively, the City can adjust its level of service standards.

A summary of the cost of capital improvement projects and citywide maintenance and operation programs are presented. The capital project and maintenance and operations program costs are compared to estimate revenues from existing sources used by the City to fund transportation improvements. Other potential funding sources to help reduce the projected shortfall are described. A summary of a reassessment strategy for the City to use for reviewing transportation funding in the context of the overall Comprehensive Plan is also included.

5.1. Project and Programs Cost Estimates

Table 5-1 summarizes the costs of the recommended transportation improvement projects and programs. These cover City of Lynden capital improvements, maintenance and operations. The costs are summarized for the life of the Plan. Improvements under the responsibility of WSDOT or Whatcom County are not included in the summary table. However, the City may choose to include a share of the costs of WSDOT improvements in its transportation impact fee or other funding options. In addition, Active Transportation project costs are shown below, however, these costs are assumed by the City to be the responsibility of the Parks Department and are not considered in the long-term financial outlook.



Table 5-1 Transportation Project and Program Costs (2016 – 2036)

Improvement Type	(2016-2036) Total Costs¹	Percent of Total Costs
Transportation Capital Projects		
Safety and Capacity Intersection Improvements	\$2,400,000	3%
Corridor Upgrades	\$36,530,000	52%
Active Transportation	\$5,070,000	7%
Multimodal Connections	\$2,020,000	3%
Other Agency Projects	\$24,890,000	35%
Subtotal Capital Projects	\$70,910,000	
Transportation Maintenance & Operations (M & O) Programs²		
Maintenance & Operations	\$90,160,000	100%
Subtotal M & O Programs	\$90,160,000	100%
Total Costs	\$161,070,000	

1. All costs in 2016 dollars, rounded to \$1,000
 2. Includes Citywide Programs

Planning level cost estimates were developed for the capital improvements presented in the Transportation Systems Plan section of the Transportation Element. The planning estimates were prepared based upon average unit costs for recent transportation projects within the City. Planning level costs were developed with the assumption that such costs would include associated storm water development requirements, property acquisition, wetland mitigation, and utility extensions and/or upgrades, based upon historic costs for those items. The cost projections are not specific to individual projects or locations. More detailed cost estimates will need to be prepared as the projects are closer to design and construction. Future design studies will identify specific property impacts and options to reduce costs and impacts on properties. The WSDOT Construction Office has developed a Construction Cost Index that should be used to update project costs in the future to account for inflation.

The estimated capital cost of the City portion of the Transportation Plan is \$70.9 million (in 2016 dollars). About 52 percent of the capital costs are associated with the corridor upgrades. These costs cover upgrading roadways to accommodate higher volumes of traffic and construction of urban features such as underground drainage, sidewalks, and street lights, bringing the roadways up to City standard. Approximately 7 percent of the capital costs are associated active transportation projects and 3 percent of the capital project costs focus on multimodal connections, which include new roadway connections.

Maintenance and operations costs were projected based on recent expenditures and assuming a 2-percent annual growth to account for expected population growth and annexation. Maintenance and operations costs cover general administration, roadway and storm drainage maintenance, street lighting, traffic signal and street signs, street sweeping, and other miscellaneous safety improvement programs. In addition, the City developed estimates of annual expenditures to repair, replace and construct sidewalks to improve connectivity and safety, beyond facilities that would be constructed as part of other capital improvements. A bicycles and pathways program is included in this estimate. An estimated need for overlays to preserve the existing street system is also included in order to reduce the need for extensive capital reconstruction projects. About 56 percent, or \$90.2 million, of the total \$161.2 million Transportation Element cost is associated with maintenance and operations. Of that cost, approximately 1 percent is for citywide sidewalk and pavement overlay programs.

The Transportation Element also includes other agency projects in the vicinity of the City. The costs of these improvements are estimated at almost \$24.9 million (in 2016 dollars). These projects include improvements on SR 546 at Benson Road, Vinup Road, and Line Road, where roundabouts are recommended to be installed by WSDOT (Projects O-1 to O-3, respectively). Project O-4 adds roadway capacity on SR 539 also as part of a WSDOT project. Other nearby intersections on SR 546 have been improved to roundabouts since the previous transportation element. The other agency projects will serve development in Whatcom County, Bellingham, and other communities and therefore were not included in the City of Lynden totals. These projects are not currently funded by the other agencies.

Combining the cost of City capital projects and maintenance and operations programs with the cost of the other agency improvements results in a total cost of over \$161.1 million (in 2016 dollars).



5.2. Funding Analysis with Existing Revenue Sources

The City has historically used tax revenues, developer fees, and grants to construct and maintain their transportation facilities. The description of available funding sources and projected revenue is listed in Table 5-2.

Table 5-2 2016-2036 Transportation Revenues

Revenue Source	Total Revenues	Percent of Total Revenues ²
Real and Personal Property Taxes	\$9,855,000	13%
B&O Taxes on Privately Owned Utilities and St	\$14,252,000	19%
Street and Curb Permits	\$73,000	<1%
Interlocal Grants, Impact Payments & In-Leu Taxes	\$247,000	<1%
Motor Vehicle Fuel Tax - City Streets	\$7,160,000	10%
Storm Drainage Fees & Charges (15% Capital)	\$2,272,000	3%
Transportation Benefit District	\$12,879,000	17%
GMA Traffic Impact Fees	\$9,435,000	13%
Grant Funds	\$18,198,000	24%
<i>Capital Revenue Total</i>	<i>\$74,371,000</i>	<i>100%</i>
Road/Maintenance and Repair Charges	\$8,080,000	12%
Agency Type Deposits	\$702,000	1%
Investment Interest	\$51,000	<1%
Rentals, Leases, etc.	\$269,000	<1%
Miscellaneous Revenues	\$214,000	<1%
Traffic Policing	\$28,831,000	41%
Storm Drainage Fees & Charges (85% M&O)	\$13,583,000	20%
Operating Transfers	\$17,477,000	25%
Leasehold Tax Collected	\$338,000	<1%
<i>Subtotal M & O Revenues</i>	<i>\$69,545,000</i>	<i>12%</i>
Total Revenues	\$143,916,000	

¹ – Miscellaneous capital revenues include impact payments, street and curb permits, and other sources.

² – Miscellaneous M&O revenues include barricade rentals, interest, and other sources.

The revenue projections were estimated based upon the City's 2015 budget, historical revenues, and input from the City's finance department. Based on recent historical data, it is estimated that revenues would be approximately \$143.9 million during the 20-year period, of which nearly 52 percent would be dedicated for capital improvements and 48 percent for maintenance and operations programs.

Of the approximately \$74.4 million in revenues dedicated for capital improvements, nearly 13 percent, \$9.4 million, are expected to come through GMA and other developer impact fees, frontage improvements, and SEPA or concurrency mitigation. Transportation Benefit District funds are anticipated to represent 17%, or nearly \$12.9 million of capital revenue. Grants are assumed to generate approximately \$18.2 million, or more than 24 percent of all capital revenues.

Over \$69 million in revenues dedicated for maintenance and operations programs are anticipated over 20 years. Over 40-percent is expected to come from Traffic Policing. Storm and Drainage charges are expected to create nearly \$13.6 in revenue over the planning period while Road/Maintenance and Repair Charges represent 12-percent of the total maintenance and operations revenue.

Tax Revenues

The existing tax revenues used by the City will need to be maintained as one source of revenue to fund transportation projects and programs. These revenue sources include motor vehicle fuel tax, property taxes, and other tax revenues that support the City's general fund. These sources of revenue are projected to contribute approximately \$32 million during the 20-year period. The majority of the existing tax revenue sources will be used for maintenance, and to provide the matching funds for grants or to complete a portion of the improvement projects not covered by other agencies.

Developer Transportation Funding

The City uses several programs to help offset the increased traffic impacts of new development or redevelopment. These include construction of frontage improvements such as curb, gutter, and sidewalks and internal roadways needed to serve the development. The City is also required to review the potential transportation impacts of development and define appropriate mitigation under the State Environmental Policy Act (SEPA) and GMA concurrency requirements. In addition, the City previously adopted a Transportation Impact Fee (TIF) program as allowed for by the GMA to help fund growth-related transportation system improvements. The funding program identifies \$9.4 million (2016) in development generated funding for City growth related improvement projects. The City may generate additional impact fee revenues to help fund WSDOT improvements on the SR 546 and SR 539 corridors.



Transportation Impact Fees

The GMA allows agencies to develop and implement a Transportation Impact Fee (TIF) program to help fund part of the costs of transportation facilities needed to accommodate growth. State law (RCW 82.02) requires that TIF programs are:

- Related to improvements to serve new growth and not existing deficiencies;
- Assessed proportional to the impact of new developments;
- Allocated for improvements that reasonably benefit new development, and;
- Spent on facilities identified in the adopted Capital Facilities Plan.

TIFs can only be used to help fund improvements that are needed to serve new growth. The projects can include recently completed projects to the extent that they serve future growth and did not solely resolve existing deficiencies. The cost of projects needed to resolve existing deficiencies cannot be included.

The TIF program must allow developers to receive credits if they are required to construct all or a portion of system improvements to the extent that the required improvements were included in the TIF calculation. Cost associated with dedication of right-of-way for improvements included in the TIF also would be eligible for credits.

Each of the capital improvement projects was evaluated for potential inclusion in an updated TIF program based on the 2036 horizon year. This resulted in up to \$9.4 million (2016 dollars) eligible for inclusion in the transportation impact fee program. The analysis did not assume improvement projects under the jurisdiction of WSDOT or Whatcom County. The travel forecasting model was applied to determine the proportionate share of the costs of these improvements due to growth in the City, its UGA, and other areas. The analysis shows that approximately \$9.4 million (2016 dollars) of the City's project costs would be attributable to growth within the City. The City would need to apply a cost escalation factor and systematically update the TIF program to keep revenues on pace with future increases in project costs.

Other Developer Mitigation and Requirements

The City has adopted specific development related requirements which will help fund the identified improvements. These include frontage improvements and mitigation under the State Environmental Policy Act (SEPA) and concurrency requirements. The City requires developments to fund and construct certain roadway improvements as part of their projects. These typically include reconstructing abutting streets to meet the City's current design standards. These improvements can include widening of pavement, drainage improvements, and construction of curb, gutter, and sidewalks.

Several of the projects identified in the Transportation Element could be partially funded and constructed as part of new developments. As noted above, to the extent that costs of a transportation improvement are included in the TIF then credits would be required. If improvements to an abutting local street are not included in the TIF, then credits against the TIF would not be required or allowed.

The City also evaluates impacts of development projects under SEPA. The SEPA review may identify adverse transportation impacts that require mitigation beyond payment of the TIF.

These could include impacts related to safety, traffic operations, non-motorized travel, or other transportation issues. The needed improvements may or may not be identified as specific projects in the Plan. As with frontage improvements, if the required improvements are included in the TIF program, then the City must provide credits to the extent that the costs are included in the impact fee.

The City also requires an evaluation of transportation concurrency for development projects. The concurrency evaluation may identify impacts to facilities that operate below the City's level of service standard. To resolve that deficiency, the applicant can propose to fund and/or construct improvements to provide an adequate level of service. Alternatively, the applicant can wait for the City, or another agency or developer to fund improvements to resolve the deficiency.

The improvement projects were also reviewed for potential developer construction or funding through frontage improvements, SEPA, or concurrency. Approximately \$60 million of the plan's capital improvements were assigned as other developer mitigation over the 20-year time period. This is approximately 30 percent of the over project cost. As noted above, if the City requires a developer to construct improvements included in the TIF program then the City must provide credits.

Grants

Over the past several years the City has secured grants for transportation improvements. Based on recent grant awards, this source would provide over \$18.2 million in revenues during the 20-year period. Grant funding is typically tied to specific improvement projects and distributed on a competitive basis. Due to reduced federal and state revenues the pool of grant funding will likely decrease in the future. In addition, more local agencies are pursuing grants resulting in a more competitive environment. The grant award total over the 20-year period represents an optimistic, yet realistic forecast.

5.3. Forecasted Revenue Surplus

Table 5-3 summarizes the City's proposed transportation financing strategy for the \$50.1 million City portion of the capital improvement costs as well as the over \$120 million in maintenance, operations, and program expenditures. All values are presented in 2016 dollars. The plan results in a shortfall of over \$30 million dollars. This assumes that the level of grants and developer commitments will be generated as estimated in the Transportation Element. The deficit could be greater if the level of development or the level of grant funding is less than forecast. This would be offset by a reduced need for transportation improvements necessitated by growth. If the City is more successful in obtaining grants or other outside funding for projects then potential deficit could be reduced, as discussed in the next section.

The shortfall identified in the Transportation Element is not unusual, particularly as many of the improvements identified in the plan will require partnership with other agencies. However, in an era of diminished public resources and increased competition for grant funding the City must take a realistic view of potential revenue sources.



In order to be consistently successful in receiving grant funding, the City cannot become a part-time participant in grant requests. Preparation of grant applications must begin early, and must be supported by the Comprehensive Plan and the 6-Year Transportation Improvement Project list.

The City shall also consider funding options which more equitably distribute the costs of the transportation system among the users of the system. While the “growth pays for growth” principle has been applied throughout the Transportation Element, the costs of maintaining the existing transportation system over time are the shared responsibility of all of the Lynden community. This could include adoption of other citywide transportation funding programs similar to the previously adopted Transportation Benefit District (TBD), changes to the existing TBD program, or increased use of general revenues from sales taxes or other sources.

The City of Lynden has historically experienced growth trends somewhat later than other cities, particularly cities within the Puget Sound corridor in Snohomish, King, Pierce, and Kitsap counties. The Puget Sound Regional Council (PRSC), which comprises these four counties, noted in 2010 through its Transportation 2040 planning process that revenue shortfalls in the planning region are projected to be so substantial that the introduction of user fees such as toll roads were included in each planning alternative. The City of Lynden’s projected shortfall is not as dramatic, and the capital projects described in the plan are much more modest. However, it may be naïve to expect that traditional revenue sources can be depended on to fund necessary projects.

Table 5-3 Forecasted Revenues and Costs

Revenue Source ¹	Total (2016–2036)
Transportation Capital Revenues	\$74,369,000
Total Capital Project Costs	\$40,950,000
<i>Capital Estimated Surplus</i>	<i>+\$33,419,000</i>
Transportation M&O Revenues	\$72,464,000
Transportation M&O Costs	\$90,160,000
<i>M & O Estimated Shortfall</i>	<i>-\$17,696,000</i>
<i>Total Estimated Shortfall</i>	<i>+\$15,723,000</i>

1. All revenues in 2016 dollars
 2. Does not include other agency improvements or active transportation projects

Capital Revenue Surplus

Capital improvement revenues are expected to exceed the cost of the capital improvements program by \$33.4 million dollars. This surplus is based on an optimistic assumption of grant funding (\$18.2M) which may not materialize. Further, some of the sources of capital funding are likely to be redirected to reduce the estimated M& O funding shortfall.

