WOODLAND PLANNING COMMISSION AGENDA

Planning Commission Regular Meeting
7:00 p.m.
Thursday, October 18, 2012

Woodland Community Center
782 Park Street, Woodland, Washington

CALL TO ORDER

APPROVAL OF MINUTES

- September 20, 2012

PUBLIC HEARING

1) Liberty Evans Rezone (LU# 212-914)

PUBLIC WORKSHOP

2) Electric Vehicle Infrastructure Code (LU# 212-921)
    - Review Draft Ordinance
    - Background Materials (DOC Report + RCW Section)

ADJOURN

cc: Post (City Hall Annex, Library, Post Office, City Hall)
City of Woodland website
Planning Commission (5)
City Council (6)
Mayor
Those who have expressed interest in agenda topics
Department Heads

WOODLAND PLANNING COMMISSION MINUTES

Planning Commission Regular Meeting
7:00 p.m.
Thursday, September 20, 2012

Woodland Community Center
782 Park Street, Woodland, Washington

Present:	Chair David Simpson Commissioner Sharon Watt Commissioner Nancy Trevena Commissioner Murali Amirineni
Absent:	Commissioner Jim Yount
Also Present:	Secretary JoAnn Heinrichs Community Development Planner Carolyn Johnson Mayor Grover Laseke

CALL TO ORDER 7:06:14 PM

COMMUNITY WORKSHOP - C-1 USE OVERHAUL (LU# 212-910) 7:07:24 PM

The Planning Commission and community members were divided into three teams. Each team answered the same five questions about the draft ordinance. After working for more than an hour together, the teams reported back to the entire group on their answers. Carolyn facilitated discussion and recorded group feedback. Feedback from the workshop session will be used by the Planning Commission as they move forward with modifying the draft ordinance.

APPROVAL OF MINUTES

Commissioner Trevena moved to accept the August 16, 2012 minutes as written, Commissioner Watt seconded the motion. Passed unanimously.

PUBLIC WORKSHOPS

Due to time constraints, the public workshops on amendments to the sign code and new provisions for electric vehicle infrastructure were postponed until future Planning Commission meetings.

PROJECT UPDATE / DISCUSSION

- Swimming Pool project:
  - Street vacation ordinance will go before City Council on October 15th.

- Lilac Place Apartments Hearings Examiner decision:
  - The Hearing Examiner ruled in the City's favor, further appeal is possible.

DRAFT

ADJOURN 9:26:27 PM

Commissioner Trevena moved to adjourn to our next regularly scheduled meeting on October 18, 2012, Commissioner Amirineni seconded the motion. Passed unanimously.

_____ _____

JoAnn Heinrichs, Planning Commission Secretary Date

These minutes are not a verbatim record of the proceedings.
A recording is available in the office of the Clerk-Treasurer

DRAFT

CITY OF WOODLAND, WA

WOODLAND PLANNING COMMISSION
STAFF REPORT
Comprehensive Plan Map Amendment
And Concurrent Rezone

Project Name:	Liberty Evans Comprehensive Plan Amendment and Rezone
Land Use Application No.:	#212-914/CPMC/ZMC/SEPA
Applicant:	Mark Fleischauer, Liberty Evans LLC
Property Owner:	Liberty Evans LLC
Location:	A vacant, unaddressed property located on the east side of Schurman Way just south of Dike Access Road. The 3.4 acres proposed to be rezoned make up the northern portion of the parcel. The subject site is in the southwest ¼ of Section 12, Township 5 North, Range 1 West, Willamette Meridian, Cowlitz County, Washington.
Parcel ID No.:	507870101
Parcel Size:	3.4 acres of the 26.9 acre site are proposed to be reclassified on the comprehensive plan map and rezoned.
Existing Comprehensive Plan Map Designation:	Light Industrial
Existing Zoning Designation:	Light Industrial (I-1)
Application Submitted:	June 14, 2012
Notice of Complete Application:	July 9, 2012
Notice of Application:	July 9, 2012
SEPA Threshold Determination:	DNS issued September 12, 2012
Comment Period Ended:	September 26, 2012
SEPA Appeal Period Ended:	October 10, 2012
60-day Dept. of Commerce Notice Issued:	September 18, 2012
Planning Commission Public Hearing:	October 18, 2012

I. DESCRIPTION OF PROPOSAL

The applicant proposes to amend the Comprehensive Plan Map to change the designation of a portion of the subject property from Light Industrial to Highway Commercial. Concurrent with this proposal is a request to rezone the same portion of the property from Light Industrial (I-1) to Highway Commercial (C-2). The applicant is proposing to rezone the north most 3.4 acres of the 26.9 acre site (Exhibit 7). The applicant has indicated that they are willing to undergo the land division process if Council moves towards an affirmative motion on the Comprehensive Plan Map Amendment and Rezone. Liberty Evans does not want to incur the expense or potential constraints of creating a new lot without substantial comfort that the City Council will support this proposal. While MRSC has indicated that zoning designations need not follow property lines, land division should occur prior to final approval.

No specific commercial use is proposed at this time. However, possible uses include highway commercial oriented uses such as a convenience store and gas station, restaurants, and/or other retail outlets. The site is accessible via Dike Access Road.

Table 1 **Subject Property Site Characteristics**	
Surrounding Land Uses	North: City right of way, Dike Access Road, and a vacant commercial lot South: Undeveloped industrial land West: A developed industrial property and a vacant commercial property East: Undeveloped industrial land and Burlington Northern Rail tracks
Surrounding Zoning	North: Light Industrial (I-1) and Highway Commercial (C-2) South: Light Industrial (I-1) West: Light Industrial (I-1) East: Light Industrial (I-1) and Highway Commercial (C-2)
Site Topography & Critical Areas	The site is generally flat and was preloaded with fill approximately 15 years ago in preparation for a development project that was never built. National Wetland Inventory mapping and aerial imagery suggests that the eastern portion of the area proposed to be rezoned may contain a wetland or wetland buffer. Any future development would need to do required site investigations and permitting to ensure compliance with the City's Critical Area Ordinance and any State and Federal regulations that may apply. Wetlands are known to exist at the south property line, approximately 1,350 feet from the area proposed to be rezoned and open water is visible in aerial photographs approximately 1,110 feet southeast of the area to be rezoned.
Street Classification	Schurman Way is a Minor Arterial.
Water	City Service is available within Schurman Way.
Sanitary Sewer	City Service is available within Schurman Way.

II. PROCEDURAL REQUIREMENTS

All procedural requirements of RCW 36.70A, RCW 36.70B, and the Woodland Municipal Code (WMC) have been met.

III. REVIEW AUTHORITY

Per WMC 19.08.030, the City Council shall approve or deny the applications for Comprehensive Plan Map Amendments and Rezone applications based on the recommendations made by the City Planning Commission. The Planning Commission shall hold an open record public hearing, and its recommendations shall be based on the recommendations made by the City Development Review Committee (DRC).

The Comprehensive Plan and WMC 17.84.040 require that the Planning Commission consider the Approval Criteria (Comprehensive Plan, Page 1-45 and 1-46) and other factors including

provisions in the State Growth Management Act (GMA) and Comprehensive Plan, other plans of the City, the standards in the WMC, ordinances and other City codes, and other factors necessary to protect the public health, safety, convenience, and general welfare. Action must be based on written findings and conclusions.

Per the Comprehensive Plan (Page 1-45), the Comprehensive Plan shall be amended no more frequently than once per calendar year. All amendment proposals shall be considered concurrently (in a package) by the Planning Commission and City Council so that their cumulative effects can be ascertained. The Liberty Evans application is the only amendment to the Comprehensive Plan being considered in 2012.

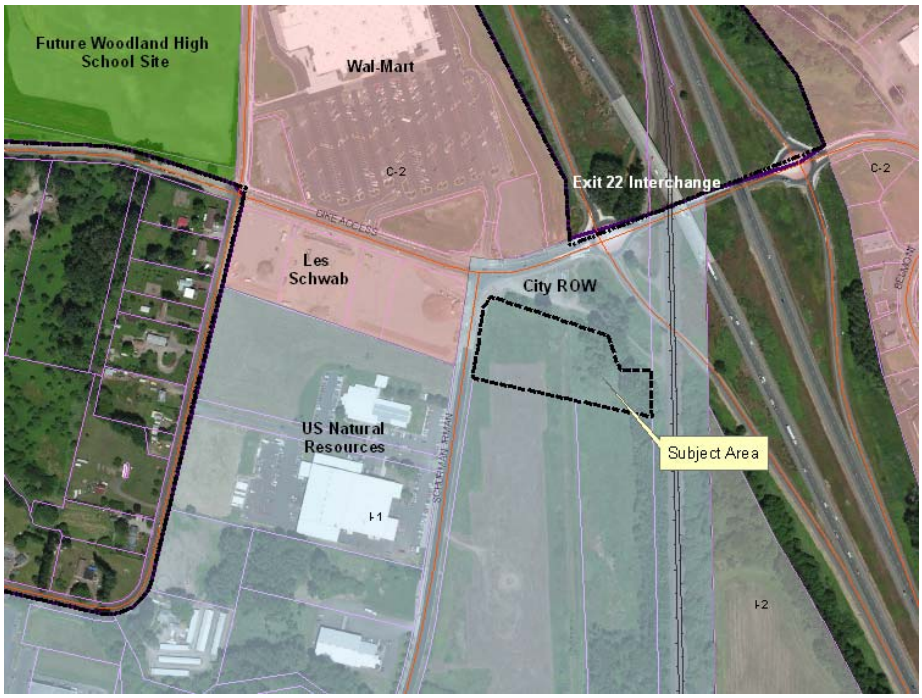


Figure 1. Vicinity map showing the subject area proposed to be rezoned from Light Industrial (I-1) to Highway Commercial (C-2).

IV. APPROVAL CRITERIA AND DRC'S RESPONSE

Proposed amendments shall be reviewed using the following criteria outlined in the Comprehensive Plan, Page 1-45 and 1-46.

1. The proposal is consistent with the provisions of the Growth Management Act (GMA) and will not result in Comprehensive Plan or regulation conflicts.

The applicant submitted a narrative describing how the request is consistent with the GMA and the Woodland Comprehensive Plan **(See Exhibit 1)**.

The proposed amendment has been processed in accordance with the GMA, Comprehensive Plan, and Woodland Municipal Code. Provided that any approved Comprehensive Plan Amendment is followed (concurrently) by a Zoning Map Amendment that is consistent with the new Comprehensive Plan Map designation, plan or regulation conflicts will not exist.

2. The proposal will change the development or use potential of a site or area without creating significant adverse impacts on existing sensitive land uses, businesses, or residents.

The DRC finds the proposal will likely have no significant adverse impact on sensitive land uses but that significant adverse impacts on existing commercial businesses and commercial property owners are possible.

Wetlands or their buffer area may exist in the area proposed to be rezoned. Local, state, and federal regulations protect or mitigate development impacts on wetlands and other environmentally sensitive areas. At the time of development, the applicant will be required to produce information on any critical areas on or adjacent to the site and to receive all permit approvals before site work can begin. Whether or not the subject area is rezoned, the presence of critical areas could impact the site design of future projects.

The City received four letters in opposition to the rezone. These comment letters are included as Exhibit 2. Concerns raised include, but are not limited to, the following:

- Traffic impacts,
- Loss of future industrial job opportunities that provide living wages,
- Loss of development-ready industrial land,
- Incompatibility of commercial and industrial users, and
- That the change proposed is not part of a larger planning or vision process.

The City received one letter in support to the rezone (Exhibit 2). Some of the benefits of the rezone addressed in the letter include:

- Tax base growth,
- Increased employment, and
- More restaurants and commercial services.

The applicant's narrative states that no specific commercial use is proposed at this time but that uses contemplated include convenience store/gas station, restaurants, and other specialty retail outlets. Woodland has undeveloped highway commercial (C-2) land and vacant C-2 storefronts. If the proposal is approved, the subject site would compete with these undeveloped and vacant properties. The 2012 Industrial and Highway Commercial Land Use Inventory shows there are currently 134 acres of undeveloped Highway Commercial (C-2) property in the City of Woodland. In addition, Woodland's Central Business District (C-1) has a number of vacant storefronts and vacant lots where restaurants (except fast food) and retail outlet stores would be outright permitted uses.

Certain Highway Commercial uses compete with the Central Business District (Woodland's historic downtown) the redevelopment of which is supported by the Woodland Comprehensive Plan in Economic Development Policies 4 and 6 (page 1-56 and 1-57) and Commercial Land Use/Central Business District Policy 2 (page 1-57). These policies are listed below:

> "The city recognizes it should foster downtown redevelopment for the reasons of tourism enhancement and economic development generally, protection of existing public investments, protection and expansion of the tax base, the overcoming of obstacles to privately initiated investments in downtown, maintenance of community identity and appearance, and because only the city can marshal certain financial resources and public improvements" (Economic Development Policy 4).
>
> "The city recognizes that its appropriate role in downtown redevelopment is to take actions that will facilitate and attract private investment and help overcome private sector obstacles and risks characteristic in downtown renewal" (Economic Development Policy 6).
>
> "Encourage more professional offices and local services to locate within the Downtown Business District" (Commercial Land Use/Central Business District Policies 2).

The 2002 Woodland Urban Growth Management Program[1] (WUGMP) recommended that 39.6 acres of land currently designated Light Industrial be redesignated Commercial and that 71 acres of land outside of city limits be annexed and brought into the city under a commercial designation. In total, these recommendations would have resulted in 111 acres of new commercial land. Significant progress has been made towards reaching these goals. The 71 acres identified for annexation were located north of Scott Avenue and between Old Pacific Highway and Green Mountain Road. Since the plan was adopted, this land has been brought into City limits and all but 10 acres of it has a commercial designation. Additionally, approximately 29 acres of light industrial land has been redesignated as commercial. Page 1-23 of the 2005 Comprehensive Plan states "The city will not require any additional commercial lands. The downtown will grow by infill and the conversion of fringe areas. The city already has ample supply of vacant commercially designated land that is very visible from Interstate 5" (page 1-23).

The applicant submitted a memorandum analyzing the economic need for commercial property in Woodland **(See Exhibit 5)**.

3. The proposed amendment can be accommodated by all applicable services and facilities, including transportation.

[1] The WUGMP was adopted May 20, 2002 by the City of Woodland (Resolution No. 458).

City services including water and sanitary sewer are available at the subject site and at the time of development, new construction will be required to connect to these services.

A memorandum addressing traffic impacts dated June 12, 2012 was submitted by the applicant **(Exhibit 4)**. If the proposal is approved, the change is expected to result in 2,694 additional vehicle trips per week including 185 additional peak PM trips per week. Under 2025 conditions with the proposed rezone, the Dike Access/I-5 southbound ramp is expected to operate at a LOS "F" (Note: 2025 conditions with current zoning are also expected to result in LOS F at this intersection). The memo states than an eastbound right-turn slip lane at the intersection would improve the LOS to LOS C. In addition, Dike Access Road/Schurman Way is expected to degrade to LOS "E" with the proposed change versus a LOS "D" under current zoning. The memo states that the most appropriate improvement at Dike Access Road/Schurman Way would include the addition of a northbound right-turn slip lane, which would improve the LOS to "B".

WSDOT submitted comments **(Exhibit 2)** stating that the Traffic Analysis memo submitted indicates that roadway improvements may be required to mitigate the impacts of development but that one of improvements anticipated, the eastbound right turn slip lane at the Dike Road/I-5 southbound off-ramp intersection, may be difficult to build because of site constraints.

One concern is ensuring transportation concurrency. The GMA requires that transportation improvements or strategies to accommodate development impacts need to be made concurrently with land development.The preliminary traffic analysis shows that improvements will be necessary; however Woodland does not have traffic impact fees. Thus, depending on how the property is developed, the City may have limited ability to require the developer to pay for and construct a physical improvement. As a best case scenario, an applicant applies for site plan approval for the build out of the entire site. Under this scenario, the City would have the ability to consider full impacts and ask for reasonable mitigation. However, it is just as possible that a developer would apply for a single use and then latter come in with another application to continue developing the site. This sort of piecemeal development could create a situation where it is difficult for the City to require a physical improvement.

4. The proposal will help implement the goals, objectives and policies of the Woodland Comprehensive Plan.

Included in the application materials is a narrative by the proponent describing how the request is consistent with the Woodland Comprehensive Plan **(Exhibit 1)**. Listed below are staff's responses to how the proposal supports or conflicts with the Comprehensive Plan.

Goal E, Page 1-47 – "Ensure that incompatible land uses are separated, thus enhancing the security, value and stability of land uses and improvements, and providing for the general health, safety and welfare of the community."

The DRC finds that the proposal complies with the goal. Zoning is designed to prevent land use conflicts before they occur by separating incompatible uses. There is no inherent conflict with light industrial and highway commercial uses and, in fact, there are a number of areas within the city where the two zones converge. Highway commercial uses include fast-food restaurants, gas stations, car and truck dealerships, shopping centers, and many other auto-dependent or land-consumptive commercial uses. Normally the impacts of light industrial operations do not create nuisances for neighboring highway commercial users.

Goal H, Page 1-47, Bullet 4 - "Developing and securing Woodland's position as the commercial center serving southern Cowlitz County and the recreation trade of the upper Lewis River and Mount Saint Helens area."

As no specific development proposal has been made, the DRC finds that it is impossible to gauge the compatibility of the comprehensive plan map amendment and rezone with the goal.

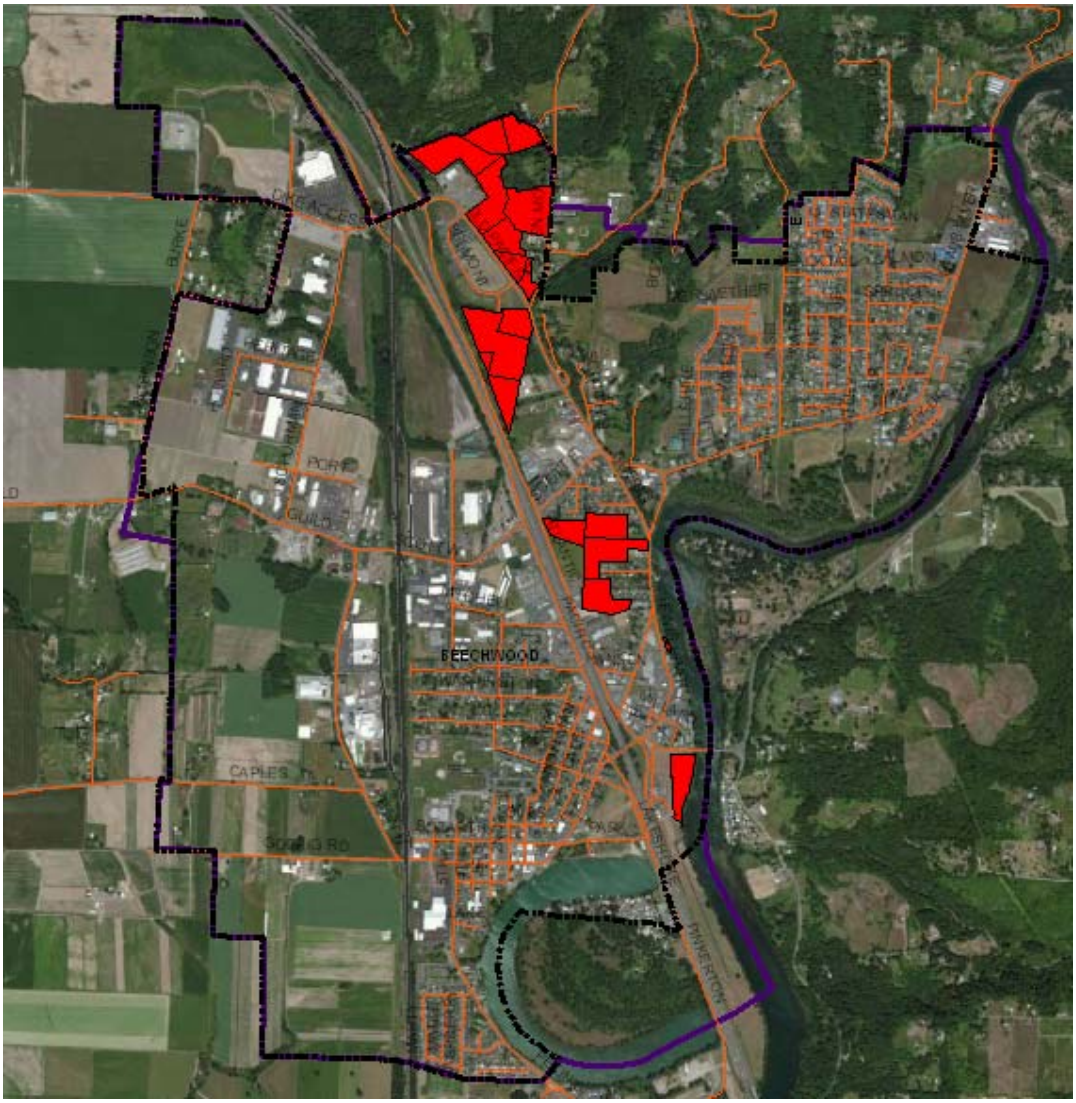
Goal H, Page 1-47, Bullet 6 - "Using the advantage of freeway visibility to establish the city as a traveler/tourist service center."

The DRC finds that the proposal is generally consistent with this goal. Similar comprehensive map amendments and rezones have created a commercial node west of the Exit 22 I-5 Interchange. These businesses take advantage of freeway visibility and recent public infrastructure improvements. With no specific development planned, it is difficult to predict the degree to which any future commercial development at the site will make Woodland more of a traveler/tourist service center. However, the potential for commercial uses to draw travelers is greater than the potential for industrial businesses to do the same.

Policy 6 for Commercial Land Uses/Central Business District, Page 1-57 - "Areas classified for commercial use on the Land Use Plan Map should be utilized before other areas are reclassified for commercial use. A market factor may be appropriate to ensure sufficient land and price stability."

The DRC finds that the proposal is inconsistent with this goal. The City completed an Industrial and Highway Commercial Lands Inventory in October 2012 **(Exhibit 3)**. The City's land use inventory identified 133.6 acres of undeveloped Highway Commercial (C-2) land. Approximately half of this undeveloped commercial land may be somewhat restricted by the presence of critical areas. While the average lot size is relatively small, many vacant parcels are contiguous and could be combined to accommodate larger developments. Large commercial development sites exist at the Woodland Commerce Site south of the CC Street Bridge, in the Belmont Loop area, and east of Atlantic Avenue. Currently there are nineteen, single-owner undeveloped Highway Commercial (C-2) parcels 3.4 acres in size (the area of the proposed site to be rezoned) or larger in the City of Woodland.

Figure 2. Nineteen single-owner, undeveloped commercial parcels at least 3.4 acres in size are currently available in Woodland.



Using a 20% market factor and an infrastructure allowance of 15%, the WUGMP concluded that Woodland would need an additional 80 acres of commercial land by 2020 (p. 22). The Committee working on the plan recommended reclassifying 39.6 acres of light industrial land within city limits and annexing in 71 acres of commercial land between Old Pacific Highway and Green Mountain Road. To date, approximately 29 acres of light industrial land has been converted to commercial and 61 of the recommended 71 acres of land between Old Pacific Highway and Green Mountain Road are zoned Highway Commercial.

Figure 3. Highway Commercial (C-2) Inventory

Category	Number of Parcels	Average Lot Area (sf)	Acres Total	Average Lot Size (Acres)
Commercial Developed	121	37,157	102.4	0.9
Residential Use - Commercial Designation	20	24,449	11.2	0.6
Commercial Undeveloped	36	81,038	67.0	1.9
Commercial Undeveloped Environmental Constraints Suspected	13	223,131	66.6	5.1
TOTAL	190	-	247.2	-

Policy 2 for Industrial Land Use, Page 1-57 - "Preserve prime industrial sites and reserve suitable land for future industrial expansion prior to need."

The DRC finds that the proposal is inconsistent with this goal. While Woodland has a large stock of undeveloped industrial land, only 272 acres or 36% are adjacent to services, i.e. adequate municipal water, sewer and roads. The Comprehensive Plan states "Of primary interest to businesses are industrially designated lands west of the freeway. This area is attractive because it is next to I-5 and the railroad. Large parcels of vacant industrially zoned land are still available at reasonable prices. The land is flat with few environmental constraints for development. Plus, there are few conflicting land uses nearby" (pages 1-23 and 1-24).

While Woodland has much more industrially zoned land than is anticipated to be needed to accommodate growth until 2020, much of this land is not adequately served by municipal water, sewer, and roads. The 2002 WUGMP estimated that Woodland would need between 320 and 349 acres of industrially designated land to accommodate growth until 2020 (page 21). This range included the following assumptions: 1.8% of industrial land may be used by non-industrial uses, a 40% market factor, and that 10% of industrial property in city limits would be used for infrastructure and/or environmental restrictions. Currently, 1,161 acres of land within City Limits have an industrial zoning designation, more than three times the amount identified as being needed in the WUGMP. A large increase of industrially zoned properties entered the city's inventory when Ordinance 1187 was adopted on October 18, 2010 bringing an additional 462 acres of industrially zoned land into the city. However, as shown on the 2012 Land Inventory Map (Exhibit 3), only about half of all industrially zoned property is serviced by municipal water, sewer and roads and much of this land is already developed.

Figure 4. Vacant Industrial Land

Category	Total Area (Acres)
Service-Adjacent Vacant Industrial	272
All Vacant Industrial	746

Figure 5. Service-Adjacent (Development Ready) Industrial (I-1 + I-2) Land Inventory

Category	Number of Parcels	Acres Total	Average Lot Size (Acres)
Industrial Developed	101	310.0	3.1
Residential Use - Industrial Designation	5	5.0	1.0
Partially Developed Industrial	7	27.2	3.9
Industrial Undeveloped	28	155.2	5.5
Industrial Undeveloped Environmental Constraints Suspected	7	89.4	12.8
Public Facility, Public Transportation	5	3.7	0.7
TOTAL	153	590.5	-

Policy 4 for Industrial Land Use, Page 1-58 - "Heavy to moderate industrial activities should not locate adjacent to school properties, commercial and residential areas. They should locate near railroads and/or major arterials adjacent to large land areas suitable for heavy industrial development."

The DRC finds that the proposal complies with the policy. If approved, the change would result in highway commercial uses abutting light industrial uses. Staff sees no conflict between the proposal and the policy.

Policy 6 for Industrial Land Use, Page 1-58 - "Vacant sites classified for industrial use by the Land Use Plan Map should not be encroached upon by incompatible non-industrial uses. Agriculture and open space are appropriate interim uses."

The DRC finds that the proposal complies with the policy. If the proposed comprehensive map amendment and rezone are approved through ordinance, no conflict would arise with this policy.

5. If the proposal could have substantial impacts beyond the city limits, it has been sent as appropriate to Clark and/or Cowlitz counties for review and comment.

If approved, the proposal could result in some additional vehicle trips on Cowlitz County roads. The County was notified once during the issuance of the Notice of Application (July 9, 2012) and once during the issuance of the SEPA Determination of Non-significance (September 12, 2012). No comments from the County were received.

V. CONCLUSION AND STAFF RECOMMENDATION

Woodland's 2005 Comprehensive Plan was adopted before the commercial node west of Exit 22 developed and the next update to the plan is not due until 2016. Recent land use decisions have

supported the development of this node and as businesses like Wal-Mart and Les Schwab open, the area becomes more attractive for commercial development. It is easy to imagine a much longer commercial strip west of I-5 along Dike Access Road. However, because changes have occurred between comprehensive plan updates, the city's vision and long range plan for northwest Woodland have not been formulated. The City has existing vacant and undeveloped commercial properties that lose out when new areas with better access and improved transportation infrastructure are opened up to commercial use. As part of the 2016 Comprehensive Planning process, Woodland may decide that some of these areas should be reclassified and that the Northwest should be allowed to grow as a commercial corridor. Recent land use decisions seem to support this path. On the other hand, Woodland may decide that existing commercial areas should be the focus of new development, infill, and redevelopment. ***The DRC recommends against the rezone because the proposal conflicts with some provisions of the Woodland Comprehensive Plan. The DRC recognizes that the future development of Northwest Woodland will play an important role in our city's future and the vision for the area should be explored as part of the 2016 Comprehensive Plan Update process.***

EXHIBITS

1. **Applicant's Narrative**
2. **Comment Letters**
3. **Land Use Inventory Maps and Categories**
4. **Traffic Analysis Memo**
5. **Economic Needs Analysis**
6. **SEPA Checklist**
7. **Legal Description and Survey**

Liberty Evans LLC
Comprehensive Plan Amendment and Rezone Request

Applicant: Liberty Evans LLC
Attn: Mark Fleischauer
2311 East First St.
Vancouver, WA 98661

Proposal: Application to amend the Woodland Comprehensive Plan for approximately 3.4 acres currently classified as Light Industrial to Commercial, and to rezone the property from I-1, Light Industrial to C-2, Highway Commercial.

Location: The subject property is located on the east side of Schurman Way just south of Dike Access Road and is the most northern portion of parcel number 507870101.

Land Use: The subject property is undeveloped, but has been pre-loaded with fill since the late 1990s. Neighboring land uses include light industrial, commercial, and undeveloped property. A discount super store opened in the last two years to the north.The Woodland School District owns property across the Dike Access Road and the voters recently passed a bond to construct a new high school. The comprehensive plan designation, zoning and use of adjacent properties are summarized below.

	Comprehensive plan designation	**Zoning**	**Current use**
east	Industrial	I-1, Light Industrial	Railroad
west	Commercial,	C-2, Highway Commercial	Developing commercial
north	Industrial	I-1, Light Industrial	Right-of-way
northwest	Commercial	C-2, Highway Commercial	Retail
south	Industrial	I-1, Light Industrial	Undeveloped

Woodland Municipal Code:

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PLANNING DEPT

WMC 17.84.110(A) states that proposed zone changes to the light industrial zone must adhere to certain procedures and include in the application certain factual material, including a site plan. Because there is no development proposed at this time and no site plan, the discussion below summarizes the required information ordinarily depicted on a site plan drawing. An aerial photograph of the subject property and vicinity from the Cowlitz GIS is attached.

WMC 17.84.120 states that the applicant for a zone change shall prepare and submit to the city a site development plan…showing at a minimum:

1. **Identification of the proposed use:**no specific commercial use is proposed at this time; uses contemplated include high way commercial oriented uses, such as convenience store/gas station, restaurants, and other specialty retail outlets.
2. **Boundaries of the site:** see attached map photo
3. **Adjacent streets, properties and land uses**: The subject property is south of Dike Access Road andeast of Schurman Way. Adjacent land uses are identified above.
4. **Site topography**: The site is flat. The fill was placed on the site in the late 1990s to preload it.
5. **Proposed points of entrance and exit:**No development plans have yet been prepared.
6. **Interior streets and circulation pattern, if any**: No development plans have yet been prepared.

Woodland Comprehensive Plan:

Below is a discussion of how the proposed map change complies with the amendment criteria of the comprehensive plan and applicable goals and policies.

1. The proposal is consistent with the provisions of the Growth Management Act and will not result in comprehensive plan or regulation conflicts; and

The subject property is within the city limits and poses no issue contradictory to the Growth Management Act.

In 2008, an analysis prepared by E.D. Hovee& Company LLC for the Chumbley rezone concluded that the Woodland Urban Growth Management Plan 2002 update and 2005 Comprehensive Plan indicated that there was an inadequate supplyof commercial land and an oversupply of land designated for industrial use within the city and the urban growth boundary, supporting the argument for re-designating sites that are now developed or remain available for commercial use. Hovee further concluded that market demand and projections indicate the need for commercial land may be greater than what the comprehensive plan projects due to questions of suitability of the sites relative to size and environmental constraints.The attached update to that report which focused on this application and property drew similar conclusions—there remains a deficit of land available for commercial development. Because the Liberty Evans property has no environmental constraints, re-designating it for commercial use would be consistent with the Act and comprehensive plan.

2. *The proposal will change the development or use potential of a site or area without creating significant adverse impacts on existing sensitive land uses, businesses or residents; and*

Amending the comprehensive plan map and rezoning the Liberty Evans property to allow commercial development serving the neighboring industries and future high school would complement the surrounding uses. The intent of the map amendment is to facilitate development that will meet the growing need for commercial services generally as well as meet the need more specifically created by the neighboring industrial development. The intersection of Dike Access Road and Schurman Way is developing as a commercial center to serve the developing industries to the south as well as the future high school and the region more generally with immediate accessfor traffic provided by Interstate 5 Exit 22. Approval of this application would complement that existing and emerging commercial development. Further, the city's development regulations will ensure that future commercial development of the site blends with all adjacent activities by requiring appropriate controls over access, screening, setbacks, stormwater management, etc.

3. *The proposed amendment can be accommodated by all applicable services and facilities; and*

The Liberty Evans property is located at the intersection of Schurman Way and Dike Access Road. The comprehensive plan identifies Schurman Way as a minor arterial with three travel lanes. Dike Access Road is also classified as a minor arterial with three lanes west of Schurman Way and three roundabout intersections at the two interstate on/off ramps and at Schurman Way. Transpo's analysis of the impacts to the transportation system by future commercial development of the subject property concludes the two roundabouts west of the freeway will operate at failing levels of service at th planning horizon. Transpo recommends a slip lane for northbound Schurman Way traffic destined for Interstate 5 southbound which would remedy the traffic congestion and allow the two roundabouts to operate at acceptable levels of service.

Potable water and sanitary sewer facilities are discussed below under public facilities and services policy 6.

4. *The proposal will help implement the goals, objectives and policies of the Woodland Comprehensive Plan; and*

The comprehensive plan describes the highway commercial district as "mostly oriented to automobile access and convenience. It is intended to

accommodate automobile oriented and land-consumptive commercial needs. A wide range of commercial uses and activities are encouraged."

A variety of plan goals, objectives and policiesare designed to foster the successful implementation of this land use designation. The discussion below demonstrates how the proposed comprehensive plan map amendment and rezone of the Liberty Evans property to highway commercial designations would be consistent with the policies and objectives and help fulfill the plan goals.

Land Use Goal A calls for the city to ensure that there is ample opportunity for economic benefit while protecting natural and cultural resources and minimizing threats posed by hazards, nuisances, incompatible land uses, and environmental degradation. This would be accomplished through 1) managing growth so that public facilities and services are delivered in a fiscally responsible manner; 2) achieving a stable and diversified economy with varied employment opportunities; 3) conserving neighborhoods to achieve balanced and organized land uses served by convenient and efficient transportation networks; and 4) preserving, conserving and enhancing the natural and built environment.

The Liberty Evans property is strategically located to broaden the opportunity for economic development and provide a range of employment opportunities without creating adverse impacts to the community. It is located in an area with ample utility infrastructure to accommodate additional commercial development designed to serve the needs of the growing industrial community west of the Burlington Northern Railroad as well as a broader regional market.With the school district bond approval to build a new high school on approximately 40 acres across the Dike Access Road, the demand for commercial development to serve the school and related activities will also increase. Because the Liberty Evans property is within a developed area with a changing character, designating it for commercial development will help to balance the neighborhood uses.

