

The logo features the word "Helvetia" in a bold, blue, italicized sans-serif font. Above the letters "l", "e", and "t" is a horizontal brushstroke of green paint. Below the word "Helvetia" is another horizontal brushstroke of blue paint. Underneath this blue stroke, the words "concept plan" are written in a green, lowercase, sans-serif font.

Helvetia
concept plan

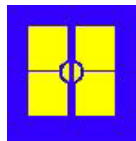
**Prepared for:
The City of Hillsboro**

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Helvetia Concept Plan Project Team

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I. Background

A. Helvetia Concept Plan History

In 2002, the Metro Council added the 249-acre Helvetia Concept Planning Area (Figure I-1 and Figure I-2) to the Region's Urban Growth Boundary (UGB) to help provide a 20-year industrial land supply within the Portland Region as required by State law.¹ The Helvetia area is currently in unincorporated Washington County. The Helvetia Concept plan is the fulfillment of an agreement between the City of Hillsboro and Washington County that the City would prepare the industrial area concept plan for future employment growth in the Helvetia planning area. Concept plans are required when lands are added to the UGB to ensure that the transition over time from rural to urban uses occurs efficiently and consistent with the identified land needs that justified their inclusion.

B. Helvetia Concept Planning Process

The City hired a team of land use planning, transportation, natural resources, real estate and economic development consultants in January 2007 to assist with the development of an Industrial Development Concept Plan for Helvetia. These professionals, in addition to key management staff from the City, became the Project Management Team and were responsible for the coordination and technical analysis necessary to compile the Helvetia Concept Plan. Planning for the 534-acre Evergreen Concept Planning Area, which came into the UGB in 2005, was undertaken by the Project Management Team at the same time, in a parallel planning process.

1. Project Goals and Objectives

One of the first tasks of the Project Management Team was to develop a set of Concept Plan goals to guide the project. The Goals and Objectives listed below were used to develop and evaluate the Conceptual Illustrations (as discussed in Chapter IV of the Concept Plan) and future implementation measures.

Goal 1: Create Area-wide Economic Opportunities and Value

¹ See Appendix B., Metro Ordinance No. 04-1040B.

- Address state and regional directives for adequate and available industrial sites, while accommodating community and Area stakeholders development concerns;
- Develop and carry out a strategy to strengthen and diversify the local industrial economic base and sustainable employment opportunities; and
- Formulate and adopt flexible industrial site development management guidelines for the Area capable of adjusting to shifting market opportunities and constraints.

Goal 2: Integrate Area Industrial Uses with Hillsboro Industrial Sanctuary

- Identify Area industrial development phasing strategy and steps that reflect market opportunities and constraints and Area stakeholders concerns;
- Integrate management of Area natural resources and environmental features into industrial development sites; and
- Coordinate Area industrial uses and development with surrounding industrial uses and activities.

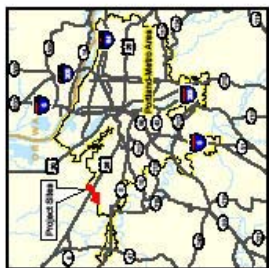
Goal 3: Provide Adequate Supporting Industrial Development Infrastructure

- Determine and describe Area infrastructure (sewer, water, roads, utilities, etc) capacity requirements needed to adequately support the development of prescribed industrial uses and concepts for the Area;
- Identify infrastructure phasing steps to implement the Helvetia Concept Plan in a manner that reflects market and financing opportunities;
- Identify equitable financing methods to promote the orderly and economic provision of public services and private utilities; and
- Explore Area-wide public and private development financing tools that capture and apply, as needed, increased Area land values to help finance the construction of public infrastructure needed to support planned Area industrial uses and concepts.