Maintenance and Operations Revenue Shortfall

The \$18 million shortfall in funding would primarily affect the ability of the City to fund maintenance and operations improvements as well as citywide programs. The City is committed to funding the existing maintenance and operations programs needed to preserve the integrity, safety, and efficiency of its existing transportation system and therefore would redirect some of the funding contributing to the Capital Revenue Surplus to this need.

5.4. Potential Options to Balance the Plan

As noted above, projected existing revenue sources would allow the City to fund the identified transportation improvement projects and program costs. However, should the revenue forecast change, the City could address a shortfall through delaying lower priority projects or increasing revenues. Increases in revenues can be segmented into capital project needs and citywide preservation or sidewalk programs.

Options for Reducing a Funding Shortfall for Capital Improvement Projects

The City can increase funding for capital street projects using a range of revenue options. These include partnering with other agencies or additional grants and use of tax increment financing. Alternatively, the City could delay implementation of projects, especially lower priority improvements. Possible applications of these funding strategies are discussed below.

Delaying Improvement Projects

Table 4-1 includes a relative priority list of the improvement projects. The priority list reflects the relative need for the project to meet the City of Lynden’s transportation system needs, including safety, circulation, operations/congestion, pedestrian and bicycle system connectivity, and transit service. The City will focus its funding on the higher priority improvements by making conservative adjustments to the Six-Year Improvement plan.

Approximately \$9.8 million of the eligible capital improvement projects cost are listed as being of lower priority. Approximately \$50 million are medium priority projects, with over \$3.5 million in high priority capital projects. The City may choose not to fund the low priority projects within the 20-year horizon without additional funding sources. The priority of the projects is included in the Transportation Element to allow the City to make informed decisions.

As developments occur in these areas the City may require frontage improvements or SEPA mitigation, as appropriate. The City also may identify other programs or opportunities to partially or fully fund some of these improvements.

Additional Grants and Other Agency Funding

As discussed above, the transportation financing analyses assumes that the City will receive optimistically \$18.2 million in grant funding over the life of the plan. If the City is able to pursue and receive grants at a higher rate than identified based on the City’s historic annual average, revenues would increase over the life of the plan.

The Transportation Element has a range of improvement projects that should be competitive for grant funding. These include the Active Transportation projects (A-1 to A-6), the WSDOT SR-



546 roundabout improvements, W Front Street completion, and other improvements to federally classified routes.

GMA requires the Transportation Element to identify these needs to facilitate coordination between the local and state transportation planning efforts. At this time, WSDOT indicates funding for these improvements is not available. The City will continue to work with WSDOT and other local, regional, and state agencies to develop strategies for funding and implementing these improvements.

Tax Increment Financing

Washington State allows cities to create "increment areas" that allows for the financing of public improvements, including transportation projects within the area by using increased revenues from local property taxes generated within the area. The specific rules and requirements are noted in the Community Revitalization Financing (CRF) Act.

The Local Infrastructure Financing Tool (LIFT) program is a potential tool for the City to pursue. Under this concept the annual increases in local sales/use taxes and property taxes can be used to fund various public improvements.

The City may choose to further consider these types of funding programs in the future as part of its annual budget and six-year Transportation Improvement Program (TIP) processes.

Voter Approved Bond/Tax Package

Bonds do not result in additional revenue unless coupled with a revenue generating mechanism, such as a voter approved tax. The debt service on the bonds results in increased costs, which could then be paid with the additional voted tax revenues.

5.5. Reassessment Strategy

Although the financing summary identifies revenues exceeding expenditures over the life of the plan, the City is committed to reassessing their transportation needs and funding sources each year as part of its 6-year Transportation Improvement Program (TIP). This allows the City to validate the funding projections made in this plan and to match the financing program with the short-term improvement projects and funding. In order to implement the Transportation Element, the City will consider the following principals in its transportation funding program:

- Balance improvement costs with available revenues as part of the annual 6-year Transportation Improvement Program (TIP);
- Review project design standards to determine whether costs could be reduced through reasonable changes in scope or deviations from design standards;
- Fund improvements or require developer improvements as they become necessary to maintain LOS standards to meet concurrency;
- Explore ways to obtain more developer contributions to fund improvements;

- The City could consider options to fund transportation improvements based on the use of the existing transportation network, increased fuel taxes, and vehicle tab surcharges, or other funding mechanisms. Many of these options will require voter approval.
- Coordinate and partner with WSDOT, Whatcom County, and others to implement improvements to the State Route 546 and State Route 539 safety and capacity improvements.
- Vigorously pursue grant funds from state and federal sources;
- Work with Whatcom County to develop multiagency grant applications for projects that serve growth in the City and its UGA;
- Review and update the TIF program regularly to account for the updated capital improvement project list, revised project cost estimates, and annexations;
- The City could consider changes in its level of service standards and/or limit the rate of growth in the City and its UGA as part of future updates to its Comprehensive Plan;

If there is insufficient revenue, some lower priority improvements may be slid or removed from the Transportation Element. The City will use the annual update of the 6-year Transportation Improvement Program (TIP) to re-evaluate priorities and timing of projects and need for alternative funding programs. Throughout the planning period, projects will be completed and priorities revised. This will be accomplished by annually reviewing traffic growth and the location and intensity of land use growth in the City and its UGA. The City will then be able to direct funding to areas that are most impacted by growth or to roadways that may be falling below the City's level of service standards. The development of the TIP will be an ongoing process over the life of the plan and will be reviewed and amended annually.



CITY OF LYNDEN



EXECUTIVE SUMMARY

Meeting Date:	August 2, 2021	
Name of Agenda Item:	Set the Public Hearing to Update Transportation Impact Fees	
Section of Agenda:	Consent	
Department:	Planning Department	
Council Committee Review:	<input type="checkbox"/> Community Development <input type="checkbox"/> Finance <input type="checkbox"/> Parks	<input type="checkbox"/> Public Safety <input type="checkbox"/> Public Works <input type="checkbox"/> Other: _____
		Legal Review: <input type="checkbox"/> Yes - Reviewed <input type="checkbox"/> No - Not Reviewed <input checked="" type="checkbox"/> Review Not Required
Attachments:		
Transportation Impact Fee Project List, Reso 709		
Summary Statement:		
<p>On March 1, 2021 the City Council adopted a Resolution of Intent (Reso 1031) which outlines the path forward to lifting the moratorium on the Pepin Creek Sub-Area and implementing the infrastructure associated with the Pepin Lite Plan. The mechanism that showed the most merit is the use of Transportation Impact Fees (TIF) administered in the form of a SEPA mitigation fee or adopted as a TIF overlay.</p> <p>City staff has engaged with our consultant Transpo to revise the City's TIF project list to include the 13 infrastructure projects identified in Pepin Lite include creek and reflect the associated funding sources. Transpo has also adjusted their City-wide trip analysis to reflect the growth that will occur in Pepin Creek as laid out in the Pepin Creek Subarea. This is the addition of approximately 1550 housing units over the next 15 years.</p> <p>Revisions to the TIF will also remove what is known as the West Lynden discount. This has been a 50% discount in transportation and park impact fees for specific areas west of the Guide Meridian based on Council Resolution 709. It was established in 2005 with the understanding that outside funding sources would subsidize the remaining half of the impact fees. Outside support for roadway projects has since declined and the City has been unable to secure the expected funding. The Community Development Committee discussed the removal of the discount at an April meeting and asked that staff draft Council action which would remove the fee beginning in January 2022.</p> <p>To summarize, the upcoming ordinance will:</p> <ol style="list-style-type: none"> 1. Implement a TIF Overlay on the Pepin Creek Sub-area which will enable the City to collect a fee of \$17,328 per trip specifically to fund projects within the Pepin Subarea. This is proposed to be effective immediately upon approval. 2. Increase the City-wide TIF from \$2,111 per trip to \$2,168 per trip. Effective Jan. 1, 2022. 3. Remove the west Lynden 50% discount of transportation and park impact fees. Effective Jan. 1, 2022. <p>Tonight, the Council is asked to set the date of August 16, 2021 to hear and approve these TIF updates.</p>		
Recommended Action:		
Motion to set a public hearing date of August 16, 2021 for an ordinance amending the City's Transportation Impact Fees and creating a Pepin Creek Subarea Transportation Impact Fee Overlay.		

DRAFT Transportation Improvement Projects and Programs

City of Lynden Transportation Element Update

	PID	Location (Extents)	Description	Benefit				Mode				Relative Priority	Time Frame	2021 Total Cost Estimate	2016 Total Cost Estimate
				Capacity	Safety	Connectivity	Mobility	Vehicles	Pedestrians	Bicycles	Transit				
Safety and Capacity	C-1	Birch Bay - Lynden Road and Berthusen Road	Evaluate intersection operations and install roundabout to improve future level of service when needed.	✓	✓			✓				Medium	Mid	\$1,159,000	\$1,040,000
	C-2	17th Street and Grover Street	Evaluate intersection operations and install traffic signal to improve future level of service when needed.	✓	✓			✓	✓		✓	Low	Long	\$535,000	\$480,000
	C-3	Nooksack & Grover	Evaluate intersection operations and install traffic signal to improve future level of service when needed.	✓	✓			✓	✓		✓	Low	Long	\$535,000	\$480,000
	C-6	Benson Road and Main Street	Evaluate intersection operations and install traffic signal to improve future level of service when needed.	✓	✓			✓	✓			Low	Long	\$535,000	\$480,000
Corridor Upgrades	R-3	3rd St between Front and Grover	Reconstruct corridor to HBD standards (inc. 36' width), including sidewalks. Complete intersection and signal timing improvements as needed.		✓	✓	✓	✓	✓	✓		Medium	Mid	\$602,000	\$540,000
	R-4	4th St between Front and Grover	Reconstruct corridor to HBD standards with two one-way travel lanes with angled parking and center median with farmer's market area and possible use as community event space		✓	✓	✓	✓	✓	✓		Medium	Short	\$1,782,000	\$1,600,000
	R-5	6th St between Front and Grover	Reconstruct corridor to HBD standards (inc. 36' width), including sidewalks.		✓	✓	✓	✓	✓	✓		Medium	Mid	\$524,000	\$470,000
	R-6	Main Street from Berthusen E .5 mile to existing roadway	Reconstruct corridor to City standards (inc. 36' width), including sidewalks and bicycle facilities.		✓	✓	✓	✓	✓	✓		Medium	Short	\$2,821,000	\$2,532,000
	R-7	Bradley Road from Vinup Road to Line Road	Reconstruct corridor to City standards (inc. 36' width), including sidewalks and bicycle facilities.		✓	✓	✓	✓	✓	✓		Medium	Mid	\$454,000	\$408,000
	R-8A	Line Road from Badger Road to Aaron Drive	Reconstruct corridor to City standard (inc. 36' width), including sidewalks and bicycle facilities, and other safety measures to improve access to Middle School		✓	✓	✓	✓	✓	✓	✓	Medium	Mid	\$802,000	\$720,000
	R-8B	Line Road from Kamm Road to Bradley Road	Reconstruct corridor to City standard (inc. 34' width), including sidewalks and bicycle facilities, and other safety measures to improve school access. Includes replacement of fish passage barrier culvert.		✓	✓	✓	✓	✓	✓	✓	Medium	Mid	\$1,225,000	\$1,100,000
	R-9	Northwood Road from Badger Road (SR-546) to City Limits	Reconstruct corridor to City standard (inc. 36' width), including sidewalks and bicycle facilities.		✓	✓	✓	✓	✓	✓		Low	Long	\$5,269,000	\$4,730,000
	R-10	Kamm Road from Line Road to Northwood Road	Reconstruct corridor to City standard (inc. 36' width), including sidewalks and bicycle facilities.		✓	✓	✓	✓	✓	✓		Low	Long	\$3,698,000	\$3,320,000
	R-11	4th Street from Front Street to new Riverview Road (Project 13)	Reconstruct corridor to City standard (inc. 36' width), including sidewalks and bicycle facilities.		✓	✓	✓	✓	✓	✓		Medium	Mid	100% Developer	100% Developer
	R-12	W Front Street and Tromp from Duffner Drive to Birch Bay - Lynden Road	Reconstruct corridor to City standard (inc. 36' width), including sidewalks and bicycle facilities.		✓	✓	✓	✓	✓	✓		Medium	Long	\$4,690,000	\$4,210,000
	R-13	Double Ditch Road from Main Street to Village Drive	Maintain existing roadway width and cross-section, but complete other Reconstructs to City standards, including sidewalks.		✓	✓	✓	✓	✓			Low	Long	\$568,000	\$510,000
	Multimodal Connections	M-5	West Subarea - North-South Connection	Developer funded roadway extending Tromp Road to W Main Street serving new developments in West subarea. Alignments will be designed as part of future subarea studies.			✓	✓	✓	✓	✓		Low	Long	100% Developer
M-6		West Subarea - East-West Connection	Developer funded roadway extending Front Street to Berthusen Road serving new developments in West subarea. Alignments will be designed as part of future subarea studies.			✓	✓	✓	✓	✓		Low	Long	100% Developer	100% Developer
Active Transportation	A-2	Badger Rd Bike Pedestrian Corridor On-Street Bicycle Connection	Bicycle and pedestrian facilities on the South side of Badger Rd (SR546) providing safe east west corridor between Northwood and Bender Road			✓			✓	✓		Medium	Long	100% Developer	100% Developer
	A-3	Non-Street Trails Plan Projects	Paved trails based on county parks plan including new pathways adjacent to Nooksack River and Fish Trap Creek trails. (Parks Funded)			✓			✓	✓		Medium	Long	\$2,651,000	\$2,380,000
	A-4	Depot to 8th Street Trail	New trail from 8th Street to Depot Road on ROW adjacent to Fishtrap Creek. Includes new 60' bridge across creek. (Parks Funded)		✓	✓	✓		✓	✓		Medium	Short	\$2,495,000	\$2,240,000
Citywide Programs	P-1	Street Overlay, Maintenance and Operations Program	Annual program to maintain and operate the City's transportation roadway infrastructure.		✓		✓	✓				Medium	Ongoing	\$11,140,000	\$10,000,000
	P-2	Bicycle Facilities and Pathways Program	Striping of City-identified bicycle routes within City limits. Some facilities may be listed above in reconstruction projects.		✓	✓	✓			✓		Medium	Ongoing	\$223,000	\$200,000
	P-3	Sidewalk / Crossing Improvement Program	Annual program to construct missing sidewalk links, repair existing sidewalks, improve crosswalk markings, and install ADA- accessible curb ramps at intersections.		✓	✓	✓		✓			High	Ongoing	\$613,000	\$550,000

estimate updated

Revised

Revised

TIF Eligible	TIF %	TIF Portion of Cost Estimate	TIF Notes	Grant Eligible	Grant Competitive %	Developer Funded %	Developer Portion of Cost Estimate	General City or Other Agency Transportation Funds
Y	80%	\$927,200		Y	0%	0%	\$0	\$231,800
Y	80%	\$428,000		Y	0%	0%	\$0	\$107,000
Y	80%	\$428,000		Y	0%	0%	\$0	\$107,000
Y	80%	\$428,000		Y	0%	0%	\$0	\$107,000
Y	15%	\$90,300		N	0%	0%	\$0	\$511,700
Y	15%	\$267,300		N	0%	0%	\$0	\$1,514,700
Y	15%	\$78,600		N	0%	0%	\$0	\$445,400
Y	15%	\$423,150		Y	85%	0%	\$0	\$0
Y	15%	\$68,100		Y	85%	0%	\$0	\$39,100
Y	15%	\$120,300		Y	85%	0%	\$0	\$69,700
Y	15%	\$183,750		Y	85%	0%	\$0	\$106,250
Y	15%	\$790,350		Y	85%	0%	\$0	\$458,150
Y	15%	\$554,700		N	0%	0%	\$0	\$3,143,300
N	0%	NA		N	0%	100%	NA	\$0
Y	15%	\$703,500		N	0%	0%	\$0	\$3,986,500
Y	15%	\$85,200		N	0%	0%	\$0	\$424,800
N	0%	NA		N	0%	100%	NA	\$0
N	0%	NA		N	0%	100%	NA	\$0
N	0%	\$0		N	0%	100%	NA	\$0
N	0%	\$0		Y	5%	0%	\$0	\$2,261,000
N	0%	\$0		Y	50%	0%	\$0	\$1,120,000
N	0%	\$0		N	10%	0%	\$0	\$9,000,000
N	0%	\$0		N	0%	0%	\$0	\$200,000
N	0%	\$0		N	0%	0%	\$0	\$550,000