The proposal will help the city to fulfill this goal.

Land Use Goal E calls for ensuring separation of incompatible landuses to enhance security, stability of land uses and improvements, and the overall health, safety and welfare of the community. The proposed map amendment would be merely a small extension of the commercial designation and existing and emerging commercial development adjacent to I-5 Exit 22. This expansion will serve only to complement that development, the future high school, and the on-going and future light industrial activities to the south along Schurman Way. The proposal meets this goal.

Land Use Goal H stresses the diversification of the local economy to ensure sustained growth and varied employment through a multi-faceted approach, among them making Woodland the commercial center of southern Cowlitz, and presumably, northern Clark counties, and taking advantage of the Interstate 5 visibility and access to establish the city as a traveler/tourist service center. This proposal is tailor-made to fulfill this goal. It is immediately visible from and accessible to the freeway and the recent street and intersection improvements will only serve to sustain that access. Adding this territory to the inventory of commercial land will help meet the market demand identified in the recent Hovee analysis and increase opportunities for a greater commercial presence and employment opportunities.

Commercial Land Use/Central Business District Policy 6 calls for the utilization of existing commercial lands before other areas are reclassified for such use. This policy, however, includes the caveat that a market factor may be appropriate to ensure sufficient land and price stability. The current Hovee analysis, like the 2008 study, concludes that there is insufficient inventory of commercial land to meet the market demand over the course of the planning horizon. Thus, the addition of this proposed territory, which has no development or environmental constraints, to that inventory will facilitate land and price stability that the market factor recommended by this policy espouses.

Industrial Land Use Policy 2 calls for the preservation of prime industrial site and reservation of suitable land for future industrial expansion prior to need. Again, the Hovee analysis concludes that the city has an over abundance--712 acres--of industrial land available, twice the 349 acres necessary to meet the market demand within the period of the current plan and beyond.

Industrial Land Use Policy 4 directs heavy to moderate industrial activities to locate away from school properties, commercial and residential areas, but near railroads and major arterials. The current zoning is light industrial, but changing the map designation to allow commercial development on the subject property would increase the buffer between future industrial development and the future high school.

Public Facilities and Services *Policy 1* directs the city to encourage development of areas currently served with utilities prior to opening other areas for development. Re-designating the Liberty Evans property for commercial development would be consistent with this policy. Both potable water and sanitary sewer facilities were installed adjacent to this site several years ago as an effort by the city and the property owners to stimulate economic development activities. Bothutilities have the capacity to serve the subject and adjacent properties with commercial development.

At least three **Commercial Land Use/Central Business District Policies**would be met by the proposed map change. **Policy 3** calls for new commercial developments to provide sufficient amenities in their design and construction. These include lighting, signage, parking, appropriate provisions for handicapped individuals, and so on. Because the undeveloped property offers a "clean slate" and consists of approximately 3.4 acres, there is every opportunity to design future development to meet these policy standards. **Policy 4** calls for neighborhood commercial uses to be clustered near arterial intersections. Although the proposal is requesting the highway commercial designation, future commercial development would also serve the growing industrial neighborhood and the future high school in the immediate vicinity. Because the plan identifies Schurman Way and Dike Access Road as arterials, the proposed map amendment for the subject property meets this policy.

Policy 6 directs the city to provide for the commercial utilization of properties currently designated for such use before reclassifying other areas for commercial activities.While the policy has general applicability in a theoretical sense, in the specific setting it is counterproductive to meeting the commercial land inventory deficit discussed above, the changing needs of the growing industrial community in the vicinity of the subject property, and theanticipated increase in demand for commercial activities and services to be generated by the future high school.As the neighboring industrial area continues to develop, so will the demand for commercial activities to support the industrial employees and business activities.Commercial land uses at this location would also likely have a broader appeal. Approval of the proposed change would lead to a well balanced combination of commercial and industrial uses leading to an improved local economy.

5. *If the proposal could have substantial impacts beyond the city limits, it has been sent as appropriate to Clark and/or Cowlitz counties for review and comment.*

This criterion does not apply.

Carolyn Johnson

From: Darlene Johnson [darlene@gowoot.net]
Sent: Monday, July 30, 2012 4:24 PM
To: Carolyn Johnson
Subject: RE: Notice of Application - Liberty Evans Rezone and Comprehensive Plan Map Amendment - Comments Due August 1, 2012

Dear Carolyn,

Woodland Truck Line, Inc. and Darlene and Jim Johnson are very opposed to Liberty Evans Rezone and Comprehensive Plan Map Amendment (see below).

Woodland keeps trading Industrial jobs for commercial jobs which is not a good trade, especially for employees. There is a lot of vacant commercial land just like there is a lot of vacant industrial land. The land in question is ready for development with city water, sewer and other services already in place. Let's keep the industrial, industrial, and the commercial, commercial. The reason behind zoning is to save land for the appropriate use, and just because this land has not been developed is no reason to change the zone. If it was a good reason, there would be no reason to ever zone anything.

Commercial and Industrial is not a good mix, and all you have to do is look at Wal-Mart and the resulting interchange at exit 22 to see the problem. The three roundabouts have not made it easier for the industrial businesses that utilized truck transportation (all ready plenty of testimony on that issue) or for the Port to bring businesses into Woodland's Industrial area (lost at least one client because of the roundabouts).

This zone change would add additional commercial traffic to an already poorly planned interchange and have an increased negative impact on the businesses located in the industrial area and also make it harder to attract new industries to Woodland.

To repeat Commercial and Industrial does not work well for either, that is why in zoning Commercial is not allowed even as a conditional use in light Industrial.

Dar

From: Carolyn Johnson [mailto:JohnsonC@ci.woodland.wa.us]
Sent: Monday, July 09, 2012 9:18 AM
To: Carolyn Johnson
Subject: Notice of Application - Liberty Evans Rezone and Comprehensive Plan Map Amendment - Comments Due August 1, 2012

Good Morning:

The City has received a land use application that may interest you.

Liberty Evans LLC submitted an application to amend the Woodland Comprehensive Plan Map to reclassify a 3.4 acre site currently classified as Light Industrial to Commercial, and to rezone the property from Light Industrial (I-1) to Highway Commercial (C-2). **Comments are due by August 1, 2012.** Please see the attached notice for further information.

Description of Proposal: The applicant proposes to amend the Comprehensive Plan Map to change the designation of a portion of the subject property from Light Industrial to Highway Commercial. Concurrent with this proposal is a request

Carolyn Johnson

From: Dave Lester [dave@topperfloats.com]
Sent: Wednesday, August 01, 2012 2:47 PM
To: Carolyn Johnson
Subject: Liberty Evan LLC rezone application

Ms. Johnson:

Topper Industries, Inc. and I oppose the rezone application of Liberty Evans, LLC from Light Industrial to Commercial. Loosing more industrial land and ending with mixed use is not good for the proposed commercial use, any industries or the city.

Thank you,
Dave Lester
--

--
Dave Lester,
President

P.O. Box 2050
Woodland, WA. 98674
Phone: 360-841-8320
Fax: 360-841-8021
www.topperfloats.com
dave@topperfloats.com

This email and its contents are confidential. If you are not the intended recipient, please do not disclose or use the information within this email or its attachments. If you have received this email in error, please delete it immediately.

Carolyn Johnson

From: Judy [jg@topperfloats.com]
Sent: Wednesday, August 01, 2012 1:23 PM
To: Carolyn Johnson
Subject: Notice of Application - Liberty Evans Rezone and Comprehensive Plan Map Amendment - Comments Due August 1, 2012
Attachments: NOA Liberty Evans Rezone.pdf

M./ Johnson:

Duchess ***, Inc and I, Judy Grant oppose the application from Liberty Evans, LLC to change Light Industrial land to Commercial listed below. This would cause another change to the City's Comprehensive Plan and again, destroy more industrial land.

A Comprehensive Plan is supposed to be a process that determines goals and aspirations for community development. It is generally considered to be strategic planning or visioning to determine a wide range of issues affecting a city for a viable future.

If every application for a deviation in the comprehensive plan is allowed and approved, why have a comprehensive plan at all? Why not just allow everybody to build whatever they might choose, where ever they want?

We found after burning down in Battle Ground that industrial land is rare and precious. We were forced to move fast if we were to keep working. Loosing more industrial land to commercial (and high density residential) seems to be loosing sight and focus of what industrial land is designed to do. It is to allow industries to work, providing living wage jobs to people in the community.

Industrial use, commercial use, and residential use are not compatible neighbors. Everybody in each area is harmed.

The city has done a great deal of work for the current comprehensive plan to protect each area of use. However, the city's plan is failing at every application with the continued approval of non conforming use.

Soon, Woodland will have no industrial use and all the industries will be forced to move: just so they/ we can continue to work.

I appreciate the city's consideration: do not further erode industries' ability to work by approving commercial use in a designated industrial zone.

Thank you,
Judy Grant
and
Duchess ***, Inc

Subject:FW: Notice of Application - Liberty Evans Rezone and Comprehensive Plan Map Amendment -

OLYMPIC PIPE LINE COMPANY
2201 LIND AVE. S.W.
SUITE 270
RENTON, WASHINGTON 98055
(425) 235-7736

July 12, 2012

Carolyn Johnson MCP
Community Development Planner
City of Woodland
230 Davidson Ave
Woodland, WA 98674

Liberty Evans Rezone and Comprehensive Plan Map Amendment Land Use Application
No.:#212-914/CPMC/ZMC/SEPA

Ms. Johnson,

In response to Liberty Evans LLC submitting an application to amend the Woodland Comprehensive Plan Map to reclassify the 3.4 acre site currently classified as Light Industrial to Commercial, and to rezone the property from Light Industrial (I-1) to Highway Commercial (C-2) we have no objection. As always our concerns are safety and protecting the integrity of our pipeline and thirty foot right of way (30').

As to the future we would like to be notified early in any development plans so we can coordinate with the developer and address any potential problems.

Please contact me with any questions, 425-981-2506.

Respectfully,

Pamela Brady
ROW Specialist

RECEIVED

CITY OF WOODLAND

Carolyn Johnson

From: Nelson Holmberg [nholmberg@portofwoodland.com]
Sent: Thursday, July 26, 2012 10:07 AM
To: Carolyn Johnson
Subject: RE: Notice of Application - Liberty Evans Rezone and Comprehensive Plan Map Amendment - Comments Due August 1, 2012

Hi Carolyn,

The Port of Woodland reiterates, in this zone change application, its strong concern about the City of Woodland taking industrial property that is ready for development with city water, sewer and other services already in place, out of the light industrial inventory for any other use than industrial activities.

The port strongly OBJECTS to this zone change.

Thanks,
-Nelson

From: Carolyn Johnson [mailto:JohnsonC@ci.woodland.wa.us]
Sent: Monday, July 09, 2012 9:18 AM
To: Carolyn Johnson
Subject: Notice of Application - Liberty Evans Rezone and Comprehensive Plan Map Amendment - Comments Due August 1, 2012

Good Morning:

The City has received a land use application that may interest you.

Liberty Evans LLC submitted an application to amend the Woodland Comprehensive Plan Map to reclassify a 3.4 acre site currently classified as Light Industrial to Commercial, and to rezone the property from Light Industrial (I-1) to Highway Commercial (C-2). **Comments are due by August 1, 2012.** Please see the attached notice for further information.

Description of Proposal: The applicant proposes to amend the Comprehensive Plan Map to change the designation of a portion of the subject property from Light Industrial to Highway Commercial. Concurrent with this proposal is a request to rezone the same portion of the property from Light Industrial (I-1) to Highway Commercial (C-2). The applicant is proposing to rezone the north most 3.4 acres of the 26.9 acre site.

No specific commercial use is proposed at this time. However, possible uses include highway commercial oriented uses such as a convenience store and gas station, restaurants, and/or other retail outlets.

Location of Proposal: The subject property is a vacant unaddressed property located on the east side of Schurman Way just south of Dike Access Road. The 3.4 acres proposed to be rezoned make up the northern portion of the parcel. The subject site is in the southwest ¼ of Section 12, Township 5 North, Range 1 West, Willamette Meridian, Cowlitz County, Washington.

Studies and Environmental Documents: The following documents have been submitted as part of the application:

1. Traffic Analysis, June 2012
2. Economic Needs Analysis, May 2012
3. SEPA Environmental Checklist, June 2012

Washington State Department of Transportation
Paula Hammond, P.E.
Secretary of Transportation

Southwest Region
11018 Northeast 51st Circle/PO Box 1709
Vancouver, WA 98668-1709
360-905-2000/Fax 360-905-2222
TTY: 1-800-833-6388
www.wsdot.wa.gov

July 31, 2012

Carolyn Johnson
Community Development Planner
City of Woodland
230 Davidson Ave.
Woodland, WA 98674

Re: Liberty Evans LLC
SR 5, MP 22.75

Dear Ms. Johnson:

The Washington State Department of Transportation (WSDOT) staff has reviewed the Notice of Application and Traffic Analysis for the Liberty Evans LLC Comprehensive Plan Map amendment. Approval will rezone 3.4 acres of a 26.9 acre site from Light Industrial to Highway Commercial. WSDOT would like to address our concerns and offer the following comments.

The submitted traffic analysis recommends several improvements that may be required to mitigate the impacts of developing this site. One of these improvements is the construction of an eastbound right turn slip lane at the Dike Road/I-5 southbound off-ramp intersection. While we acknowledge this improvement will improve the Level of Service at this intersection it may be challenging to construct. The mainline BNSF railroad tracks cross over the southbound I-5 on-ramp approximately 300' south of the intersection. This crossing severely restricts the width of the on-ramp and the length of any acceleration/merge lane that could be constructed.

WSDOT recommends that the traffic analysis be updated to reflect the actual use when one is identified. The updated analysis should look at the trip generation of the identified use and how this will impact the roundabout, particularly the eastbound to southbound right turn movement at the Dike Road/I-5 southbound ramp intersection. The analysis should also review the constructability of the right turn slip lane and explore other means of providing mitigation at this intersection.

These comments are based on a preliminary review of your project. As this project progresses, there may be need for additional information by this department for further review. There may be other issues and requirements

by this department that are not stated here. Other issues or requirements may include, but are not limited to, drainage, illumination, access, signing, and channelization. This review does not constitute final approval by WSDOT.

Thank you for the opportunity to comment on this project. If you have any questions or need additional information, please contact Jeff Barsness, Southwest Region Development Services Engineer, at 360-905-2059.

Sincerely,

Dave Bellinger
Design Services Engineer

DB: jb

Carolyn Johnson

From: Lydia Work [lwork@americanpaperco.com]
Sent: Friday, October 05, 2012 1:24 PM
To: Carolyn Johnson
Subject: Liberty Evans Rezone Request

October 5, 2012

VIA US MAIL & Email: johnsonc@ci.woodland.wa.us

Ms. Carolyn Johnson
Community Development Planner
City of Woodland
230 Davidson Ave
Woodland, WA 98674

Re: Liberty Evans Rezone Request

Dear Ms. Johnson:

I am the owner of American Paper Converting (APC) and am the proud employer of over 68 employees in the City of Woodland. APC has thrived and expanded numerous times since its arrival in Woodland over ten years ago, and APC has more growth plans on the table. We pride ourselves on being a great employer and a great corporate citizen. We are proud to have Woodland as our home, and we also feel strongly that APC has been – and continues to be – a valuable asset to Woodland.

What you may not know, however, is that would it not have been for the principals at Liberty Evans LLC, APC would not have relocated to Woodland. The management team at Liberty Evans (and their sister company, JH Kelly) lobbied us long and hard on the merits of building and locating in Woodland. They are one of Woodland's biggest proponents, and over many projects and many challenges, we have found them to be tremendous partners with the highest degrees of integrity, honesty, creativity -- and a desire to do what's right for the customer, their employees and the community they live in. We cannot endorse them highly enough, and we are very confident that their plans for the property along Schurman Way will yield rewards to Woodland for many years to come. They will help grow your tax base, your employment levels and your profile in the region.

On a more personal note, we at APC are also yearning for more convenient restaurants and commercial services for our employees and customers. I am always regretful when I am forced to take business clients to lunches and dinners in Longview, Vancouver or even Portland because of the limited options near our facility. We endorse Liberty Evans' rezone request because it will undoubtedly enhance those services to us while still enabling them to attract new family-wage employers on the remainder of their land. Take it from a successful Woodland manufacturer; this is a win-win scenario. Don't let it slip through your hands.

In light of the above, we respectfully request that you grant the rezone request of Liberty Evans and do whatever is necessary to facilitate their development of the Schurman Way property.

Thank you very much for your consideration. Please feel free to call me with any questions.

Sincerely,

Lydia Work

American Paper Converting Inc.
1845 Howard Way
Woodland, WA 98674
Phone 360-225-0488
FAX 360-225-0478
Cell 360-901-8841

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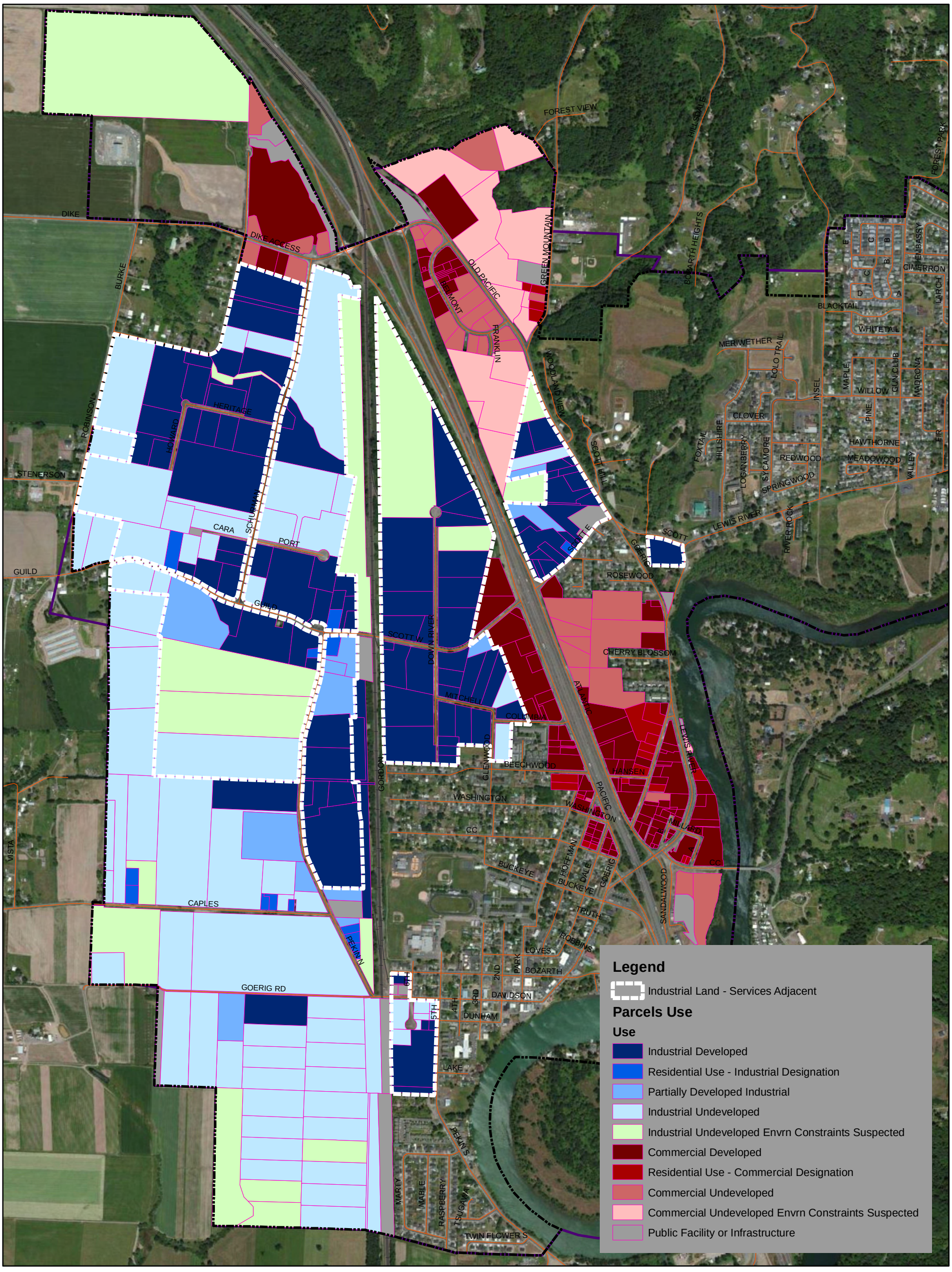
2012 Industrial and Highway Commercial Lands Inventory



Disclaimer: The City of Woodland, WA, assumes no legal liability or responsibility for accuracy and completeness of this map. This map is to be used as a reference tool only. It is not a survey and the property and lines are not to be construed as being accurate.

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Miles

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2012 Land Use Inventory Categorization

USE	DESIGNATION
I	Industrial Developed
UI	Industrial Undeveloped
UIX	Industrial Undeveloped Environmental Constraints Suspected
PDI	Partially Developed Industrial (30% or less building or use coverage)
IRES	Residential Use – Industrial Designation
C	Commercial Developed
UC	Commercial Undeveloped
UCX	Commercial Undeveloped Environmental Constraints Suspected
CRES	Residential Use – Commercial Designation
X	Public Facility or Infrastructure

I – (Industrial Developed) Parcels are developed (more than 30% building or use coverage) or are in the process of developing (i.e. Mac Chain). Land was considered "Industrial Developed" in cases where less than 30% building or use coverage when the remaining site appeared environmentally constrained such that further development is unlikely.

UI – (Industrial Undeveloped) Undeveloped industrial property that is primarily vacant or used for agriculture and/or residential purposes. Small properties, two acres or less in residential use were categorized as IRES or "Residential Use – Industrial Designation".

PDI – (Partially Developed Industrial) Industrial structures or uses cover 30% or less of the property and further development appears possible.

UIX – (Industrial Undeveloped Environmental Constraints Suspected) Industrial lands where development may be constrained to some degree by the presence of environmentally sensitive features. Information from the National Wetlands Inventory and aerial imagery were used to identify these parcels. Parcels that appeared only slightly impacted by a critical area or critical area buffer were not included in this designation (i.e. the Schnitzer/Liberty Evans LLC property).

IRES – (Residential Use – Industrial Designation) Industrially zoned property under 2 acres in size with a single family residence. Single family residences are allowed to continue and even expand under the current code. While larger lots are likely to transition to industrial uses, these smaller lots may remain residential.

C – (Commercial Developed) Parcels developed with commercial structures and/or uses

UC – (Commercial Undeveloped) Parcels with no existing commercial use.

UIC – (Undeveloped Commercial Environmental Constraints Suspected) Commercial lands where development may be constrained to some degree by the presence of environmentally sensitive features. Information from the National Wetlands Inventory and aerial imagery were used to identify these

parcels. Parcels that appeared only slightly impacted by a critical area or critical area buffer were not included in this designation.

CRES – (Residential Use - Commercial Designation) Commercially designated properties with non-commercial residential uses.

X – (Public Facility or Infrastructure) Designation includes uses such as PUD facilities, the future police station site, and the Community Service Center.

RECEIVED
JUN 14 2012
CITY OF WOODLAND
PLANNING DEPT

transpoGROUP
WHAT TRANSPORTATION CAN BE.

MEMORANDUM

Date:	June 12, 2012	**TG:**	12100.00
To:	Carolyn Johnson, Community Development Planner, City of Woodland		
CC:	Mark Fleischauer Skip Urling, Urban Planning Associates		
From:	Mike Swenson, PE, PTOE Scott Lee, PE		
Subject:	Liberty Evans Rezone – Traffic Analysis		

This memorandum summarizes the results of the traffic analysis conducted to evaluate the impacts associated with the rezone of the Liberty Evans parcel from light industrial to a commercial designation. The area of the proposed rezone is located on the southeast corner of the Dike Access Road / Schurman Way intersection in Woodland, WA (Attachment 1).

The scope of the analysis was coordinated in advance with City staff. Consistent with previous studies, the analysis focuses on the weekday PM peak hour. This memorandum includes a description of the following:

- Trip Generation
- Forecast Traffic Volumes
- Intersection Operations
- Long-Term Improvement Needs

Trip Generation

To evaluate the proposed rezone, trip generation estimates were prepared for both the existing (industrial land use) and proposed zoning (commercial zoning) of the site using trip rates identified in ITE Trip Generation, 8th Edition. The potential land uses and anticipated trip generation during the weekday PM peak hour for the existing and proposed zoning are shown in Table 1.

Table 1. Trip Generation Estimate – Weekday PM Peak Hour

			PM Peak-hour Trips[1]			
				Primary Trips		
	Size	Daily Weekday Trips	Pass-by Trips[2]	Total	In	Out
Existing Zoning[3]						
Office (LU 710)	9,000 sf	100	0	13	2	11
Light Industrial (LU 110)	40,500 sf	282	0	39	5	34
Warehouse (LU 150)	40,500 sf	144	0	13	3	10
Total		**526**	**0**	**65**	**10**	**55**
Proposed Zoning						
Commercial (LU 820)	75,000 sf	3,220	95	185	90	95

1. Trip rates and in/out split from Trip Generation (ITE, 8th Edition, 2008).
2. Pass-by rates based on Trip Generation Handbook (34%).
3. Land uses assumed under existing zoning are consistent with the Economic Needs Analysis Proposal for Woodland Property Commercial Rezone report (May 9, 2012).

As shown in Table 1, the proposed commercial zoning could result in 185 new weekday PM peak hour trips. Under the current zoning and the uses defined in Table 1, the property could generate

65 new weekday PM peak hour trips. The proposed change in zoning could add approximately 120 trips during the weekday PM peak hour.

Forecast Traffic Volumes

Existing traffic volumes used in the analysis were collected in May 2012 and are shown in Attachment 2. Consistent with previous studies in the area, future traffic volumes were estimated by applying a 3.5 percent annual growth rate to existing volumes and adding anticipated traffic from the proposed rezone as well as three planned developments: Wal-Mart out-lots, Chumbley Short Plat (lots 1, 2, and 4), and Woodland High School. A horizon year of 2025 was identified for this analysis. Attachment 3 shows 2025 forecast traffic volumes under the current zoning for the subject area.

Additional traffic associated with the proposed rezone was distributed to the adjacent roadway network based on the distribution shown in Attachment 4. This distribution is consistent with the study that was completed for the planned Chumbley Short Plat development opposite the proposed project. The assignment of weekday primary and pass-by trips is shown in Attachment 5. 2025 with-rezone traffic volumes are shown in Attachment 6.

Intersection Operations

To evaluate the impacts of the proposed rezone, traffic operations at the site driveway and four off-site intersections were analyzed based on standard procedures from the Highway Capacity Manual (HCM) using the software packages Synchro 8.0 for stop-controlled intersections and roundabouts. The results are shown in Table 2. Detailed level of service worksheets are shown in Attachment 7. For purposes of the analysis, the area was assumed to be accessed via a single driveway on Schurman Way.

Table 2. 2025 With and Without Rezone Levels of Service

	2025 With Existing Zoning			2025 With Proposed Zoning		
Intersection	**LOS[1]**	**Delay[2]**	**WM[3]**	**LOS**	**Delay**	**WM**
Dike Access Rd / Schurman Way	D	29.8	-	E	44.7	-
Dike Access Rd / I-5 SB Ramp	F	101.8	-	F	115.0	-
Dike Access Rd / I-5 NB Ramp	C	22.7	-	D	28.3	-
Schurman Way / Guild Rd	B	12.9	SB	B	12.9	SB
Schurman Way / Site Access	B	13.6	WB	C	18.7	WB

1. Level of service, based on 2000 Highway Capacity Manual methodology.
2. Average delay in seconds per vehicle.
3. Worst movement reported for unsignalized intersections,

As shown in Table 2, all study intersections operate at LOS D or better during 2025 conditions assuming the existing zoning, with the exception of Dike Access / I-5 SB Ramp, which operates at LOS F. This is due to the high volume of traffic at the eastbound approach. Under 2025 conditions with the proposed zoning, Dike Access / I-5 SB Ramp remains at LOS F. In addition, Dike Access Road / Schurman Way degrades to LOS E due to the high volume of traffic on the northbound approach. The proposed zoning adds approximately 150 trips at this intersection due to new and pass-by trips associated with the assumed commercial land use.

Long-Term Improvement Needs

The proposed rezone degrades the LOS at Dike Access Road / Schurman Way from LOS D to LOS E during the weekday PM peak hour. In addition, queuing along Dike Access Road would

impact intersection operations within the corridor. Based on a review of the intersection operations, the most appropriate improvement at Dike Access Rd / Schurman Way would include the addition of a northbound right-turn slip lane, which would improve the LOS to LOS B.

In addition, the Dike Access Rd/I-5 Southbound ramp intersection is projected to operate at LOS F with or without the proposed rezone. Adding an eastbound right-turn slip lane at the intersection would improve the LOS to LOS C. This improvement is consistent with long term capacity needs as identified in the Transportation Infrastructure Strategic Plan (November 2008).

Actual development plans could result in less than 6 acres of development. As development plans are finalized and further environmental review takes place, the analysis and key assumptions (i.e. background growth rates, development trip generation, pipeline development, etc.) should be evaluated and the scope of the improvements should be reviewed/confirmed at that time.

These improvements would improve intersection and corridor operations along Dike Access Road under future conditions. With these improvements the study area intersections would operate within City and WSDOT LOS Standards.

Site Vicinity

ATTACHMENT

1

Liberty Evans Rezone

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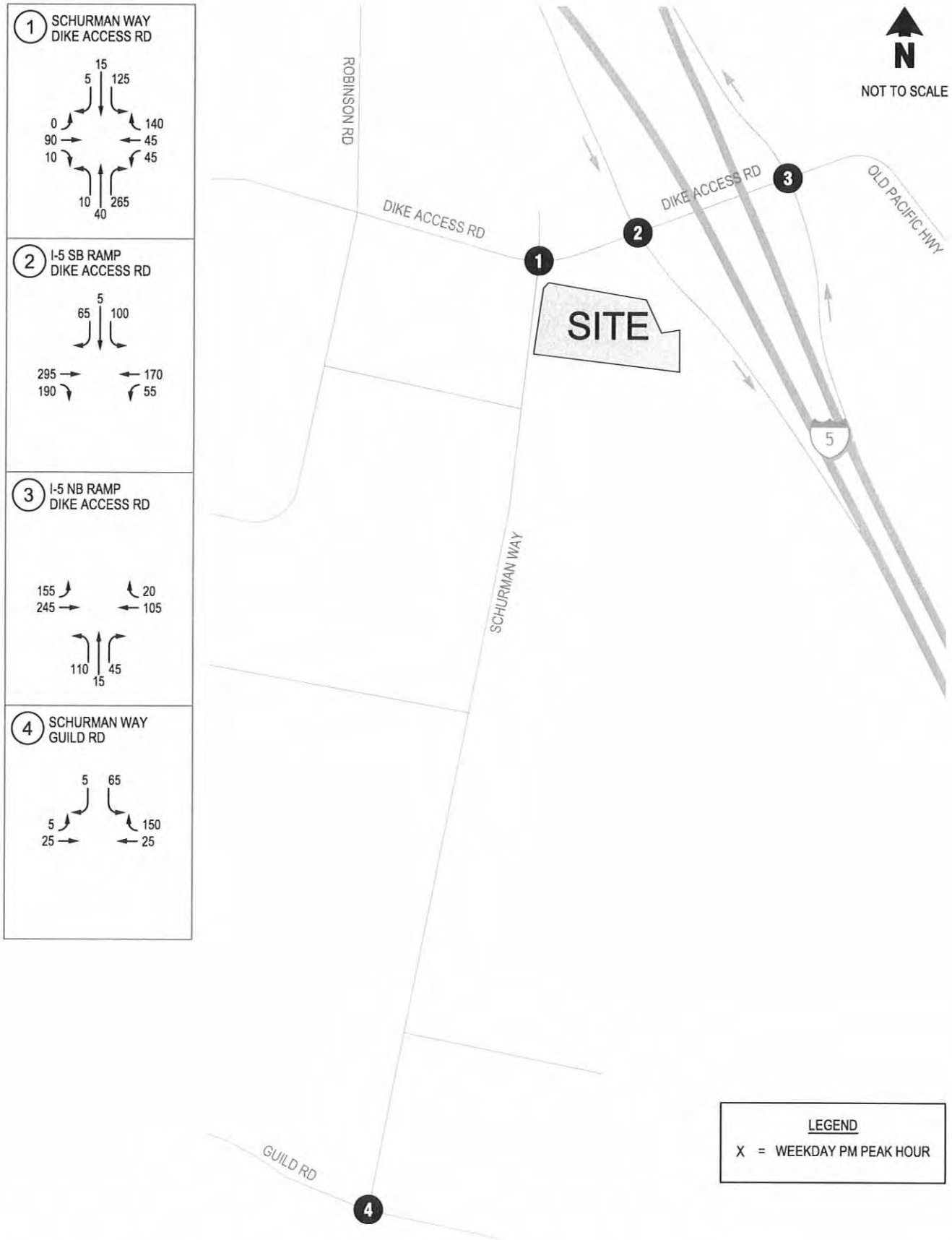
transpoGROUP



Existing Weekday PM Peak Hour Traffic Volumes

ATTACHMENT 2

Liberty Evans Rezone

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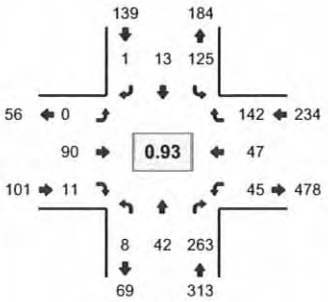
Type of peak hour being reported: Intersection Peak

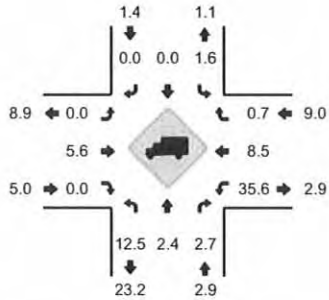
Method for determining peak hour: Total Entering Volume

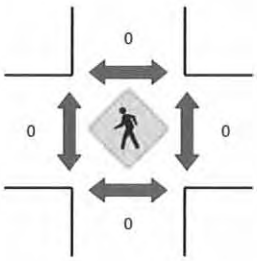
LOCATION: Schurman Way -- Dike Access Rd
CITY/STATE: Woodland, WA

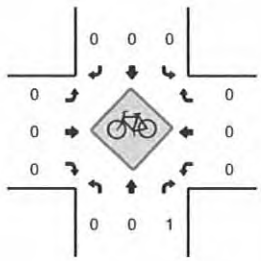
QC JOB #: 10761701
DATE: Wed, May 16 2012

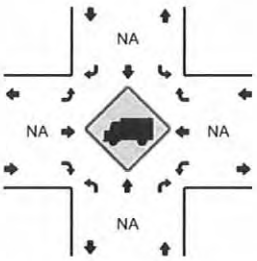
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

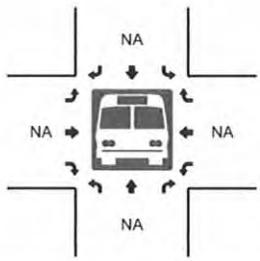












15-Min Count Period Beginning At	Schurman Way (Northbound)				Schurman Way (Southbound)				Dike Access Rd (Eastbound)				Dike Access Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	12	48	0	29	4	0	0	0	21	2	0	9	8	26	0	159	
4:15 PM	1	9	48	0	31	4	0	0	0	24	4	0	11	11	32	0	175	
4:30 PM	0	14	81	0	28	4	0	0	0	24	1	0	17	12	30	0	211	
4:45 PM	3	7	53	0	25	3	1	0	0	22	2	0	12	17	36	0	181	726
5:00 PM	3	7	82	0	31	2	0	0	0	21	4	0	10	7	45	0	212	779
5:15 PM	2	14	47	0	41	4	0	0	0	23	4	0	6	11	31	0	183	787
5:30 PM	1	7	29	0	30	3	0	0	0	26	1	0	10	6	25	0	138	714
5:45 PM	0	10	13	0	31	2	0	0	0	16	2	0	5	9	29	0	117	650

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	12	28	328	0	124	8	0	0	0	84	16	0	40	28	180	0	848
Heavy Trucks	0	0	8		0	0	0		0	8	0		12	0	0		28
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments: Roundabout

Report generated on 5/23/2012 8:26 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

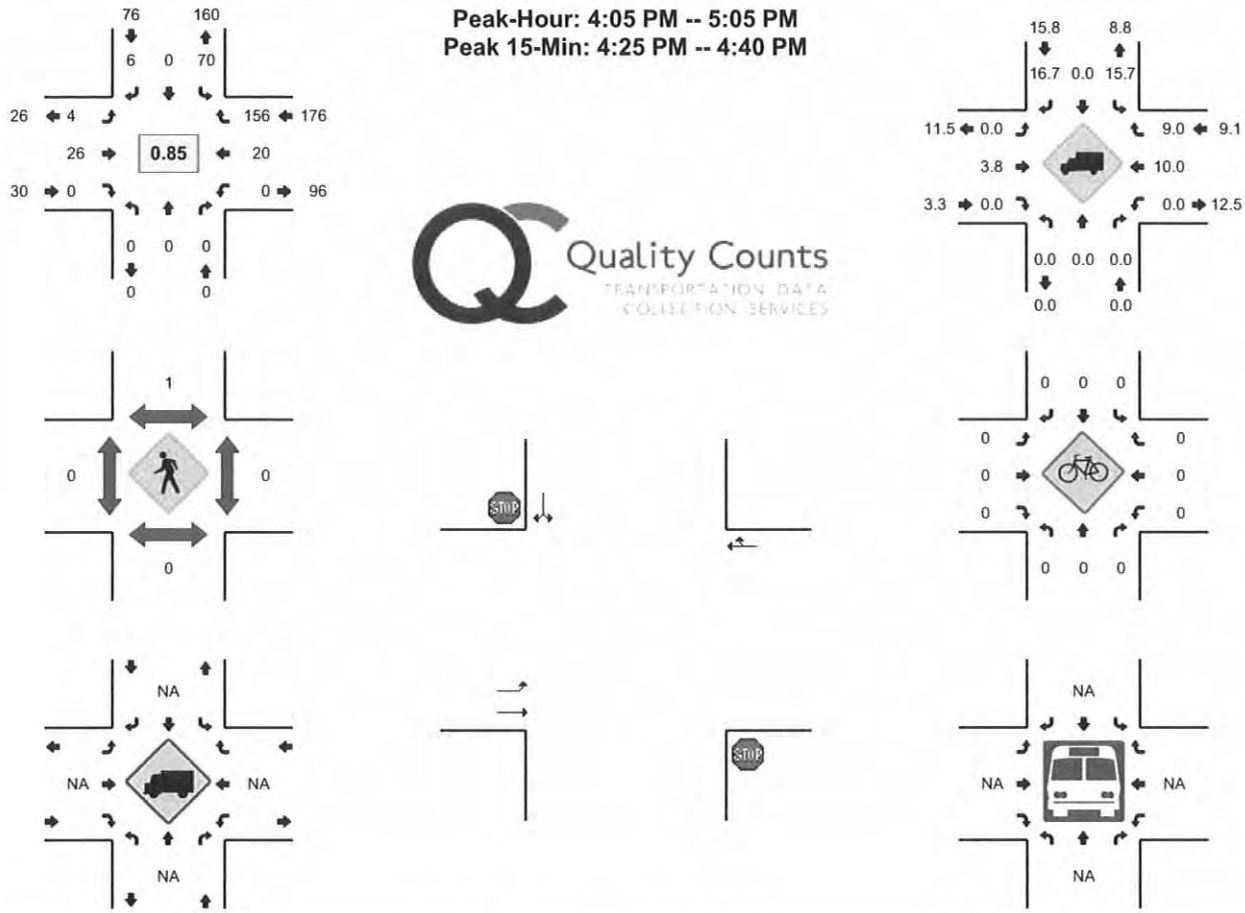
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Schurman Way -- Guild Rd
CITY/STATE: Woodland , WA

QC JOB #: 10770801
DATE: Wed, May 30 2012

Peak-Hour: 4:05 PM -- 5:05 PM
Peak 15-Min: 4:25 PM -- 4:40 PM



5-Min Count Period Beginning At	Schurman Way (Northbound)				Schurman Way (Southbound)				Guild Rd (Eastbound)				Guild Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	7	0	0	0	0	1	0	0	0	3	8	0	19	
4:05 PM	0	0	0	0	6	0	0	0	1	3	0	0	0	1	13	0	24	
4:10 PM	0	0	0	0	6	0	1	0	1	1	0	0	0	0	12	0	21	
4:15 PM	0	0	0	0	6	0	1	0	0	3	0	0	0	1	14	0	25	
4:20 PM	0	0	0	0	4	0	1	0	0	3	0	0	0	0	11	0	19	
4:25 PM	0	0	0	0	6	0	1	0	0	1	0	0	0	2	14	0	24	
4:30 PM	0	0	0	0	9	0	0	0	0	3	0	0	0	1	15	0	28	
4:35 PM	0	0	0	0	9	0	0	0	0	3	0	0	0	6	13	0	31	
4:40 PM	0	0	0	0	6	0	0	0	1	0	0	0	0	3	12	0	22	
4:45 PM	0	0	0	0	5	0	0	0	0	3	0	0	0	3	15	0	26	
4:50 PM	0	0	0	0	5	0	0	0	1	1	0	0	0	1	8	0	16	
4:55 PM	0	0	0	0	2	0	2	0	0	1	0	0	0	2	11	0	18	273
5:00 PM	0	0	0	0	6	0	0	0	0	4	0	0	0	0	18	0	28	282
5:05 PM	0	0	0	0	5	0	0	0	1	2	0	0	0	0	10	0	18	276
5:10 PM	0	0	0	0	3	0	1	0	1	0	0	0	0	4	11	0	20	275
5:15 PM	0	0	0	0	9	0	0	0	1	1	0	0	0	0	7	0	18	268
5:20 PM	0	0	0	0	5	0	1	0	0	2	0	0	0	1	11	0	20	269
5:25 PM	0	0	0	0	3	0	0	0	2	5	0	0	0	1	4	0	15	260
5:30 PM	0	0	0	0	6	0	1	0	0	3	0	0	0	2	4	0	16	248
5:35 PM	0	0	0	0	4	0	2	0	3	2	0	0	0	0	7	0	18	235
5:40 PM	0	0	0	0	6	0	0	0	1	3	0	0	0	4	2	0	16	229
5:45 PM	0	0	0	0	7	0	1	0	0	1	0	0	0	5	9	0	23	226
5:50 PM	0	0	0	0	6	0	0	0	0	2	0	0	0	1	4	0	13	223
5:55 PM	0	0	0	0	2	0	0	0	0	1	0	0	0	2	3	0	8	213

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	96	0	4	0	0	28	0	0	0	36	168	0	332
Heavy Trucks	0	0	0		28	0	0		0	4	0		0	0	12		44
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 5/31/2012 4:18 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

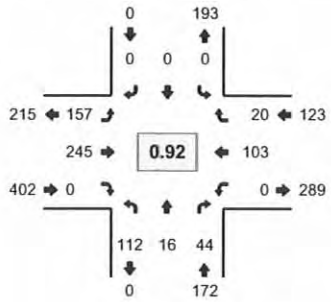
Type of peak hour being reported: Intersection Peak

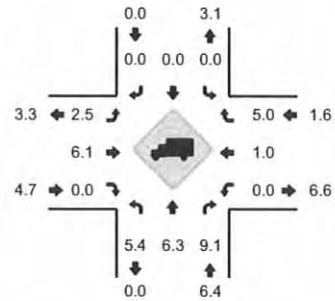
Method for determining peak hour: Total Entering Volume

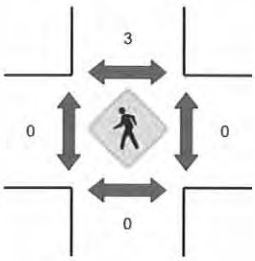
LOCATION: I-5 NB Ramps -- Dike Access Rd
CITY/STATE: Woodland, WA

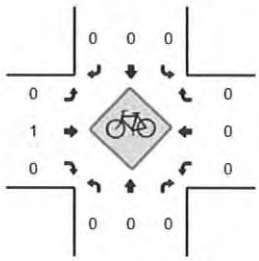
QC JOB #: 10761703
DATE: Wed, May 16 2012

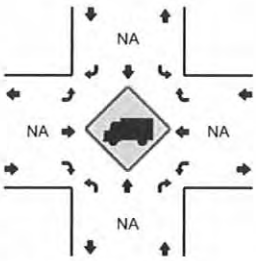
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

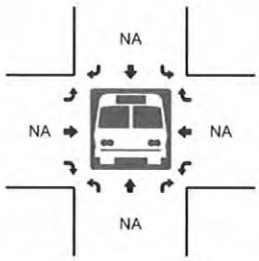












15-Min Count Period Beginning At	I-5 NB Ramps (Northbound)				I-5 NB Ramps (Southbound)				Dike Access Rd (Eastbound)				Dike Access Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	22	0	12	0	0	0	0	0	30	59	0	0	0	20	7	0	150	
4:15 PM	28	6	19	0	0	0	0	0	34	45	0	0	0	23	6	0	161	
4:30 PM	29	2	6	0	0	0	0	0	50	55	0	0	0	36	4	0	182	
4:45 PM	27	6	6	0	0	0	0	0	32	43	0	0	0	21	3	0	138	631
5:00 PM	30	3	11	0	0	0	0	0	46	72	0	0	0	24	4	0	190	671
5:15 PM	26	5	21	0	0	0	0	0	29	75	0	0	0	22	9	0	187	697
5:30 PM	14	0	13	0	0	0	0	0	20	50	0	0	0	24	15	0	136	651
5:45 PM	19	3	11	0	0	0	0	0	20	50	0	0	0	25	8	0	136	649

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	120	12	44	0	0	0	0	0	184	288	0	0	0	96	16	0	760
Heavy Trucks	0	0	0		0	0	0		8	12	0		0	0	0		20
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments: Roundabout

Report generated on 5/23/2012 8:26 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

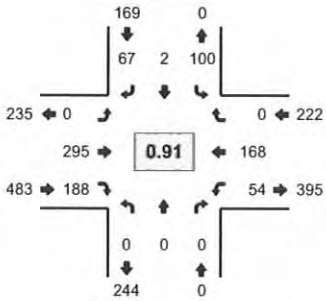
Type of peak hour being reported: Intersection Peak

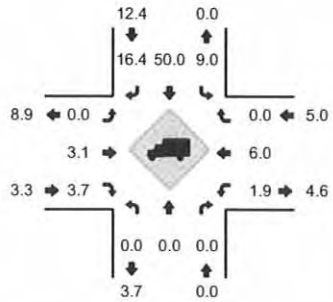
Method for determining peak hour: Total Entering Volume

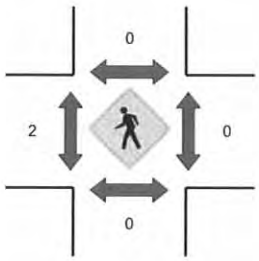
LOCATION: I-5 SB Ramps -- Dike Access Rd
CITY/STATE: Woodland, WA

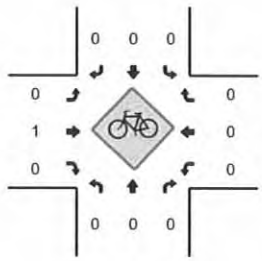
QC JOB #: 10761702
DATE: Wed, May 16 2012

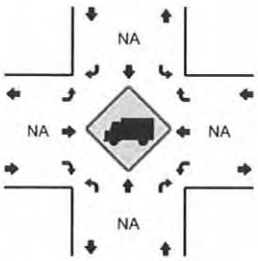
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

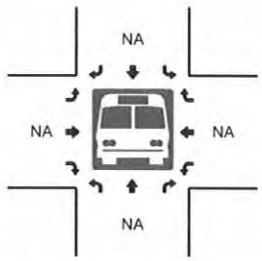












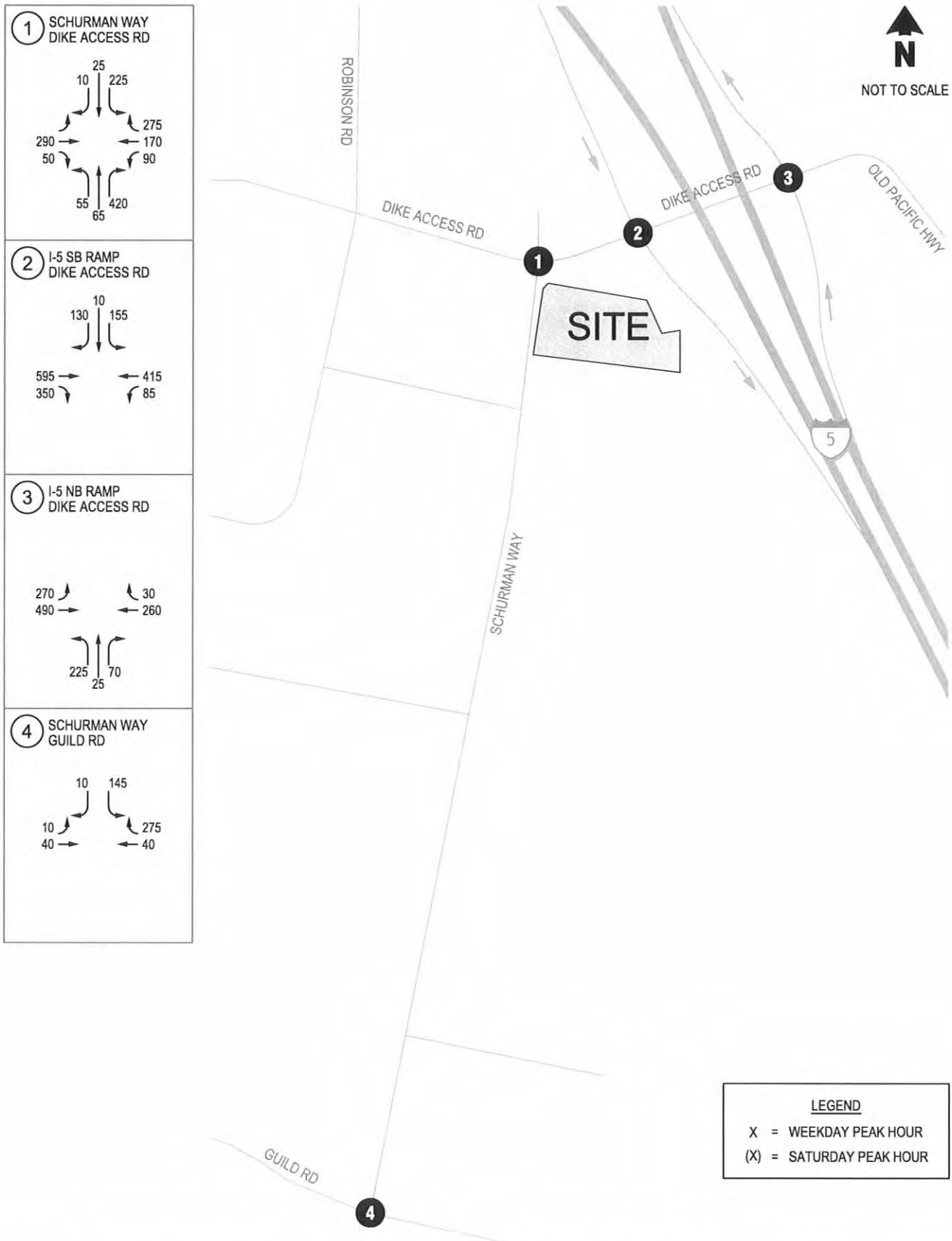
15-Min Count Period Beginning At	I-5 SB Ramps (Northbound)				I-5 SB Ramps (Southbound)				Dike Access Rd (Eastbound)				Dike Access Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	19	0	14	0	0	69	34	0	9	32	0	0	177	
4:15 PM	0	0	0	0	26	0	18	0	0	55	48	0	9	37	0	0	193	
4:30 PM	0	0	0	0	20	1	15	0	0	86	52	0	17	49	0	0	240	
4:45 PM	0	0	0	0	14	1	17	0	0	64	37	0	10	47	0	0	190	800
5:00 PM	0	0	0	0	27	0	20	0	0	79	55	0	14	41	0	0	236	859
5:15 PM	0	0	0	0	39	0	15	0	0	66	44	0	13	31	0	0	208	874
5:30 PM	0	0	0	0	21	0	12	0	0	50	33	0	10	26	0	0	152	786
5:45 PM	0	0	0	0	28	1	8	0	0	45	17	0	8	30	0	0	137	733

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	80	4	60	0	0	344	208	0	68	196	0	0	960
Heavy Trucks	0	0	0		12	4	20		0	12	12		4	28	0		92
Pedestrians		0				0				8				0			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments: Roundabout

Report generated on 5/23/2012 8:26 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212



2025 Baseline Weekday PM Peak Hour Traffic Volumes

ATTACHMENT 3

Liberty Evans Rezone

transpoGROUP

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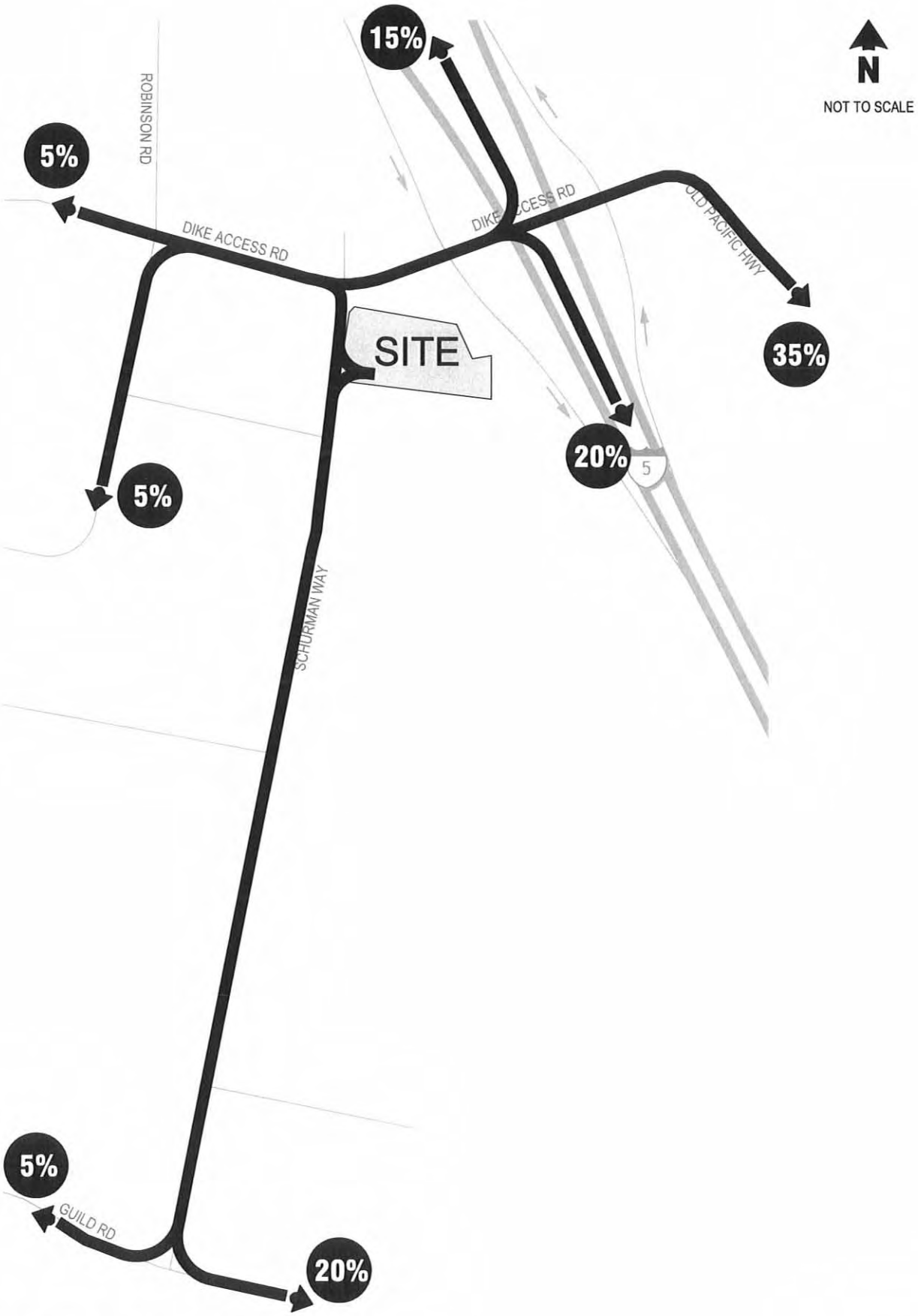

Project Trip Distribution

ATTACHMENT

4

Liberty Evans Rezone

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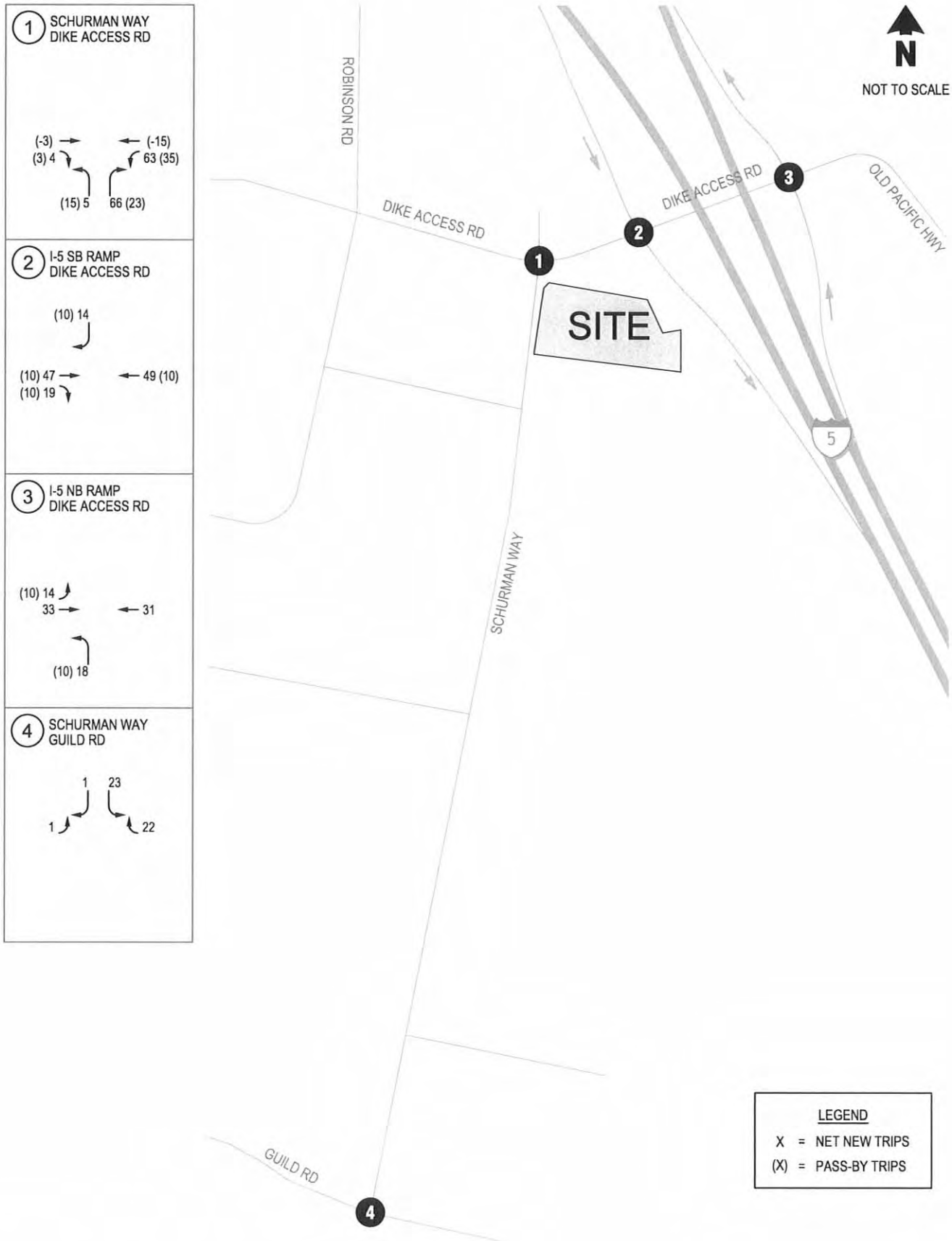
transpoGROUP



Project Trip Assignment

ATTACHMENT 5

Liberty Evans Rezone

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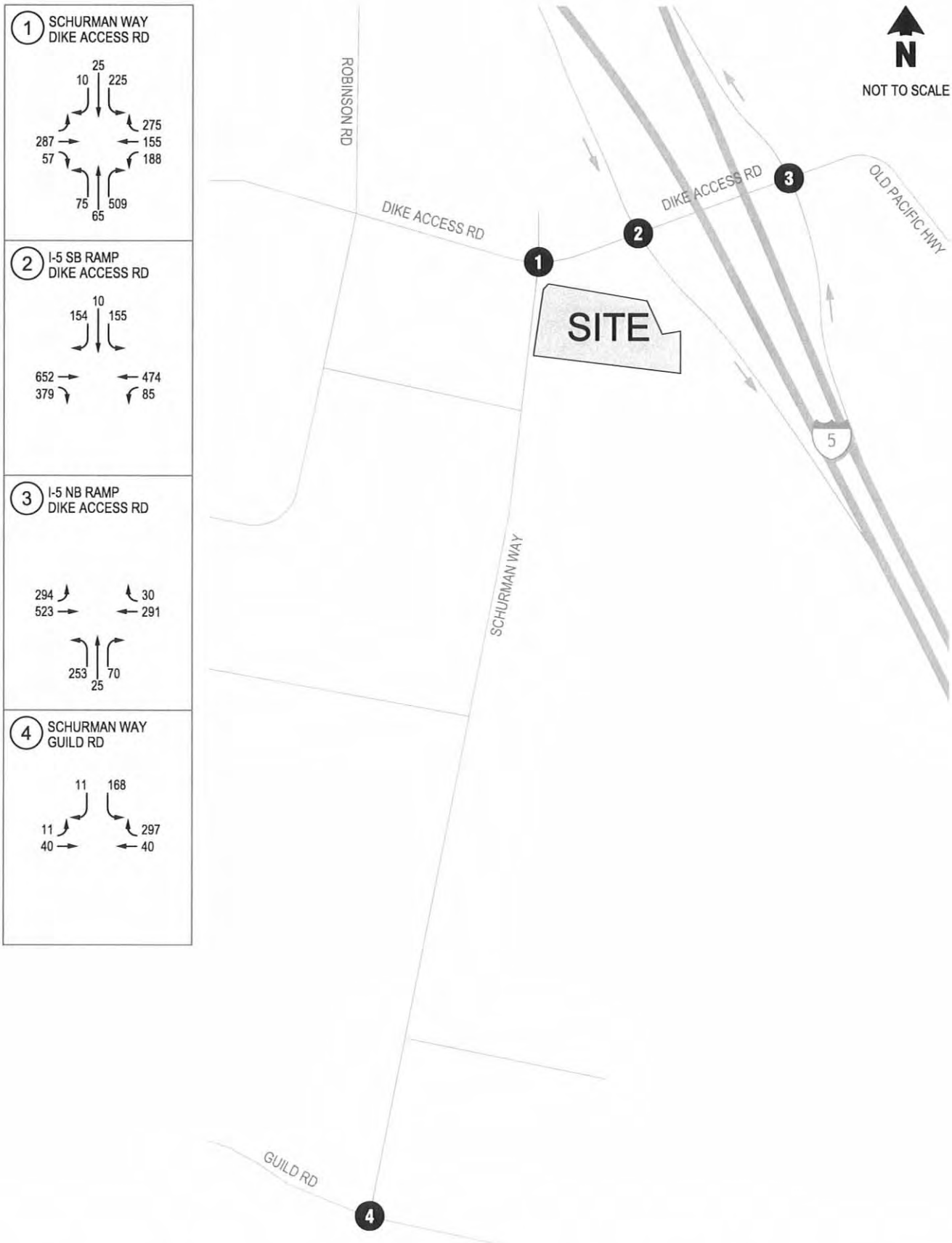
transpoGROUP



2025 With-Project Weekday PM Peak Hour Traffic Volumes

ATTACHMENT 6

Liberty Evans Rezone

transpoGROUP

M:\12\12100.00 - Liberty Evans Rezone\Graphics\12100_graphic01 <F> scottl 06/14/12 08:22

HCM Unsignalized Intersection Capacity Analysis
2: Dike Access Rd & Schuman Way

6/6/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Right Turn Channelized												
Volume (veh/h)	0	287	57	188	155	275	75	65	509	225	25	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	309	61	202	167	296	81	70	547	242	27	11
Approach Volume (veh/h)		370			665			698			280	
Crossing Volume (veh/h)		471			151			551			449	
High Capacity (veh/h)		955			1231			896			972	
High v/c (veh/h)		0.39			0.54			0.78			0.29	
Low Capacity (veh/h)		774			1022			722			789	
Low v/c (veh/h)		0.48			0.65			0.97			0.35	

Intersection Summary			
Maximum v/c High	0.78		
Maximum v/c Low	0.97		
Intersection Capacity Utilization	120.6%	ICU Level of Service	H

Intersection	
Intersection Delay (sec/veh)	44.7
Intersection LOS	E

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	370	665	698	280
Demand Flow Rate (pc/h)	388	725	718	282
Vehicles Circulating (pc/h)	491	155	568	485
Vehicles Exiting (pc/h)	276	1131	311	395
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	15.0	18.8	98.6	10.8
Approach LOS	C	C	F	B

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	388	725	718	282
Capacity, Entry Lane (pc/h)	692	968	640	696
Entry HV Adjustment Factor	0.953	0.917	0.972	0.992
Flow Rate, Entry (vph)	370	665	698	280
Capacity, Entry (vph)	659	888	622	690
Volume to Capacity Ratio	0.561	0.749	1.121	0.405
Control Delay (sec/veh)	15.0	18.8	98.6	10.8
Level of Service	C	C	F	B
95th-Percentile Queue (veh)	3	7	22	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Right Turn Channelized												
Volume (veh/h)	0	652	379	85	474	0	0	0	0	155	10	154
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	716	416	93	521	0	0	0	0	170	11	169
Approach Volume (veh/h)		1133			614			0			351	
Crossing Volume (veh/h)		275			0			887			614	
High Capacity (veh/h)		1116			1385			683			852	
High v/c (veh/h)		1.01			0.44			0.00			0.41	
Low Capacity (veh/h)		918			1161			535			682	
Low v/c (veh/h)		1.23			0.53			0.00			0.51	

Intersection Summary			
Maximum v/c High	1.01		
Maximum v/c Low	1.23		
Intersection Capacity Utilization	115.6%	ICU Level of Service	H

Intersection	
Intersection Delay (sec/veh)	115.0
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	1	1	0	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	1132	614	0	350
Demand Flow Rate (pc/h)	1165	645	0	391
Vehicles Circulating (pc/h)	300	0	927	645
Vehicles Exiting (pc/h)	736	927	538	0
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	200.2	10.6	0.0	22.3
Approach LOS	F	B	-	C

Lane	Left	Left	Left
Designated moves	TR	LT	LTR
Assumed Moves	TR	LT	LTR
Right Turn Channelized			
Lane Utilization	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193
Entry Flow Rate (pc/h)	1165	645	391
Capacity, Entry Lane (pc/h)	837	1130	593
Entry HV Adjustment Factor	0.971	0.952	0.894
Flow Rate, Entry (vph)	1132	614	350
Capacity, Entry (vph)	813	1076	530
Volume to Capacity Ratio	1.392	0.571	0.660
Control Delay (sec/veh)	200.2	10.6	22.3
Level of Service	F	B	C
95th-Percentile Queue (veh)	49	4	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Right Turn Channelized												
Volume (veh/h)	294	523	0	0	291	30	253	25	70	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	320	568	0	0	316	33	275	27	76	0	0	0
Approach Volume (veh/h)		888			349			378			0	
Crossing Volume (veh/h)		0			622			888			591	
High Capacity (veh/h)		1385			847			682			868	
High v/c (veh/h)		0.64			0.41			0.55			0.00	
Low Capacity (veh/h)		1161			678			534			696	
Low v/c (veh/h)		0.76			0.51			0.71			0.00	

Intersection Summary			
Maximum v/c High	0.64		
Maximum v/c Low	0.76		
Intersection Capacity Utilization	90.5%	ICU Level of Service	E

Intersection	
Intersection Delay (sec/veh)	28.3
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	0
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	888	349	378	0
Demand Flow Rate (pc/h)	932	356	402	0
Vehicles Circulating (pc/h)	0	657	932	614
Vehicles Exiting (pc/h)	614	677	0	399
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	20.9	18.6	54.4	0.0
Approach LOS	C	C	F	-

Lane	Left	Left	Left
Designated moves	LT	TR	LTR
Assumed Moves	LT	TR	LTR
Right Turn Channelized			
Lane Utilization	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193
Entry Flow Rate (pc/h)	932	356	402
Capacity, Entry Lane (pc/h)	1130	586	445
Entry HV Adjustment Factor	0.952	0.979	0.941
Flow Rate, Entry (vph)	888	349	378
Capacity, Entry (vph)	1076	574	419
Volume to Capacity Ratio	0.825	0.608	0.904
Control Delay (sec/veh)	20.9	18.6	54.4
Level of Service	C	C	F
95th-Percentile Queue (veh)	10	4	10