DRAFT Transportation Improvement Projects and Programs

City of Lynden Transportation Element Update

	PID	Location (Extents)	Description	Benefit				Mode				Relative Priority	Time Frame	2021 Total Cost Estimate	2016 Total Cost Estimate
				Capacity	Safety	Connectivity	Mobility	Vehicles	Pedestrians	Bicycles	Transit				
Pepin Creek Projects	PC-2	Main Street Bridge @ Pepin Creek	Construct new bridge over realigned Pepin Creek					✓	✓	✓				\$3,331,000	
	PC-3	Pine St Bridge (Vehicle Bridge Only)	Construct new bridge over realigned Pepin Creek					✓	✓	✓				\$2,888,000	
	PC-4	Double Ditch Rd Phase 1: Pepin Creek Main Stem	Construct new Pepin Creek main stem to allow for Double Ditch Rd transportation improvements		✓									\$8,277,000	
	PC-5	Double Ditch Rd Phase 2: Pepin Creek East/West Connection	Construct new Pepin Creek east/west connection to allow for Double Ditch Rd transportation improvements		✓									\$1,534,000	
	PC-7	Double Ditch Rd Phase 3: Double Ditch Rd Cross Culvert	Construct new Pepin Creek cross culvert to allow for Double Ditch Rd transportation improvements		✓									\$807,000	
	PC-8	Double Ditch Rd Phase 4: Roadway Improvements	Improve/widen Double Ditch Rd to urban standards, between Pepin Parkway and Main St (2lanes, bike/ped, shoulder)					✓	✓	✓				\$4,416,000	
	PC-9	Benson Rd Pedestrian Improvements- North	Construct pedestrian improvements between Park St and new Pepin Parkway (near Sunrise Dr)				✓		✓					\$359,000	
	PC-10	Benson Roadway Improvements	Improve/widen Benson Rd to urban standards, between Pepin Parkway and Badger Rd (SR 546)	✓		✓	✓	✓	✓	✓				\$4,217,000	
	PC-11	Pepin Parkway Bridge @ Pepin Creek	Construct new bridge over realigned Pepin Creek (link with PC-12)	✓		✓	✓	✓	✓	✓				\$2,741,000	
	PC-12	Pepin Parkway Construction	Construct new roadway between Benson Rd and Double Ditch Rd	✓		✓	✓	✓	✓	✓				\$5,093,000	
PC-13	Main St./Double Ditch Rd Intersection Improvements	Intersection widening and new traffic control (signal or compact roundabout)	✓		✓	✓	✓	✓	✓				\$1,433,000		
Other Agency Projects	O-1	SR 546 and Benson Road	Upgrade intersection to a roundabout consistent with designs at adjacent intersections on SR 546 corridor.	✓	✓			✓				Medium	Mid	\$1,225,000	\$1,100,000
	O-2	SR 546 and Vinup Road	Upgrade intersection to a roundabout consistent with designs at adjacent intersections on SR 546 corridor.	✓	✓			✓				Medium	Mid	\$1,203,000	\$1,080,000
	O-3	SR 546 and Line Road	Upgrade intersection to a roundabout consistent with designs at adjacent intersections on SR 546 corridor.	✓	✓			✓				High	Mid	\$1,225,000	\$1,100,000
	O-4	SR 539 (Guide Meridian) from Birch Bay Lynden to SR 546 (Badger Rd)	Add roadway capacity as part of WSDOT project. Widen roadway to 4 travel lanes between BBL and Main Street. Lane and shoulder widening north of Main Street with safety improvements. Possible roundabouts at Main and Badger Intersections.	✓	✓	✓	✓	✓				High	Mid	\$24,073,000	\$21,610,000

TIF Eligible	TIF %	TIF Portion of Cost Estimate	TIF Notes	Grant Eligible	Grant Competitive %	Developer Funded %	Developer Portion of Cost Estimate	General City or Other Agency Transportation Funds
Y	25%	\$832,750		Y				
Y	25%	\$722,000		N				
Y	25%	\$2,069,250		N				
Y	25%	\$383,500		N				
Y	25%	\$201,750		Y				
Y	25%	\$1,104,000		Y				
Y	25%	\$89,750		Y				
Y	25%	\$1,054,250		Y				
Y	100%	\$2,741,000		N				
Y	100%	\$5,093,000		N				
Y	80%	\$1,146,400		Y				
N	0%	\$0		N	0%	0%	\$0	\$1,100,000
N	0%	\$0		N	0%	0%	\$0	\$1,080,000
N	0%	\$0		N	0%	0%	\$0	\$1,100,000
N	0%	\$0		N	0%	0%	\$0	\$21,610,000

	Total CIP Estimate	TIF Contribution	\$21,014,100	Grant Contribution	Developer Contribution	Agency Contribution
Safety and Capacity	\$2,764,000	\$2,480,000	\$2,211,200	\$0	\$0	\$552,800
Corridor Upgrades	\$22,435,000	\$20,140,000	\$3,365,250	\$8,312,150	\$0	\$10,699,600
Multimodal Connections	\$0	\$0	\$0	\$0	\$0	\$0
Active Transportation	\$5,146,000	\$4,620,000	\$0	\$1,239,000	\$0	\$3,381,000
Citywide Programs	\$11,976,000	\$10,750,000	\$0	\$1,000,000	\$0	\$9,750,000
Pepin Creek Projects	\$28,877,000	\$0	\$15,437,650	\$0	\$0	\$0
Other Agency (State Route) Projects	\$27,726,000	\$24,890,000	\$0	\$0	\$0	\$24,890,000
TOTAL	\$98,924,000	\$62,880,000	\$21,014,100	\$10,551,150	\$0	\$49,273,400

100%

21%

17%

0%

78%

CITY TOTAL	\$24,383,400
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39%

RESOLUTION NO. 709

A RESOLUTION OF THE COUNCIL OF THE CITY OF LYNDEN DECLARING THAT ECONOMIC DEVELOPMENT EFFORTS SERVE BROAD PUBLIC PURPOSE AND PROVIDING INCENTIVES FOR ECONOMIC GROWTH

WHEREAS, the City of Lynden desires for its citizens a quality of life that includes aesthetic quality, a strong sense of community and economic health; and

WHEREAS, the City of Lynden seeks a balance between residential growth and employment opportunities within the City; and

WHEREAS, the City of Lynden has adopted a Comprehensive Economic Development Plan that declares the public benefits of economic development and growth within the community; and

WHEREAS, the mission of the Economic Development Plan reads, ***"To work with business owners and citizens throughout the City to ensure the future economic health of the City by working to maintain and attract responsible businesses and industries that are compatible with the Communities values."***

WHEREAS, the public benefits of economic growth include an increased property tax base to support municipal services, schools, and other taxing authorities, the creation of jobs to gainfully employ the citizens of the community, increased sales tax revenues, and

WHEREAS, the public benefits of economic growth within the city also include less traffic congestion on outlying roads and highways, reduction in urban sprawl, investment within a municipal area that is able to provide the services needed for business and industry; and

WHEREAS, economic development within the City is supported by the goals and objectives of the Growth Management Act; and whereas,

WHEREAS, providing incentives for economic development is consistent with the Growth Management Act and the City's own goals for encouraging infill development; and

WHEREAS, there are obstacles to Lynden's economic growth that the City can not resolve, such as the distance of the City from Interstate 5, the limited border crossing, the cost of land within the community, all of which have affected Lynden's ability to retain existing businesses and attract new industrial development; and

WHEREAS, within the City limits there is land zoned appropriately for commercial and industrial development to provide opportunity for economic growth; and

WHEREAS, the areas zoned as CS-3, I-1 and I-2 provide land area specifically targeted for agricultural business, and industrial growth: land uses which are targeted for support within the Comprehensive Economic Development Plan; and

WHEREAS, since 1998 the City of Lynden has lost several employers within the City to areas that are ready to develop, are closer to I-5 and are more economical to expand; and

WHEREAS, Lynden needs additional incentives to encourage businesses within those areas to expand and to attract new business to the city and to counter the obstacles to economic growth within the City; and

WHEREAS, mitigation fees for transportation improvements and park and open space facilities may affect a business's decision to locate in the West Lynden Industrial Area; and

WHEREAS, revenue from transportation and park mitigation fees reduced as an incentive for locating within the West Lynden Industrial Area may be recouped through grants for economic development purposes, increase real estate excise tax, removal of property from the open space taxation program and general public benefit;

NOW THEREFORE BE IT RESOLVED by the Council of the City of Lynden to declare that economic development efforts serve a broad public interest to the citizens of Lynden by increasing the property tax base, and creating new jobs within the city; and


NOW THEREFORE BE IT ALSO RESOLVED by the Council of the City of Lynden to declare the zoning designations of I-1 (Industrial), I-2 (Light industrial), and CS-3 (Commercial Services) as economic assistance areas; and

NOW THEREFORE BE IT FURTHER RESOLVED by the Council of the City of Lynden to consider economic incentives, such as the reduction in mitigation fees for park facilities and transportation facilities, for new development in those areas declared as economic assistance areas.

PASSED by the City Council of the City of Lynden, Whatcom County, Washington on the 7th day of February, 2005 and signed and approved by the Mayor on the same date.


MAYOR
Jack Louws

ATTEST:


CITY CLERK
William Verwolf

APPROVED AS TO FORM:


CITY ATTORNEY
Robert Carmichael

December 27, 2004

To Honorable City Council Members Adelstein, Bode, Burns, DeValois, Kuiken, Laninga, and Vis;

RE: Economic Development and Impact Fees

In the next twenty years, Lynden is anticipating more than eight thousand new residents within the community. Each year Lynden and Lynden Christian High Schools graduate more than three hundred students from the two high schools combined. In the current update to Lynden's Comprehensive Plan, the City is considering where these new residents and students may live and work and developing a land use plan that will insure there is adequate land area to meet those needs.

In addition to planning for the residential growth, the Comprehensive Plan works to make certain that there will be sufficient land for future commercial and industrial growth. However, planning for the land area is only one step of the process. Filling that property is also essential to Lynden's balanced growth and economic future. While the policies of the Comprehensive Plan and the goals of the Economic Development Plan, all champion creating new jobs through either business retention or new business attraction, there is a lack of positive strategies to implement these goals.

To encourage balanced growth within the community and to improve the City's self-sufficiency, more must be done to make Lynden a competitive place to do business. The City's distance from I-5, limited rail service, restricted border crossing hours and the cost of land all work against the City when trying to attract new industrial business. These are factors that the City can not change.

What the City can do to make Lynden competitive is to consider the structure for certain fees that business and industry pays to the City when they apply for their permits. The table below shows what certain types of businesses might currently pay in transportation and park impact fees at the time of their building permit.

Type of Business	Park Impact Fees	Transportation Impact Fees
70,000 sq. ft. Manufacturing Facility	\$6,580	\$94,483
10,000 sq. ft. Warehouse Facility	\$940	\$8,573
5,000 sq. ft. General Office Building	\$1,170	\$13,589
5,000 sq. ft. Medical/Dental Building	\$1,170	\$33,926
50,000 sq. ft. Retail Building	\$7,000	\$155,897

Many times, these fees are in addition to other development requirements, such as utility extensions or frontage improvements. While the impact fees may be a small portion of the total project cost, they can often serve as an indicator as to how the community responds to business.

My recommendation to the City Council is that the Council considers designating the land use zones I-1, I-2 and CS-3 as economic development assistance areas by resolution and citing how development in this area will economically benefit the Lynden community. Some examples of those benefits include:

1. Increased property taxes. Most properties are currently in open space taxation and the City is receiving very minimal property taxes. (For example, one parcel in the designated area is currently paying approximately \$360 per year in property taxes - total. Taken out of open space, the same property undeveloped would contribute approximately \$8,000 per year)
2. Stronger employment base to support the growing residential population. Families would not have to leave town in order to find employment, increasing the social benefit within the City.
3. Development activity spurs other types of funding opportunities like Whatcom County's Economic Development Initiative and CERB grants/loans.
4. Financial investments in the community through job creation, vocational training, sales tax revenue (people shop where they work), as well as social investments, are important to Lynden's future.

Providing the incentive across the industrial zoning spectrum (I-1, I-2 and CS-3) ensures that regardless of where the property is located, the incentives will apply to the type of development needed most within the Lynden community: job creating, manufacturing and assembly types of growth. The City has experienced very strong residential growth, as well as strong commercial growth. Now is the time to continue to balance the growth equation with new "industrial" jobs.

I recommend that the City provide a 50% reduction in Park and Transportation impact fees for these specific zones. The transportation mitigation fund will be reduced by approximately \$415,500 and the parks mitigation fund approximately \$22,000 by taking this action, but I contend that if we work with the County and State for Economic Development monies, we will be able to adequately provide the infrastructure needs of the community using these outside sources of potential money. The City Administration

and Staff are committed to work aggressively to find other revenues to support the proposed projects financed with mitigation funds. Partners such as the Port of Bellingham, Whatcom County (through the EDI program) and the State of Washington CURB and CERT programs are direct examples of potential revenue enhancement sources.

Attached is a draft resolution I'm asking you to consider adopting to take the first step in making this incentive for job creation possible. If the resolution is adopted, staff will then proceed in drafting potential amendments to the various ordinances and resolutions as needed. These amendments would include changes to the Park Impact Fee Ordinance and the Transportation Impact Fee ordinance as well as the Transportation Impact fee resolution.