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	11	40	40	297	168	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	13	47	47	349	198	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	396				295	222
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	396				295	222
tC, single (s)	4.1				6.6	6.4
tC, 2 stage (s)						
tF (s)	2.2				3.7	3.5
p0 queue free %	99				70	98
cM capacity (veh/h)	1151				658	782

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	13	47	396	211
Volume Left	13	0	0	198
Volume Right	0	0	349	13
cSH	1151	1700	1700	665
Volume to Capacity	0.01	0.03	0.23	0.32
Queue Length 95th (ft)	1	0	0	34
Control Delay (s)	8.2	0.0	0.0	12.9
Lane LOS	A			B
Approach Delay (s)	1.8		0.0	12.9
Approach LOS				B

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	26	117	533	30	107	163
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	28	127	579	33	116	177
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1005	596			612	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1005	596			612	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	75			88	
cM capacity (veh/h)	235	504			967	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	155	612	293
Volume Left	28	0	116
Volume Right	127	33	0
cSH	417	1700	967
Volume to Capacity	0.37	0.36	0.12
Queue Length 95th (ft)	42	0	10
Control Delay (s)	18.7	0.0	4.4
Lane LOS	C		A
Approach Delay (s)	18.7	0.0	4.4
Approach LOS	C		

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
2: Schurman Way/Schuman Way & Dike Access Rd

6/6/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Right Turn Channelized												
Volume (veh/h)	0	290	50	97	170	275	58	65	458	225	25	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	312	54	104	183	296	62	70	492	242	27	11
Approach Volume (veh/h)		366			583			625			280	
Crossing Volume (veh/h)		373			132			554			349	
High Capacity (veh/h)		1033			1249			894			1052	
High v/c (veh/h)		0.35			0.47			0.70			0.27	
Low Capacity (veh/h)		843			1038			720			860	
Low v/c (veh/h)		0.43			0.56			0.87			0.32	

Intersection Summary			
Maximum v/c High	0.70		
Maximum v/c Low	0.87		
Intersection Capacity Utilization	112.0%	ICU Level of Service	H

Intersection	
Intersection Delay (sec/veh)	29.8
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	366	583	624	280
Demand Flow Rate (pc/h)	385	635	643	282
Vehicles Circulating (pc/h)	384	136	572	376
Vehicles Exiting (pc/h)	274	1079	197	395
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	12.2	14.1	64.1	9.1
Approach LOS	B	B	F	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	385	635	643	282
Capacity, Entry Lane (pc/h)	770	986	638	776
Entry HV Adjustment Factor	0.952	0.917	0.970	0.992
Flow Rate, Entry (vph)	366	583	624	280
Capacity, Entry (vph)	732	905	619	770
Volume to Capacity Ratio	0.500	0.644	1.008	0.363
Control Delay (sec/veh)	12.2	14.1	64.1	9.1
Level of Service	B	B	F	A
95th-Percentile Queue (veh)	3	5	16	2

HCM Unsignalized Intersection Capacity Analysis
3: I-5 SB Ramp & Dike Access Rd

6/6/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Right Turn Channelized												
Volume (veh/h)	0	622	361	85	419	0	0	0	0	155	10	131
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	684	397	93	460	0	0	0	0	170	11	144
Approach Volume (veh/h)		1080			554			0			325	
Crossing Volume (veh/h)		275			0			854			554	
High Capacity (veh/h)		1116			1385			702			894	
High v/c (veh/h)		0.97			0.40			0.00			0.36	
Low Capacity (veh/h)		918			1161			551			720	
Low v/c (veh/h)		1.18			0.48			0.00			0.45	

Intersection Summary			
Maximum v/c High	0.97		
Maximum v/c Low	1.18		
Intersection Capacity Utilization	108.6%	ICU Level of Service	G

Intersection	
Intersection Delay (sec/veh)	101.8
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	1	1	0	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	1081	553	0	325
Demand Flow Rate (pc/h)	1114	581	0	363
Vehicles Circulating (pc/h)	300	0	895	581
Vehicles Exiting (pc/h)	644	895	519	0
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	174.4	9.4	0.0	17.5
Approach LOS	F	A	-	C

Lane	Left	Left	Left
Designated moves	TR	LT	LTR
Assumed Moves	TR	LT	LTR
Right Turn Channelized			
Lane Utilization	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193
Entry Flow Rate (pc/h)	1114	581	363
Capacity, Entry Lane (pc/h)	837	1130	632
Entry HV Adjustment Factor	0.971	0.952	0.895
Flow Rate, Entry (vph)	1081	553	325
Capacity, Entry (vph)	813	1075	565
Volume to Capacity Ratio	1.331	0.514	0.574
Control Delay (sec/veh)	174.4	9.4	17.5
Level of Service	F	A	C
95th-Percentile Queue (veh)	43	3	4

HCM Unsignalized Intersection Capacity Analysis
4: Dike Access Rd & I-5 NB Ramp

6/6/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Right Turn Channelized												
Volume (veh/h)	278	509	0	0	264	30	227	25	70	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	302	553	0	0	287	33	247	27	76	0	0	0
Approach Volume (veh/h)		855			320			350			0	
Crossing Volume (veh/h)		0			576			855			534	
High Capacity (veh/h)		1385			878			701			909	
High v/c (veh/h)		0.62			0.36			0.50			0.00	
Low Capacity (veh/h)		1161			706			550			732	
Low v/c (veh/h)		0.74			0.45			0.64			0.00	

Intersection Summary			
Maximum v/c High	0.62		
Maximum v/c Low	0.74		
Intersection Capacity Utilization	86.0%	ICU Level of Service	E

Intersection	
Intersection Delay (sec/veh)	22.7
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	0
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	855	320	350	0
Demand Flow Rate (pc/h)	898	327	372	0
Vehicles Circulating (pc/h)	0	608	898	555
Vehicles Exiting (pc/h)	555	662	0	380
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	18.8	15.2	39.1	0.0
Approach LOS	C	C	E	-

Lane	Left	Left	Left
Designated moves	LT	TR	LTR
Assumed Moves	LT	TR	LTR
Right Turn Channelized			
Lane Utilization	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193
Entry Flow Rate (pc/h)	898	327	372
Capacity, Entry Lane (pc/h)	1130	615	460
Entry HV Adjustment Factor	0.952	0.979	0.942
Flow Rate, Entry (vph)	855	320	350
Capacity, Entry (vph)	1076	602	434
Volume to Capacity Ratio	0.795	0.532	0.808
Control Delay (sec/veh)	18.8	15.2	39.1
Level of Service	C	C	E
95th-Percentile Queue (veh)	9	3	7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	40	238	40	113	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	12	47	280	47	133	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	327				374	304
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	327				374	304
tC, single (s)	4.1				6.6	6.4
tC, 2 stage (s)						
tF (s)	2.2				3.7	3.5
p0 queue free %	99				78	98
cM capacity (veh/h)	1221				593	702

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	12	47	327	146
Volume Left	12	0	0	133
Volume Right	0	0	47	13
cSH	1221	1700	1700	601
Volume to Capacity	0.01	0.03	0.19	0.24
Queue Length 95th (ft)	1	0	0	24
Control Delay (s)	8.0	0.0	0.0	12.9
Lane LOS	A			B
Approach Delay (s)	1.6		0.0	12.9
Approach LOS				B

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	28.6%	ICU Level of Service	A
Analysis Period (min)	15		

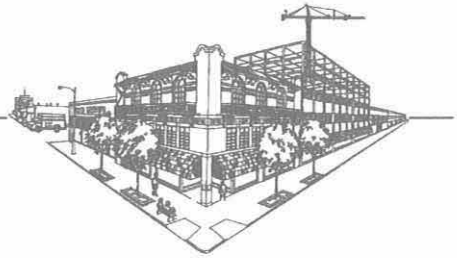
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	14	41	520	3	7	140
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	45	565	3	8	152
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	734	567			568	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	734	567			568	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	91			99	
cM capacity (veh/h)	384	523			1004	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	60	568	160
Volume Left	15	0	8
Volume Right	45	3	0
cSH	479	1700	1004
Volume to Capacity	0.12	0.33	0.01
Queue Length 95th (ft)	11	0	1
Control Delay (s)	13.6	0.0	0.5
Lane LOS	B		A
Approach Delay (s)	13.6	0.0	0.5
Approach LOS	B		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	37.6%	ICU Level of Service	A
Analysis Period (min)	15		

E. D. Hovee & Company, LLC

Economic and Development Services



MEMORANDUM

To:	Mr. Mark Fleischaeur Liberty Evans LLC
From:	Eric Hovee & Andrea Logue
Subject:	Economic Needs Analysis Proposal for Woodland Property Commercial Rezone
Date:	May 14, 2012

At the request of Liberty Evans LLC, E. D. Hovee & Company, LLC has prepared this economic needs analysis for a proposal to redesignate approximately 3.4 acres owned by Liberty Evans as part of an approximately 6-acre site in Woodland from Light Industrial (I-1) to Highway Commercial (C-2) use in the city's Comprehensive Plan and zoning map. Topics covered by this assessment are:

- Summary background of the proposal and site location.
- Commercial land needs analysis – including review of suitability of the subject site and existing commercial lands inventory.
- Industrial land needs analysis – based on comprehensive plan evaluation of industrial land needs versus supply and associated market trends.
- Economic benefits of proposed redesignation – including added employment and sales/ property tax revenues to the City of Woodland.
- Summary conclusions – regarding economic need in support of the rezone as proposed.

Information for this assessment is drawn from a review of the City of Woodland Comprehensive Plan and market information regarding commercial and industrial demand experienced in the Woodland area, including similar prior analysis conducted by our firm.[1] Comparative employment and tax benefits are calculated based on typical patterns of industrial and commercial development that might be anticipated for the subject site.[2]

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JUN 14 2012
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PLANNING DEPT

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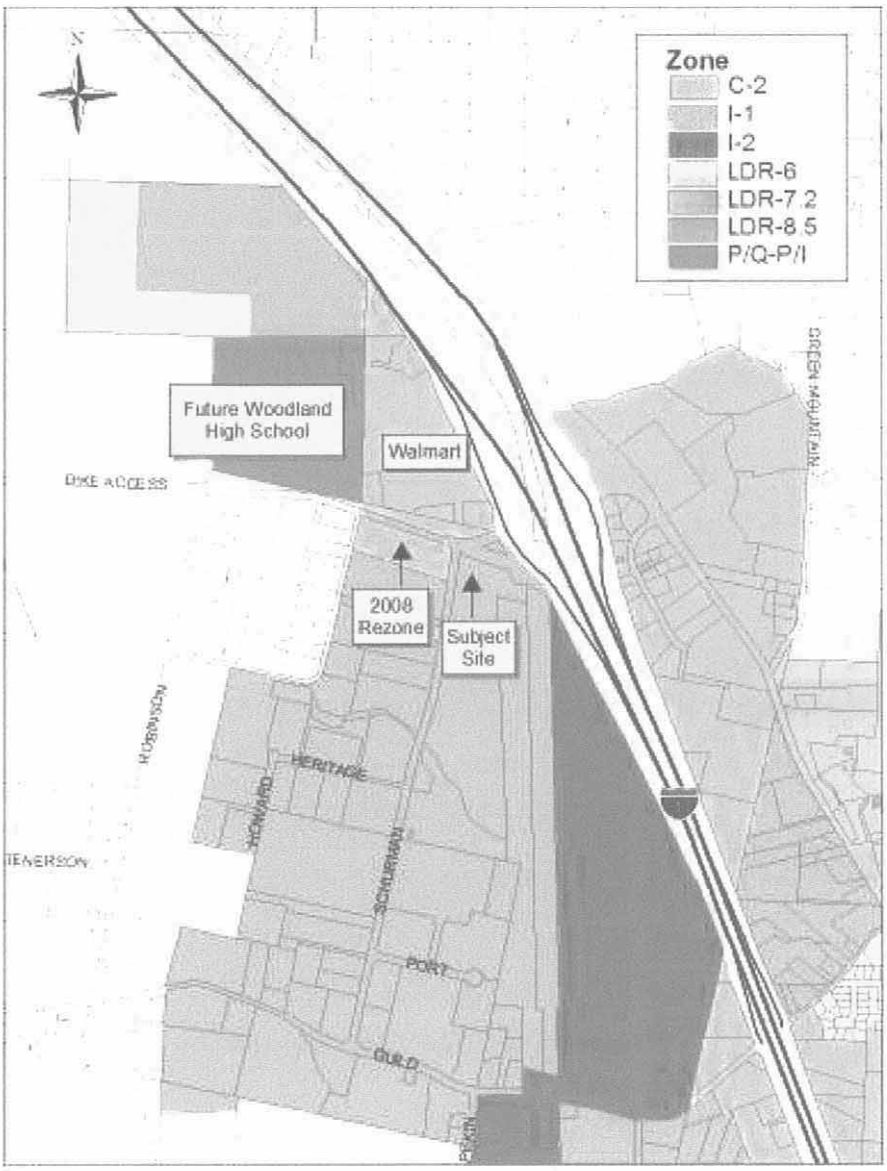
PROJECT BACKGROUND

The approximately 6-acre subject site is located in the City of Woodland at the southeast corner of Dike Access Road and Shurman Way. The property is directly accessed from Interstate 5 via the Dike Access Road interchange (Exit 22).

Figure 1. Map of Subject Site & Vicinity



Source: Cowlitz-Wahkiakum Council of Governments GIS (2004-06) and amended by E. D. Hovee & Company, LLC.

While the subject site has some topographical and potential easement issues (as with a natural gas line, lift station and substation), these are anticipated to be resolved in a manner that will allow development to proceed. Taken together, the property's direct freeway accessibility

coupled with adjacency to other commercial uses will further strengthen this commercial node for the City of Woodland.

Vicinity Area Uses. Consistent with its location adjacent to an Interstate 5 freeway interchange, development of property on Dike Access Road at Exit 22 has become focused in recent years on commercial use. Immediately across Dike Access Road to the north of the subject site is a 157,000-square-foot Walmart store, which opened in 2010. In 2008, just under 6 acres (owned by the Brothers Chumbley, LLC) on the south side of Dike Access Road and west of Shurman was redesignated by the City of Woodland from industrial to commercial use.

Other nearby uses located further from the interchange include light industrial property to the south, residential to the west, and vacant land to the east. Also noted is that the Woodland School District has acquired property for construction of a school northwest of the subject property, and a bond measure to finance the new school was approved by voters in April 2012.

Criteria for Land Use Redesignation. Criteria that have been applied previously by the City of Woodland in considering comprehensive plan and zoning redesignations from industrial to commercial have included demonstration that:[3]

- Redesignation would be consistent with a goal of Woodland's Comprehensive Plan to use "the advantage of freeway visibility to establish the city as a traveler/tourist service center."
- Additional land in the city could be required to meet 20-year growth needs through the year 2025 (five years beyond the time horizon of the 2002-prepared *Woodland Urban Growth Management Program*).
- Rezoning would not create a nuisance or interfere with neighboring existing uses.

As with the other commercial and institutional uses adjoining the subject Liberty Evans LLC site, this proposed redesignation appears consistent with, and should reinforce, the ability for land in the vicinity of the Exit 22 interchange to effectively address these criteria. The remainder of this analysis provides an evaluation of needs for added commercial land in Woodland – both generally and for the subject site in particular. This is followed by review of relative need to maintain the Liberty Evans LLC property in its current industrial designation, and then discussion of economic benefits to Woodland in terms of employment and tax revenues.

COMMERCIAL LAND NEEDS

The first question addressed by this economic needs analysis is whether there is a demonstrated need for *additional suitably zoned and located commercial land* in Woodland. This determination of commercial land needs potentially met by rezoning of the subject Liberty Evans LLC property involves assessment of:

- Overall commercial land inventory versus projected demand (or acreage needs).
- Suitability of Woodland's existing commercial inventory (compared to the subject site).

Commercial Acreage Need versus Supply. Commercial and industrial land needs for the City of Woodland were thoroughly evaluated in 2002 as part of the *Woodland Urban Growth Management Program (WUGMP).* This analysis identified an inventory of 182 acres of commercially designated property within the Woodland Urban Growth Area (UGA).

Projected commercial land need to 2020 was estimated at 262 acres (based on a commercial land to population forecast methodology). Realization of this demand would mean that the available commercial land supply would fall short of need by about 86 acres.

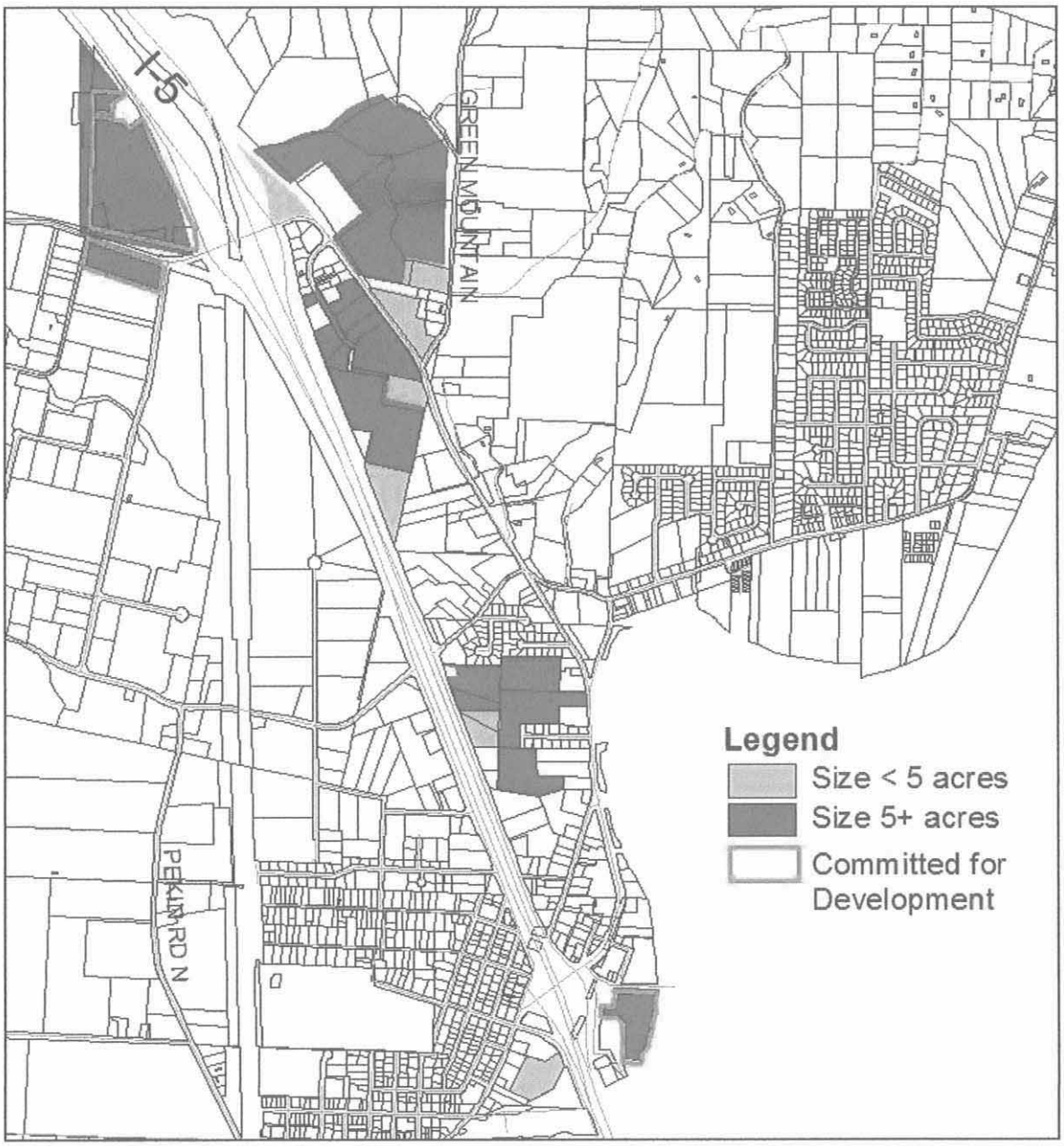
To address this deficit, the WUGMP recommended that Woodland add 71 acres of commercial land by 2020.[4] The WUGMP report further recommended that: (a) 29.6 acres of light industrial land within the existing city be reclassified from industrial to commercial; and that (b) another 71.0 acres be added to the unincorporated area of the UGA.

Subsequent to the WUGMP and 2005 adopted Comprehensive Plan, Cowlitz-Wahkiakum Council of Governments indicated that there were approximately 173 acres of existing commercially designated vacant property as of 2005. The bulk of the inventory (approximately 169 acres) was comprised of C-2 Highway Commercial designated lands.

As was the case with previous 2008 analysis for the approved Chumbley Brothers rezone with property situated immediately west of the subject Liberty Evans LLC site, it is to the question of commercial site suitability that this assessment now turns. Site suitability is assessed from two perspectives: size of vacant commercial parcels and constraints to development.

Size of Commercial Parcels. As illustrated by the map on the following page, a substantial portion of the vacant commercial inventory consists of relatively small (less than 5 acre) parcels.

Figure 2. Map of Vacant Commercial Land by Area (2008)

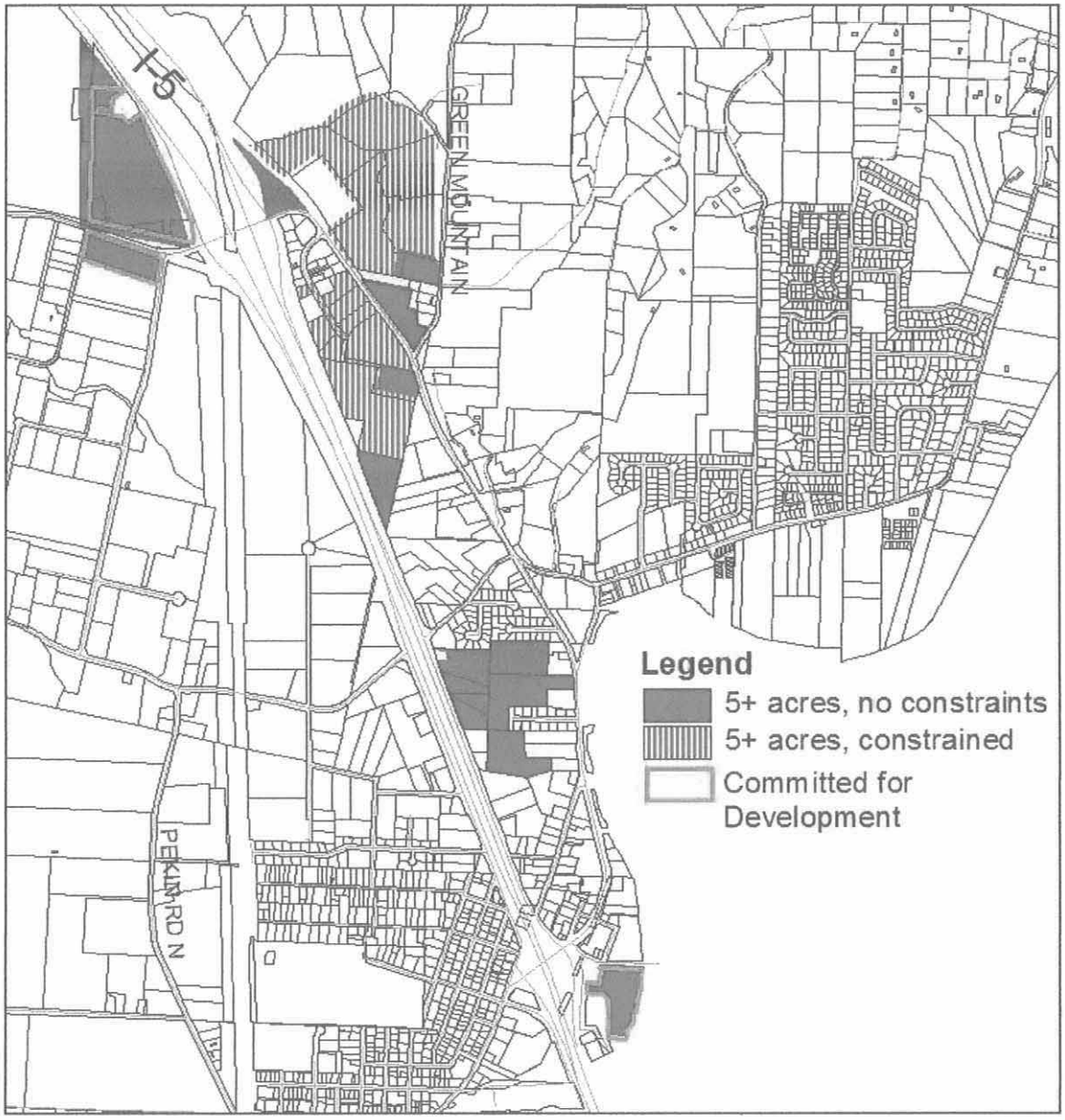


Source: Cowlitz-Wahkiakum Council of Governments GIS (2004-06) and amended by E. D. Hovee & Company, LLC.

Assuring an adequate supply of mid-size to larger sites (of 5+ acres) can be expected to serve as the primary location choice for master planned commercial developments offering one-stop shopping convenience for retail customers. However, while the map indicates some diversity of these larger sites, many of these sites have substantial development constraints – a factor that is particularly significant for properties east of I-5 in the vicinity of the Dike Access Road interchange.

Vacant Commercial Land Constraints. As illustrated by the following map, a substantive reason for consideration of added commercial land has been that much of the land designated for commercial use does not appear to be readily suitable for that use – due to factors such as poor access, lack of infrastructure and environmental constraints (including wetlands, floodplain and steep slopes). This is an issue that has been previously documented and remains of importance in considering the continued need for market-ready commercial development sites.

Figure 3. Map of Constrained Vacant Commercial Land 5+ Acres (2008)



Source: Cowlitz-Wahkiakum Council of Governments GIS (2004-06) and amended by E. D. Hovee & Company, LLC.

Issues with the development suitability of the existing vacant, commercially designated land inventory in Woodland are particularly apparent when comparing the attributes of the subject Liberty Evans LLC property to other vacant parcels in Woodland zoned for commercial use. Key observations of note that have been identified regarding major commercially designated lands include the following:

- All vacant commercial property at least 5 acres or more in size is zoned C-2 Highway Commercial and measures a total of 145 acres (or 84% of the total 173-acre vacant commercial inventory).
- However, over half (55%) of the vacant commercial property measuring 5+ acres has 50% or more of parcel land area constrained by wetlands, floodplain and/or slope. The unconstrained portion totals 65 acres. In effect, only 38% of Woodland's vacant commercial land inventory has been comprised of properties that are at least 5 acres in size and for which the majority of the site is not affected by wetland or slope constraints.

Also noted is that the remaining supply of commercial lands has been reduced by demand experienced since adoption of the 2005 Comprehensive Plan. As noted by our prior 2008 rezone analysis, major changes have included: development of the now-completed Walmart Supercenter on approximately 18.5 acres situated just west of Interstate 5 at the Dike Access Road interchange, coupled with three adjacent sites owned by Chumbley Brothers adding 3.3 and then 5.9 acres, and 6.5 acres along the Lewis River located east of the wastewater treatment plant.

Located across the street from the subject Liberty Evans LLC site, the Walmart development together with the 6.5-acre riverfront property development have the effect of further reducing the remaining readily developable commercial inventory to 37 acres. This reduced inventory is only 14% of the 262 acres of commercial land need projected to 2020 as cited by the WUGMP.[5]

Commercial Need Summarized. As with prior assessments, this updated analysis indicates that Woodland's inventory of vacant commercially zoned property remains inadequate to meet needs (resulting from WUGMP recommendations) for Woodland's Comprehensive Plan. The commercial lands deficiency is greatly magnified when substantially constrained sites are excluded from the inventory of sites of 5+ acres deemed as truly suitable for retail development.

INDUSTRIAL LAND NEEDS

The previous section of this economic needs analysis addressed questions related to the need for additional suitable commercial land in Woodland. A follow-on question (addressed in this section) is whether there is an *adequate supply of vacant industrial land* to readily allow for the redesignation of the Liberty Evans LLC property from industrial to commercial use – and still provide more than adequate industrial land to meet Woodland's current and future needs.

As has been previously documented, the answer to this question appears fairly clear-cut – both with respect to the city's WUGMP/Comprehensive Plan process and current market demand.

WUGMP/Comprehensive Plan. The 2002 WUGMP identified an acreage need of 320-349 acres of industrial land to 2020 versus vacant and buildable acreage of 712 acres. This left a

surplus of 363-392 acres – representing considerably more land than would be needed over the forecast period. As a result, the WUGMP committee recommended no change to the current designations – essentially meaning that the inventory of industrial land would remain more than twice the projected acreage needed.

The 2005-adopted Comprehensive Plan essentially followed the WUGMP recommendations with the specific observation that:

> The City of Woodland will not need any additional industrial land in the next 20 years. The land designated industrial in the city and the land reserved for future industrial uses in the city's UGA provides an ample supply of industrial land.

In addition to the ample supply of land designated for industrial use, the Comprehensive Plan also designated another 1,410 acres within the city and adjoining urban growth area (UGA) as Agricultural-Industrial (AG-I). As noted by the Comprehensive Plan, this land is "designed to reserve the land for future industrial growth."

Finally, it is noted that since the 2005 adoption of the Woodland Comprehensive Plan, approximately 400 acres of AG-I land within the city's UGA has been annexed to the City of Woodland further enhancing the effective development capacity of land available for future industrial use. Taken together, these actions indicate that the city has continued to be pro-active with designation of land long-term industrial employment needs of the Woodland community.

Industrial Need Summarized. When measured by 2005 WUGMP/Comprehensive Plan expectations, Woodland would appear to have more than double the inventory of industrial land required to meet projected need through 2020. The proposed redesignation of the 6-acre Liberty Evans LLC property from industrial to commercial use redesignation will affect less than 1% of the UGA vacant designated industrial inventory.

ECONOMIC BENEFITS OF PROPOSED REDESIGNATION

With this assessment, consideration is also given to economic benefits associated with proposed rezoning – in terms of added employment and taxes to the City of Woodland for industrial development (as currently zoned) compared with commercial retail use (as proposed).

Comparative Employment. As is detailed by calculations illustrated in the Appendix to this report, employment associated with industrial development of the approximately 6-acre Liberty Evans LLC site can vary widely – from as few as 35 jobs with a distribution facility having considerable outdoor storage up to a high end figure of 125 jobs for a business/industrial park type of use with typical site coverage and no outdoor storage. Assuming a relatively high level of site coverage, commercial retail development would involve a somewhat more predictable and higher employment count at build-out – estimated at approximately 190 jobs.

In effect, while industrial use often offers ability for somewhat greater site coverage (due to lower parking requirements), this is more than offset by higher average density of employment per square foot of building area with commercial development. Jobs with commercial retail

development could also be expected to materialize more rapidly than those with an industrial use – due to strong expressed demand from prospective commercial users of the subject site.

Of particular note at this time of early recovery from the recent recession is the continued need for added employment for residents of Woodland and surrounding communities, especially in economically distressed Cowlitz County. As of March 2012, the Cowlitz County unemployment rate was 12.0% – well above the comparable statewide rate of 8.8%.[6]

Woodland Tax Benefits of Commercial Retail versus Industrial Development. Tax benefits directly available to the City of Woodland from retail development are substantially greater than with industrial use (also detailed by calculations provided by the Appendix to this report). For industrial development, tax benefits calculated represent a best case scenario for the City of Woodland and could change due to the potential for sales tax exemptions for certain industries. Tax benefits from industrial as compared with commercial development are calculated to include:

- *One-time sales tax on construction* – estimated at $74,000 for industrial versus an estimated $83,000 with commercial development of the property.
- *Annual ongoing property and sales tax upon completion* – estimated at $33,200 per year with industrial versus $191,100 annually to the City of Woodland with commercial use.[7]

In effect, while sales tax on construction is roughly comparable for industrial and commercial development, the annual on-going tax yield to the City of Woodland from commercial development is estimated at close to six times the tax benefit with industrial use. Over time, this difference is magnified due to the greater growth potential of retail sales tax versus the constrained nature of property tax revenues (with voter approved 1% annual growth limitation).

Over a 20-year time horizon, the net present value (NPV) of cumulative tax revenues to the City of Woodland is estimated at $3.1 million with commercial as compared to less than $560,000 with industrial development. This estimate assumes a 5.0% discount rate – recognizing that the value of each dollar of revenue received in year 1 is greater than that of each dollar of revenue received at year 20.

Tax Benefits to All State/Local Jurisdictions. These above calculations do not include revenues to state and other jurisdictions which are substantial. For example, the annual property and sales tax revenues generated to the State of Washington and all benefitting Cowlitz County jurisdictions (including the City of Woodland) are estimated at nearly $1.3 million per year with commercial development versus less than $200,000 with industrial development. Also not included with these calculations is the potential added land value and resulting property tax contribution from this site that may result from redesignation of land from industrial to commercial use – as commercial is typically associated with greater land value than industrial.

SUMMARY CONCLUSIONS

In summary, this analysis supports the proposal for redesignation of approximately 6 acres owned by Liberty Evans LLC LLC from Light Industrial to Highway Commercial zoning – due

to greater need for added commercial than industrial land coupled with greater potential economic benefit with commercial than industrial use:

Greater Need for Added Commercial than Industrial Land:

- The 2002 WUGMP and 2005 adopted Comprehensive Plan for Woodland both indicate an inadequate supply of commercial land versus an oversupply of designated industrial land – supporting the redesignation of sites more suitable for commercial than industrial.
- The majority of Woodland's existing vacant commercial inventory is not well suited at least in the near term for master planned commercial development – due to inadequate size and substantial wetland, steep slope and floodplain constraints.
- By comparison, the subject Liberty Evans LLC property is extremely well positioned for commercial use by virtue of its adjacency to the Exit 22 interchange with Interstate 5 and location across the street from a recently opened Walmart Supercenter development (which is drawing draw considerable retail patronage from Woodland and other area communities to this emerging commercial node).
- Retail businesses situated on the Liberty Evans LLC site offer the opportunity to benefit from the visibility and traffic generated by the Walmart and neighboring commercial, institutional and industrial uses, taking advantage of trips already generated to the site area.
- Redesignation will involve only 6 acres or less than 1% of the City of Woodland's vacant UGA designated industrial inventory. There is still at least 350+ acres more than the industrial land need projected through 2020 *plus* added long-term potential with future conversion of another more than 1,400 acres with Agriculture-Industrial designation. Also noted is that of this added AG-I potential, approximately 400 acres have recently been annexed to the City of Woodland – bringing this added industrial land resource one step closer to development readiness.