Thanks for the opportunity to present this to you. As always, I would encourage committee review prior to adoption of a resolution, so I would suggest this be remanded to the Community Development , Parks and Public Works committees and be brought back to Council later for consideration. If you have questions, please contact Administrator Verwolf, Planning Director Harksell, or me.

Respectfully Submitted by,

Jack Louws

RESOLUTION NO. 709

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PASSED by the City Council of the City of Lynden, Whatcom County, Washington on the 7th day of February, 2005 and signed and approved by the Mayor on the same date.

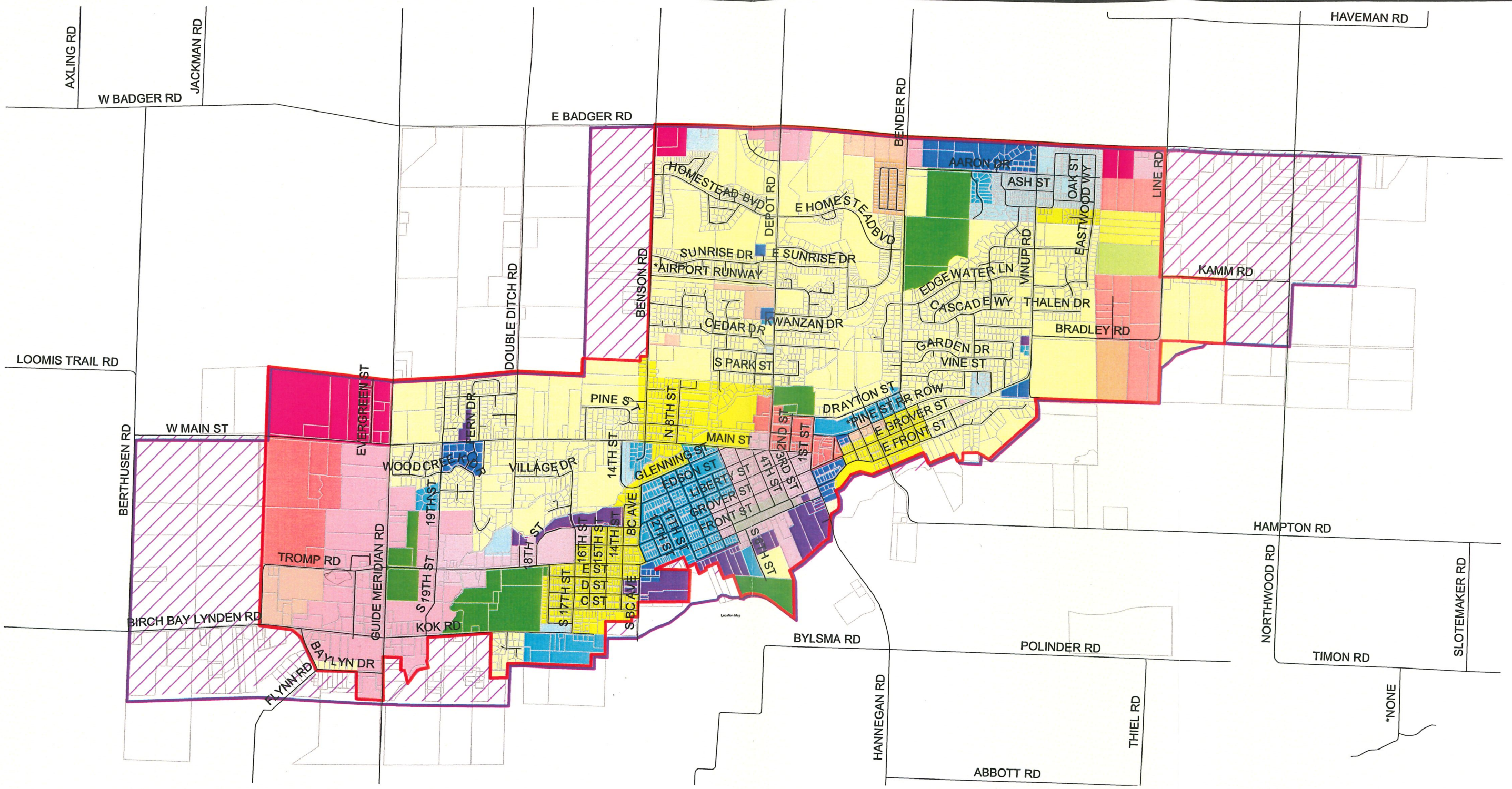

MAYOR
Jack Louws

ATTEST:


CITY CLERK
William Verwolf

APPROVED AS TO FORM:


CITY ATTORNEY
Robert Carmichael



CITY OF LYNDEN
ZONING MAP
 AS OF
 August 15, 2005

WHATCOM COUNTY



Legend	
	City Limits
	Urban Growth Area
	Future Land Use
	A-1 - Agricultural Holding
	RS-100 - Single Family (10,000 sq. ft. lot)
	RS-84 - Single Family (8,400 sq. ft.)
	RS-72 - Single Family (7,200 sq. ft. lot)
	MH - Manufactured Housing
	RMD - Residential Mixed Density
	RM-1 - Multi-Family (Duplex)
	RM-2 - Multi-Family (up to 4 DU/Bldg)
	RM-3 - Multi-Family (16 DU/Acre)
	RM-4 - Multi-Family (24 DU/Acre)
	HBD - Historic Building District
	CS-1 - Community Shopping
	CS-2 - Commercial Services
	CS-3 - Commercial Services
	I-1 - Industrial
	I-2 - Light Industrial
	PU - Public Use
	TR-RW - Travel and Recreation Vehicles

CITY OF LYNDEN

EXECUTIVE SUMMARY



Meeting Date:	August 2, 2021	
Name of Agenda Item:	Continuation of Public Hearing to Amend LMC Titles 16 and 19 regarding SEPA thresholds and minimum density (Ord 1627)	
Section of Agenda:	Consent	
Department:	Planning Department	
Council Committee Review:	<input checked="" type="checkbox"/> Community Development <input type="checkbox"/> Finance <input type="checkbox"/> Parks	<input type="checkbox"/> Public Safety <input type="checkbox"/> Public Works <input type="checkbox"/> Other: _____
		Legal Review: <input type="checkbox"/> Yes - Reviewed <input type="checkbox"/> No - Not Reviewed <input checked="" type="checkbox"/> Review Not Required
Attachments:		
Proposed amendment to LMC 16 and LMC 19. Corresponding PC Minutes of 3-25-21. See minutes of 5-19-21 CDC meeting also in this meetings package.		
Summary Statement:		
<p>On June 7, 2021 the City Council held a hearing to take comment and review proposed amendments to LMC 16 and 19. The amendment:</p> <ul style="list-style-type: none"> • Lowers the SEPA threshold so that short plats within the Pepin Creek Sub-Area are no longer exempt from SEPA review. • Implements a minimum density requirement. This ensures that property is developed at an expected density and fees are collected at an expected rate so that infrastructure costs can be covered. • Removes the text related to Senior Housing Overlay as this was not implemented and is unnecessary. • Specifically references the Pepin Creek Sub-Area Plan as part of SEPA substantive authority in LMC 16.05.160. <p>The Council tabled this decision for additional research into the minimum density issues and subsequently the Community Development Committee met on June 16 and July 21 with landowners and staff to discuss implications of the code and potential revisions.</p> <p>Staff worked with legal counsel to revise as requested. The resulting code now includes the following:</p> <ul style="list-style-type: none"> • Clarifies the definitions of net and gross density • Includes a “farmstead exemption” which allows existing homes in the Pepin Subarea to remain on parcels of up to 5 acres in size without being counted toward the minimum density calculation. Minimum density would be applied to new parcels only. <p>Staff is bringing this item forward to note that the hearing associated with this amendment will be continued to the August 16th City Council meeting where it will be brought forward as Ordinance 1627. Draft code language is attached.</p>		
Recommended Action:		
Motion to set the continuation of the public hearing on the amendment to LMC 16 and 19 (Ordinance 1627) to August 16, 2021.		

Amending LMC 16.05.070 SEPA Flexible Thresholds

16.05.070 - Flexible thresholds for categorical exemptions.

- A. The city establishes the following exempt levels for minor new construction under WAC 197-11-800(1)(b) based on local conditions.
 - 1. For residential dwelling units in WAC 197-11-800(1)(b)(i):
 - a. Up to 12 dwelling units City-wide except in the Pepin Creek Subarea, or ~~Up to twelve dwelling units~~
 - ba. In the Pepin Creek Subarea, ~~up to 4 dwelling units.~~
 - 2. For office, school, commercial, recreational, service or storage buildings in WAC 197-11-800(1)(b)(iii): Up to ten thousand square feet and up to twenty-five parking spaces.
 - 3. For parking lots in WAC 197-11-800(1)(b)(iv): Up to forty parking spaces.
 - 4. For landfills and excavations in WAC 197-11-800(1)(b)(v): Up to two hundred fifty cubic yards.
- B. Whenever the city establishes new exempt levels under this section, it shall send them to the Department of Ecology, Headquarters Office, Olympia, Washington, 98504 under WAC 197-11-800(1)(c).

16.05.160 - Substantive authority.

- A. The policies and goals set forth in this chapter are supplementary to those in the existing authorization of the city of Lynden.
- B. The city may attach conditions to a permit or approval for a purpose so long as:
 - 1. Such conditions are necessary to mitigate specific probable adverse environmental impacts identified in environmental documents prepared pursuant to this chapter; and
 - 2. Such conditions are in writing; and
 - 3. The mitigation measures included in such conditions are reasonable and capable of being accomplished; and
 - 4. The city has considered whether other local, state, or federal mitigation measures applied to the proposal are sufficient to mitigate the identified impacts; and
 - 5. Such conditions are based on one or more policies in subsection D of this section and cited in the license or other decision document.
- C. The city may deny a permit or approval for a proposal on the basis of SEPA so long as:

1. A finding is made that approving the proposal would result in probable significant adverse environmental impacts that are identified in a FEIS or final SEIS prepared pursuant to this chapter; and
2. A finding is made that there are no reasonable mitigation measures capable of being accomplished that are sufficient to mitigate the identified impact; and
3. The denial is based on one or more policies identified in subsection D of this section and identified in writing in the decision document.

D. The city designates and adopts by reference the following policies as the basis for the city's exercise of authority pursuant to this section:

1. The city shall use all practicable means, consistent with other essential considerations of state policy, to improve and coordinate plans, functions, programs, and resources to the end that the state and its citizens may:
 - a. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
 - b. Assure for all people of Washington safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
 - c. Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
 - d. Preserve important historic, cultural, and natural aspects of our national heritage;
 - e. Maintain, wherever possible, an environment which supports diversity and variety of individual choice;
 - f. Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
 - g. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

2. The city recognizes that each person has a fundamental and inalienable right to a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

3. The city adopts by reference the policies in the following city documents, as periodically updated:

- a. City of Lynden Comprehensive Land Use Plan;
- b. City of Lynden Shoreline Management Program;

c. City of Lynden Critical Areas Ordinance;

d. City of Lynden Subdivision Ordinance;

e. All subarea plans adopted by the City of Lynden, including t

3. The Pepin Creek Subarea Plan as adopted by the City Council Ordinance 1600 on March 2, 2020. and periodically updated.

E. When any proposal or action not requiring a decision of the city council is conditioned or denied on the basis of SEPA by a nonelected official, the decision shall be appealable to the city council. Such appeal may be perfected by the proponent or any aggrieved party by giving notice to the responsible official within ten days of the decision being appealed. Review by the city council shall be on a de novo basis.

(Ord. 712 § A(part), 1984).

Amending LMC 19.11 Districts Established to include minimum densities within the Pepin Creek Subarea.

Chapter 19.11
DISTRICTS ESTABLISHED

Sections:

19.11.010 Zones established -- Purpose.

19.11.020 Zones designated -- Essential use, maximum coverage, and density.

19.11.010 Zones established -- Purpose.

For the purpose of developing a comprehensive arrangement of land uses and related standards, regulations, rules and specifications, the classifications of essential uses, and the declaration of each essential use group establishing the purpose for the zones within each group set forth hereafter adopted.

19.11.015 - Definitions

A. "Gross acreage" means the total acreage of the entire legal lot or lots of record on which the residential development is proposed, including half of existing street right-of-way around the perimeter of the site, new rights-of-way internal to the site, critical areas, wetlands, and other nondevelopable areas.

A-B. "Net acreage" means gross acreage minus dedications exclusively for public use, such as dedications for rights of way, public trails, public stormwater facilities, and other public infrastructure, but not nonexclusive easements outside rights of way or easements for the sole benefit of residents in the development, or privately-owned land, including land owned by a common interest community.

19.11.020 - Zones designated—Essential use, maximum coverage, and density.

There are established the classifications of the essential land uses for all residential, business and industrial zones to be known by the zone symbols shown as follows:

Zone Symbol	Essential Use	Maximum Percent Building Coverage	Maximum Percent Impervious Coverage	Maximum Development-Density*	<u>Minimum Gross Development Density* – Pepin Creek Subarea only</u>
A-1	Agricultural	0.10		1 D.U./20 Acres	
RS-100	Single Family Dwellings	0.35	0.60	4 D.U./Acre	

Zone Symbol	Essential Use	Maximum Percent Building Coverage	Maximum Percent Impervious Coverage	Maximum Development-Density*	Minimum Gross Development Density* – Pepin Creek Subarea only
RS-84	Single Family Dwellings	0.35	0.60	4.5 D.U./Acre	
RS-72	Single Family Dwellings	0.35	0.60	5.0 D.U./Acre	4 DU / Acre
RMD	Residential Mixed Density	0.35	0.80	8.0 D.U./Acre	5 DU / Acre
MH	Mobile and Modular Home	0.40	0.80	8.0 D.U./Acre	
TR	Travel/Recreational Vehicle	0.65			
RM-1	Single Family and two Family Dwellings/bldg.	0.35	0.70	8.0 D.U./Acre	
RM-2	Up to 4 Dwellings/bldg.	0.40	0.70	12 D.U./Acre	
RM-3	Multiple Dwellings	0.40	0.75	16 D.U./Acre	8 DU / Acre
RM-4	Multiple Dwellings	0.45	0.75	24 D.U./Acre	
RM-PC	Detached Single Family Dwellings	0.35	See Open Space Requirements	12 D.U./Acre	6 DU / Acre
	Attached Single Family Attached	0.50			
	Multi-family Dwellings	0.40			
SO	Senior Housing Overlay in the Pepin Creek Subarea	0.40-0.50	See Open Space Requirements	30 D.U./Acre	
HBD	Historic Business District	0.80			

Zone Symbol	Essential Use	Maximum Percent Building Coverage	Maximum Percent Impervious Coverage	Maximum Development-Density*	Minimum Gross Development Density* – Pepin Creek Subarea only
CN	Commercial Neighborhood Overlay in the Pepin Creek Subarea	N/A			
CSL	Local Commercial Services	N/A			
CSR	Regional Commercial Services	N/A			
ID	Industrial District	N/A			
IBZ	Industrial Business Zone	N/A			
PU	Public Use	N/A			

*See Section 19.11.030 regarding calculation of minimum and maximum densities.

LMC 19.11.030 Density calculations.

A. Calculations for Determining Minimum Density. The density minimum standard applies to some residential developments. All site area applicable to the residential development must be used in the calculation of minimum allowed residential density except the following:

1. Public street right-of-way, or other areas reserved or dedicated for public use (such as parks, trails, open space). Private streets, private alleys and access easements are not included in this exemption. Net acreage, not gross acreage, shall be used for the purpose of calculating minimum density.

1. Exception for existing homes in the Pepin Creek Subarea. Typically associated with a farmstead, existing homes within the Pepin Creek Subarea and their outbuildings may require larger lots than zoning or minimum density standards anticipate. Subdivisions within the Pepin Creek Subarea may exclude the area of a lot dedicated to preserving an existing home under the following conditions:

- a. Residence must have existed prior to August 1, 2021.

- b. Plats which create an excluded lot must document the existing residence and its date of construction.
- c. Plats which create an excluded lot must address the possibility of additional access and utility needs when / if future subdivision on these lots occur.
- d. No additional dwelling units can be added to the lot excluded from minimum density standards until it is further divided to meet minimum density standards. However, nothing in this section prevents the addition of an accessory dwelling unit or the repair, remodel, or replacement of the original residence.

2. Pepin Creek Subarea Wetland Exception. Within the Pepin Creek Subarea only,

~~2. Some~~ portion of wetland and buffer areas in excess of 25% of the net acreage can be excluded from the minimum density calculation. of the area of associated with regulated wetlands and associated buffers. ~~Wetlands and buffers that cover the first 25% of the development area net acreage must be included in the minimum density calculation. The portion of wetland and buffer areas in excess of 25% of the development area can be excluded from the minimum density calculation. Calculations of buffer area should~~ shall be conducted prior to any buffer reduction methods. For example:

- a. A site has 10 net acres; 4 acres are encumbered by wetlands and their buffers and 6 are not. Wetlands and buffers covering 25% of the net acreage shall be counted, in this case, 2.5 acres. The remaining 1.5 acres of wetlands and buffers will not be counted. The total acres counted for the purpose of minimum density would be 6 developable acres plus 2.5 wetland acres, or 8.5 acres.
- b. A site has 10 net acres; 1 acre is encumbered by wetlands and their buffers, and the other 9 acres are not. 25% of the site would be 2.5 acres, but as there are less than 2.5 acres of wetlands and buffers, all of the wetlands and buffers are counted for the purpose of determining minimum density.

B. Calculations for Determining Maximum Density.

- 1. Maximum density for residential zones applies to all development with new residential dwelling units, unless otherwise noted herein.
- 2. Gross acreage of the site lot or lots may be used in the calculation of the maximum allowed residential density (including half of existing street right-of-way around the perimeter of the site and any new street right-of-way internal to the site).
- 3. For the purpose of meeting maximum density requirements for subdivisions in applicable zones, final plats must specify the maximum number of dwelling units per lot.

C. How to Calculate Density. Minimum and maximum density for an individual site must be calculated by multiplying the total site acreage based on subsections A and/or B of this section by the minimum and maximum dwelling units per acre for the applicable zone. When calculation results in a fraction, the fraction must be rounded to the nearest whole number; as follows:

1. Fractions of one-half and above must be rounded up, and,

2. Fractions below one-half must be rounded down.

D. Prohibited Reduction. Any portion of a lot that was used to calculate minimum compliance with the standards and regulations of this title must not be subsequently subdivided or segregated from such lot unless all portions of the resulting lots continue to meet the code requirements after the subdivision.

Amending LMC 19.18 Pepin Creek Zones to include minimum development densities with the Pepin Creek Subarea.

19.18.010 - Purpose and intent.

- A. Purpose. The purpose of the Pepin Creek Subarea is to meet the goals of the comprehensive plan by allowing-promoting residential development averaging approximately about seven dwelling units per net acre and to allow a variety of housing types that will meet the needs of families throughout their lifecycle. Development in the Pepin Creek Subarea should focus on maintaining the aesthetic quality of the city in general and the neighborhood in particular by providing for architectural diversity, adequate landscaping, and open space. Commercial uses are allowed where they serve the neighborhood.
- B. Established. The following zones and overlays are utilized within the Pepin Creek Subarea.

Zone or Overlay	Uses	Development Standards
RS-72	19.15	19.15
RMD	19.16	19.16
RM-PC	19.18.030	19.18.030
<u>RM-3</u>	<u>19.17.020</u>	<u>19.17.060</u>
<u>Senior Overlay</u>	<u>19.18.040</u>	<u>19.18.040</u>
Neighborhood Commercial Overlay	19.18.050	19.18.050
Public Use	19.27	19.27
Airport Overlay	19.55	19.55

-C. Minimum Densities within the Pepin Creek Subarea:

- 1. Development must meet the minimum gross density for residential development according to the established zone category.

<u>Zone</u>	<u>Minimum Density*</u>
<u>RS-72</u>	<u>4 DU / Acre</u>
<u>RMD</u>	<u>5 DU / Acre</u>

<u>RM-PC</u>	<u>6 DU / Acre</u>
<u>RM-3</u>	<u>8 DU / Acre</u>

*See Section 19.11.030 regarding calculation of minimum and maximum densities.

2. Lots created in conformance with subsection C(1) above which are may not be subsequently eliminated, consolidated, or bound together with another lot in the Pepin Creek Subarea must continue to adhere to building setbacks as measured from property lines despite the lots being bound., except as authorized by this subsection. The foregoing restriction shall be stated on the face of each plat in the Pepin Creek Subarea. A request for relief may be brought to City Council through a plat vacation or alteration pursuant to RCW 58.17.212, et seq., lot line adjustment before director approval under Ch. 18.08 LMC, or a request for approval of a covenant, deed restriction, or other means, to bind lots. The City Council may grant the requested relief after a public hearing if it finds that such relief will serve the public use and interest.

DC. Conflicts. If there are any conflicts between the provisions of this chapter and any other parts of the Lynden Municipal Code, this chapter shall prevail except for where standards necessary to maintain public safety related to the operation of the airport.

(Ord. No. 1575, § A, 3-4-2019)

19.18.020 - Primary permitted uses within the Pepin Creek Subarea.

The primary permitted uses in the Pepin Creek Subarea are as follows. See Figure 19.18.010-1 to reference the location of applicable secondary, accessory, and conditional uses as well as development standards specific to each zoning category.

- A. Single ~~Family~~ family Dwelling ~~dwelling~~ units, including detached site built single family dwellings and new manufactured homes. This includes types such as large lot single family, small lot single family and cottages.
- B. Single family attached dwelling units which are ground related, fee simple-ownership units that are attached through shared walls or rooflines. This includes types such as townhomes, units with attached garages, and other innovative types.
- C. Duplex dwelling units.
- D. Multi-family dwelling units typically limited to a maximum of four to eight units per building.
- ~~E. The senior overlay provides the opportunity for development to accommodate a specific user. When activated, the permitted uses within the overlay include senior cottages, attached single family units, senior multi-family dwelling units, developed to standards specific to the overlay. A range of units or rooms per building are permitted, however the entire Pepin Creek Subarea is limited to a maximum of three hundred total units within the senior overlay districts. All multi-family dwellings that contain more than four units per building within the Senior Overlay must be age-restricted to persons age fifty-five and older.~~

~~F. Nursing home and assisted living facilities as defined in RCW 74.39A.009 are considered primary uses in senior overlay;~~

~~EG. The neighborhood commercial overlay, provides an opportunity for a variety of primary permitted uses in key locations. These include personal services, sales of consumer goods, restaurants and cafes, banks and financial institutions, and upper story residential uses as further described in LMC 19.18.050. :~~

~~1. Personal Services. This is to allow for businesses such as barbershops, beauty salons, day spas, laundry facilities, dry cleaning, or others that would serve the subarea.~~

~~2. Sales of General Consumer Goods. This is to allow for retail sales of food, household goods, pet supplies, and other goods to residents in the subarea. The sales of goods geared toward a regional customer base, as determined by the planning director, are not allowed. Such regional uses include fuel sales, auto sales, large format stores, construction and landscaping materials, farm equipment. Outdoor storage associated with the sales of general consumer goods is also not allowed.~~

~~3. Restaurants and cafes.~~

~~4. Banks and financial institutions.~~

~~5. Second story residential uses may be developed in conjunction with first floor commercial uses.~~

(Ord. No. 1575, § A, 3-4-2019)

19.18.030 - Pepin Creek multi-family zone (RM-PC) and uses established.

A. Primary Permitted Uses.

1. ~~Multi-family dwelling units, that is multiple dwelling units located on a single lot,~~Multi-family dwelling units and two-family dwelling units -are permitted with the following restrictions:

a. Buildings containing two to four units are permitted consistent with Section 19.18.030.F and applicable design standards.

b. Buildings containing five to eight units are permitted at a ratio of one for every twenty-five lots created. Lot count may include those used for multi-family dwelling units, attached single family dwellings, or detached single family dwelling. Development must be consistent with Section 19.18.030.E and applicable design standards.

2. Single family attached dwelling units which are ground-ground-related, fee simple ownership units that are attached through shared walls or rooflines. This includes types such as townhomes, units with attached garages, and other innovative types. A maximum of four units may be attached to one another.

3. Single family dwelling units, including detached site-built single family dwellings and new manufactured homes.

B. Accessory Permitted Uses. Accessory permitted uses in the RM-PC zone is as follows:

1. Private garages for single family or single family attached residences. No detached garage or accessory building shall exceed one thousand square feet of inside floor area or ten percent of the lot area, whichever is greater; provided however, that the floor area of the accessory

building does not exceed the floor area of the primary residence or three thousand square feet, whichever is more restrictive;

- 2. Single family lots greater than or equal to ten thousand square feet may store up to two recreational vehicles on the lot; provided however, they are not stored in the front yard and meet the requirements of Section 19.31.020.B;
 - 3. Tool sheds, satellite dishes, outdoor patios and outdoor fireplaces consistent with applicable design standards;
 - 4. Mobile storage units or shipping containers are permitted for use during construction but must be removed within thirty days of final occupancy of the primary residence. No units greater than eight feet by ten feet are permitted in residential zones, other than during construction or for a period of up to thirty consecutive days within a six-month period to facilitate the moving in or moving out of a residence. Units eight feet by ten feet or smaller may be placed on a lot for not more than six months during any two-year period and must be located in the rear yard;
 - 5. Private swimming pools, as provided in the International Building Code adopted pursuant to Chapter 15.02 of this Code LMC and subject to Section LMC 19.37.090;
 - 6. Attached and detached aAccessory dwelling unit (ADU) consistent with Chapter 19.20 permitted in detached single family homes only.
 - 7. No more than five, currently licensed and/or operable passenger vehicles may be stored on any single-family residential lot, subject to LMC 19.31.020.A. Inoperable vehicles may not be stored in the front yard (refer to Section 19.31.020.A).
 - 8. Recreation areas for residents.
- C. Secondary Permitted Uses. Secondary permitted uses in the Pepin Creek Subarea zones are as follows:
- 1. Hobby shops, relating to the hobbies of the occupants of the home and not operated for production and sales purposes;
 - 2. Greenhouses operated by the occupants, provided the products will not be offered for retail sale on the premises except in the neighborhood commercial overlay;
 - 3. Home occupations. See Chapter 19.57;
 - 4. Gardening and fruit growing not for commercial sale;
 - 5. General farming, which does not include the commercial feeding of livestock, if the zoning lot is five acres or more in size and meets the requirements outlined in Chapter 19.39 of this Code;
 - 6. Family day care centers for up to eight individuals, not including the residents of the dwelling unit;
 - 7. Parks and playgrounds;
 - 8. Adult family homes and residential care facilities, for up to six-eight adults, when approved by the Washington State Department of Social and Health Services (DSHS).
 - 9. Temporary structures such as portable tents or canopies used by a business for an event or sale in the commercial neighborhood overlay. The event or sale shall be limited to seven days

or less and all temporary structures must be removed within seventy-two hours of the sale or event.

D. Conditional Permitted Uses. The following property uses may be permitted in Pepin Creek Subarea zones by conditional use permit when recommended by the planning commission and approved by the city council consistent with Section 19.49.050.

1. Public buildings and utility sub-stations;
2. Club facilities that are directly related to the neighborhood such as community swimming pools, privately owned athletic facilities and other similar improvements directly related to residential areas;
3. Day care facilities for more than eight ~~people~~individuals with the maximum number of individuals to be determined as part of the conditional use permit process;
4. Nursing home and assisted living facilities as defined in RCW 74.39A.009 when located in the RS-72, RMD, or RM-PC zones;
5. Bed and breakfast establishments (see Section 19.49.030);
6. Churches, provided that the front yard is landscaped and all other parking and landscaping requirements are met; and
7. Schools.

E. Front Yard Use for Residential Uses.

1. Front yards shall be used for ornamental purposes only. No storage sheds, portable storage tents, temporary canopies or other similar structures may be located within the front yard; provided however that portable canopies or tent structures may be used during events or yard sales but must be removed within seventy-two hours of the sale or other event.
2. No fences, growth or other obstruction over three feet in height above the curb grade shall be allowed within the clear vision triangle.
3. Front yards setbacks may not be used for the storage of boats, campers, or any recreational vehicle. (Refer to Section 19.31.020.B)

F. RM-PC Development Standards. The development standards for the RM-PC zone are as follows:

1. RM-PC Height, Density, Area, Coverage, and Bulk Requirements.

Zone	Minimum Lot	Maximum <u>Gross</u>	<u>Minimum</u> <u>Gross</u>	Maximum Lot	Maximum	Maximum

	Size	Density*	Density*	Coverage	Height	Stories
RM-PC Single Family Detached	4000 sf	12 DU/AC	<u>6 DU / AC</u>	35%	32'	2
RM-PC Single Family Attached	3000 sf	12 DU/AC	<u>6 DU / AC</u>	50%	40'	3
RM-PC Multi-family dwelling	1600 sf per unit	12 DU/AC	<u>6 DU / AC</u>	40%	40'	3

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~~* Residential densities are based on net land area.~~ *See Section 19.11.030 regarding calculation of minimum and maximum densities.

G. RM-PC Setback Requirements.

Setbacks

	RM-PC Detached	RM-PC Attached	RM-PC Multi Dwelling
Front Setback			
ROW to Porch	8'	8'	15'
ROW to House	10'	10'	20'
ROW to Garage	25'	25'	25'
Green to Porch	4'	4'	10'
Green to House	6'	6'	10'
Side Setback[†]			
Minimum Side	7'	0' on attached	10'

		sides, 10' on each unattached side	
Side Total	14'	20'	20'
Corner Lot	10'	10'	14'
Rear Setback⁺			
Alley Easement to Garage Side	3'	3'	3'
Garage Side to Property Line	5'	5'	5'
Alley to Garage Door	21'	21'	25'
Alley to House	15'	10'	20'
To House	15'	10'	15'

+ On corner lots one of the corners may be considered as a side yard, provided that the yard considered as a side yard shall not be less than ten feet.