Greater Potential Economic Benefit with Commercial than Industrial Use:

- Commercial retail development can be expected to generate an estimated 190 jobs with build-out of the property, somewhat more than maximum potential of 125 jobs that might be associated with industrial use. Commercial jobs will materialize more quickly due to expressed interest in the site.
- Finally, ongoing tax revenues directly available to the City of Woodland are close to six times greater with commercial retail than industrial development of the property. This is because retail use can be expected to generate a much higher level of taxable retail sales than industrial use – a difference that will be amplified over time due to statutory limitations on property tax revenue growth in the State of Washington.

E. D. Hovee & Company, LLC appreciates the opportunity to provide this economic need analysis on behalf of Liberty Evans LLC. We are happy to respond to questions or provide added information regarding any aspect of this report.

APPENDIX. SUPPLEMENTAL DATA TABLES

Figure 4. Comparative On-Site Employment Analysis (6-Acre Site)

	Site Coverage	Building Area % of Use	Building Area Square Feet	Density SF/Job	Estimated Jobs
INDUSTRIAL USE					
A. Low Density Option					
Warehouse	0.19	100%	50,000	1,390	35
(w/outside storage/loading)					
B. High Density Option					
Office		10%	9,000	370	25
Light Industrial		45%	40,500	595	70
Warehouse		45%	40,500	1,390	30
	0.34	100%	90,000	720	125
COMMERCIAL USE					
Multi-Use Commercial (including dining)	0.29	100%	75,000	400	190
Gas Service w/Convenience		0%	-	-	-
Dining		0%	-	200	-
	0.29	100%	75,000	395	190

Source: E. D. Hovee & Company, LLC, consistent with analysis provided with prior 2008 rezone analysis.

Figure 5. Comparative City of Woodland Tax Benefits (All Estimates are in 2012 Dollars)

	Industrial Development*	Commercial Development
DEVELOPMENT PROGRAM		
Site Acreage	6.0	6.0
Site Coverage Ratio	0.34	0.29
Building Square Footage	90,000	75,000
ONE TIME TAX & FEE REVENUE		
Sales Tax on Construction		
Tax Rate / $1 Gross Contract Amount	1.100%	1.100%
Construction Contract	$6,750,000	$7,500,000
Estimated Sales Tax	$74,000	$83,000
ESTIMATED ONE TIME TAXES	**$74,000**	**$83,000**
ONGOING TAX REVENUES		
Property Tax		
Per Square Foot Construction Cost	$75	$100
Indirect (Soft) Cost %	30%	30%
Anticipated Value of Construction	$8,780,000	$9,750,000
Tax Rate / $1,000	$2.08600	$2.08600
Estimated Property Tax	$18,300	$20,300
Sales Tax from On-Site Retail		
Tax Rate (City Share)	1.100%	1.100%
Gross Annual Taxable Retail Sales	$1,350,000	$15,525,000
Estimated Sales Tax	$14,900	$170,800
ESTIMATED ANNUAL TAXES	**$33,200**	**$191,100**
NET PRESENT VALUE (NPV)	**$559,000**	**$3,084,000**
Discount Rate Applied	5.0%	5.0%

*Note: Industrial development option evaluated is the higher intensity business park use.

Source: E. D. Hovee & Company, LLC. Estimates are preliminary and subject to revision.

END NOTES

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[1] Much of the data for this memorandum report is based on a prior *Economic Needs Analysis Proposal for Woodland Property Rezone* conducted by E. D. Hovee & Company, LLC on behalf of Brothers Chumbley, LLC, dated April 23, 2008 – as submitted to the City of Woodland. The Chumbley analysis was for an adjoining 5.91 acre parcel located immediately west (across Schurman Road) from the current subject Liberty Evans LLC property. With the exception of the development of the approved Chumbley property rezone plus development the Walmart property to the north of the subject Liberty Evans LLC property, our understanding is that there are no other significant commercial land use changes of note over this time period of economic recession and subsequent early phase recovery.

[2] While data and related information for this economic needs analysis is drawn from sources generally deemed to be reliable, E. D. Hovee & Company, LLC does not guarantee the accuracy of information obtained from third party sources. The findings and conclusions provided in this report are those of the authors. They should not be construed as representing the opinion of any other party prior to their express approval of the contents of this report, whether in whole or in part.

[3] Findings and comments are from city staff reports regarding the Brothers Chumbley, LLC property, prepared by Justin Erickson, Planner, dated September 8, 2006 and September 11, 2006.

[4] This 71-acre recommendation for added commercial land was based on a commercial employment method based on the ratio of jobs to population – forecast forward to 2020. To this was added a 20% market factor and a 15% infrastructure allowance.

[5] The remaining unconstrained commercial inventory of 37 acres also would be less than the more conservative 19-year growth need of 61 acres of land to serve retail needs calculated by E. D. Hovee & Company, on behalf of Pacific Development Associates with a *Supplemental Commercial Market Assessment for Woodland Residential Rezone Request,* submitted October 10, 2006.

[6] While retail jobs tend to pay less than industrial employment, commercial growth opportunities often are more steady in response to population growth, as well as existing resident needs. Retail employment is also important for entry-level and part-time workers, who do not have other readily available job options.

[7] Tax rates applied to this analysis are the general 2012 Woodland levy of $2.086001 per $1,000 tax assessed valuation and a composite 1.1% sales tax rate for the City of Woodland. Components of the 1.1% sales tax rate are 0.5% basic rate, 0.5% optional and 0.1% criminal justice portions.

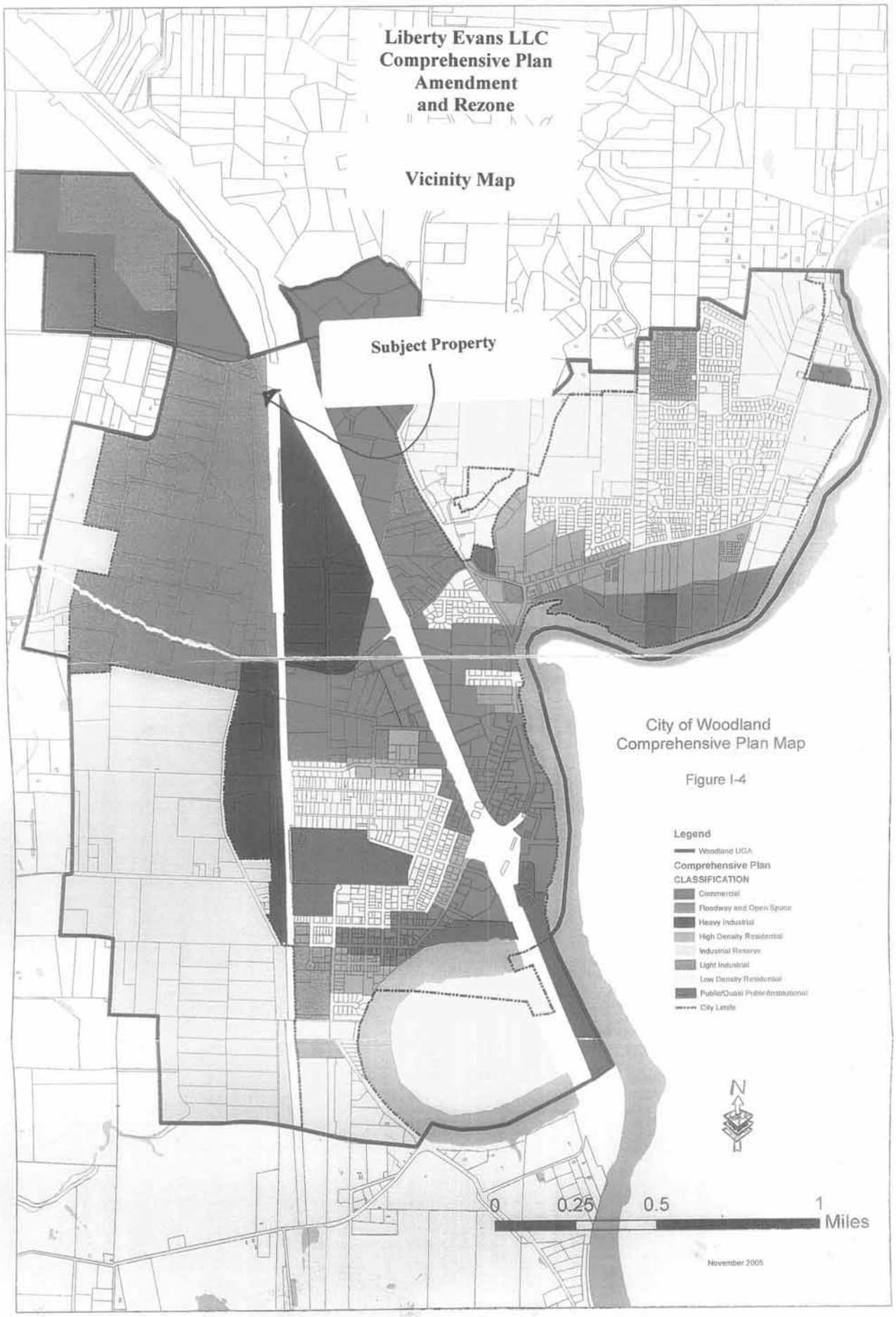
E. D. Hovee & Company, LLC is an economic and development consulting firm providing market and financial feasibility analysis for a range of real estate and related capital investment projects – on behalf of private land owners/developers, non-profit economic development organizations and public agencies, primarily in the Pacific Northwest states of Washington and Oregon.

The firm has conducted commercial and industrial market and economic need assessment assessments throughout the Southwest Washington region – for a range of projects in communities including Vancouver, Camas, Washougal, Stevenson, Battle Ground, Ridgefield, LaCenter, Woodland, Longview, Castle Rock, Chehalis and Centralia.

Private and non-profit organizations assisted with real estate market and feasibility assessments have included Portland General Electric, Fred Meyer, Inc., Walmart, Home Depot, Gramor Development, Killian-Pacific, Opus NW, Schnitzer Investment, Chumbley Brothers LLC, Grayco Resources (Salishan/Skamania Lodge), Lowe Development Resorts, and Newland Group.

Principal Eric Hovee has over 35 years of economic development experience – as practitioner and consultant. He served for four years as Economic Development Manager for the City of Portland and in a similar role with the City of Vancouver opening a consulting practice in 1984. This report has been prepared by Eric Hovee - Principal and Andrea Logue - Research Coordinator.

Vicinity Map

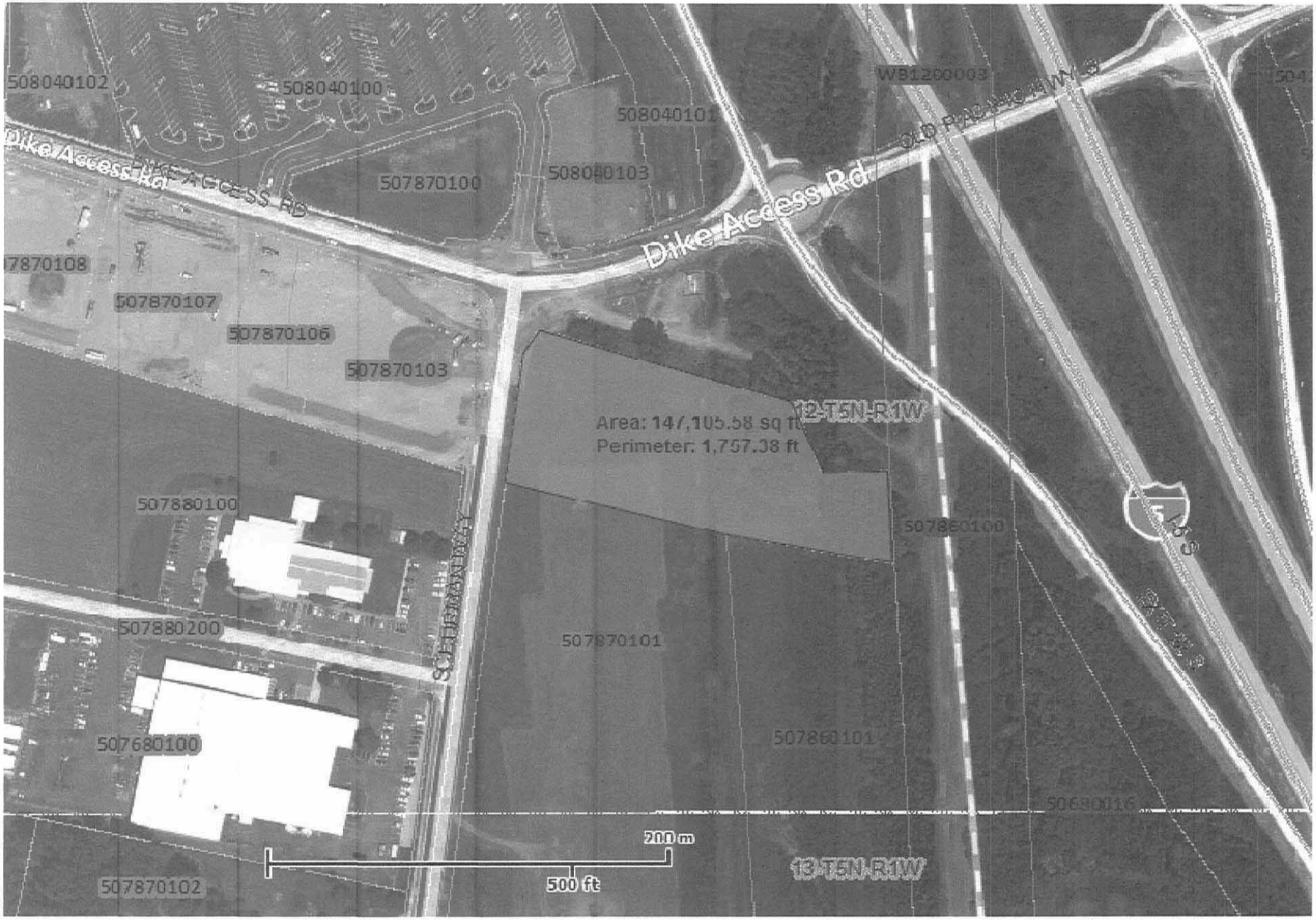

Liberty Evans LLC
Comprehensive Plan
Amendment
and Rezone
Vicinity Map
Subject Property
City of Woodland
Comprehensive Plan Map
Figure I-4
Legend
Woodland UGA
Comprehensive Plan
CLASSIFICATION
Commercial
Floodway and Open Space
Heavy Industrial
High Density Residential
Industrial Reserve
Light Industrial
Low Density Residential
Public/Quasi Public/Institutional
City Limits
N
0
0.25
0.5
1
Miles
November 2005

Subject Property Aerial Photograph

Cowlitz County NetMaps
Printed: Tuesday, April 24, 2012 2:26:16 PM

Disclaimer: GIS maps do not carry legal authority to determine a boundary or the location of fixed works and are intended as a locational reference for planning, infrastructure and general information. Cowlitz County provides this information on an 'as is' basis without warranty of any kind, expressed or implied, including but not limited to warranties of merchantability or fitness for a purpose, and assumes no responsibility for anyone's use of this information.

Liberty Evans Rezone Territory



CITY OF WOODLAND
SEPA ENVIRONMENTAL CHECKLIST

A. BACKGROUND **Application No.**

1. Name of proposed project, if applicable:

Liberty Evans Comprehensive Plan Map Amendment and Rezone

2. Name of applicant:

Liberty Evans LLC

3. Address and telephone number of applicant and contact person:

Applicant: *Liberty Evans LLC*
C/O Mark Fleischauer
2311 East First St.
Vancouver, WA 98661
360.759.3307

Contact: *Skip Urling*
Urling Planning Associates LLC
PO Box 1213
Longview, WA 98632
360.431.5117

RECEIVED
JUN 14 2012
CITY OF WOODLAND
PLANNING DEPT

4. Date checklist prepared:

June 7,2012

5. Agency requiring checklist:

City of Woodland

6. Proposed timing or schedule (including phasing, if applicable):

Fall/Winter 2012/13

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain:

Marketing the property for future development of commercial uses..

8. **List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**

Economic Needs Analysis Proposal for Woodland Property Rezone—E.D.Hovee & Company, LLC,May 9, 2012.
Liberty Evans Rezone--Traffic Analysis, Transpogroup, June 12, 2012

9. **Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain:**

No.

10. **List any government approval or permits that will be needed for your proposal, if known.**

Planning Commission and City Council approval of the comprehensive plan map amendment and rezone

11. **Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.**

The proposal is to amend the City of Woodland Comprehensive Plan Map and concurrently rezone approximately 3.4 acres from Light Industrial to Highway Commercial.

12. **Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township and range, if known. If a proposal would occur over a large area, provide the boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.**

The subject property is located at the southeast quadrant of the intersection of Schurman Way and Dike Access Road, in the southwest ¼ of Section 12, Township 5 North, Range 1 West, WM.

TO BE COMPLETED BY APPLICANT	EVALUATION FOR AGENCY USE ONLY

B. ENVIRONMENTAL ELEMENTS

1. Earth

a) General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other.

b) What is the measurement of the steepest slope on the site (approximate percent slope)?

The site was preloaded with clean fill material +/- 15 years ago. The slopes of the fill edges is approximately 50 percent.

c) What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farm land.

Clato silt loam and Newberg fine sandy loam.

d) Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No.

e) Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

Fill has been on site for approximately 15 years. No additional fill is proposed with this application.

f) Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Not applicable as part of this non-project action.

g) **About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?**

A site development plan has not yet been prepared, but one could expect as much as 80 percent of the site being improved with impervious surfaces, with the remainder developed for stormwater facilities and landscaping.

h) **Proposed measures to reduce or control erosion, or other impacts to the earth, if any:**

Not applicable as part of this proposal. Ultimately, appropriate erosion control measures, such as silt fencing, straw bales, rocked entrances, etc. will be used during development of the site.

2. Air

a) **What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.**

None.

b) **Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.**

No.

c) **Proposed measures to reduce or control emissions or other impacts to air, if any:**

None.

3. Water

a) Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, salt water, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

A wetland is mapped by the National Wetland Inventory on the adjacent parcel to the east..

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

No.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands indicate the area of the site which would be affected. Indicate the source of fill material.

None.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

No.

6) **Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

No.

b) **<u>Ground</u>:**

1) **Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.**

It is possible that stormwater runoff will be infiltrated on site when development occurs.

2) **Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: domestic sewage; industrial, containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

None.

c) **<u>Water Runoff</u> (including storm water):**

1) **Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

It is possible that stormwater runoff from the developed site will be conveyed to an on-site infiltration system.

2) **Could waste materials enter ground of surface waters? If so, generally describe.**

Not applicable.

d) Proposed measures to reduce or control surface, ground and run-off water impacts, if any:

Surface, ground and runoff water control measures will be included in the development designs for the site.

4. Plants

a) List types of vegetation found on the site:

deciduous trees:

evergreen trees:

shrubs: *black berries*

grass: *yes*

pasture:

crop or grain:

wet soil plants:

water plants: water lily, eelgrass, milfoil, other:

other types of vegetation:

b) What kind and amount of vegetation will be removed or altered?

No vegetation will be altered with this non –project action. It is likely that the grass and blackberries will be completely removed at the development stage.

c) List threatened or endangered species known to be on or near the site.

None are known.

d) Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Landscaping to city standards will be included in the design and development of the site.

5. Animals

a) List any birds and animals which have been observed on or near the site, or are known to be on or near the site:

birds: *song birds, hawks*

mammals: *rodents*

fish: *none*

b) List any threatened or endangered species know to be on or near the site.

None are known

c) Is the site part of a migration route? If so, explain.

Pacific Flyway

d) Proposed measures to preserve or enhance wildlife, if any:

None.

6. Energy and Natural Resources

a) What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? describe whether it will be used for heating, manufacturing, etc.

Development plans for the site are not yet prepared. However, it is likely that electricity and perhaps natural gas will be used.

b) Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c) What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Adherence to all building and energy codes.

7. Environmental Health

a) Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe:

No.

1) Describe special emergency services that might be required.

None.

2) **Proposed measures to reduce or control environmental health hazards, if any:**

None.

b) **Noise**

1) **What types and levels of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?**

None.

2) **What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.**

No noise would be created by this proposal. At the development stage, noise would be generated by construction equipment and traffic. Long term noise would likely be limited to traffic.

3) **Proposed measures to reduce or control noise impacts if any:**

None.

8. **Land and Shoreline Use**

a) **What is the current use of the site and adjacent properties?**

The subject property is undeveloped. Adjacent uses include other undeveloped land, commercial retail activities, and light industrial uses. A large retail development was recently completed to the north across Dike Access Road, smaller commercial developments are occurring to the west across Schurman Way, and the Woodland School District

recently passed a bond to construct a new high school to the north west.

b) Has the site been used for agriculture? If so, describe:

The subject property, like most of the adjacent parcels, was used for pasturing livestock and raising hay prior to annexation and installation of new roads and utilities.

c) Describe any structures on the site.

None.

d) Will any structures be demolished? If so, what?

Not applicable.

e) What is the current zoning classification of the site?

I-1, Light Industrial.

f) What is the current comprehensive plan designation of the site?

Light Industrial

g) If applicable, what is the current shoreline master program designation of the site?

Not applicable.

h) Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No.

i) Approximately how many people would reside or work in the completed project?

E.D Hovee and Associates estimates that 6 ascres of commercially zoned property would result in approximately 190 employees; prorating that estimate for 3.4 acres yields approximately 107 employees. There will be no residents.

j) Approximately how many people would the completed project displace?

None.

k) Proposed measures to avoid or reduce displacement impacts, if any:

None.

l) Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Future development will be required to acquire site plan approval from the city; the development design will meet the recently updated architectural and site design standards and all applicable city codes and standards in effect at that time.

9. Housing

a) Approximately how many units would be provided, if any? Indicate whether high-, middle-, or low-income housing.

Not applicable.

b) Approximately how many units would be eliminated, if any? Indicate whether high-, middle-, or low- income housing.

Not applicable.

c) **Proposed measures to reduce or control housing impacts, if any:**

None.

10. Aesthetics

a) **What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?**

Not applicable.

b) **What views in the immediate vicinity would be altered or obstructed?**

Not applicable.

c) **Proposed measures to reduce or control aesthetic impacts, if any:**

None.

11. Light and Glare

a) **What type of light or glare will the proposal produce? What time of day would it mainly occur?**

No light would be generated with this non-project action. Future development of the site for commercial uses would likely result in security lighting and parking lot illumination during evening hours.

b) **Could light or glare from the finished project be a safety hazard or interfere with views?**

No.

c) **What existing off-site sources of light or glare may affect your proposal?**

None.

d) Proposed measures to reduce or control light and glare impacts, if any:

Light impacts will be addressed during the development design phase, but all fixtures will be hooded and directed downward to avoid glare to neighboring properties.

12. Recreation

a) What designated and informal recreational opportunities are in the immediate vicinity?

None.

b) Would the proposed project displace any existing recreational uses? If so, describe.

No.

c) Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None.

13. Historical and Cultural Preservation

a) Are there any places or objects listed on, or proposed for, national, state or local preservation registers known to be on or next to the site? If so, generally describe.

None are known.

b) Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None are known.

c) Proposed measures to reduce or control impacts, if any:

None.

14. Transportation

a) Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on-site plans, if any.

The subject property abuts Schurman Way, Dike Access Road is to the north and Interstate 5 is to the east..

b) Is site currently served by public transit?

No.

If not, what is the approximate distance to the nearest transit stop?

There is no transit service in Woodland.

c) How many parking spaces would the completed project have? How many would the project eliminate?

Designs for the development of the site have not yet been prepared.

d) Will the proposal require any new roads or streets or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

While this proposal would not require any new roads, future development of the site for commercial activities would contribute to a need for a slip lane to bypass the

two roundabouts west of the freeway for traffic moving from Schurman Way to Interstate 5 southbound. Please see the The Transpo Group report for more details.

e) Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f) How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

Transpogroup's analsyis forecast approximately 3,220 average weekday trips with 195 trips during the PM peak hour.

g) Proposed measures to reduce or control transportation impacts, if any:

According to the Transpogroup analysis, development of 6 acres of commercial uses at or near the subject site would result in the ultimate need to mitigage traffic congestion at the two roundabouts on the west side of the freeway, and suggests a sliplane for traffic moving from Schurman Way to Interstat 5 southbound. More specific transportation impact analyses would be required at the development stage to accurately forecast a specific design. Please refer to the Transpogroup report.

15. Public Services

a) Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No.

b) Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. Utilities

a) Circle utilities currently available at the site:

Potable water, sanitary sewer, solid waste collection, natural gas, telephone, electricity

b) Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Potable water, sanitary sewer, solid waste collection, natural gas, telephone, and electricity.

SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____

Date submitted:

June 14, 2012

D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS

(Do not use this sheet for project actions.)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; productions, storage, or release of toxic or hazardous substances; or production of noise?

Development of the site for commercial uses would result in the creation of impermeable surfaces (buildings and parking areas) that would create higher rates of stormwater runoff than presently generated by the undeveloped site. It is unlikely that commercial activities on the property would result in air emissions, production, storage or release of toxic or hazardous substances, or the generation of noise above state standards.

Proposed measures to avoid or reduce such increases are:

A stormwater management plan will be prepared and submitted to the city for approval at the time of site design and development permit application.

2. How would the proposal be likely to affect plants, animals, fish or marine life?

The site will be cleared of all grass and other vegetation at the time of development.

Proposed measure to protect or conserve plants, animals, fish or marine life are:

The subject property has been partially filled and the remainder is the fallow remains of what was once pasture and has no plant or habitat value that warrants protection or conservation.

3. How would the proposal be likely to deplete energy or natural resources?

Commercial development of the site is not likely to deplete the electricity or natural gas delivered to the site by the existing facilities. There are no consumable natural resources on site.

Proposed measures to protect or conserve energy and natural resources are:

Future design and development of the site will meet local building and energy codes.

4. **How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?**

None of the characteristics or features described above are present on the subject property.

Proposed measures to protect such resources or to avoid or reduce impacts are:

None.

5. **How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?**

The proposed amendment would provide the opportunity for commercial buildings and services to locate in an area where the adjacent land is, or is proposed to be, used for a variety of intensive land use activities. To the north is a tract with a recently completed discount super store; to the west is a commercial area with developing specialty retail activities, and to the northwest of the subject property is land owned by the Woodland School District in which voters recently passed a bond for the development of a new high school. Industrial development is located to the southwest, and land to the south owned by the applicant has been filled and surcharged to make it market ready for future industrial development.

All commercial and industrial proposals must have site plans approved prior to commencing development. Development design of the subject property will be based on a thoughtful consideration of adjacent uses and regulatory review.

6. **How would the proposal be likely to increase demands on transportation or public services and utilities?**

Utilities in the adjacent right-of-way have been designed and installed to serve high intensity uses on the subject and neighboring properties. A traffic impact analysis of the proposed amendment/rezone concluded that rezoning of the Liberty Evans site plus an additional 2.5 acres with the existing Light Industrial classification to the proposed Highway Commercial classification will increase traffic generation and has identified a mitigation measure to add a slipline bypassing the two roundabouts west of the freeway for traffic moving from Schurman Way to Interstate 5 southbound. Changing the future land use of the Liberty Evans property will not adversely affect the ability of the potable water, sanitary sewer, electrical, telephone or natural gas systems to serve existing or future developments in the vicinity. With the other development and proposals in the vicinity and their demand on public services such as police and fire prevention, the change in demand for these services created by a change in land use designation of the subject property to permit commercial development will be very small.

Proposed measures to reduce or respond to such demand(s) are:

Although specific traffic impacts and mitigation measures cannot be designed until a development proposal becomes more concrete, a slip lane to bypass the two roundabouts west of the freeway has been identified as a measure to facilitate traffic operations at acceptable levels of service.

7. **Identify, if possible, whether the proposal may conflict with local, state or federal laws or requirements for the protection of the environment.**

There are no known local, state or federal laws or requirements for the protection of the environment with which this proposal would conflict.

Description of Tract for Rezone
June 2012

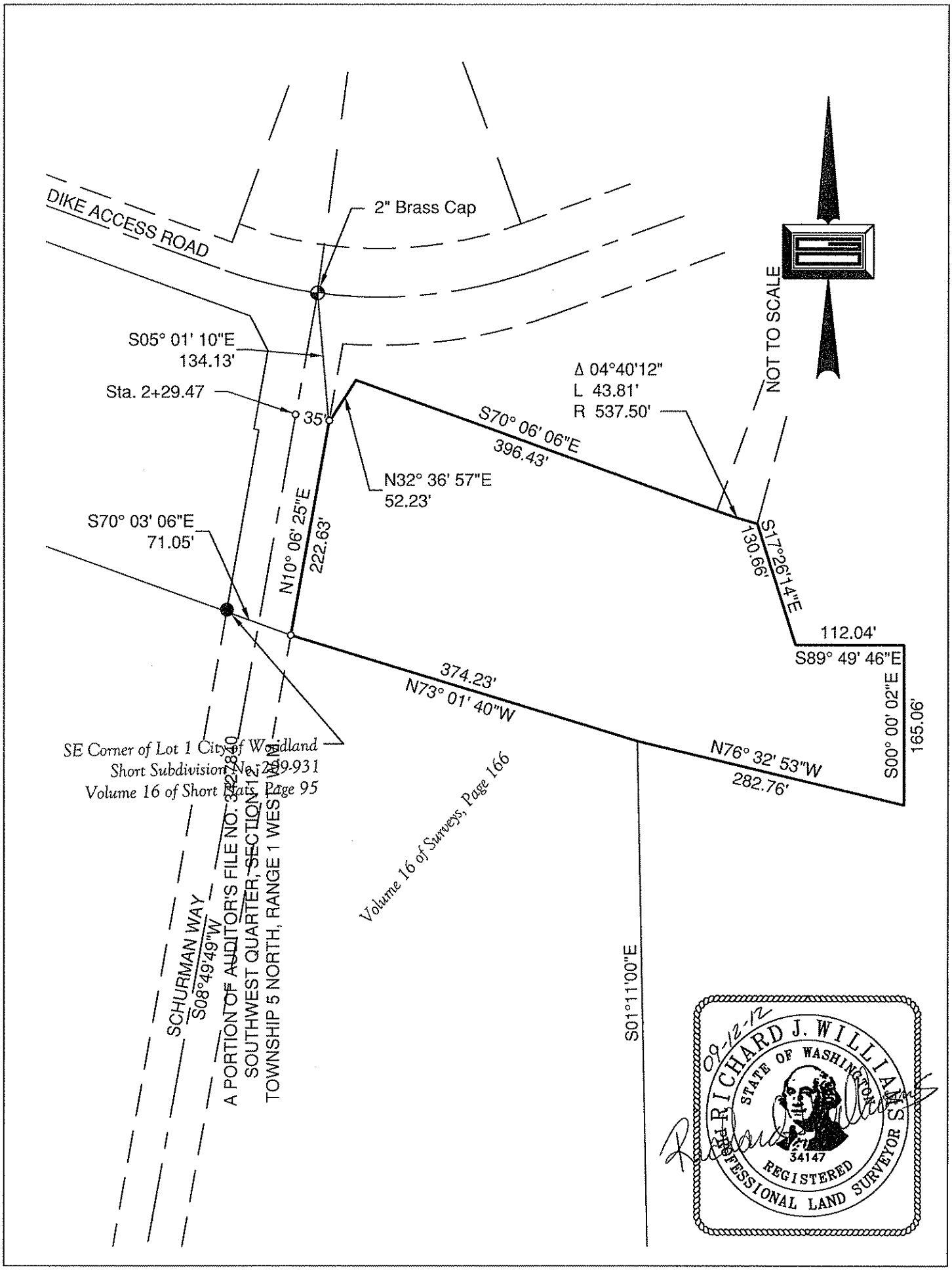
A portion of that certain tract of land described under Auditor's File No. (AFN) 3427840, records of Cowlitz County, located in the Southwest Quarter (SW 1/4) of Section 12, Township 5 North, Range 1 West, Willamette Meridian, Cowlitz County, Washington, described as follows:

Beginning at a point on the Easterly right-of-way line of Schurman Way, 35 feet measured perpendicular to the centerline of said Schurman Way, opposite centerline Station 2+29.47, as shown on that certain Exhibit Drawing, as recorded under AFN 3421279, records of Cowlitz County, said Beginning Point bears South 05°01'10" East 134.13 feet from a 2-inch brass cap marking the centerline intersection of Dike Access Road and said Shurman Way; thence North 32°36'57" East a distance of 52.23 feet to the Northerly line of that certain survey recorded in Volume 16 of Surveys, page 166, records of Cowlitz County; thence South 70°06'06" East along said Northerly line a distance of 396.43 feet; thence along a curve to the left, concave to the North, through a central angle of 04°40'12", having a radius of 537.50 feet, an arc distance of 43.81 feet to a 5/8-inch rebar with a red plastic survey cap, marked "Gibbs & Olson, OR 1890 WA 21711; thence South 17°26'14" East a distance of 130.66 feet to a 5/8-inch rebar with a red plastic survey cap, marked "Gibbs & Olson OR 1890 WA 21711; thence South 89°49'46" East a distance of 112.04 feet to a 5/8-inch rebar with a red plastic survey cap, marked "Gibbs & Olson OR 1890 WA 21711; thence South 00°00'02" East a distance of 165.06 feet to a 5/8-inch rebar with a red plastic survey cap, marked "Gibbs & Olson OR 1890 WA 21711; thence North 76°32'53" West a distance of 282.76 feet to a 5/8-inch rebar with a red plastic survey cap, marked "Gibbs & Olson OR 1890 WA 21711" at the interior corner along the East side of said survey; thence North 73°01'40" West a distance of 374.23 feet to said Easterly right-of-way of said Schurman Way, said point bears South 70°03'06" East 71.05 feet from the Southeast corner of Lot 1, City of Woodland Short Subdivision No. 209-931, recorded in Volume 16 of Short Plats, page 95; thence North 10°06'25" East along said Easterly right-of-way, a distance of 222.63 feet to the Point of Beginning.

Subject to reservations, restrictions and easements of record.

Containing 3.413 acres

9-12-12
RICHARD J. WILLIAMS
STATE OF WASHINGTON
34147
REGISTERED
PROFESSIONAL LAND SURVEYOR


DIKE ACCESS ROAD
2" Brass Cap
NOT TO SCALE
S05° 01' 10"E
134.13'
Sta. 2+29.47
35'
Δ 04°40'12"
L 43.81'
R 537.50'
S70° 06' 06"E
396.43'
N32° 36' 57"E
52.23'
S70° 03' 06"E
71.05'
N10° 06' 25"E
222.63'
S17°26'14"E
130.66'
112.04'
S89° 49' 46"E
374.23'
N73° 01' 40"W
S00° 00' 02"E
165.06'
N76° 32' 53"W
282.76'
SE Corner of Lot 1 City of Woodland
Short Subdivision No. 289-931
Volume 16 of Short Plats, Page 95
Volume 16 of Surveys, Page 166
SCHURMAN WAY
S08°49'49"W
A PORTION OF AUDITOR'S FILE NO. 3328800
SOUTHWEST QUARTER, SECTION 11
TOWNSHIP 5 NORTH, RANGE 1 WEST W.M.
S01°11'00"E
09-12-12
RICHARD J. WILLIAMS
STATE OF WASHINGTON
34147
REGISTERED
PROFESSIONAL LAND SURVEYOR

ORDINANCE NO. _____

THE CITY OF WOODLAND, WASHINGTON

AN ORDINANCE AMENDING WMC TITLE 17 FOR THE PURPOSE OF COMPLIANCE WITH RCW 36.70A.695(2) AND THE DEVELOPMENT OF ELECTRIC VEHICLE INFRASTRUCTURE.

WHEREAS, during the 2009 session the Washington State Legislature passed House Bill 1481 (HB 1481), an Act relating to electric vehicles. The Bill addressed electric vehicle infrastructure including the structures, machinery, and equipment necessary and integral to support an electric vehicle, including battery charging stations, rapid charging stations, and battery exchange stations.

WHEREAS, the purpose of HB 1481 is to encourage the transition to electric vehicle use and to expedite the establishment of a convenient and cost-effective electric vehicle infrastructure that such a transition necessitates. The Legislature agreed that the development of a convenient infrastructure to recharge electric vehicles is essential to increase consumer acceptance of these vehicles. The State's success in encouraging this transition will serve as an economic stimulus to the creation of short-term and long-term jobs as the entire automobile industry and its associated direct and indirect jobs transform over time from combustion to electric vehicles.

WHEREAS, greenhouse gas emissions related to transportation constitute more than fifty percent of all greenhouse gas emissions in the State of Washington.

WHEREAS, the use of electricity from the Northwest as a transportation fuel instead of petroleum fuels results in significant reductions in the emissions of pollutants, including greenhouse gases, and reduces the reliance of the state on imported sources of energy for transportation.

WHEREAS, with the potential emerging market for plug-in electric vehicles, new industry standards have been adopted to ensure universal compatibility between vehicle manufacturers. Broad-based installation of new universally compatible charging stations is intended to ensure that plug-in electric vehicles will be a viable alternative to gasoline-powered vehicles.

WHEREAS, RCW 36.70A.695(2) requires that the City of Woodland must allow electric vehicle infrastructure as a use in all areas except those zoned for residential or resource use or critical areas by July 1, 2011; and

WHEREAS, because most of the recharging for private electric vehicles will be done in residential settings, which includes residences in residential as well as some resource areas or critical areas, and therefore allowing electric vehicle infrastructure in these areas is in the public interest; and

WHEREAS, pursuant to RCW 36.70A.695(2), this ordinance proposes to amend development regulations found in WMC 17.16, 17.20, 17.24, 17.32, 17.36, 17.40, 17.44, and 17.56 to allow electric vehicle infrastructure as a use in residential districts; commercial districts; industrial districts; and the public, quasi-public, institutional district; and

NOW THEREFORE, be it hereby ordained by the City Council of the City of Woodland:

Amend WMC 17.08 to include the following definitions:

17.08.___ "Battery exchange station" means a fully automated facility that will enable an electric vehicle with a swappable battery to enter a drive lane and exchange the depleted battery with a fully charged battery through a fully automated process, which meets or exceeds any standards, codes, and regulations set forth by chapter 19.27 RCW and consistent with rules adopted under RCW 19.27.540.

17.08.___ "Electric vehicle" means any vehicle that operates, either partially or exclusively, on electrical energy from the grid, or an off-board source, that is stored on-board for motive purpose. "Electric vehicle" includes: (1) a battery electric vehicle; (2) a plug-in hybrid electric vehicle; (3) a neighborhood electric vehicle; and (4) a medium-speed electric vehicle.

17.08.___ "Electric vehicle charging station" means a public or private parking space that is served by battery charging station equipment that has as its primary purpose the transfer of electric energy (by conductive or inductive means) to a battery or other energy storage device in an electric vehicle. An electric vehicle charging station equipped with Level 1 or Level 2 charging equipment is permitted outright as an accessory use to any principal use. "Charging levels" means the standardized indicators of electrical force, or voltage, at which an electric vehicle's battery is recharged. The terms 1, 2, and 3 are the most common EV charging levels, and include the following specifications:

- Level 1 is considered slow charging.
- Level 2 is considered medium charging.
- Level 3 is considered fast or rapid charging.

17.08.___ "Electric vehicle charging station — public" means an electric vehicle charging station that is (1) publicly owned and publicly available (e.g., Park & Ride parking, public library parking lot, on-street parking) or (2) privately owned and publicly available (e.g., shopping center parking, non-reserved parking in multi-family parking lots).

17.08.___ “Electric vehicle charging station — restricted” means an electric vehicle charging station that is (1) privately owned and restricted access (e.g., single-family home, executive parking, designated employee parking) or (2) publicly owned and restricted (e.g., fleet parking with no access to the general public).

17.08.___ “Electric vehicle infrastructure” means structures, machinery, and equipment necessary and integral to support an electric vehicle, including battery charging stations, rapid charging stations, and battery exchange stations.

17.08.___ “Rapid charging station” means an industrial grade electrical outlet that allows for faster recharging of electric vehicle batteries through higher power levels and that meets or exceeds any standards, codes, and regulations set forth by chapter 19.28 RCW and consistent with rules adopted under RCW 19.27.540.

Amend WMC 17.32.020 to add the following:

24. Electric vehicle infrastructure.

Amend WMC 17.36.020 to add the following:

36. Electric vehicle infrastructure.

Amend WMC 17.40.020 to add the following:

4. Electric vehicle infrastructure.

Amend WMC 17.44.020 to add the following:

30. Electric vehicle infrastructure.

Amend WMC 17.16.030 to add the following:

N. Electric vehicle charging stations for Level 1 and Level 2 charging are allowed as accessory to a principal outright permitted use or permitted conditional use.

Amend WMC 17.16.020 to add the following:

H. Rapid charging station meeting the definition of “electric vehicle charging station — restricted”.

Amend WMC 17.20.030 to add the following:

F. Electric vehicle charging stations for Level 1 and Level 2 charging are allowed as accessory to a principal outright permitted use or permitted conditional use.

Amend WMC 17.20.020 to add the following:

J. Rapid charging station meeting the definition of “electric vehicle charging station — restricted”.

Amend WMC 17.24.020 to add the following:

H. Electric vehicle infrastructure.

Amend WMC 17.56 to add the following section:

17.56.160 Electric Vehicle Charging Station Spaces

A. Purpose. For all parking lots or garages, except those that include restricted electric vehicle charging stations.

B. Number. No minimum number of charging station spaces is required.

C. Minimum Parking Requirements. An electric vehicle charging station space may be included in the calculation for minimum required parking spaces that are required pursuant to other provisions of code.

D. Location and Design Criteria. The provision of electric vehicle parking will vary based on the design and use of the primary parking lot. The following required and additional locational and design criteria are provided in recognition of the various parking lot layout options.

1. Where provided, parking for electric vehicle charging purposes is required to include the following:

a. Signage. Each charging station space shall be posted with signage indicating the space is only for electric vehicle charging purposes. Days and hours of operations shall be included if time limits or tow away provisions are to be enforced.

b. Maintenance. Charging station equipment shall be maintained in all respects, including the functioning of the charging equipment. A phone number or other contact information shall be provided on the charging station equipment for reporting when the equipment is not functioning or other problems are encountered.

c. Accessibility. Where charging station equipment is provided within an adjacent pedestrian circulation area, such as a sidewalk or accessible route to the building entrance, the charging equipment shall be located so as not to interfere with accessibility requirements of WAC 51-50-005.

d. Lighting. Where charging station equipment is installed, adequate site lighting shall exist, unless charging is for daytime purposes only.

2. Parking for electric vehicles should also consider the following:

a. Notification. Information on the charging station, identifying voltage and amperage levels and any time of use, fees, or safety information.

b. Signage. Installation of directional signs at the parking lot entrance and at appropriate decision points to effectively guide motorists to the charging station space(s).

E. Data Collection. To allow for maintenance and notification, the local permitting agency will require the owners of any private new electric vehicle infrastructure station that will be publicly available (see definition “electric vehicle charging station — public”) to provide information on the station’s geographic location, date of installation, equipment type and model, and owner contact information.

If any section, sentence, clause or phrase of this Ordinance shall be held to be unconstitutional or unlawful by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect the validity or constitutionality of any other section, sentence, clause or phrase of this Ordinance.

A Summary of this Ordinance shall be published.

This ordinance shall be in full force and effect five days after publication as required by law.

ADOPTED IN OPEN MEETING _____ DAY OF _____, 2012.

CITY OF WOODLAND, WASHINGTON

Approved:

_____
Grover Laseke, Mayor

Attest:

_____
Mari E. Ripp, Clerk / Treasurer

Approved as to form:

_____
Bill Eling, City Attorney

RCW 36.70A.695
Development regulations — Jurisdictions specified — Electric vehicle infrastructure.

(1) By July 1, 2010, the development regulations of any jurisdiction:

(a) Adjacent to Interstate 5, Interstate 90, Interstate 405, or state route number 520, with a population over twenty thousand, and located in a county with a population over one million five hundred thousand; or

(b) Adjacent to Interstate 5 and located in a county with a population greater than six hundred thousand; or

(c) Adjacent to Interstate 5 and located in a county with a state capitol within its borders;

planning under this chapter must allow electric vehicle infrastructure as a use in all areas except those zoned for residential or resource use or critical areas. A jurisdiction may adopt and apply other development regulations that do not have the effect of precluding the siting of electric vehicle infrastructure in areas where that use is allowed.

(2) By July 1, 2011, or six months after the distribution required under RCW 43.31.970 occurs, whichever is later, the development regulations of any jurisdiction adjacent to Interstate 5, Interstate 90, Interstate 405, or state route number 520 planning under this chapter must allow electric vehicle infrastructure as a use in all areas except those zoned for residential or resource use or critical areas. A jurisdiction may adopt and apply other development regulations that do not have the effect of precluding the siting of electric vehicle infrastructure in areas where that use is allowed.

(3) By July 1, 2011, or six months after the distribution required under RCW 43.31.970 occurs, whichever is later, the development regulations of any jurisdiction planning under this chapter must allow battery charging stations as a use in all areas except those zoned for residential or resource use or critical areas. A jurisdiction may adopt and apply other development regulations that do not have the effect of precluding the siting of electric vehicle infrastructure in areas where that use is allowed.

(4) Cities are authorized to adopt incentive programs to encourage the retrofitting of existing structures with the electrical outlets capable of charging electric vehicles. Incentives may include bonus height, site coverage, floor area ratio, and transferable development rights for use in urban growth areas.

(5) The definitions in this subsection apply throughout this section unless the context clearly requires otherwise.

(a) "Battery charging station" means an electrical component assembly or cluster of component assemblies designed specifically to charge batteries within electric vehicles, which meet or exceed any standards, codes, and regulations set forth by chapter 19.28 RCW and consistent with rules adopted under RCW 19.27.540.

(b) "Battery exchange station" means a fully automated facility that will enable an electric vehicle with a swappable battery to enter a drive lane and exchange the depleted battery with a fully charged battery through a fully automated process, which meets or exceeds any standards, codes, and regulations set forth by chapter 19.28 RCW and consistent with rules adopted under RCW 19.27.540.

(c) "Electric vehicle infrastructure" means structures, machinery, and equipment necessary and integral to support an electric vehicle, including battery charging stations, rapid charging stations, and battery exchange stations.

(d) "Rapid charging station" means an industrial grade electrical outlet that allows for faster recharging of electric vehicle batteries through higher power levels, which meets or exceeds any standards, codes, and regulations set forth by chapter 19.28 RCW and consistent with rules adopted under RCW 19.27.540.

(6) If federal funding for public investment in electric vehicles, electric vehicle infrastructure, or alternative fuel distribution infrastructure is not provided by February 1, 2010, subsection (1) of this section is null and void.

[2009 c 459 § 12.]

Notes:

Finding -- Purpose -- 2009 c 459: See note following RCW 47.80.090.

Regional transportation planning organizations -- Electric vehicle infrastructure: RCW 47.80.090.

Electric Vehicle Infrastructure

A Guide for Local Governments in Washington State

JULY 2010

Model Ordinance, Model Development Regulations, and Guidance Related to Electric Vehicle Infrastructure and Batteries per RCW 47.80.090 and 43.31.970

Department of Commerce
Innovation is in our nature.

Puget Sound Regional Council
PSRC

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Cover photo: Nissan Leaf

PREPARED WITH ASSISTANCE FROM:

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Summary

Model Ordinance, Model Development Regulations, and Guidance Related to Electric Vehicle Infrastructure and Batteries per RCW 47.80.090 and 43.31.970

Electric vehicles and electric vehicle charging stations are coming to Washington State. In 2009 the Washington State Legislature recognized this as both an economic and environmental priority and with the support of the Governor, enacted a new law designed to encourage electric vehicles.

To create a consistent regulatory framework that would help this industry grow across Washington State, the legislature required the Puget Sound Regional Council and Department of Commerce to develop guidance for local governments.

To meet this requirement, the Puget Sound Regional Council and Department of Commerce formed a broad-based technical advisory committee made up of local governments, charging equipment vendors, utilities, ports, state agencies, and consumer interests.

The state's new electric vehicle law requires that all local governments in Washington State allow electric vehicle charging stations in most of their zoning categories. Allowing charging stations creates the need to address a number of issues beyond zoning. These include on-street and off-street signage, charging station design standards, parking enforcement, accessibility for all users, SEPA exemptions, and more. These issues are addressed in this document.

The guidance includes the following:

- A discussion of the context within which charging stations are provided **(Introduction)**.
- A model ordinance **(Section 1)**.
- Model development regulations and, for topics where regulations may not be required or standards do not yet exist, information that is provided as guidance **(Section 2)**.
- A set of resource documents and glossary **(Section 3)**.
- Under a separate cover, the guidance includes a set of appendices that include templates, checklists, and research findings.

By addressing topics beyond allowed uses and zoning, the guidance provides options for local governments that want to go further than the minimum to support an efficient roll-out of electric vehicles and electric vehicle charging stations in their jurisdiction.

Introduction

In 2009 the Washington State Legislature passed and the Governor signed into law House Bill 1481 an Act relating to electric vehicles.[1] The law addresses electric vehicle infrastructure which are defined as the structures, machinery, and equipment necessary and integral to support an electric vehicle, including battery charging stations, rapid charging stations, and battery exchange stations.

The purpose of the law is to encourage the transition to electric vehicle use and to expedite the establishment of a convenient and cost-effective electric vehicle infrastructure that such a transition necessitates. The Legislature agreed that the development of a convenient infrastructure to recharge plug-in electric vehicles is essential to increase consumer acceptance of these vehicles.

As the state agency with expertise in land use and electric vehicle infrastructure, Section 18 of HB 1481 (codified as RCW 43.31.970) requires the Washington State Department of Commerce (Commerce) to distribute to local governments model ordinances, model development regulations, and guidance for local governments for siting and installing electric vehicle infrastructure, in particular battery charging stations, and for appropriate handling, recycling, and storage of electric vehicle batteries and equipment.

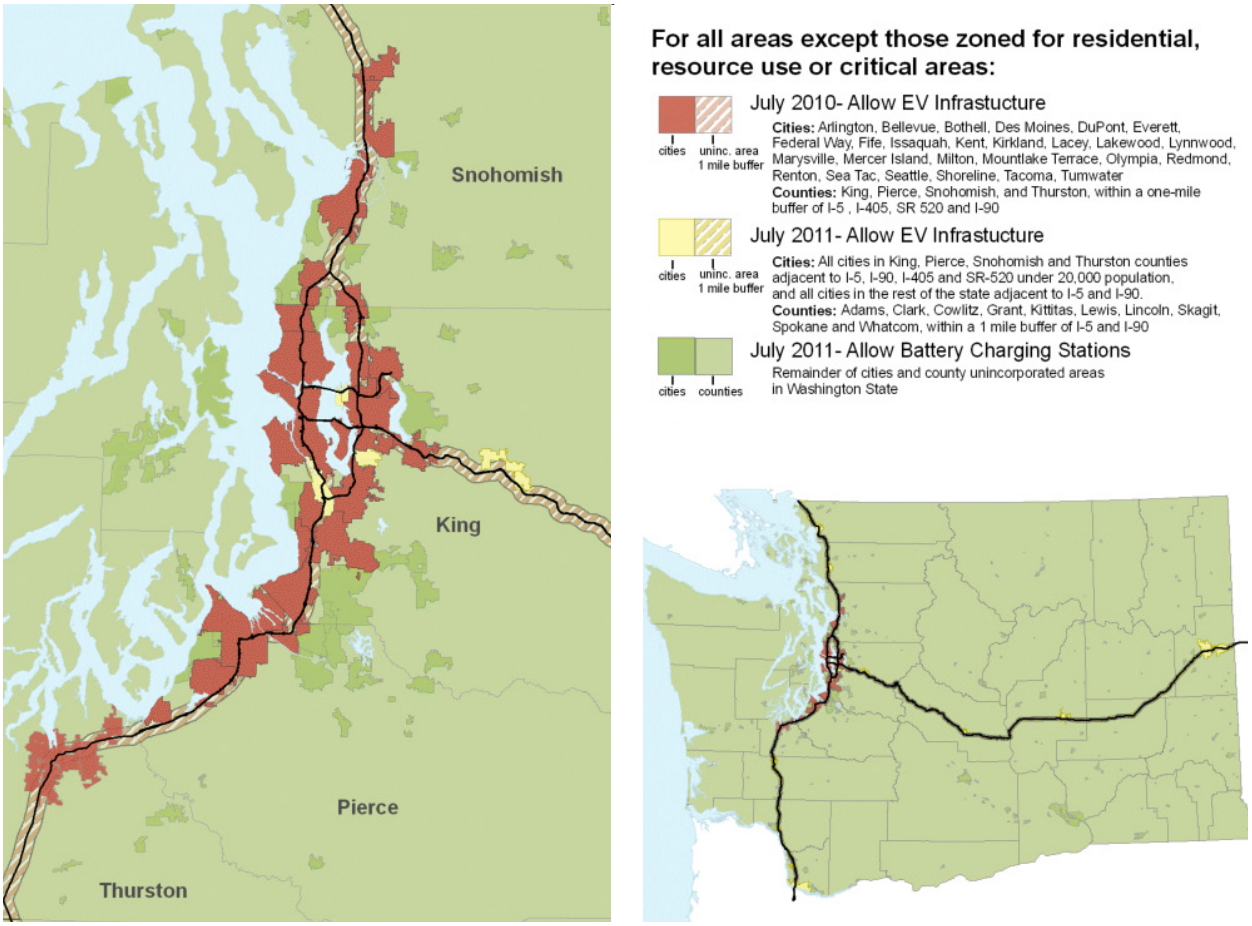
The law requires that local government development regulations allow electric vehicle infrastructure as a use in all zones except those zoned for residential, resource, or critical areas. This guidance extends the permitted use to these zones as well, although with some restrictions and limitations. The requirements apply to local jurisdictions as follows:

- By July 1, 2010, municipalities greater than 20,000 in population in King County that are adjacent to Interstate 5, Interstate 90, Interstate 405, or State Route 520, and all municipalities adjacent to I-5 in Pierce, Snohomish and Thurston Counties, must allow electric vehicle infrastructure (these municipalities are shown in red on the map on the following page).
- By July 1, 2011, municipalities less than 20,000 in population in King County that are adjacent to these freeways, and all municipalities statewide adjacent to I-5 and I-90 statewide, are required to allow electric vehicle infrastructure (shown in yellow).
- The remaining municipalities across the state are required to allow battery charging stations by July 1, 2011 (shown in green).
- For unincorporated county lands, the law imposes similar 2010 and 2011 deadlines for electric vehicle infrastructure, but only within a 1-mile buffer around these freeways (shown in red and yellow hatch-marks). For battery charging stations, the entire area of the county is affected — except those zoned for residential, resource, or critical areas — by 2011.

For both cities and counties, the law allows jurisdictions to adopt incentives programs as well as other development regulations that do not have the effect of precluding the siting of electric vehicle infrastructure in areas where that use is allowed.

> ***Comment:*** *For the jurisdictions required to allow electric vehicle infrastructure, the definition includes Battery Charging Stations (referred to as Level 1, Level 2, and Rapid charging), Rapid Charging Stations (referred to as Level 3 or Fast charging), and Battery Exchange Stations. For the jurisdictions required to allow Battery Charging Stations, the definition does not include Battery Exchange Stations (see Section 2, Chapter 1: Definitions).*

Figure 1. Electric Vehicle Infrastructure Requirements for Cities and Towns (per RCW 35.63.126, 35A.63.107, 36.70A.695) and for Counties (per RCW 36.70.695, 36.70A.695, 35.63.127)



An additional requirement under Section 7 (codified as RCW 43.19.648) is that by June 2015 local governments and state agencies must satisfy 100% of their fuel usage for operating publicly owned vessels, vehicles, and construction equipment from electricity or biofuel, to the extent determined practicable by rules adopted by Commerce (RCW 43.325.080). An interim requirement of 40% is set for state agencies for June 2013. Commerce has not yet initiated this rulemaking; however, Commerce is considering strategies to implement Section 7 as part of the State Energy Strategy (SES) update currently underway.[2]

To assist local jurisdictions in meeting the requirements set for them under the law, Section 2 (codified as RCW 47.80.090) requires that the Puget Sound Regional Council, in collaboration with representatives from the Department of Ecology, the Department of Commerce, local governments, and the Office of Regulatory Assistance, seek federal or private funding for the planning for, deployment of, or regulations concerning electric vehicle infrastructure. In particular, Section 2 of 47.80.090 includes the development of model ordinances and guidance for local governments for siting and installing electric vehicle infrastructure, in particular battery charging stations, and appropriate handling, recycling, and storage of electric vehicle batteries and equipment. When completed, PSRC is to submit the guidance to the state legislature, local jurisdictions within its jurisdiction, and to Commerce for distribution statewide.

In the fall of 2009, Commerce identified Energy Efficiency Community Block Grant (EECBG) funds to begin planning for deployment of and regulations for electric vehicle infrastructure. With the assistance of a consultant team, a Technical Advisory Committee representative of key stakeholders and jurisdictions from across the state (see inside of front cover for a list of committee members), and input from a broader set of

public and private entities in the electric vehicle industry and state agencies including the Department of Transportation, Department of Ecology, State Building Code Council, and Labor & Industries, PSRC and Commerce prepared model guidance. The model ordinance, model development regulations, and guidance is written so that individual sections can be lifted out and modified to suit local government needs while still meeting the requirements of the new law.

The Purpose of These Model Provisions

Several car manufacturers are preparing to commercialize electric-drive vehicle models. By 2012, an estimated 10 to 12 models of highway capable electric vehicles (EVs) will be available to consumers. Electric vehicle infrastructure (EVI) is necessary to serve this growing consumer base, and HB 1481 recognizes this need by requiring that local governments allow EVI. A review of local government codes indicates that there does not currently seem to be prohibitions to EVI. However, there is a need for local governments to adopt regulations to provide for consistency in the installation of EVI across the state to assist in quicker transition to electric vehicle use. In addition to development regulations, local governments may want to consider the use of guidance documents and other written materials that explain EVs and EVI (see Appendix B. Model Installation Guides for Charging Stations).

To assist local governments in meeting the purpose and requirements of the new law, the model provisions in this document include three key sections. These sections, and the use of ***"Comments"*** within each of these sections, are explained further below.

- **Model Ordinance (Section 1).** This section provides language that jurisdictions may include in their adopting ordinances for electric vehicle infrastructure. This language can be used unchanged or may be modified to suit local government needs. The model ordinance includes "Whereas" findings for both "fully planning" and "partially planning" jurisdictions.[3]
- **Model Development Regulations and Guidance (Section 2).** These regulations and guidance include and build on provisions in statute (see Appendix A for where the sections of HB 1481 have been codified in the RCW). The model regulations and guidance are summarized in Table 1 and include regulations that are designed to ensure that a local jurisdiction is consistent with the required provisions in RCW. In some cases, they include options which jurisdictions may choose to include in their development regulations that provide for additional allowance of EVI (for example, allowing for EVI in areas including those zoned for residential and some critical areas).

Table 1. Suggested Model Regulations and Guidance

CHAPTER	REGULATION	GUIDANCE
Definitions	EV and EVI related terms	None
Vehicles and Traffic	EV Enforcement	None
Zoning	Allowed Uses Off-street Parking Design	Accessibility Off-street Signage
Street, Sidewalks and Public Places	On-street Parking Design	On-street Signage
Buildings and Utilities	None	Battery Recycling and Handling State EVI Rules
SEPA	Categorical exemptions	None

- ***Comments.*** *The guidance also includes a variety of comments that provide supporting information and serve as a resource to local government for consideration in the adoption of development regulations and guidance for EVI. The comments generally provide information as to why the model development regulation and/or guidance are necessary and what the source is (e.g., best practice or regulation from another jurisdiction which has EVI).*
- **Resources (Section 3).** This section contains a listing of all the supporting resource documents, a glossary of terms, and the footnotes.
- **Appendices.** These support the model ordinance, model development regulations, and guidance. It includes the research documents, including a code compilation and listing of practices for local, regional, and state agencies identified from the code compilation, interview results, battery research, and a web-based EV driver survey. Appendix B includes EVI Model Installation Guides for single family and commercial parking lots that local jurisdictions can use at their permit counters.

Identification of Existing Codes

The consultant team researched codes, ordinances, incentives, state laws, standards, white papers, and other guiding documents from past efforts of jurisdictions and other agencies across the country, as well as some international, national, and local jurisdictions. The task included examining the known universe of ordinances, regulations, and guidance and evaluating which aspects of the research would be most useful for inclusion in the models and guidance.[4] Part of this research also included identification of those codes that would provide the highest value for follow-up with agencies to discuss and document best practices and lessons learned.[5] Once this research was completed, PSRC and Commerce convened a meeting with a Technical Advisory Committee to review the results of the research and begin the process of identifying what to include in the model ordinance, model development regulations, and guidance. The TAC included representatives of local governments, charging station vendors, utilities, state agencies, ports, and consumer groups working on deployment of electric vehicles in Washington State.

State Law

The consultant team also assessed any unique provisions of planning laws and regulations in states or provinces identified from the document research described above and compared them to Washington's planning statutes. This assessment included identification of any necessary adaptations statewide, given Washington's planning statutes. Based on a review of the documents, the consultant team concluded that none of the adopted or draft codes poses major conflicts with Washington planning statutes, such as the various planning enabling acts (including the Growth Management Act (GMA), and the State Environmental Policy Act (SEPA). However, as discussed, these statutes contain procedural requirements for the adoption of development regulations.

Growth Management Act

The legislation applies to all local governments in Washington State, including those planning under Washington's GMA, and those planning under other statutes. For GMA "Fully Planning" jurisdictions, the development regulations must be consistent with its comprehensive plan,[6] and therefore GMA's procedural requirements for comprehensive plans may affect the timing of a jurisdiction's adoption of development regulations for EVI.

Local governments planning under GMA should ensure that their comprehensive plans include policies that support the adoption of the proposed regulations. EVI considerations could affect several different elements of the comprehensive plan, including land use, capital facilities, utilities, and transportation. If the comprehensive plan already includes such policies or the policies are broadly stated to support EVI, the jurisdiction can adopt the proposed regulations at any time. However, if the comprehensive plan does not include such policies, the plan may need to be amended before the adoption of development regulations. Because the GMA generally allows comprehensive plan amendments to be adopted only once a year,[7] jurisdictions should plan ahead and evaluate the need for a comprehensive plan amendment well in advance of the adoption of development regulations for EVI.

In the situation where a jurisdiction wishes to implement the regulations outside the annual cycle, GMA allows amendments or revisions whenever an emergency exists or to resolve an appeal.[8] It is possible that an amendment outside the regular annual cycle could be justified by an "emergency" need to ensure consistency between the comprehensive plan, development regulations, and the requirements imposed by RCW 36.70A.695. In declaring such an emergency, the jurisdiction should be sure to adopt findings explaining the reasons for its declaration.

State Environmental Policy Act

SEPA requires state and local agencies to give proper consideration to environmental matters before taking major actions. If the initial environmental review of a proposed action (the "threshold determination") indicates that the action will have probable and significant adverse environmental impacts, a detailed environmental impact statement (EIS) must be prepared.[9] SEPA's procedural requirements, including the requirement to prepare a threshold determination, apply to "proposals for legislation and other major actions."[10] "Actions" include "[n]ew or revised agency rules, regulations, plans, policies, or procedures."[11] Thus, before adopting development regulations for EVI, jurisdictions must first prepare a threshold determination under SEPA. Given the limited scope of the suggested model regulations and anticipated minor impacts associated with the adoption of such regulations, SEPA review would not likely require the preparation of an EIS. Rather, it is anticipated jurisdictions would complete a non-project SEPA checklist that results in a Determination of Non-Significance or Mitigated Determination of Non-Significance.

It should also be noted that SEPA amendments (RCW 43.21C.410) provide that battery charging stations and battery exchange stations will not lose their categorically exempt status under the SEPA rules as a result of their being part of a larger proposal. This amendment regarding exemption status will be relevant when jurisdictions review proposals to construct projects that include battery charging stations and battery exchange stations. Model development regulations are provided in this document in regard to this categorical exemption (see Section 2, Chapter 5: SEPA).

Relationship to Other Codes and Standards

As noted above, the model ordinance, model development regulations, and guidance are written so that individual sections can be tailored to the particular needs and characteristics of a community, while still providing for cross-jurisdictional consistency for some standards (e.g., signage) to provide for the establishment of convenient, cost-effective electric vehicle infrastructure. Additionally, the code structure of local governments varies and the model development regulation text may need to be modified for local government use (for example, some jurisdictions have permitted uses in table format, others utilize text format, while others use a combination of both formats. Additionally, some public works standards are contained within code or in a separate design manual, or a mix of both). For development and construction permit reviews, local jurisdictions also rely upon state and national standards (see Section 2, Chapter 6: State Battery, Building and Electrical Provisions).

In regard to incentives for electric vehicles and infrastructure, potential conflicts with the constitutional prohibition against the gifting or lending of public funds could be raised,[12] for example in the context of various incentives offered to encourage the use of EVs, such as providing free parking spaces to EV users. Washington courts have held, however, that if public funds are being expended to carry out a fundamental purpose of the government, then no gift of public funds has been made.[13] The Legislature addressed a component of this issue in 2007 with the passage of Engrossed Second Substitute Bill 1303, section 206 (codified at RCW 43.01.250), which specifically authorizes the state to purchase electric power for the purpose of charging electric vehicles at state office locations for state vehicles or private vehicles of those conducting business with the state.

The potential impact of the regulatory authority of the Washington State Utilities and Transportation Commission, which has broad authority to regulate the rates, services, and practices of companies providing electricity service in Washington was also assessed.[14] This regulatory authority could be implicated by certain aspects of EVI and incentives. For example, private companies that charge customers for electricity provided at EV charging stations could be subject to the UTC's jurisdiction. UTC staff indicated verbally that they have not yet addressed this issue, which could require rulemaking by UTC or legislation in order to clarify that operators of EVI are not subject to UTC jurisdiction. Other states, such as Hawaii and California, have addressed this issue by passing laws that exclude operators of EVI from the definition of "public utility."[15]

Electric utilities that are subject to UTC jurisdiction may be constrained in their ability to charge preferential rates or subsidies for electricity used by EVs. In an analogous context, the UTC has previously ruled that electric utilities may not impose a surcharge on its users to subsidize construction costs for compressed natural gas vehicle refueling stations.[16] This issue may also require clarification through UTC rulemaking or legislation. It should be noted that the UTC recently adopted rules (WAC 480-100-505) requiring electric utilities to submit periodic reports evaluating certain "smart grid" technologies, including EVs.[17] These reports will assist the UTC in evaluating EVI issues and provide additional information that may be helpful to local and state government entities attempting to encourage EV use.

Section 1. Model Ordinance

Regarding Electric Vehicle Infrastructure and Batteries

Purpose of this Section. This section provides ordinance language that jurisdictions may utilize for their adopting ordinances. The language from the model ordinance can be used unchanged or modified to suit local government needs. The model ordinance includes "Whereas" findings for both "fully planning" and "partially planning" jurisdictions.

Proposed Ordinance No._____

Revisions to Title *[Insert List of Amended Titles]* for the Purpose of Compliance with *[Insert RCW Sections Applicable to Jurisdiction]* and the Development of Electric Vehicle Infrastructure.

Comment: *See Appendix A for list of RCWs affected under HB 1481.*

"Whereas" text for jurisdictions to use in their adopting ordinances is suggested in the language shown below. Local governments may also choose to add language from the following original bill finding:

"The legislature finds the development of electric vehicle infrastructure to be a critical step in creating jobs, fostering economic growth, reducing greenhouse gas emissions, reducing our reliance on foreign fuels, and reducing the pollution of Puget Sound attributable to the operation of petroleum-based vehicles on streets and highways. Limited driving distance between battery charges is a fundamental disadvantage and obstacle to broad consumer adoption of vehicles powered by electricity. In order to eliminate this fundamental disadvantage and dramatically increase consumer acceptance and usage of electric vehicles, it is essential that an infrastructure of convenient electric vehicle charging opportunities be developed. The purpose of this act is to encourage the transition to electric vehicle use and to expedite the establishment of a convenient, cost-effective, electric vehicle infrastructure that such a transition necessitates. The state's success in encouraging this transition will serve as an economic stimulus to the creation of short-term and long-term jobs as the entire automobile industry and its associated direct and indirect jobs transform over time from combustion to electric vehicles."

Whereas, During the 2009 session the Washington State Legislature passed House Bill 1481 (HB 1481), an Act relating to electric vehicles. The Bill addressed electric vehicle infrastructure including the structures, machinery, and equipment necessary and integral to support an electric vehicle, including battery charging stations, rapid charging stations, and battery exchange stations.

Whereas, The purpose of HB 1481 is to encourage the transition to electric vehicle use and to expedite the establishment of a convenient and cost-effective electric vehicle infrastructure that such a transition necessitates. The Legislature agreed that the development of a convenient infrastructure to recharge electric vehicles is essential to increase consumer acceptance of these vehicles. The State's success in encouraging this transition will serve as an economic stimulus to the creation of short-term and long-term jobs as the entire automobile industry and its associated direct and indirect jobs transform over time from combustion to electric vehicles.

Whereas, Greenhouse gas emissions related to transportation constitute more than fifty percent of all greenhouse gas emissions in the State of Washington.

Whereas, The use of electricity from the Northwest as a transportation fuel instead of petroleum fuels results in significant reductions in the emissions of pollutants, including greenhouse gases, and reduces the reliance of the state on imported sources of energy for transportation.

Whereas, With the potential emerging market for plug-in electric vehicles, new industry standards have been adopted to ensure universal compatibility between vehicle manufacturers. Broad-based installation of new universally compatible charging stations is intended to ensure that plug-in electric vehicles will be a viable alternative to gasoline-powered vehicles.