1. Additional RM-PC Development Standards:
 - a. The height of any building is measured from the approved average grade level as defined in Section 17.01.030 to the highest point of a structure; provided that appurtenances such as television antennas and chimneys are not considered part of the height.
 - b. All setbacks are measured from the property line to the foundation. Eaves and cantilever bay windows may encroach into the setback a maximum of two feet. Structures covering decks and patios may encroach into rear setbacks as described in this section. Additional fire protection may be required for structures located within ten feet of each other. It is the property owner's responsibility to have the property lines clearly marked for inspection. Structural permits with setbacks submitted prior to April 1, 2019 are considered conforming and not subject to Section 19.35.030.
 - c. Uncovered wood decks and raised concrete patios not over twenty-four inches above grade at any point may be permitted within eighteen feet of the rear property line and five feet of the side property line. Deck privacy screening or fencing shall not be higher than eighty-four inches above the lowest grade.

- d. Structures covering decks or patios are permitted within the rear setback provided that the structure: remains open on three sides; does not come within ten feet of the rear property line for detached homes on lots zoned RM-PC; does not encroach into the side yard setbacks of the underlying zone; and; the addition does not exceed the permitted lot coverage.

H. Standards for Detached Accessory Buildings.

1. To be considered a "detached" structure, the minimum distance between two structures shall be six feet measured from foundation to foundation with no projections greater than eighteen inches.
2. A detached accessory structure may not be built closer than six feet to the side or rear property line, except where a rear property line abuts an alley a structure may not be built closer than three feet to the rear property line. Structures which do not require a building permit per Chapter 15.04 must be setback a minimum of three feet to the side or rear property line.
3. Detached accessory structures on corner lots shall not be permitted nearer than ten feet to the side property line adjacent to the street.
4. The maximum height for all detached accessory structures shall be twelve feet, except for detached garages as noted below.
5. The maximum height of any detached garage shall be eighteen feet, provided there is no living space within the building. Detached garages with living spaces shall be subject to the standards for [Accessory-accessory](#) dwelling units in Chapter 19.20 [LMC](#). The roof pitch and siding on any detached garage shall be consistent with the primary structure on the lot, and the height of the building shall not exceed the height of the primary structure.
6. A secondary garage or shop shall be set behind the rear line of house.

I. Transition Area Standards.

1. A transition area of one hundred feet is applied to the RM-PC zone where the RM-PC zone abuts RS zoning located inside and outside of the Pepin Creek Subarea. ~~The transition area is also applied when the Senior Overlay is activated adjacent to RS zoning located inside and outside of the Pepin Creek Subarea.~~
2. A ten foot wide Type IV landscape buffer and six foot privacy fencing are required on RM-PC properties where abutting RS zones. Alternatively, a buffer is not required if lots are limited to a primary use as a detached single family home or pairs of attached single family homes.
3. Lots developed in the transition zone shall be limited to the maximum height of the abutting RS zone.

J. Open Space Requirements.

1. Each lot must maintain a minimum of seven and one-half percent in open space.
2. RM-PC developments which meet or exceed six units to the acre in net density must also provide common open space equal to ten percent of the developable parcel size. Common open space may be designed as a pocket park, common green, or access easement. Perpetual maintenance of the common open space must be addressed at the time of plat or development if a plat is not required.

- 3. Common open space must meet the following requirements:
 - a. One two inch caliper canopy tree is required for every one thousand square feet.
 - b. Spaces must be accessible to residents and suitable for passive or active recreational use. Play structures or pet friendly areas are encouraged.
 - c. Sidewalks or paths accessing the area must be a minimum of four feet wide.
 - d. The minimum lawn coverage of a common green area shall be seventy percent.

- K. Residential Design Requirements. All residential dwelling units must meet the following design criteria unless varied by the design review board as provided under [Section LMC 19.45.035](#):
 - 1. All dwellings must be placed on a permanent foundation and the space between the foundation and the bottom of the home must be enclosed by concrete or approved concrete products.
 - 2. All dwellings shall be oriented on the lot, so that the primary pedestrian entrance faces the street or access easement. The primary roof line must have a minimum of a 4:12 pitch. This is not applicable to re-roofing or additions to existing structures.
 - 3. Roofing materials shall be wood shingle or shake, composition, asphalt laminate, clay or architectural metal. Exposed fastener corrugated metal or corrugated fiberglass roofing is not permitted.
 - 4. Eaves and gable ends must be a minimum of twelve inches. This is not applicable to re-roofing or additions to existing structures.
 - 5. The exterior of the home must be finished with a minimum of two types of materials. Exposed fastener metal siding is prohibited on residential buildings.
 - 6. All units other than a detached single family residence shall be subject to review and approval by the Design Review Board.
 - 7. No more than fifty percent of the lineal frontage of the building elevation may be occupied by garage doors. For the purposes of this section, a set of garage doors serves one dwelling unit and means one double garage door or two single garage doors separated by less than five feet.
 - 8. Only one set of garage doors may face the street unless the garage doors are setback from the living area a minimum of ten feet.
 - 9. All parking requirements of Section 19.51.040 must be met on site.

- L. RM-PC Landscape Requirements: In addition to the landscaping requirements of Chapter 19.61 of [this title LMC](#), all proposed multi-family and attached single family development consisting of two or more attached units in this zone shall comply with [Section LMC 19.17.110](#).

(Ord. No. 1575, § A, 3-4-2019)

~~19.18.040 – Pepin Creek Senior Overlay and Uses Established.~~

- ~~A. The senior overlay provides the opportunity for development to accommodate a specific user and developed to standards specific to the overlay.~~
 - ~~1. A range of units or rooms per building are permitted, however the entire Pepin Creek Subarea is limited to a maximum of three hundred total units.~~

- ~~2. Utilization of the senior overlay standards requires the creation and recording of an associated plat or planned residential development (PRD). The use of the senior overlay must be indicated on the face of the plat.~~
- ~~3. All multi-family dwellings that contain more than four units per building within the senior overlay must be age restricted to persons age fifty five and older through a recorded covenant.~~
- ~~4. Any development within the senior overlay that is developed at densities above the maximum density allowed in the underlying zoning must be restricted, on the face of the plat, to persons age fifty five and older.~~

~~B. Senior Overlay Primary Uses.~~

- ~~1. Multi-family dwelling units, that is multiple dwelling units located on a single lot, are permitted.~~
- ~~2. Single family attached dwelling units which are ground related, fee simple ownership units that are attached through shared walls or rooflines. This includes types such as townhomes, units with attached garages, and other innovative types. A maximum of four units may be attached to one another.~~
- ~~3. Single family dwelling units, including detached site built single family dwellings and new manufactured homes.~~
- ~~4. Care Facilities. Nursing home and assisted living facilities as defined in RCW 74.39A.009.~~

~~C. Senior Overlay Accessory Permitted Uses.~~

- ~~1. Private garages for single family or single family attached residences. No detached garage or accessory building shall exceed one thousand square feet of inside floor area or ten percent of the lot area, whichever is greater; provided however, that the floor area of the accessory building does not exceed the floor area of the primary residence or three thousand square feet, whichever is more restrictive;~~
- ~~2. Single family lots greater than or equal to ten thousand square feet may store up to two recreational vehicles on the lot; provided however, they are not stored in the front yard and meet the requirements of Section 19.31.020.B;~~
- ~~3. Tool shed, satellite dish, outdoor patios and outdoor fireplaces consistent with applicable design standards;~~
- ~~4. Mobile storage units or shipping containers are permitted for use during construction but must be removed within thirty days of final occupancy of the primary residence. No units greater than eight feet by ten feet are permitted in residential zones, other than during construction or for a period of up to thirty consecutive days within a six month period to facilitate the moving in or moving out of a residence. Units eight feet by ten feet or smaller may be placed on a lot for not more than six months during any two-year period and must be located in the rear yard;~~
- ~~5. Private swimming pools, as provided in the International Building Code adopted pursuant to Chapter 15.02 of this Code and subject to Section 19.37.090;~~
- ~~6. Accessory dwelling unit (ADU) consistent with Chapter 19.20 permitted in detached single family homes only;~~

- 7. ~~No more than three, currently licensed and/or operable passenger vehicles may be stored on any single family residential lot. Inoperable vehicles may not be stored in the front yard (refer to Section 19.31.020.A);~~
- 8. ~~Recreation areas for residents;~~
- 9. ~~Club facilities that are directly related to the neighborhood such as community swimming pools, privately owned athletic facilities and other similar improvements directly related to residential areas.~~

~~D. Senior Overlay Secondary Permitted Uses.~~

- 1. ~~Hobby shops, relating to the hobbies of the occupants of the home and not operated for production and sales purposes;~~
- 2. ~~Greenhouses operated by the occupants, provided the products will not be offered for retail sale on the premises except in the Neighborhood Commercial Overlay;~~
- 3. ~~Home occupations. See Chapter 19.57;~~
- 4. ~~Gardening and fruit growing not for commercial sale;~~
- 5. ~~General farming, which does not include the commercial feeding of livestock, if the zoning lot is five acres or more in size and meets the requirements outlined in Chapter 19.39 of this Code;~~
- 6. ~~Adult day care centers for up to eight individuals, not including the residents of the dwelling unit;~~
- 7. ~~Parks and playgrounds;~~
- 8. ~~Adult family homes and residential care facilities, up to six adults, when approved by the Washington State Department of Social and Health Services (DSHS).~~
- 9. ~~Temporary structures such as portable tents or canopies used by a business for an event or sale in the commercial neighborhood overlay. The event or sale shall be limited to seven days or less and all temporary structures must be removed within seventy-two hours of the sale or event.~~

~~E. Conditional Permitted Uses in the Pepin Creek Senior Overlay Zones. The following property uses may be permitted in Pepin Creek Subarea zones by conditional use permit when recommended by the planning commission and approved by the city council consistent with Section 19.49.050.~~

- 1. ~~Public buildings and utility sub-stations.~~

~~F. Senior Overlay Development Standards. The development standards for developments utilizing the senior overlay are as follows:~~

~~1. Senior Overlay Height, Density, Area, Coverage, and Bulk Requirements.~~

Zone	Minimum Lot Size	Maximum Density*	Maximum Lot Coverage	Maximum Height**	Maximum Stories
Senior Overlay Detached	4000 sf	12 DU/AC	40%	32'	2

Single Family Homes					
Senior Overlay Attached Single Family Homes	3000-sf	12 DU/AC	50%	32'	2
Senior Overlay Multi-family dwelling	1600-sf per unit	12 DU/AC	40%	40'	3
Senior Overlay Care Facilities	1-acre	30 DU/AC	40%	40'	3

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* Residential densities are based on net land area.

** Any development within the senior overlay that is developed at densities above the maximum density allowed in the underlying zoning must be restricted, on the face of the plat, to persons age fifty-five and older.

Senior Overlay Setback Requirements

Setbacks	Senior Overlay Detached Single Family	Senior Overlay Attached Single Family	Senior Overlay Multi-Family Dwelling	Senior Overlay Care Facility
Front Setback				
—ROW to Porch (or Portecochere for Care Facilities)	8'	8'	15'	25'
—ROW to House or Facility	10'	10'	20'	30'
—ROW to Garage	25'	25'	25'	25'
—Green to Porch	4'	4'	10'	10'
—Green to House	6'	6'	10'	10'

Side-Setback*				
—Minimum Side	7'	0' on attached sides, 10' on each unattached side	10'	50% of building height specific to each side
—Side Total	14'	20'	20'	50'
—Corner Lot	10'	10'	14'	
Rear-Setback*				
—Alley Easement to Garage Side	3'	3'	3'	NA
Garage Side to Property Line	5'	5'	5'	NA
Alley to Garage Door	21'	21'	21'	NA
—Alley to House	15'	10'	20'	NA
—To House	15'	10'	15'	30'

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+ On corner lots one of the corners may be considered as a side yard, provided that the yard considered as a side yard shall not be less than ten feet.

2.—Additional Senior Overlay Development Standards Provisions:

- a.—The height of any building is measured from the approved average grade level as defined in Section 17.01.030 to the highest point of a structure; provided that appurtenances such as television antennas and chimneys are not considered part of the height.
- b.—All setbacks are measured from the property line to the foundation. Eaves and cantilever bay windows may encroach into the setback a maximum of two feet. Structures covering decks and patios may encroach into rear setbacks as described in Section 19.16.070 or, for care facilities, half of the rear setback. Additional fire protection may be required for structures located within ten feet of each other. It is the property owner's responsibility to have the property lines clearly marked for inspection. Structural permits with setbacks submitted prior to April 1, 2019 are considered conforming and not subject to Section 19.35.030.

- ~~c. Uncovered wood decks and raised concrete patios not over twenty four inches above grade at any point may be permitted within eighteen feet of the rear property line and five feet of the side property line. Deck privacy screening or fencing shall not be higher than eighty four inches above the lowest grade.~~
- ~~d. Structures covering decks or patios are permitted within the rear setback provided that the structure: remains open on three sides; does not come within ten feet of the rear property line for detached homes within the senior overlay; does not encroach into the side yard setbacks of the underlying zone; and, the addition does not exceed the permitted lot coverage.~~

~~G. Standards for Detached Accessory Buildings.~~

- ~~1. To be considered a "detached" structure, the minimum distance between two structures shall be six feet measured from foundation to foundation with no projections greater than eighteen inches.~~
- ~~2. A detached accessory structure may not be built closer than six feet to the side or rear property line, except where a rear property line abuts an alley a structure may not be built closer than three feet to the rear property line. Structures which do not require a building permit per Chapter 15.04 must be setback a minimum of three feet to the side or rear property line.~~
- ~~3. Detached accessory structures on corner lots shall not be permitted nearer than ten feet to the side property line adjacent to the street.~~
- ~~4. The maximum height for all detached accessory structures shall be twelve feet, except for detached garages as noted below.~~
- ~~5. The maximum height of any detached garage shall be eighteen feet, provided there is no living space within the building. Detached garages with living spaces shall be subject to the standards for accessory dwelling units in Chapter 19.20. The roof pitch and siding on any detached garage shall be consistent with the primary structure on the lot, and the height of the building shall not exceed the height of the primary structure.~~
- ~~6. A secondary garage or shop shall be set behind the rear line of the house.~~

~~H. Senior Overlay Open Space Requirements.~~

- ~~1. Each lot must maintain a minimum of seven and one half percent in open space.~~
- ~~2. Senior Overlay developments which exceed six units to the acre in net density must also provide common open space equal to ten percent of the developable parcel size. Common open space may be designed as a pocket park, courtyards, common green or access easement.~~
- ~~3. Common open space must meet the following requirements:~~
 - ~~a. One two inch caliper canopy tree is required for every one thousand square feet.~~
 - ~~b. Spaces must be accessible to residents and suitable for passive or active recreational use.~~
 - ~~c. Sidewalks or paths accessing the area must be a minimum of four feet wide.~~
 - ~~d. The minimum lawn coverage of a common green area shall be seventy percent.~~

~~I. Senior Overlay Landscape Requirements: In addition to the landscaping requirements of Chapter 19.61 of this title, proposed multi family development totaling more than two multi family or attached single family units in this zone shall comply with Section 19.17.110.~~

(Ord. No. 1575, § A, 3-4-2019)

19.18.050 - Pepin Creek Neighborhood Commercial Overlay and Uses Established/Described.