Whereas, This ordinance regarding electric vehicle infrastructure and batteries, revising *[Local government to insert list of amended Titles]*, contains *[Local government to insert # of sections, as applicable to jurisdiction standard practice]* sections of findings, as follows:

Section I — Procedural and Substantive Findings

Comment: *Text below to be modified by local governments, as applicable. For example, not all jurisdictions that are required to allow EVI are fully planning GMA jurisdictions so the "Whereas" findings related to GMA are not applicable to those jurisdictions. Also, some jurisdictions, after evaluating their Comprehensive Plans, may determine that no amendments to their comprehensive plans are required in order to adopt development regulations to implement EVI. For those jurisdictions, a "Whereas" finding in that regard would be provided.*

Additionally, jurisdictions may choose to provide text regarding regional and state coordination (e.g., countywide planning policies and development regulations that implement these policies). Last, while the statute provides an exception for areas zoned for residential or resource use or critical areas, allowing electric vehicle infrastructure in these zones may be appropriate and beneficial. As such, these "Whereas" statements can be revised to identify the zones in which the infrastructure will be allowed.

Whereas, *[insert section of RCW]* requires that *[insert jurisdiction name]* must allow electric vehicle infrastructure as a use in all areas except those zoned for residential or resource use or critical areas by *[insert deadline for compliance with RCW]*; and

Whereas, because most of the recharging for private electric vehicles will be done in residential settings, which includes residences in residential as well as some resource areas or critical areas, and therefore allowing electric vehicle infrastructure in these areas is in the public interest; and

Whereas, because businesses in resource areas and in some critical areas may want to install electric vehicle infrastructure and therefore allowing this infrastructure in these areas is in the public interest; and

Whereas, pursuant to *[Insert section of RCW]*, this ordinance proposes to amend development regulations found in *[insert Title(s) and Chapter(s) of local code containing development regulations]* to allow electric vehicle infrastructure as a use in *[local government to insert where EVI is allowed]*; and

Whereas, an amendment to the *[insert GMA jurisdiction name]* Comprehensive Plan is required in order to ensure consistency with the proposed development regulations, as required by RCW 36.70A.040; and

Whereas, RCW 36.70A.130(2)(b) authorizes the adoption of comprehensive plan amendments outside the normal annual cycle for such amendments "whenever an emergency exists," after appropriate public participation; and

Whereas, *[jurisdiction name]* finds that the need to amend the *[insert GMA jurisdiction name]* Comprehensive Plan to ensure consistency with the proposed development regulations constitutes an emergency under RCW 36.70A.130(2)(b);

Comment: *It should be noted that an "emergency" under RCW 36.70A.130(2)(b) is not the same as other types of emergencies that may be declared by cities and counties, such as "public" emergencies under RCW 35A.12.130 or "nondebatable" emergencies under RCW 36.40.180. A finding of "emergency" under RCW 36.70A.130(2)(b) allows local government to amend the comprehensive plan outside of the normal annual cycle and to limit public participation to what is "appropriate" under the circumstances. For example, see Clark Revocable Living Trust v. City of Covington, WWGMHB Case No. 02-3-005 (September 27, 2002) (holding that amendments within the exception of RCW 36.70A.130(2)(b) are not subject to normal GMA process requirements). However, unlike a finding of "public" emergency under RCW 35A.12.130 or a finding of "nondebatable" emergency under RCW 36.40.180, a finding of "emergency" under RCW 36.70A.130(2)(b) does not make the ordinance effective upon adoption or automatically allow action to be taken without a hearing or public notice.*

Section II — Attachments

[Local government to add amended or new sections of code, as applicable]

Now, Therefore, be it Ordained as Follows:

Adopted this _____ day of _____, 2010, at _____ .

[Insert local government signature block]

Section 2. Model Development Regulations and Guidance

Regarding Electric Vehicle Infrastructure and Batteries

Purpose of this Section. Except for RCW 43.19.648 which addresses usage of electricity as a fuel source, public agencies or private entities are not required to install EVI. Instead, these model regulations and guidance are provided to assist jurisdictions to efficiently and effectively allow EVI. In some cases, they include and go beyond "must allow" for EVI by including development regulations that provide for additional allowance of EVI (see Chapter 3: Zoning: allow for EVI in areas including those zoned for residential and some critical areas, such as aquifer recharge areas).

Some provisions also provide options for local governments. For example, if a jurisdiction wishes to utilize an enforcement mechanism that prevents internal combustion engine cars from parking in electric vehicle charging stations, regulations are provided. And, in some chapters, a section of guidance is provided. These are topics where either there may not be clearly defined standards (such as accessibility) or there are clear standards (such as signage) and there is nothing a local jurisdiction needs to adopt in their development regulations.

Chapters:

Chapter 1. Definitions
Chapter 2. Vehicles and Traffic
Chapter 3. Zoning
Chapter 4. Streets, Sidewalks, and Public Places
Chapter 5. SEPA
Chapter 6. State Battery, Building, and Electrical Provisions

Chapter 1. Definitions

Definitions. This Chapter ensures that terms are defined consistently with the RCW and with other regulatory documents. Additionally, local governments may choose to develop user-friendly written materials that explain EVI (see Appendix B: "Model Installation Guides for Charging Stations"). All such documents should utilize the definitions and terminology below for consistent understanding.

To improve consistency across jurisdictions, these definitions should also be considered for adoption at the state level.

A. Regulations

1.1: "Battery charging station" means an electrical component assembly or cluster of component assemblies designed specifically to charge batteries within electric vehicles, which meet or exceed any standards, codes, and regulations set forth by chapter 19.28 RCW and consistent with rules adopted under RCW 19.27.540.

> ***Comment:*** *As defined in HB 1481 (codified as RCW 35.63.126(5)(a), RCW 35.63.127(5)(a), RCW 35A.63.107(5)(a), RCW 36.70.695(5)(a), RCW 36.70A.695(5)(a) and RCW 47.80.090(3)(a). Battery charging stations include Level 1, Level 2, and Level 3 charging stations (see definition 1.4).*

1.2: "Battery electric vehicle (BEV)" means any vehicle that operates exclusively on electrical energy from an off-board source that is stored in the vehicle's batteries, and produces zero tailpipe emissions or pollution when stationary or operating.

> ***Comment:*** *Definition is a subcategory of electric vehicles (see "Electric Vehicle" below).*

1.3: "Battery exchange station" means a fully automated facility that will enable an electric vehicle with a swappable battery to enter a drive lane and exchange the depleted battery with a fully charged battery through a fully automated process, which meets or exceeds any standards, codes, and regulations set forth by chapter 19.27 RCW and consistent with rules adopted under RCW 19.27.540.

> ***Comment:*** *As defined in HB 1481 (codified as RCW 35.63.126(5)(b), RCW 35.63.127(5)(b), RCW 35A.63.107(5)(b), RCW 36.70.695(5)(b), RCW 36.70A.695(5)(b) and RCW 47.80.090(3)(b).*

1.4: "Charging levels" means the standardized indicators of electrical force, or voltage, at which an electric vehicle's battery is recharged. The terms 1, 2, and 3 are the most common EV charging levels, and include the following specifications:

- Level 1 is considered slow charging.
- Level 2 is considered medium charging.
- Level 3 is considered fast or rapid charging.

> ***Comment:*** *Definitions provided for consistent use and understanding of various charging levels and are modified from definitions and usage in various resource documents.[18] Level 1 is present in homes and businesses and typically operates on a 15- or 20-amp breaker on a 120-volt Alternating Current (AC) circuit and standard outlet. Level 2 is expected to become the standard for home and public charging and typically operates on a 40-amp to 100-amp breaker on a 208 or 240-volt AC circuit.*
>
> *Level 3 is primarily for commercial and public applications (e.g., taxi fleets and charging along freeways) and typically operates on a 60-amp or higher dedicated breaker on a 480-volt or higher three-phase circuit with special grounding equipment. Note that the term "Level 3" is recommended to identify the increased power need in a numerical fashion (i.e., "3"), but the Level 3 charging level is also sometimes*

referred to as "Fast" charging,[19] and "Rapid" charging (see definition of Rapid Charging Station below). Use of "Level 3" also appears in other EVI documents (e.g., see page 25 of the "Report of the Alternative Fuel Vehicle Infrastructure Working Group").[20]

It is important to note that only the terms "Level 1" and "Level 2" are consistently used between industry and consumers. The use of "Level 3" is not consistently used at this time. Once a consistent term is defined, local governments should adopt amendments to adopted definitions. Opportunities for amendments to development regulations include a jurisdiction's annual evaluation and amendment process or as part of the required GMA periodic update process (RCW 36.70A.130).

1.5: "Electric scooters and motorcycles" means any 2-wheel vehicle that operates exclusively on electrical energy from an off-board source that is stored in the vehicle's batteries and produces zero emissions or pollution when stationary or operating.

Comment: *These vehicles are defined as being distinct from "electric vehicle" to enable local governments to treat parking and charging locations for them separately.*

1.6: "Electric vehicle" means any vehicle that operates, either partially or exclusively, on electrical energy from the grid, or an off-board source, that is stored on-board for motive purpose. "Electric vehicle" includes: (1) a battery electric vehicle; (2) a plug-in hybrid electric vehicle; (3) a neighborhood electric vehicle; and (4) a medium-speed electric vehicle.

Comment: *This definition provides for inclusion of a variety of electric vehicles and is modeled after a definition used in the State of Minnesota[21] and is designed for regulatory purposes, so that factors such as signage are not required to call out detailed differences among BEVs, PHEVs, NEVs, and MSEVs. Note that extended range electric vehicles (EREV) are not separately defined but are included in the definitional components for PHEV (i.e., runs on electricity from its battery, and then it runs on electricity it creates from gas). Other terms, such as Grid Enabled Vehicle (GEV), are also sometimes used when referring to PHEVs and EVs together.*

1.7: "Electric vehicle charging station" means a public or private parking space that is served by battery charging station equipment that has as its primary purpose the transfer of electric energy (by conductive or inductive means) to a battery or other energy storage device in an electric vehicle. An electric vehicle charging station equipped with Level 1 or Level 2 charging equipment is permitted outright as an accessory use to any principal use.

Comment: *This definition is modeled after a definition for "electric vehicle parking space" used in the City of Davis.[22] The Davis definition has been modified to combine the parking and battery charging characteristics into one definition as these features are functionally related. As the electric vehicle charging station facility is not a parking facility, its interaction with accessibility provisions is different from that of a parking space (see Section 3.3).*

Regarding allowed uses, Level 1 and Level 2 charging are expected to be a secondary use, not the principal use. However, Level 3 (i.e., Rapid or Fast) may be a primary use given their size and scale, as well as their potential to generate traffic and vehicle queuing, and therefore the need to mitigate the associated impacts. As such, Level 3 is to be permitted differently (see section 3.1).

The inclusion of permitted uses in the definition is meant to allow a jurisdiction to add EV charging stations categorically to existing allowed uses tables (see Section 3.1, Option 2). If a jurisdiction adds a new Allowed Uses table for the different types of Electric Vehicle Infrastructure (see Section 3.1, Option 1), inclusion of permitted uses in the definition may not be necessary.

1.8: "Electric vehicle charging station — restricted" means an electric vehicle charging station that is (1) privately owned and restricted access (e.g., single-family home, executive parking, designated employee parking) or (2) publicly owned and restricted (e.g., fleet parking with no access to the general public).

> ***Comment:*** *This definition is provided to clarify that the off-street parking requirements Chapter 3: Zoning, do not apply to "restricted" EV charging stations. (See subsection 3.2.01A).*

1.9: "Electric vehicle charging station — public" means an electric vehicle charging station that is (1) publicly owned and publicly available (e.g., Park & Ride parking, public library parking lot, on-street parking) or (2) privately owned and publicly available (e.g., shopping center parking, non-reserved parking in multi-family parking lots).

> ***Comment:*** *This definition is provided to clarify the variety of charging stations that are anticipated to be publicly available.*

1.10: "Electric vehicle infrastructure" means structures, machinery, and equipment necessary and integral to support an electric vehicle, including battery charging stations, rapid charging stations, and battery exchange stations.

> ***Comment:*** *As defined in HB 1481 (codified as RCW 35.63.126(5)(c), RCW 35.63.127(5)(c), RCW 35A.63.107(5)(c), RCW 36.70.695(5)(c), RCW 36.70A.695(5)(c) and RCW 47.80.090(3)(c). Per these definitions, this term is broader than Electric Vehicle Service Equipment (ESVE) which refers to the charging equipment, cable and connector.*

1.11: "Electric vehicle parking space" means any marked parking space that identifies the use to be exclusively for the parking of an electric vehicle.

> ***Comment:*** *While this term is not used other than in this chapter, it provides the potential for a space to be designated, perhaps as an incentive by a private company, for electric vehicles even if charging equipment is not provided.*

1.12: "Medium-speed Electric Vehicle" means a self-propelled, electrically powered four-wheeled motor vehicle, equipped with a roll cage or crush-proof body design, whose speed attainable in one mile is more than 25 miles per hour but not more than 35 miles per hour and otherwise meets or exceeds the federal regulations set forth in 49 C.F.R. Sec. 571.500.

> ***Comment:*** *Definition of a subcategory of electric vehicles (see "Electric Vehicle" above). Definition from RCW 46.04.295, as amended in 2010 by SSB 6346.*

1.13: "Neighborhood Electric Vehicle" means a self-propelled, electrically powered four-wheeled motor vehicle whose speed attainable in one mile is more than 20 miles per hour and not more than 25 miles per hour and conforms to federal regulations under Title 49 C.F.R. Part 571.500.

> ***Comment:*** *Definition of a subcategory of electric vehicles (see "Electric Vehicle" above). Definition from RCW 46.04.357.*

1.14: "Non-Electric Vehicle" means any motor vehicle that does not meet the definition of "electric vehicle."

1.15: "Plug-in hybrid electric vehicle (PHEV)" means an electric vehicle that (1) contains an internal combustion engine and also allows power to be delivered to drive wheels by an electric motor; (2) charges its battery primarily by connecting to the grid or other off-board electrical source; (3) may additionally be able to sustain battery charge using an on-board internal-combustion-driven generator; and (4) has the ability to travel powered by electricity.

> ***Comment:*** *Definition of a subcategory of electric vehicles (see "Electric Vehicle" above).*

1.16: "Rapid charging station" means an industrial grade electrical outlet that allows for faster recharging of electric vehicle batteries through higher power levels and that meets or exceeds any standards, codes, and regulations set forth by chapter 19.28 RCW and consistent with rules adopted under RCW 19.27.540.

Comment: *As defined in HB 1481 (codified as RCW 35.63.126(5)(d), RCW 35.63.127(5)(d), RCW 35A.63.107(5)(d), RCW 36.70.695(5)(d), RCW 36.70A.695(5)(d) and RCW 47.80.090(3)(d).*

Chapter 2. Vehicles and Traffic

Vehicles and Traffic. This Chapter provides model regulations for when a local jurisdiction chooses to authorize enforcement for non-electric vehicles that park in electric vehicle charging station spaces or for electric vehicles parked out of compliance with posted days and hours of charging operation. These model regulations are only for electric vehicle charging station spaces located in publicly owned and/or operated parking areas (e.g., on-street parking, municipal garages, park-and-ride lots, etc.). Signage for enforcement is included in Chapter 4: Street, Sidewalks and Public Places.

A. Regulations

Section 2.1: Electric Vehicle Charging Stations — Generally

2.1.01: Electric vehicle charging stations are reserved for parking and charging electric vehicles only.

2.1.02: Electric vehicles may be parked in any space designated for public parking, subject to the restrictions that would apply to any other vehicle that would park in that space.

> ***Comment:*** *The purpose of adopting enforcement provisions for electric vehicle charging station spaces is to maximize the use of limited EV public infrastructure.*

Section 2.2: Prohibitions

2.2.01: Pursuant to Section 2.4, when a sign authorized under Section 2.3 provides notice that a space is a designated electric vehicle charging station, no person shall park or stand any non-electric vehicle in a designated electric vehicle charging station space. Any non-electric vehicle is subject to fine or removal.

> ***Comment:*** *The purpose of adopting enforcement provisions for non-electric vehicles parking in electric vehicle charging station spaces is to ensure that the space is available for EV drivers. As found in a recent EV driver survey, 22% of the problems encountered at public charging stations were attributed to EV spaces being occupied by non-EVs.*[23]

2.2.02: Pursuant to Section 2.4, any electric vehicle in any designated electric vehicle charging station space and not electrically charging or parked beyond the days and hours designated on regulatory signs posted at or near the space, shall be subject to a fine and/or removal. For purposes of this subsection, "charging" means an electric vehicle is parked at an electric vehicle charging station and is connected to the charging station equipment.

> ***Comment:*** *In regard to assessing whether an electric vehicle is not charging, being plugged in and connected to the charging station equipment serves as the charging indicator.*

Section 2.3: Noticing of Electric Vehicle Charging Stations

2.3.01: Upon adoption by the *[insert jurisdiction]*, the *[insert jurisdiction]* engineer shall cause appropriate signs and marking to be placed in and around electric vehicle charging station spaces, indicating prominently thereon the parking regulations. The signs shall define time limits and hours of operation, as applicable, shall state that the parking space is reserved for charging electric vehicles and that an electric vehicle may only park in the space for charging purposes. Violators are subject to a fine and/or removal of their vehicle.

> ***Comment:*** *Wherever possible, MUTCD signage standards should be used.*[24] *Also, see signage guidance in Chapter 4: Streets, Sidewalks and Public Places. Note that these signage recommendations are included as guidance as they contain a combination of MUTCD and non-recognized MUTCD signs. Also, adopting time limits will be a local choice. Jurisdictions may define time limits for reasons other than just charging (e.g., for turnover of parking adjacent to businesses, such as retail).*

Section 2.4: Violations-Penalties

2.4.01: Violations of this chapter shall be punishable as infractions. Punishment shall be by a fine not to exceed the fine prescribed in accordance with section _____of the *[insert jurisdiction]* code. Each day such violation is committed shall constitute a separate offense and shall be punishable as such.

2.4.02: In addition to a fine, a person who has parked or left a vehicle standing upon a street, alley, or [insert jurisdiction] parking lot or garage in violation of this article is subject to having the vehicle removed from the street, alley, or [insert jurisdiction] parking lot or garage by any member of the police department authorized by the police chief or designated law official in the manner and subject to the requirements of the _____ . *[insert]*

Comment: *All of the above sections are modeled after regulations adopted by the City of Davis. (See footnote 22.)*

Chapter 3. Zoning

Zoning. This Chapter ensures that local governments meet the requirements in HB 1481 to allow electric vehicle infrastructure as a "use" in all areas, except those zoned for residential or resource use or critical areas. It also includes regulations for when they choose to also to allow Level 1, Level 2, and Level 3 charging stations (with some limitations) in residential and resource zones and critical areas, given that the statute contains **no** prohibition on allowing this infrastructure in any zones.

This chapter also contains guidance related to accessible use of EV charging stations for all users, and clarifies how these stations are different than typical parking spaces in terms of accessibility regulations. Additionally, this Chapter includes model development regulations and guidance that a jurisdiction may impose to provide guidance when a private property owner chooses to provide electric vehicle charging stations.

A. Regulations

Section 3.1: Allowed Uses

Option 1:

Comment: *As many local governments list their use regulations in a table format, this format is provided below. While the reference to the specific applicable types of zones will vary in comparison to the broad zone category listed below, the zones in which the use must be allowed and the related development standard should be common across jurisdictions. The table below includes highlighting for purpose of quickly identifying where EVI must be allowed (i.e., as a use in all areas except those zoned for residential or resource use or critical areas, consistent with the statute.*

Jurisdictions should also consider adopting the other provisions in the table below to support efficient and effective transition to electric vehicles. An example, as noted in a number of Resource documents at the end of this Guidance, the majority of charging will occur in homes. This is why electric vehicle infrastructure in residential and mixed-use areas is included in the allowed uses table.

EVI TYPE	ZONING DISTRICT						
	LOW-DENSITY RESIDENTIAL	HIGH-DENSITY RESIDENTIAL	MIXED-USE	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	RESOURCE
EV Charging Station [1, 2]	P[3]	P[3]	P	P	P	P	P[3]
Rapid Charging Station [4]	P[5]	P[5, 6]	P or P[6]	P	P	P	P[3]
Battery Exchange Station				P	P	P	

P: Use is permitted. Absence of "P": Use is not allowed in the given zoning district.

DEVELOPMENT STANDARDS

1. Level 1 and Level 2 charging only.
2. Level 1 and Level 2 charging are permitted in aquifer recharge areas and in other critical areas when serving an existing use.
3. Allowed only as accessory to a principal outright permitted use or permitted conditional use.
4. The term "Rapid" is used interchangeably with Level 3 and Fast Charging.
5. Only "electric vehicle charging stations - restricted" as defined in Chapter 1, subsection A.1.8.
6. Local governments may choose to allow Level 3 charging stations as an outright permitted use or may determine that it is appropriate to adopt development standards applicable to the mixed-use or high density residential zoning districts. For example, there may be instances where this type of charging station would require screening or placement within a parking garage to meet other objectives of the mixed-use zone (e.g., a pedestrian friendly environment) or high-density residential zone.

Option 2:

Comment: *Add battery exchange stations and rapid charging stations (also known as Level 3 charging and Fast charging) as an allowed use in all zones, except those zoned for residential or resource use or critical areas. Note that installation of these uses must be consistent with the rules for EVI requirements adopted by the State Building Code Council, and the rules adopted by the Department of Labor and Industries for the installation of EVI, including all wires and equipment that convey electric current and any equipment to be operated by electric current, in, on, or about buildings or structures (RCW 19.27.540 and RCW 19.28.281) — see Chapter 6: State Battery, Building and Electrical Provisions. Local governments may choose to modify the suggested Allowed Use model regulations below and adopt development regulations which reference this consistency requirement.*

Note that Level 1 and Level 2 battery charging stations, defined as "electric vehicle charging station" in Chapter 1: Definitions, are not listed as an allowed use in this Allowed Uses option. This is because these types of charging stations are similar to other building and street infrastructure (e.g., parking meters) and do not function as a separate land use. However, since the statute states, in part, that jurisdictions "must allow electric vehicle infrastructure as a use," and the definition of EVI includes battery charging stations, the definition of "electric vehicle charging station" in Chapter 1 provides that these types of battery charging stations are allowed as accessory to the specific principal use that they serve.

3.1.01: Rapid Charging Stations

Rapid charging stations in Vacaville, California. Photos: Darell Dickey.

3.1.02: Battery Exchange Stations

To view a video of a battery exchange station, follow this link to Better Place: *http://www.betterplace.com/global-progress-japan*

Battery Exchange Station in Tokyo. Photo: Better Place.

Section 3.2: Off Street Parking — Electric Vehicle Charging Stations

To ensure an effective installation of electric vehicle charging stations, the regulations in this subsection provide a framework for when a private property owner chooses to provide electric vehicle charging stations (also, see Appendix C: Model Electric Vehicle Charging Station Installation Checklist).

3.2.01: Electric Vehicle Charging Station Spaces

A. Purpose. For all parking lots or garages, except those that include restricted electric vehicle charging stations.

B. Number. No minimum number of charging station spaces is required.

C. Minimum Parking Requirements. An electric vehicle charging station space may be included in the calculation for minimum required parking spaces that are required pursuant to other provisions of code.

D. Location and Design Criteria. The provision of electric vehicle parking will vary based on the design and use of the primary parking lot. The following required and additional locational and design criteria are provided in recognition of the various parking lot layout options.

1. Where provided, parking for electric vehicle charging purposes is required to include the following:
   a. Signage. Each charging station space shall be posted with signage indicating the space is only for electric vehicle charging purposes. Days and hours of operations shall be included if time limits or tow away provisions are to be enforced.
   b. Maintenance. Charging station equipment shall be maintained in all respects, including the functioning of the charging equipment. A phone number or other contact information shall be provided on the charging station equipment for reporting when the equipment is not functioning or other problems are encountered.
   c. Accessibility. Where charging station equipment is provided within an adjacent pedestrian circulation area, such as a sidewalk or accessible route to the building entrance, the charging equipment shall be located so as not to interfere with accessibility requirements of WAC 51-50-005.
   d. Lighting. Where charging station equipment is installed, adequate site lighting shall exist, unless charging is for daytime purposes only.
2. Parking for electric vehicles should also consider the following:
   a. Notification. Information on the charging station, identifying voltage and amperage levels and any time of use, fees, or safety information.
   b. Signage. Installation of directional signs at the parking lot entrance and at appropriate decision points to effectively guide motorists to the charging station space(s).

E. Data Collection. To allow for maintenance and notification, the local permitting agency will require the owners of any private new electric vehicle infrastructure station that will be publicly available (see definition "electric vehicle charging station — public") to provide information on the station's geographic location, date of installation, equipment type and model, and owner contact information.

B. Guidance

Section 3.3: Accessible Electric Vehicle Charging Stations

Comment: *Accessibility standards specific to electric vehicle infrastructure are not currently established in the WAC. As such, this guidance is provided to assist local jurisdictions in establishing compliance with the Americans with Disabilities Act and its enactment through the WAC, as appropriate to the unique characteristics of this infrastructure given their function as charging facilities. Generally, as Electric Vehicle Charging Stations are provided where ADA accessible parking is already provided, a key issue is for the equipment itself to have accessible heights, controls, and operating mechanisms that allow*

the disabled to use it. For local jurisdictions, the responsibility is for permitting agencies to ensure the equipment meets the requirements and, in on-street and off-street environments, to ensure that there be an accessible route from the electric vehicle charging stations to the building or path of travel.

The accessibility guidance below is comparable to accessibility provisions that require that some percentage of hotel rooms be accessible (i.e., an accessible hotel room can be used by anyone, but is located and designed for persons with disabilities). Similarly, some percentage of EV charging stations should be accessible to all users because they offer a service to the general public. The percentage is shown below, as are provisions describing different options for siting accessible EV charging stations. Until such time as the state amends WAC 51-50-005 with regard to barrier-free access for EVI (see RCW 19.27.540), this guidance will assist local governments in ensuring that reasonable accommodation is provided for EV drivers with disabilities.

3.3.01: Quantity and Location

Where electric vehicle charging stations are provided in parking lots or parking garages, accessible electric vehicle charging stations shall be provided as follows:

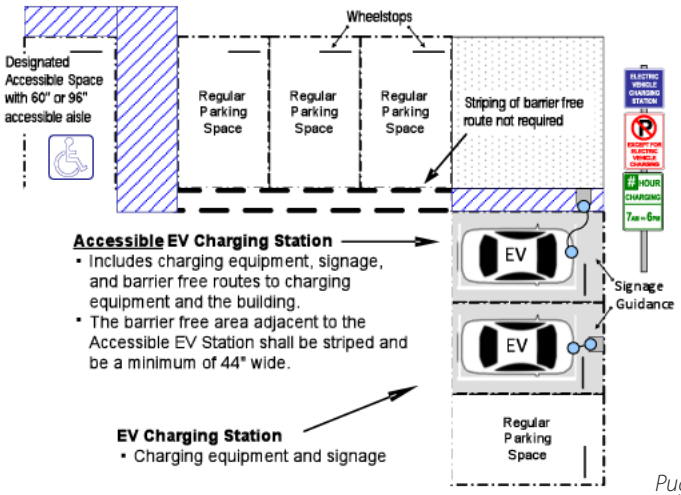
A. Accessible electric vehicle charging stations shall be provided in the ratios shown on the following table.

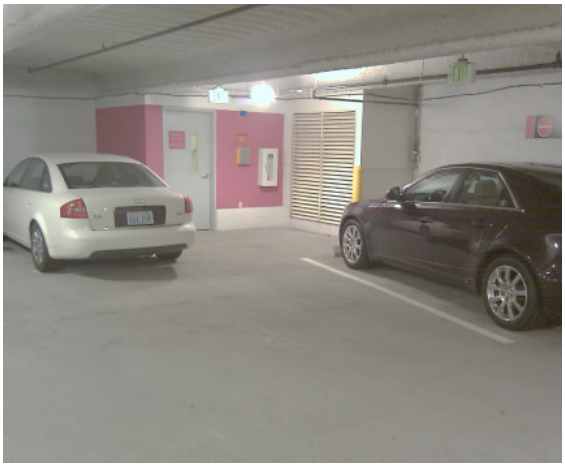
NUMBER OF EV CHARGING STATIONS	MINIMUM ACCESSIBLE EV CHARGING STATIONS
1-50	1
51-100	2
101-150	3
151-200	4
201-250	5
251-300	6

Comment: *Recognizing that an ADA accessible stall will already be available in the parking lot or garage, the table at right reflects the approach of some of the federally-funded electric vehicle infrastructure projects, the currently limited market penetration rates of electric vehicles, current information regarding automakers plans for vehicle types and sizes that will be publicly available in the next few years, and information from the survey of current EV drivers regarding accessibility. As the market share grows for electric vehicles and as new vehicles are made available, the ratio of stations shown in the table above should be re-evaluated. As previously noted, this guidance exists until and unless the state amends WAC 51-50-005 to specifically address EVI.*

B. Accessible electric vehicle charging stations should be located in close proximity to the building or facility entrance and shall be connected to a barrier-free accessible route of travel. It is not necessary to designate the accessible electric vehicle charging station exclusively for the use of disabled persons. Below are two options for providing for accessible electric vehicle charging stations.

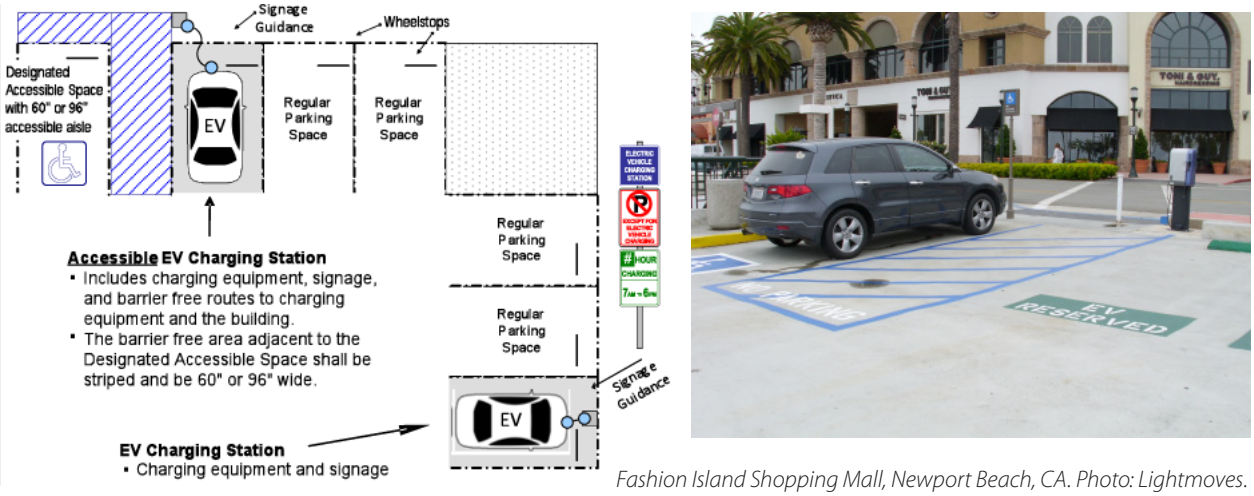
Figure: Off-Street Accessible Electric Vehicle Charging Station — Option 1





Puget Sound area parking garage. Photo: Ecotality North America.

Figure: Off-Street Accessible Electric Vehicle Charging Station — Option 2



Fashion Island Shopping Mall, Newport Beach, CA. Photo: Lightmoves.

Comment: *The illustrations and photos above show two options for providing accessible EV charging stations. Option 1 is a likely scenario for installation in existing parking lots. By using an existing wider end parking stall or restriping, an accessible EV charging station may be more cost effectively installed. Where feasible, a wider clear area around the equipment (60") is preferable. Additionally, this location away from the near building prime parking has a better likelihood of being available for disabled persons, since the accessible charging station is not exclusively reserved for disabled persons. Option 2 provides a location that has a shorter travel distance for disabled persons and can be easily installed in a new parking lot. This option may allow the installer to provide a wider, more fully-compliant aisle.*

While other options, depending on the specific layout of the new or reconfigured parking area, are likely, at a minimum, an accessible EV charging station must be located within accessible reach of the barrier-free access aisle (minimum 44-inch width) and the electric vehicle and connect to a barrier-free route of travel. However, because the charging station facility is not a parking facility, the accessible charging station does not need to be located immediately adjacent to the building entrances or reserved exclusively for the use of disabled persons.

3.3.02: Definitions

A. Designated Accessible Space. A WAC 51-50-005 required accessible parking space designated for the exclusive use of parking vehicles with a State Disabled Parking Permit.

B. Accessible Electric Vehicle Charging Station. An electric vehicle charging station where the battery charging station equipment is located within accessible reach of a barrier-free access aisle (minimum 44-inch width) and the electric vehicle.

Section 3.4: Signage

3.4.01: Directional — Off-street Parking Lot or Parking Garage

Comment: *The directional sign for an on-site parking lot or parking garage should be used in the parking facility with a directional arrow at all decision points.*

12″ X 12″

12″ X 6″

Section 3.4.02: Off-street EV Parking — Parking Space with Charging Station Equipment

Comment: *Combination sign identifying space as an electric vehicle charging station, prohibiting non-electric vehicles, with charging time limits. The use of time limits is optional. The blue/white and red/black signs define that only an electric vehicle that is charging can use the spaces. The green sign defines time limits for how long an electric vehicle can be in the space during the specified hours. Outside of the specified hours, electric vehicles can charge for an indefinite period of time.*

12″ X 12″

12″ X 18″

12″ X 18″

Chapter 4. Streets, Sidewalks, and Public Places

Streets, Sidewalks, and Public Places. This Chapter provides model regulations for when a jurisdiction chooses to install electric vehicle charging station stations in publicly owned and/or operated parking areas (e.g., on-street parking, municipal garages, park-and-ride lots, etc.).

Signage for way-finding (i.e., directional signage), and regulatory and general service signage for the EV charging space is also provided. Note that use of the directional signage that identifies the level of charging available at the charging station is not an approved sign and is subject to future FHWA approval.

A. Regulations

Section 4.1: On-street Electric Vehicle Charging Stations — Generally

A. Purpose. Curbside electric vehicle charging stations adjacent to on-street parking spaces are reserved for charging electric vehicles.

B. Size. A standard size parking space may be used as an electric vehicle charging station.

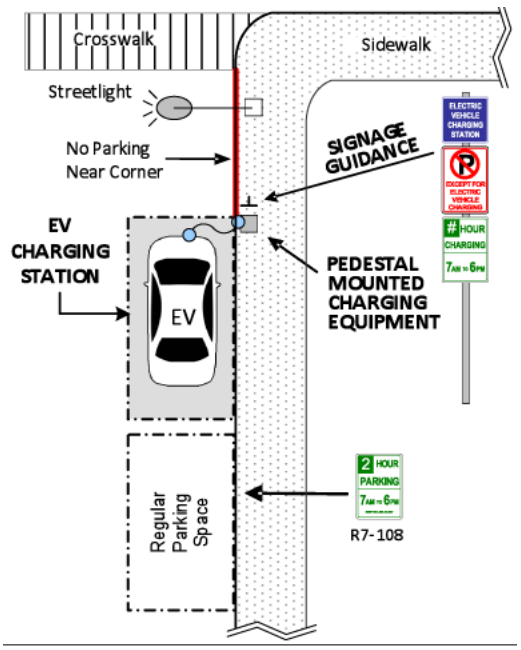
C. Location and Design Criteria.

1. Where provided, parking for electric vehicle charging purposes is required to include the following:
   a. Signage. Each charging station space shall be posted with signage indicating the space is only for electric vehicle charging purposes. Days and hours of operations shall be included if time limits or tow away provisions are to be enforced.
   b. Maintenance. Charging station equipment shall be maintained in all respects, including the functioning of the charging equipment. A phone number or other contact information shall be provided on the charging station equipment for reporting when the equipment is not functioning or other problems are encountered.
   c. Accessibility. Charging station equipment located within a sidewalk shall not interfere with accessibility requirements of WAC 51-50-005.
   d. Clearance. Charging station equipment mounted on pedestals, light posts, bollards or other devices shall be a minimum of 24 inches clear from the face of curb.
   e. Lighting. Where charging station equipment is installed, adequate site lighting shall exist, unless charging is for daytime purposes only.
   f. Charging Station Equipment. Charging station outlets and connector devices shall be no less than 36 inches or no higher than 48 inches from the top of surface where mounted, and shall contain a retraction device and/or a place to hang permanent cords and connectors sufficiently above the ground or paved surface.
   g. Charging Station Equipment Protection. When the electric vehicle charging station space is perpendicular or at an angle to curb face and charging equipment, adequate equipment protection, such as wheel stops or concrete-filled steel bollards shall be used. Appropriate signage indicating if backing in is allowed or not shall be posted.

2. Parking for electric vehicles should also consider the following:
   a. Notification. Information on the charging station identifying voltage and amperage levels and any time of use, fees, or safety information.
   b. Signage. Installation of directional signs at appropriate decision points to effectively guide motorists to the charging station space(s).
   c. Location. Placement of a single electric vehicle charging station is preferred at the beginning or end stall on a block face.

D. Data Collection. To allow for maintenance and notification, the local permitting agency will require the owners of any private new electric vehicle infrastructure station that will be publicly available (see definition "electric vehicle charging station — public") to provide information on the station's geographic location, date of installation, equipment type and model, and owner contact information.

Figure: Electric Vehicle Charging Station — On Street



On-street charging near end of block.

Comment: *On-street EV charging stations should first be installed at either end of a row of regular on-street parking spaces. Subsequent EV charging stations should be installed adjacent to existing EV charging stations. Several factors that suggest an end-stall as the preferred location include, but are not limited to: proximity to electrical service, adjacency to existing no-parking zone, better accessibility for all users, higher lighting levels and less clearance and obstruction issues with existing parking spaces. The charging station equipment should be installed in a well-lit area, on a hard surface, near the front of the designated space, and have adequate clearance from the face of curb (24") and leave a barrier-free sidewalk clearance (36" or other applicable distance). Signage shall be at or near the charging station. All regulatory signs shall comply with visibility, legibility, size, shape, color and reflectivity requirements contained within the Federal Manual on Uniform Traffic Control Devices.*

B. Guidance

Section 4.2: Signage.

4.2.01: Directional — Highways and Freeways

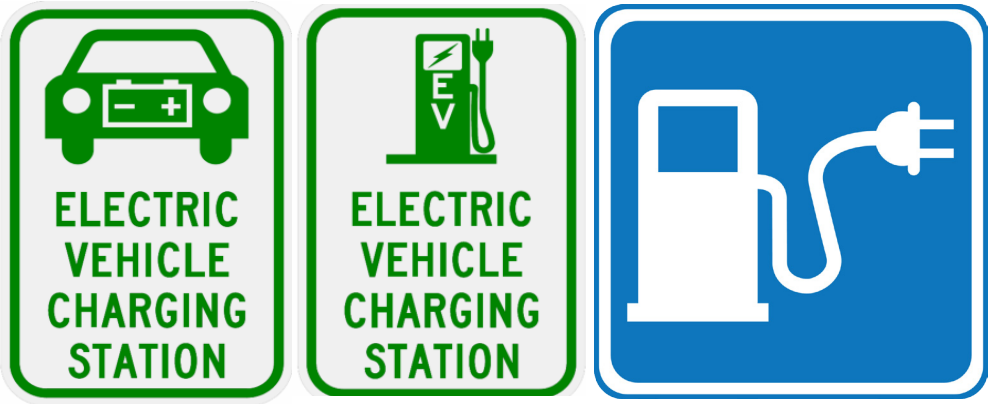
Comment: *The directional sign (MUTCD D9-11b) for highways and freeways should be installed at a suitable distance in advance of the turn-off point or intersecting highway. If used at an intersection or turn-off point, it shall be accompanied by a directional arrow. As the symbol on the sign at right appears to be a gasoline pump, this sign may also be supplemented with the sign below (MUTCD D9-11bP) to avoid confusion with liquid fuel stations for early EV drivers.*

30″ X 30″

30″ X 12″

30″ X 24″

Figure: New Experimental Electric Vehicle Signs Under Consideration



Comment: *To address some of the limitations of the existing approved sign, and to provide for clearer direction to EV drivers, WSDOT and the City of Seattle are considering Federal Highway Administration experimentation[25] of a new International iconic white/blue sign. Oregon is already undergoing a sign experimentation process as well and, as these experiments move forward, efforts will be made to coordinate such that consistent signage is provided (see signs above).*

The long-term objective of the revised iconic sign is to have a consistent symbol from the federal highway, to state highways, to local streets, and finally at the charging station. Use of one federal symbol is the simplest way to accomplish this end. A current federal study of a symbol for EV charging stations should have preliminary results in September. Recognizing that the experimentation process may result in revisions to the signs shown below, the currently approved federal iconic signage shown on the previous page should be utilized by local government and installers during the experimentation period. One potential revision that may be proposed from Washington State is that the sign include information on the charging level (i.e., Level 1, Level 2, and Level 3) provided at the station.

4.2.02: Directional — Local Street

Comment: *The directional sign for local streets should be installed at a suitable distance in advance of the intersection or charging station facility. If used at an intersection or parking lot entrance, it shall be accompanied by a directional arrow. As the symbol on the sign at right appears to be a gasoline pump, this sign may also be supplemented with the sign below (MUTCD D9-11bP) to avoid confusion with liquid fuel stations for early EV drivers.*

24″ X 18″

24″ X 24″

24″ X 9″

4.2.03: On-Street Parking Space with Charging Station Equipment

Comment: *Combination sign identifying space as an electric vehicle charging station, prohibiting non-electric vehicles, with charging time limits. The use of time limits is optional and is included to allow the charging equipment to be available for more than one use during the day. For example, a jurisdiction may want to utilize time limits in areas where the on-street charging station spaces would turn over consistent with whatever time limits might otherwise be posted on a block (e.g., 2-hour time limits). The design of the time limit charging sign is modeled after the existing R7-108 sign in the federal MUTCD. If time limits are used, suggested enforcement regulations are provided in Chapter 2: Vehicles and Traffic. If the jurisdictions wishes to allow dual use of the space (i.e., the spaces is for electric vehicles only during a certain period of time, but then allow all vehicles to park after specified hours), the time limits would need to be added to the red/black/white sign rather than the green sign.*

12″ X 12″

12″ X 18″

12″ X 18″

Chapter 5. SEPA

SEPA. This Chapter ensures that local government SEPA regulations include the SEPA categorical exemption language contained in RCW 43.21C.410. This model document includes two alternative ways to accomplish this. One is for the jurisdiction to simply add the reference to RCW 43.21C.410 in the same way that many jurisdictions adopt by reference other RCW and WAC categorical exemptions. The second alternative is to interpret RCW 43.21C.410 and add the following as a new categorical exemption category.

A. Model Regulations

Option 1:

Comment: *Add the reference to RCW 43.21C.410 in the "Categorical Exemptions and Threshold Determinations" section of local government SEPA rules in the same way that many jurisdictions adopt by reference other RCW and WAC categorical exemptions. See existing SEPA regulations below with RCW 43.21C.410 added.*

Section 5.1: Categorical Exemptions and Threshold Determinations — Purpose of This Part and Adoption by Reference

This part contains the rules for deciding whether a proposal has a "probable significant, adverse environmental impact" requiring an environmental impact statement (EIS) to be prepared. This part also contains rules for evaluating the impacts of proposals not requiring an EIS. The [insert jurisdiction] adopts the following sections by reference, as supplemented in this part:

RCW 43.21C.410 Battery charging and exchange station installation.
WAC 197-11-300 Purpose of this part.
WAC 197-11-305 Categorical exemptions.

Option 2:

Comment: *The second alternative is to interpret RCW 43.21C.410 and add the following as a new categorical exemption category. Definitions for "Battery charging station" and "Battery exchange station" are included, but if these are adopted elsewhere in the local government code, these could be deleted.*

Section 5.1: Categorical Exemptions for Battery Charging and Exchange Station Installation

5.1.01: The construction of an individual battery charging station or an individual battery exchange station, that is otherwise categorically exempt shall continue to be categorically exempt even if part of a larger proposal that includes other battery charging stations, other battery exchange stations, or other related utility networks.

5.1.02: The definitions in this subsection apply throughout this section unless the context clearly requires otherwise.

A. "Battery charging station" means an electrical component assembly or cluster of component assemblies designed specifically to charge batteries within electric vehicles, which meets or exceeds any standards, codes, and regulations set forth by Chapter 19.28 RCW and consistent with rules adopted under RCW 19.27.540.

B. "Battery exchange station" means a fully automated facility that will enable an electric vehicle with a swappable battery to enter a drive lane and exchange the depleted battery with a fully charged battery through a fully automated process, which meets or exceeds any standards, codes, and regulations set forth by chapter 19.28 RCW and consistent with rules adopted under RCW 19.27.540.

Chapter 6. State Battery, Building, and Electrical Provisions

State Battery, Building and Electrical Provisions. This Chapter provides guidance for appropriate handling, recycling, and storage of electric vehicle batteries and equipment. This Chapter also provides guidance regarding the applicability of existing rules and regulations for the installation of EVI, including battery exchange stations.

A. Guidance

Section 6.1: Battery Recycling and Handling Provisions

Lithium-ion Battery. Batteries in electric vehicles differ from batteries currently used with internal combustion engine (ICE) vehicles. ICE vehicles utilize a battery (normally 12V) to provide cranking power to start the engine as well as to deliver low voltage to accessories such as the lights and ignition. The ICE battery is recharged with the aid of an alternator when the engine is running. The much more powerful battery in an electric vehicle (EV) or plug-in hybrid electric vehicle (PHEV) serves as the source of power and propulsion for the vehicle. Lithium-ion batteries are currently the accepted next-generation of energy storage for EVs and PHEVs. They are lighter, more compact and more energy dense than nickel-metal hydride and other batteries currently available. Batteries used in EVs and PHEVs discharge energy during vehicle use and are primarily recharged by connecting to the grid or other off-board electrical source, and in some cases are able to sustain a charge using an on-board internal-combustion-driven generator. Because an electric motor powered by a battery pack is about three times as energy efficient as an internal combustion engine, an EV can travel much farther than a conventional gas-powered car on the energy equivalent of one gallon of gasoline. Lithium-ion batteries also provide the benefit of multiple reuse options and high recyclability.

Battery Chemical Composition. The lithium-ion cells in new electric vehicles meet the requirements set forth by the Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment 2002/95/EC (commonly referred to as the Restriction of Hazardous Substances Directive or RoHS). In contrast to lead acid batteries used in ICE vehicles, lithium-ion batteries do not contain lead, mercury, cadmium, or any heavy metals or federally defined toxic materials. However, as potentially dangerous waste, businesses seeking to dispose of batteries must go through the EPA designation process before they may be safe for landfill disposal. Also, as described below, Washington Department of Ecology regulations may be more stringent than EPA regulations.

Battery Recycling. In terms of recycling, the parts, chemicals and components of lithium-ion batteries are highly recyclable. Given the toxicity of lead acid batteries, state law (RCW 70.95) and state regulations (WAC 173-331) tightly regulate the recycling and disposal of lead acid batteries. As described more fully in the Department of Ecology section below, these laws and regulations do not apply to lithium-ion batteries. Once a lithium-ion battery reaches its ultimate end of life, it can be processed at a commercial facility by being shredded and separated into its recyclable components. Metals and other compounds can be sold and the lithium may either be recycled back to battery manufacturers or disposed of as a nonhazardous material. Efforts are underway by industry groups and the federal government to develop increased capabilities for recycling lithium from EV batteries. The U.S. Department of Energy recently issued a grant to Toxco, a California company, to build the first recycling facility for lithium-ion batteries in the U.S.. Toxco has been recycling single-charge and rechargeable lithium batteries used in other devices at a facility in Trail, British Columbia.

Battery Re-use. When an electric vehicle battery reaches the end of life in its primary application, it may be possible to use it for a time in other purposes. These include standby power and utility load leveling where battery performance is not as demanding as a vehicle application. As such, opportunities for the reuse of

lithium-ion batteries after the end of their normal vehicle life are expected to be widely established in the near future. Automobile manufacturers will determine when a battery is no longer able to carry a sufficient charge to be used in the vehicle. It is anticipated that, at that point, lithium-ion batteries will still retain 70-80% of their residual capacity and could be reused for energy storage. In October 2009, Nissan Motors and Sumitomo Corporation announced joint plans for a new company, expected to be operational by late 2010 in Japan and the United States, to create a market for second-life EV batteries in such applications as back-up energy storage for solar photovoltaic systems, back-up power supplies, uninterruptable power supplies and load leveling for the electric grid. It has been reported that General Motors is studying similar reuse business models for EV batteries.

Battery Handling and Storage. As an identified nonhazardous material (as noted previously), handling and storage of EV batteries will likely fall under typical fire and safety codes established by the State Building Code Council (see below). One unique EV battery concept is battery exchange stations, which are intended to be strategically located automated facilities that can enable an EV with a swappable battery to quickly exchange a depleted battery with a fully charged battery. These have been identified as providing possible EV consumer opportunities in addition to battery charging stations. If battery exchange stations are implemented, those stations would presumably remove from the exchange pool any batteries that are beyond their useful life and would find opportunities for reuse and recycling of these batteries as noted above. Rules and regulations for the handling and storage of batteries, in settings such as car dealerships that may have multiple charged batteries on site, automotive parts stores, and in the context of a battery exchange station, are described below.

Section 6.2: State Department of Ecology

Existing Rules and Regulations. RCW 70.95 and WAC 173-331 address vehicle batteries. The WAC was last updated in 1991 and, as defined in WAC 173-331-100 (14), this code does not apply to electric/hybrid batteries as the core does not consist of a lead element. WAC 173-331-100 (14) states: "Vehicle battery means any battery used or capable of use, without modification, in any vehicle, truck, mobile home, recreational vehicle, boat, airplane, or utility vehicle, having a core of elemental lead, with the capability to produce six or more volts. For purposes of application of the core charge only, a vehicle battery shall be a replacement battery and the core charge shall not apply to original battery installations."(Emphasis added). RCW 70.95.610(4) also defines batteries as including a core of elemental lead.

All batteries can be managed as a universal waste under WAC 173-303, Dangerous Waste Regulations, and under Federal Regulations. Electric/hybrid batteries may or may not be a dangerous waste (DW). Such a determination would be made through the designation process described below. At this time, the only apparent outlets that are likely to accept batteries are the vehicle dealerships/manufacturers. These outlets could be designated as a universal waste destination facility, a universal waste handler, a recycler, or a regulated generator, depending on how they manage the batteries. For example, when a car is brought to a dealer, and the dealer replaces the battery, the dealer becomes the generator of the spent battery taken out of the car. The dealer can manage that battery as a fully regulated DW or can manage the battery as a conditionally regulated DW battery under a process that the state (and EPA) calls universal wastes.

There are advantages to the generator to managing batteries as universal waste. They can become what are referred to as a universal waste handler, which has fewer regulations to follow than a dangerous waste generator. Under the universal waste regulations the battery can be recycled or disposed. With regard to transportation of the battery material, no hazardous waste manifest is required. However the battery may be regulated under Department of Transportation regulations as a hazardous material if it meets the criteria for one or more hazard classes specified in 40 Code of Federal Regulations 173.2.

Below is a link to the EPA website which discusses batteries.
http://www.epa.gov/osw/hazard/wastetypes/universal/batteries.htm

Designation Process for Businesses Handling Batteries. Businesses in Washington State (whether in this case a battery recycler, vehicle dealership, or auto repair shop taking back or replacing batteries) are responsible for knowing what and how much dangerous waste they generate. The Dangerous Waste Regulations (Chapter 173-303 WAC) describe the characteristics/properties (e.g., flammable, corrosive) that cause a waste to be considered dangerous and what amounts of waste would cause a business to be regulated as a dangerous waste generator. The designation process leads the business through the steps to take to make the determination on whether they generate a dangerous waste that would be subject to special handling requirements. There are exclusions for certain waste streams. The link below provides a tool that would help a business go through the designation process.

http://www.ecy.wa.gov/programs/hwtr/reg_comp_guide/pages/des_intro.html

Prior to making a determination that the battery is safe for landfills, a business must go through the designation process. They may be safe for landfill disposal after treatment, but more information is needed. Also, Washington State Regulations may be more stringent than EPA regulations.

Section 6.3: State Building Code Council

Section 16 of HB 1481 (codified as RCW 19.27.540) requires the State Building Code Council to adopt rules for electric vehicle infrastructure (EVI) requirements. Such rules must consider applicable national and international standards and be consistent with rules adopted under RCW 19.28.281 (Department of Labor and Industries, discussed in next section). Battery charging stations and rapid charging stations are likely to be freestanding facilities that are adjacent to a building but are not inside a building, and therefore would be regulated under Labor and Industry rules. Battery exchange stations, on the other hand, will be inside buildings and therefore are regulated under the rules set by the State Building Code Council.

In recognition of the directive in the RCW, the State Building Code Council has reviewed the existing rules in Chapters 51-50, 51, 52 and 54 of the WAC and determined that the rules provide for the regulation of EVI. With regard to building construction, current building codes and building occupancy classifications would allow for the installation of battery exchange stations, as discussed further below.

As with any commercial building, a building permit application for a battery exchange station would be accompanied with building plans designed by a registered professional and would include a proposed applicable occupancy classification. This occupancy classification would be reviewed and confirmed by the responsible Building Official and Fire Code Official.

The Building Official must classify by occupancy group the intended use of a proposed new or existing building as the first step to determine applicable technical requirements. The building code defines each occupancy and provides a list of specific included uses with the caveat "but not limited to" giving the building official flexibility to interpret inclusion of similar unstated uses.

A battery exchange station would most likely to be classified as a Group S-1 use (motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials). However, given the relative size of possible associated occupancies such as Group B (motor vehicle showrooms) or Group M (motor fuel dispensing facilities), it could be deemed an accessory occupancy to one of these two. All three of these general occupancies (Storage Group S-1, Mercantile Group M and Business Group B) are often co-located in "mixed use" buildings and, as such, the building code deems them to be of similar fire hazard resulting in no need for physical fire separations between them.

In this regard, building code requirements can be determined for proposed battery exchange stations under existing code language. Current understanding of the operational scope of these stations indicates that they can most likely be constructed within the hazardous material thresholds allowed for the occupancy groups noted above and therefore would not be subject to the costly requirements of high-hazard Group H occupancies.

Simply stated, under the current building code, battery exchange stations can be introduced and readily accommodated in a new or existing commercial "strip" development, or as a stand-alone facility, at a reasonable cost. As a general rule, any proposed change of occupancy classification in existing buildings will require compliance with current technical requirements of the building code.

Section 6.4: State Department of Labor and Industries

Section 17 of HB 1481 (codified as RCW 19.28.281) requires the director of Labor and Industries to adopt rules for the installation of EVI. The rules must be consistent with rules adopted under RCW 19.27.540 (State Building Code Council, discussed previously).

Labor and Industries has reviewed the existing electrical laws in Chapter 19.28 RCW, rules in WAC 296-46B, and requirements in NFPA 70 (National Electrical Code), including Article 625 that specifically covers Electric Vehicle Charging Stations, and determined that these standards are comprehensive and applicable to the installation of electric vehicle charging systems as written. They meet the intent of RCW 19.28.281 and therefore there is no need for additional rule writing at this time. If any future rule revisions are needed and can be substantiated, the department has an established process which is consistent with the requirements of RCW 34.05 Administrative Procedure Act.

The local building official, fire protection authority or other building authority having jurisdiction (AHJ) will classify the occupancy and conditions of use in the environment where the charging equipment is installed. Once classified, the property owner or licensed electrical contractor (employing certified electricians) will purchase an electrical work permit from the electrical inspection AHJ, and install the electrical equipment in compliance with the appropriate wiring standards for the location. The electrical inspection will verify the electrical installation conforms to the applicable wiring standards for the designated environment.

Manufacturers who provide equipment in Washington must ensure that it is properly identified or labeled as conforming to appropriate safety standards to be approved by an electrical inspector. This means that the equipment will have a mark from an approved testing laboratory that has been applied at the factory or by a laboratory employee who performs an onsite field evaluation. Ultimately it is the responsibility of the equipment owner, however, to ensure that electrical equipment is properly identified and approved prior to energizing the equipment. A list of laboratories approved in Washington State can be found at:
http://lni.wa.gov/TradesLicensing/Electrical/Install/ProdTest/defau lt.asp

Section 3. Resources

Regarding Electric Vehicle Infrastructure and Batteries

Resource Documents

- City of Austin, Texas, *Resolution No. 050301-48* (04-12-94). "Buy Green, Drive Clean Program."
- City of Austin, Texas, *Electric Vehicle Incentives — Guidelines, Dealerships, and Vehicles* (2008).
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- City of Houston, Texas, *Project Get Ready: Preparing Cities for the Plug-in Electric Vehicle: Power of the Plug-in Program* (11-17-09).
- City of Indianapolis, Indiana, *Project Get Ready: Preparing Cities for the Plug-in Electric Vehicle — Indianapolis Region: Project Plug-IN* (2010).
- City of Minneapolis, Minnesota, John Bailey, David Morris, *Electric Vehicle Policy For the Midwest — A Scoping Document*. Prepared for the RE-AMP Network, New Rules Project (12-09).
- City of New York, *PlaNYC Exploring Electric Vehicle Adoption in New York City* (01-10).
- City of Sacramento, California, *Resolution No. 94189 of the Sacramento City Council Supporting Electric Vehicle Readiness Program* (04-12-94).
- City of San Diego, California, *Council Policy 600-27 Affordable Housing/In-Fill Housing and Sustainable Building Expedite Program* (05-20-03); *Council Policy 900-14, Sustainable Building Policy* (05-20-03); *Resolution No. 715-00* (07-28-00).
- City and County of San Francisco, California, *Resolution No. 715-00, File No. 001399; Resolution encouraging California Governor Gray Davis to uphold the existing California Air Resources Board zero emission vehicle mandate, which requires that at least four percent of the 2003 model year passenger cars and light duty trucks offered for sale in California be zero emission vehicles* (08-07-00).
- City of San Jose, California, *Resolution No. 74769 — A Resolution of the Council of the City of San Jose Amending the Master Parking Rate Schedule to Increase Flexibility in Setting Parking Rates at the Convention Center and Almaden/Woz Parking Lots for Events at the Convention Center; and Repeal Resolution No. 74210 Effective on July 1, 2009* (01-27-09).
- City of Tacoma, Washington, Community and Economic Development Dept., Annual Amendment Application No. 2010-08, *Electric Vehicle Infrastructure* (01-25-10).
- City of Toronto, Ontario, Canada, *The Toronto Atmospheric Fund — Fleetwise Program* (1998-2010).
- City of Vacaville, California, *City of Vacaville's Electric Vehicle (EV) Program* (2004).
- City of Vancouver, British Columbia, Canada, *Building By-Law No. 9936 amending Building By-law No. 9419 §13.2.1 Electric Vehicle Charging; §13.2.1.1 Parking Stalls; §13.2.1.2 Electrical Room* (04-20-11).

- City of Vancouver, British Columbia, Canada, *Policy Report Development and Building Report on Electric Vehicle Charging* (06-22-09).
- County of Sonoma, California, *Building Green Policy, Resolution No. 08-0947* (11-04-08). *Draft Resolution Adopting Guidelines, Rating Systems and Compliance Thresholds for the Sonoma County Green Building Program* proposed to be adopted 02-2010.
- David Diamond, Ph.D., LMI Research Institute, *Impact of High Occupancy Vehicle (HOV) Lane Incentives for Hybrids in Virginia* (2008).
- Don Chandler, Past President, Vancouver Electric Vehicle Association, *Pulling the Copper* (November 2009).
- Electric Transportation Engineering Corporation, sponsored by Natural Resources Canada, *Electric Vehicle Charging Infrastructure Deployment Guidelines British Columbia* (July 2009).
- eTec, an ecotality company, *Electric Vehicle Charging Infrastructure Deployment Guidelines for The Central Puget Sound Area* (April 2010).
- Great London Authority, *London's Electric Vehicle Infrastructure Strategy* (December 2009).
- Kelly Sims Gallagher and Erich J. Muehlegger, John F. Kennedy School of Government, Harvard University, *Giving Green to Get Green? Incentives and Consumer Adoption of Hybrid Vehicle Technology* (October 2007).
- National Electrical Code Handbook, *Article 625, Electric Vehicle Charging System* (2008).
- Oregon Advisory Team, *The EV Project, Summary of Localization Findings* (02-05-10).
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- State of California Public Utilities Commission, *Order Instituting Rulemaking to Consider Alternative-Fueled Vehicle Tariffs, Infrastructure and Policies to Support California's Greenhouse Gas Emissions Reductions Goals* (08-24-09).
- State of California, San Francisco Bay Area Mayors, Mayor News Release *Mayors Aim to Make San Francisco Bay Area the Electric Vehicle Capital of the U.S.* (11/20/08).
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- State of Hawaii, Revised Statutes §291-71 *Designation of parking spaces for electric vehicles; charging units and §291-72 Parking spaces reserved for electric vehicles; penalties* (2009) (effective 01-01-12).
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- The Massachusetts Division of Energy Resources, *Installation Guide for Electric Vehicle Charging Equipment* (September 2000).
- The Royal Academy of Engineering, London, England, *Electric Vehicles: charged with potential* (May 2010).

Glossary of Terms

- **AC —** Alternating Current, an electric current which changes direction with a regular frequency.
- **AFV —** Alternative Fuel Vehicle.
- **AHJ —** Authority Having Jurisdiction, a term used in National Electric Code to denote lead jurisdiction on electrical matters.
- **BEV —** Battery Electric Vehicle (see definitions Chapter in Model Regulations).
- **Circuit Breaker —** A device designed to open and close a circuit by non-automatic means and to open the circuit automatically on a pre-determined overcurrent without damage to itself when properly applied within its rating.
- **Commerce —** Washington State Department of Commerce.
- **Continuous Load —** A load where the maximum current is expected to continue for 3 hours or more.
- **Current —** The flow of electricity commonly measured in amperes.
- **DC —** Direct Current, an electric current that moves in one direction from anode to cathode.
- **DOE —** United States Department of Energy.
- **DOT —** United States Department of Transportation.
- **DW —** Dangerous Waste, under Ecology rules.
- **Ecology —** Washington State Department of Ecology.
- **EPRI —** Electric Power Research Institute, a utilities industry-based research group.
- **EREV —** Extended Range Electric Vehicle (see PHEV).
- **EV —** Electric Vehicle (see definitions Chapter in Model Regulations).
- **EVI —** Electric Vehicle Infrastructure (see EVSE).
- **EVSE —** Electric Vehicle Supply Equipment, industry acronym for charging hardware located at charging stations provided for the purpose of charging electric vehicle batteries.
- **FHWA —** US Federal Highways Administration.
- **GHG —** Greenhouse Gases.
- **GMA —** Washington State Growth Management Act.
- **HB 1481 —** Second Substitute House Bill 1481, from the 2009 session of the Washington State Legislature.
- **ICE —** Internal Combustion Engine.
- **Inverter —** An electrical device which is designed to convert direct current into alternating current.
- **J1772 —** Industry-wide standard EV connector.
- **JARI —** Japan Automobile Research Institute.
- **kWh —** Kilowatt hour, a unit of energy commonly used for measuring the energy capacity of a battery. This is the normal quantity used for metering and billing electricity customers.
- **Lithium-ion —** The type of chemistry used in a majority of modern electric vehicles. Lithium-ion batteries are lighter in weight and have higher energy density than previous types of batteries designed

to power these vehicles. Unlike prior generations of rechargeable batteries, lithium-ion batteries lose very little energy when stored or not in use, and are considered to be highly recyclable due to their construction with generally non-hazardous materials.

- **L&I —** Washington State Department of Labor and Industries (also, LNI).
- **MUTCD —** Manual on Uniform Traffic Control Devices, maintained by the U.S. Department of Transportation (Federal Highway Administration).
- **NEC —** National Electrical Code. A code/guideline used for the safeguarding of people and property from hazards related to the use of electricity. It is sponsored and regularly updated by the National Fire Protection Association.
- **NEV —** Neighborhood electric vehicle, largely synonymous with LSV, for low speed vehicle.
- **NiMH —** Nickel metal hydride, a popular battery type for hybrid electric vehicles.
- **NREL —** National Renewable Energy Laboratory, a Colorado-based unit of the U.S. Department of Energy.
- **Phase —** Classification of an AC circuit, usually single-phase, two wire, three wire, or four wire; or three-phase, three wire, or four wire.
- **PHEV —** Plug-in hybrid electric vehicle (see definitions Chapter in Model Regulations).
- **PSRC —** Puget Sound Regional Council.
- **RCW —** Revised Code of Washington.
- **SAE —** SAE International, formerly the Society of Automotive Engineers.
- **SEPA —** Washington State Environmental Policy Act.
- **TEPCO —** Tokyo Electric Power Company.
- **TOU —** Time of Use, an electricity billing method with rates based upon the time of usage during the day.
- **UTC —** Washington State Utilities and Trade Commission.
- **VMT —** Vehicle Miles Traveled.
- **Volt —** The electrical potential difference or pressure across a one ohm resistance carrying a current of one ampere.
- **Volt Ampere —** A unit of apparent power equal to the mathematical product of a circuit voltage and amperes. Here, apparent power is in contrast to real power. On AC systems the voltage and current will not be in phase if reactive power is being transmitted. Usually abbreviated VA.
- **V2G —** Vehicle-To-Grid, the concept of using electric vehicles as energy storage devices for the electric grid.
- **Watt —** A unit of power equal to the rate of work represented by a current of one ampere under a pressure of one volt.
- **WAC —** Washington Administrative Code.
- **WEVA —** World Electric Vehicle Association, a group with local affiliates including the Seattle and Tacoma Electric Vehicle Associations.
- **WSDOT —** Washington State Department of Transportation.
- **ZEV —** Zero Emission Vehicle.

Footnotes

[1] Washington State Legislature, 61st Legislature, 2009 Regular Session, Chapter 459, Laws of 2009, *Electric Vehicles*, (07/26/09).

[2] State of Washington Department of Commerce, State Energy Strategy, update due December 2010, http://www.commerce.wa.gov/site/1327/default.aspx.

[3] State of Washington Department of Commerce, Local Government Division, Growth Management Services, *Keeping Your Comprehensive Plan and Development Regulations Current*, "A Guide to the Periodic Update Process under the Growth Management Act," (April 2010).

[4] March 22, 2010 Memorandum from Plug In America on Electric Vehicle Infrastructure Code Research.

[5] March 22, 2010 Memorandum from LightMoves on Local Government Electric Vehicle Infrastructure Phone Interviews.

[6] RCW 36.70A.130(1)(d).

[7] RCW 36.70A 130(2)(a).

[8] RCW 36.70A.130(2)(b).

[9] RCW 43.21C.031.

[10] RCW 43.21C.030(2)(c).

[11] WAC 197-11-704(1).

[12] The Washington Constitution prohibits state and local governments from giving or loaning public funds to private individuals, companies, or associations. Const. art. VII, §§ 5, 7.

[13] *Citizens Protecting Resources v. Yakima County*, 152 Wn. App. 914, 920, 219 P.3d 730 (2009) and RCW 40.01.250(1).

[14] *Washington State Attorney General's Office v. Washington Utilities*, 128 Wn. App. 818, 116 P.3d 1064 (2005).

[15] *See* Resource Documents in Section 3.

[16] *Washington Utilities and Transportation Commission v. Washington Natural Gas Company*, Third Supplemental Order Granting Motion to Dismiss Public Refueling Station Schedule, Docket No. UG-920840 (March 12, 1993).

[17] WAC 480-100-505 (Adopted February 25, 2010. Commission filed its Adoption Order with the Code Reviser on March 24, 2010. Effective April 24, 2010.).

[18] eTec, Final *Electric Vehicle Charging Infrastructure Deployment Guidelines for The Central Puget Sound Area* (April 2010). *Also See* Plug In America, *Charged Up & Ready to Roll*, The Definitive Guide to Plug-In Electric Vehicles, 1st Edition (January 2010).

[19] *See* sources cited at note 18.

[20] State of Oregon, Alternative Fuel Vehicle Infrastructure Working Group, *Report of the Alternative Fuel Vehicle Infrastructure Working Group* (January 2010).

[21] State of Minnesota, Chapter 134-H.F. No. 1250, *An act relating to transportation; regulating electric vehicle infrastructure; amending Minnesota Statutes 2008, sections 16C.137, subdivision 1; 169.011, by adding subdivision; 216B02, subdivision 4; 216B-241, subdivision 9; Laws 2006, chapter 245, section 1; Laws 2008, chapter 287, article I, section 118; proposing coding for new law in Minnesota Statutes, chapter 325F* (05-21-09).

[22] City of Davis, California Municipal Code 22.16.0 *Electric Vehicles*.

[23] May 4, 2010 Memorandum from Plug In America on Web-based Electric Vehicle Consumer Survey.

[24] U.S. Department of Transportation, *Manual on Uniform Traffic Control Devices for Streets and Highways: 2009 Edition*, *http://mutcd.fhwa.dot.gov/pdfs/2009/mutcd2009edition.pdf* (2009).

[25] Federal Highway Administration Transportation Pooled Fund Program TPF-5(065) Traffic Control Device (TCD) Consortium http://www.pooledfund.org/projectdetails.asp?id=281&status=4 (Jan-Mar 2010)

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