- A. The neighborhood commercial overlay provides opportunities for a variety of primary permitted uses in key locations. Commercial uses may be established under the following conditions:
 1. Uses are subject to the development and setback standards for the underlying zoning.
 2. Parking standards per Chapter 19.51 LMC must be met; however, up to fifty percent of the required surface parking may be shared between commercial and residential uses which occupy the same structure if commercial uses are not considered nighttime uses per Section LMC 19.51.090.
 3. Commercial structures are subject to applicable design standards and the approval of the design review board.

- B. The neighborhood commercial overlay provides opportunities for a variety of primary permitted uses in key locations. These include:
 1. Personal Services. This is to allow for businesses such as barbershops, beauty salons, day spas, laundry facilities, dry-cleaning, child or adult daycare, or others that would serve the subarea.
 2. Sales of General Consumer Goods. This is to allow for retail sales of food, household goods, pet supplies, and other goods to residents in the subarea. The sales of goods geared toward a regional customer base, as determined by the planning director, are not allowed. Such regional uses include fuel sales, auto sales, large format stores, construction and landscaping materials, and farm equipment. Outdoor storage associated with the sales of general consumer goods is also not allowed.
 3. Restaurants and Cafes. Single lane drive-thrus which are screened and oriented away from the street are permitted.
 4. Professional offices, banks and financial institutions.
 5. Second and upper story residential uses may be developed in conjunction with first floor commercial uses.

(Ord. No. 1575, § A, 3-4-2019)

CITY OF LYNDEN

EXECUTIVE SUMMARY



Meeting Date:	August 2, 2021	
Name of Agenda Item:	Skyview Development Agreement	
Section of Agenda:	Public Hearing	
Department:	Planning Department	
Council Committee Review:	<input type="checkbox"/> Community Development <input type="checkbox"/> Finance <input type="checkbox"/> Parks	<input type="checkbox"/> Public Safety <input type="checkbox"/> Public Works <input type="checkbox"/> Other: _____
	Legal Review: <input checked="" type="checkbox"/> Yes - Reviewed <input type="checkbox"/> No - Not Reviewed <input type="checkbox"/> Review Not Required	
Attachments:		
Skyview Development Agreement and Exhibits		
Summary Statement:		
<p>The City Council is being asked to hear public comment and consider a development agreement which outlines the developer obligations and timeline for a mixed-use portion of the Skyview Townhome project. This multi-family project is located east of Northwood Road with the northern edge Badger Road frontage.</p> <p>The agreement affects <u>Lot A</u> of the Skyview Lot Line Adjustment as shown in the agreement exhibits. This parcel has a zoning of Commercial Services Local (CSL). The City's CSL zoning permits mixed-use development that maintains a minimum of 60% commercial space on combined ground floor areas. Although the City's code includes provision for this ratio of commercial to residential use to be accommodated in multiple buildings it does not include specifics as to the timing of this build out.</p> <p>The attached agreement proposes that the residential portion of the mixed-use development may proceed prior to the establishment of a commercial use. A portion of Lot A will be reserved to accommodate the commercial component at a later date.</p> <p>The residential portion to be constructed on the CSL parcel includes 15 townhomes which are accessed from the southern residential neighborhood (North Prairie Phase 7) and built to residential (RM-3) development standard. The future commercial development would be accessed from the Badger Road to the north. The agreement includes developer obligations including landscape buffer and pedestrian trail connections which must be constructed in association with the residential portion of the project.</p> <p>Staff is supportive of the agreement because the uses are defined by separate access points, the residential portion will be built to RM-3 standards, pedestrian amenities will be built with the residential phase, and the market for commercial property along the Badger corridor is relatively weak. Staff's recommended condition of approval is to note that the cost of the City's legal review is passed along to the applicant prior to execution of the agreement.</p>		
Recommended Action:		
Motion to approve the Skyview Development Agreement and authorize the Mayor's signature on the document on the condition that the applicant cover's the City's legal review expenses.		

RETURN TO:
STARKENBURG-KROONTJE
ATTORNEY AT LAW, P.S.
P.O. BOX 231
LYNDEN, WA 98264

DOCUMENT TITLE:
DEVELOPMENT AGREEMENT

REFERENCE NUMBER OF RELATED DOCUMENT:
N/A

GRANTORS:
TMI HOLDINGS, LLC, a Washington Limited Liability Company
HALO HOLDINGS, LLC, a Washington Limited Liability Company

GRANTEE:
CITY OF LYNDEN, a Washington municipal corporation

LEGAL DESCRIPTION:

LOT A OF THE SKYVIEW LOT LINE ADJUSTMENT RECORDED IN THE AUDITOR'S
OFFICE OF WHATCOM COUNTY, WASHINGTON

SITUATE IN WHATCOM COUNTY, WASHINGTON

ASSESSOR'S TAX PARCEL NUMBER(S):
400315 361493 0000

DEVELOPMENT AGREEMENT

THIS DEVELOPMENT AGREEMENT (“Agreement”) is made and entered into this ____ day of _____, 20__, by and between the CITY OF LYNDEN, a Washington municipal corporation (hereinafter “CITY”) and TMI HOLDINGS, LLC, a Washington limited liability company & HALO HOLDINGS, LLC, a Washington limited liability company (hereinafter collectively “GRANTORS”).

WHEREAS, Grantors are the owners of Lot A of the Skyview Lot Line Adjustment as recorded under Auditor File number 2021-0703457, more particularly depicted in the attached Exhibit A (hereafter the “Property”); and

WHEREAS, Grantors also own Lot B of the Skyview Lot Line Adjustment (“Lot B”); and

WHEREAS, the Property is zoned Commercial Services - Local (CSL), and Lot B is zoned Residential Multi-Family 3 (RM-3); and

WHEREAS, Grantors intend to develop both the Property and Lot B with the Skyview Townhomes, a multi-family residential and commercial development, the proposed site plan for which is attached as Exhibit B, and which will be referred to herein as “Skyview Townhomes”; and

WHEREAS, Lynden Municipal Code (LMC) 19.23.020(5) permits multi-family residences within the CSL zone under specific conditions; and

WHEREAS, the City’s Design Review Board has granted design approval for a feasible layout and architecture of the residential portion of Skyview Townhomes (DRB Application #21-01); and

WHEREAS, as a condition of approval of residential development within the CSL zone, the Lynden Municipal Code Title 19 requires a minimum amount of commercial component to be constructed; and

WHEREAS, this Agreement is recorded to memorialize the conditions of the development approval of the portion of Skyview Townhomes on the Property; and

WHEREAS, the above recitals are a material part of this Agreement; and

WHEREAS, the City of Lynden, TMI Holdings, LLC and Halo Holdings, LLC enter into this Agreement and for in consideration of the mutual covenants, duties and obligations herein set forth, and agree as follows:

ARTICLE I
LAND USE AND SETBACK REQUIREMENTS

- 1.1 Per Ch. 19.23 LMC, multi-family residential use is permitted on the Property as long as a minimum of sixty percent of the ground floor area of the entire mixed-use development is devoted to permitted commercial use. This calculation is based on the aggregate ground floor area of all buildings on the Property.
- 1.2 All commercial buildings will have common architectural themes and will be subject to approval by the Design Review Board. Future buildings must meet the guidelines in effect at the time of building permit application.
- 1.3 All commercial uses permitted outright within the CSL zone or its successor zone shall be permitted uses on the Property.
- 1.4 A covenant shall be placed on the deeds for all residential units and commercial units on the Property notifying them of the mixed zone and of the commercial use requirement for a portion of the Property.
- 1.5 The zoning on the Property shall remain unchanged for the duration of this Agreement.
- 1.6 As shown on Design Review Board application #21-01, the proposed gross floor area of first floor residential uses on the Property totals approximately 13,000 square feet. The 13,000 square feet may equal at most forty percent of the total gross floor area developed on the Property. As such, if the Property is developed with 13,000 square feet of gross floor area for residential uses, the commercial component must contain a minimum of 19,500 square feet of gross floor area on the first floor in order to fulfill the terms of this agreement.
- 1.7 The residential component may be developed before the commercial component. The commercial component may be incrementally developed to ultimately meet or exceed the required gross floor area.
- 1.8 The Property has existing structures along the Badger Road frontage which are primarily agricultural in nature. These may be remodeled for commercial use, subject to meeting all applicable City standards, including Design Review Board approval.

ARTICLE II
ACCESS AND TRANSPORTATION

- 2.1 The commercial development on the Property shall be accessed from East Badger Road, and not accessed through Lot B via Currant Street. East Badger Road is a Washington State highway. As a result, any access connection will require approval from the Washington State Department of Transportation and the City of

Lynden. The residential development on the Property shall be accessed via Currant Street through Lot B.

- 2.2 Both the commercial and residential developments on the Property are required to provide public easements and maintain public pedestrian walkways through the Property. These walkways must ensure access to the current and any future public sidewalk and trail systems at all times. Routine care of these access ways including, but not limited to, brush clearing, weed removal, pressure washing, and resurfacing so as to maintain code compliant ADA access is the responsibility of the owner of the Property.
- 2.3 Vehicular access between the residential and commercial developments on the Property is limited to emergency apparatus, utility maintenance vehicles and/or heavy equipment needed to maintain and repair facilities in the easements.
- 2.4 Buildings constructed on the Property which have no first floor commercial component must meet the height, area, setback and bulk requirements assigned to RM3 development as described in LMC 19.17.060.

ARTICLE III
ASSIGNMENT AND TRANSFER

- 3.1 After its execution, the Agreement shall be recorded in the office of the Whatcom County Auditor. Each commitment and restriction on the development subject to this Agreement shall be a burden on the Property, shall be appurtenant to and for the benefit of the Property, and shall run with the land. This Agreement shall be binding on the City and owners of the Property, and their respective heirs, administrators, executors, agents, legal representatives, successors and assigns. Upon any sale or conveyance of the Property by any owner, such owner shall be released from this Agreement and the obligations stated herein shall be enforceable solely against the successor owner of the Property.
- 3.2 Future subdivision of the Property is permitted as allowed by law; provided, the conditions of this Agreement shall remain in effect on the subdivided parcels. No subdivision may be made which would prevent the owner of the Property from fulfilling the conditions detailed herein.

ARTICLE IV
TIMING

- 4.1 This Agreement confirms that the residential uses on the Property, totaling up to 13,000 square feet of first floor area, may be constructed prior to the development and/or redevelopment of an active commercial use on the remaining portion of the Property, subject to the conditions listed below:

- 4.2 All pedestrian walkways and trails needed to maintain contiguous access from the Badger Trail or other pedestrian easements to public sidewalks within the North Prairie Phase 7 Long Plat and Badger South SP must be dedicated as public access easements before the City will issue a building permit for the first residential building on the Property.
- 4.3 All final walkways and trails must be constructed, per City specifications, on the Property prior to the final occupancy of last building on the Property. Temporary facilities, approved by the City, shall be provided prior to any form of occupancy for the first residential building on the Property.
- 4.4 A Type II landscape buffer, ten feet in width, is required between the proposed residential use and the future commercial use. A Type II landscape buffer is described in LMC 19.61.070. This buffer must be installed, and maintenance bond secured, prior to issuance of the final occupancy for the first residential building on the Property.

ARTICLE V
MISCELLANEOUS

- 5.1 This Agreement shall be effective for twenty (20) years from the date first above written.
- 5.2 This writing including the exhibits hereto constitute the full and only agreement between the parties, there being no promises, agreement, or understandings, written or oral, except a herein set forth, or as hereinafter may be amended in an acknowledged writing and in accordance with the LMC.
- 5.3 In the event the Grantors fail to comply with the commitments set forth herein, within one hundred twenty (120) days of written notice of such failure from the City, in addition to any other remedies which the City may have available to it, the City shall have the right, without prejudice to any other rights or remedies, to cure such default or enjoin such violation and otherwise enforce the requirements contained in this Agreement, and to collect the direct costs, associated with such action, including reasonable attorney’s fees and costs, from the Grantors.
- 5.4 In the event that a judicial dispute arises regarding the enforcement or breach of this Agreement, then the prevailing party in such dispute shall be entitled to recover its attorney’s fees and costs reasonably incurred, including fees and costs incurred on appeal.
- 5.5 This Agreement, and the rights of the parties hereto, shall be governed by and construed in accordance with the laws of the State of Washington and the parties agree that in any such action venue shall lie exclusively in Whatcom County, Washington.

STATE OF WASHINGTON)
) ss.
COUNTY OF WHATCOM)

On this ____ day of _____, 20__, before me a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared _____, the _____ of **HALO HOLDINGS, LLC**, a Washington limited liability company, who acknowledged said instrument to be the free and voluntary act and deed of said corporation for the uses and purposes therein mentioned and stated on oath that he/she was authorized to execute this instrument on behalf of said corporation.

WITNESS my hand and official seal hereto affixed the day and year first written above.

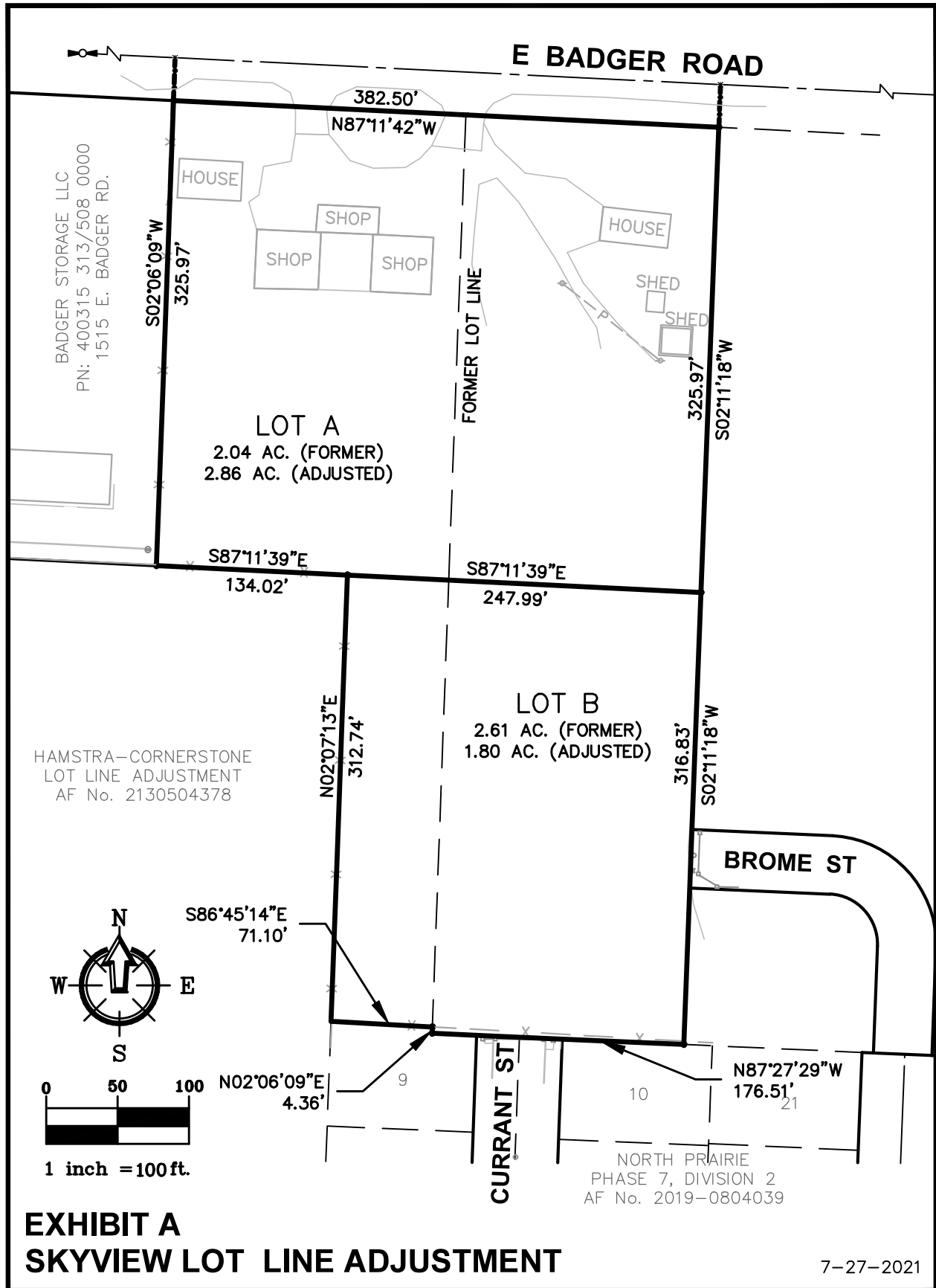
Notary Public in and for the State of Washington
Residing at: _____
My commission expires: _____

STATE OF WASHINGTON)
) ss.
COUNTY OF WHATCOM)

On this ____ day of _____, 20__, before me a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared _____, the _____ of the **CITY OF LYNDEN**, a Washington municipal corporation, who acknowledged said instrument to be the free and voluntary act and deed of said corporation for the uses and purposes therein mentioned and stated on oath that he/she was authorized to execute this instrument on behalf of said corporation.

WITNESS my hand and official seal hereto affixed the day and year first written above.

Notary Public in and for the State of Washington
Residing at: _____
My commission expires: _____



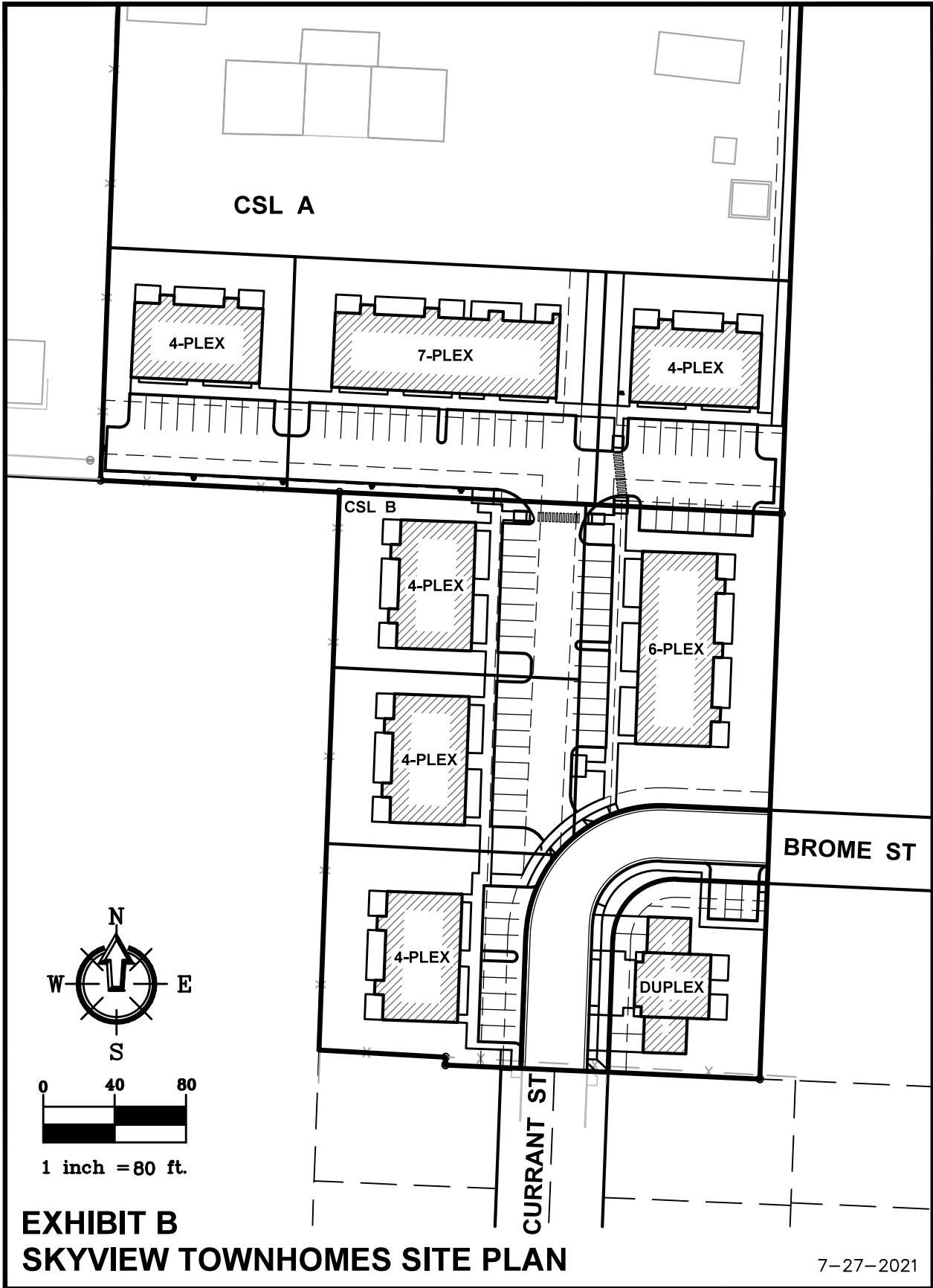


EXHIBIT B
SKYVIEW TOWNHOMES SITE PLAN

7-27-2021

CITY OF LYNDEN

EXECUTIVE SUMMARY



Meeting Date:	August 2, 2021,	
Name of Agenda Item:	Draft Parks Committee Minutes July 19, 2021	
Section of Agenda:	Other Business	
Department:	Parks	
Council Committee Review:	<input type="checkbox"/> Community Development <input type="checkbox"/> Finance <input checked="" type="checkbox"/> Parks	<input type="checkbox"/> Public Safety <input type="checkbox"/> Public Works <input type="checkbox"/> Other: _____
	Legal Review: <input type="checkbox"/> Yes - Reviewed <input type="checkbox"/> No - Not Reviewed <input type="checkbox"/> Review Not Required	
Attachments:		
ES-Draft Parks Committee Minutes July 19, 2021		
Summary Statement:		
See Next page		
Recommended Action:		
For Council Review		



PARKS COMMITTEE MINUTES

July 19, 2021

1. ROLL CALL:

Members Present: Mayor Korthuis; Councilors Ron DeValois, Nick Laninga, and Mark Wohlrab

Staff Present: City Administrator Mike Martin; Parks Director Vern Meenderinck; Parks Admin. Assistant Nancy Norris; and Brent DeRuyter Park Maintenance Supervisor, Steve Banham Public Works Director.

2. ACTION ITEMS:

A. Approval of Parks Committee Minutes- June 21, 2021

DeValois asked for a motion to approve the June 21, 2021, Parks Committee minutes. Wohlrab motioned to approve the minutes and Laninga approved the motion.

Action: *The Parks Committee Minutes from June 21, 2021, were approved*

B. Succession Plan for Parks

Parks Committee briefly discussed the recommendation of moving the Maintenance Supervisor to Director and agreed that a leadership position should go through the hiring process.

Action: *Parks Committee directed that the Parks Director Position to be advertised first in house, going through the normal hiring process for this type of position.*

3. INFORMATION ITEMS:

A. Glennig property

Picnic tables have been delivered and being put together. 21 trees have been planted. There will be a community planning meeting sometime in Sept.

B. Updates on Parks projects:

-Benson Park

Firms selected for the Master Plan and Barn renovation. Planning Public Works and Parks Will be meeting with Mr. Overdorf sometime in the next 2 weeks on the park master plan. Mr. Overdorf will be coordinating that with the barn architects.

Public Works Director Banham asked for alternate plans for the barn renovation?

CITY OF LYNDEN

PARKS DEPARTMENT



Minimal upgrades to the barn for summer use only? -Add new section for meetings etc. on the south end of the barn

Parks Committee would like to keep the barn's integrity very basic and usable address the pest problem, fix the southwest wall and us it as a summer facility.

Thoughts on location of needed pump station (south 20 acres) and storm facility/rec area- dual purpose (on the north 20 acres??) north of the right away near Benson Rd.

-Dickinson Park

Met with R&E about trail location

House occupancy to be discussed, price, duties, house inspection, dates we can expect it to be available.

Speaking with the Dickinson family's attorney the city has asked for a response of a vacate or occupancy decision by August 31, 2021.

-Depot to 8th Trail

Purchase agreement with VG Lumber for needed property is complete.

C. Budget items for 2022

Items to add that were not in the capital plan from last year.

Funds for the Trail along Badger from Northwood to Bender.

Upgrades to Berthusen House- roof and flooring.

Funds to move the Parks office to the shop area.

Additional pickup.

Plus, items from 5-year capital plan which will be updated in the next couple of weeks.

A. ITEMS ADDED:

A. Splash Park

Councilor Wohlrab will coordinate Spray days at Glenning Park on July 31, August 7, 21, & 28 from 11am-3pm.

Meeting Adjourned: 4:54pm.

NEXT MEETING DATE

August 16, 2021 - Fair Week

CITY OF LYNDEN

EXECUTIVE SUMMARY



Meeting Date:	August 2, 2021	
Name of Agenda Item:	Calendar	
Section of Agenda:	Other Business	
Department:	Administration	
Council Committee Review:	<input type="checkbox"/> Community Development <input type="checkbox"/> Finance <input type="checkbox"/> Parks	<input type="checkbox"/> Public Safety <input type="checkbox"/> Public Works <input type="checkbox"/> Other: N/A
	Legal Review: <input type="checkbox"/> Yes - Reviewed <input type="checkbox"/> No - Not Reviewed <input checked="" type="checkbox"/> Review Not Required	
Attachments:	Outlook Calendar	
Summary Statement:	See next page.	
Recommended Action:	None	

August 2, 2021
Monday

7:00 PM - 9:00 PM **City Council Meeting -- Annex Building**

August 3, 2021
Tuesday

8:30 AM - 9:30 AM **Leadership Team Meeting -- To Be Determined: May be Teams Meeting**

5:00 PM - 6:30 PM **Design Review Board -- To be determined**

August 4, 2021
Wednesday

All Day **Possible Jury Trial -- Annex Council Chamber; Annex North East Conference Room; Annex South East Conference Room; Annex East Training Room**

4:00 PM - 6:00 PM **Public Works Committee Meeting -- City Hall 2nd Floor Large Conference Room**
Welcome!

Public Works Committee Meeting meets Wednesday at 4:00 pm
We look forward to seeing you in person at City Hall in the 2nd Floor Conference room.

August 5, 2021
Thursday

2:00 PM - 4:00 PM **Technical Review Committee -- Microsoft Teams Meeting**

Microsoft Teams meeting

Join on your computer or mobile app

[Click here to join the meeting](#)

Or call in (audio only)

August 5, 2021 Continued

Thursday

[+1 253-948-9362,,832433768#](#) United States, Tacoma

Phone Conference ID: 832 433 768#

[Find a local number](#) | [Reset PIN](#)

[Learn More](#) | [Meeting options](#)

4:00 PM - 5:00 PM

Public Safety Committee Meeting -- Police Training Room

Microsoft Teams meeting

Join on your computer or mobile app

[Click here to join the meeting](#)

Or call in (audio only)

[+1 253-948-9362,,954667669#](#) United States, Tacoma

Phone Conference ID: 954 667 669#

[Find a local number](#) | [Reset PIN](#)

[Learn More](#) | [Meeting options](#)

August 9, 2021

Monday

9:00 AM - 10:00 AM

Meeting: Vern/Mike -- Mike's Office

August 9, 2021 Continued
Monday

7:00 PM - 9:00 PM Park & Trail Advisory Meeting -- Annex South East Conference Room

August 10, 2021
Tuesday

8:30 AM - 9:30 AM Leadership Team Meeting -- To Be Determined

August 11, 2021
Wednesday

All Day Court -- Annex Council Chamber; Annex North East Conference Room; Annex South East Conference Room; Annex East Training Room

9:00 AM - 10:00 AM Meeting: Mark/Mike -- Mike's Office

4:15 PM - 5:45 PM REVISED DATE: Community Development Committee Mtg -- City Hall 2nd Floor Conf Room

7:00 PM - 9:00 PM Park and Rec. District Meeting -- Annex South East Conference Room

August 12, 2021
Thursday

7:00 PM - 10:00 PM Planning Commission Meeting -- Annex Council Chamber

August 13, 2021
Friday

10:00 AM - 11:00 AM Meeting: Steve/Mike -- Mike's Office

August 16, 2021
Monday

3:00 PM - 4:00 PM Finance Committee Meeting -- City Hall 1st Floor Large Conference Room
Finance Committee Meeting

UPDATE: beginning June 21st the location will return to the City Hall 1st Floor Large Conference room

Thank you!

4:00 PM - 5:00 PM

Parks Committee -- City Hall 1st Floor Large Conference Room

7:00 PM - 9:00 PM

City Council Meeting -- City Annex Building

City of Lynden is returning to in-person meetings located at the city Annex building.

For questions/concerns please reach out to me.

Thank you.

Pamela (Pam) D. Brown, MMC, CPRO | City Clerk

City of Lynden

300 4th Street, Lynden, WA 98264

Direct: (360) 255-7085 | Email: brownpa@lyndenwa.org

Our Vision: Cultivating Exceptional Service for Our Extraordinary Community

We Value: Communication – Teamwork – Community – Excellence – Integrity