Goal 4: Promote Community Awareness and Stakeholder Involvement

- Recognize and respect the varied characteristics and levels of stakeholder support and readiness for industrial development;

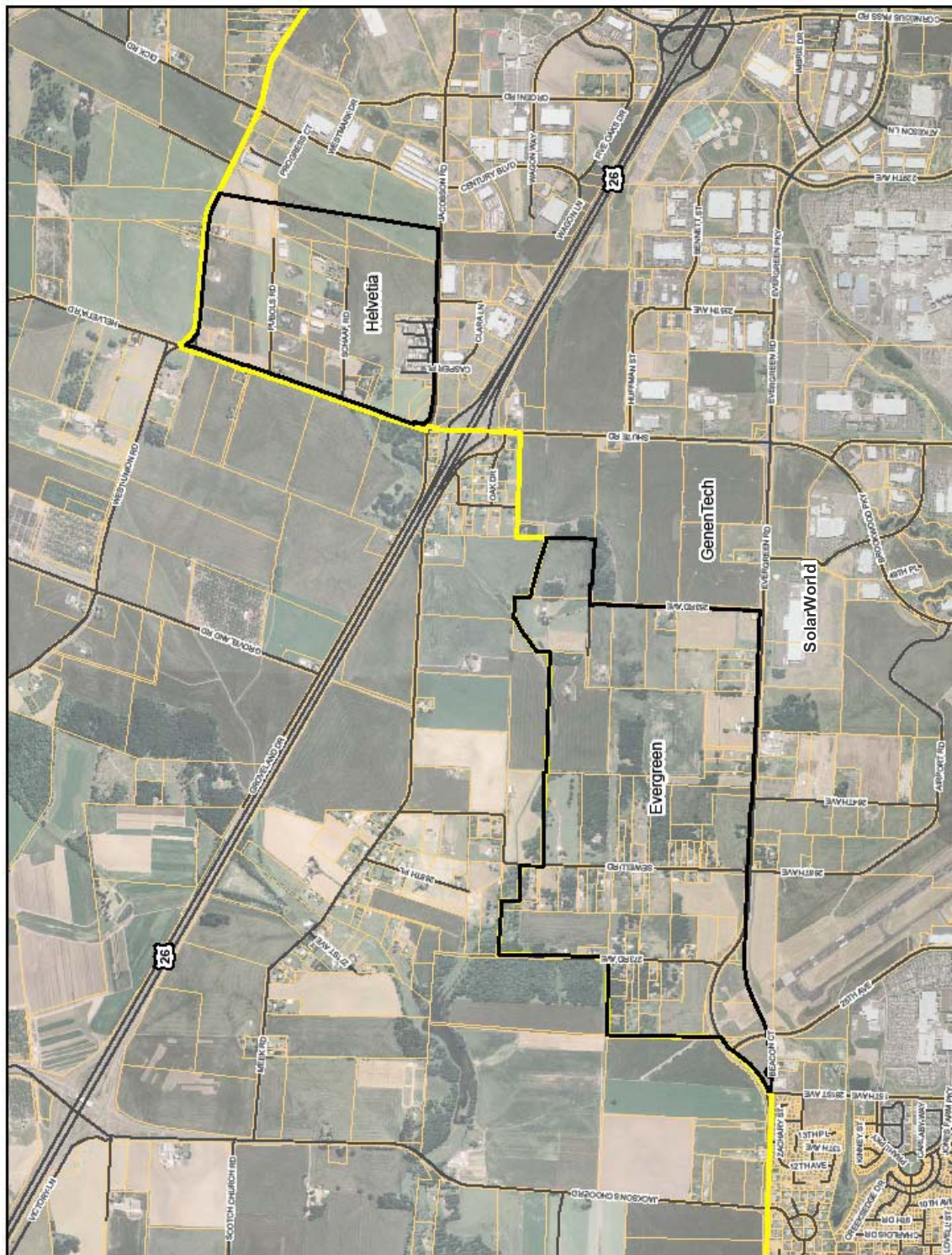
Figure I.1
Project Vicinity
 Evergreen/Helvetia UGB
 Concept Plans



- LEGEND**
- Project Sites
 - UGB
 - Roads
 - Tax Lots



0 1,500 3,000
 Feet

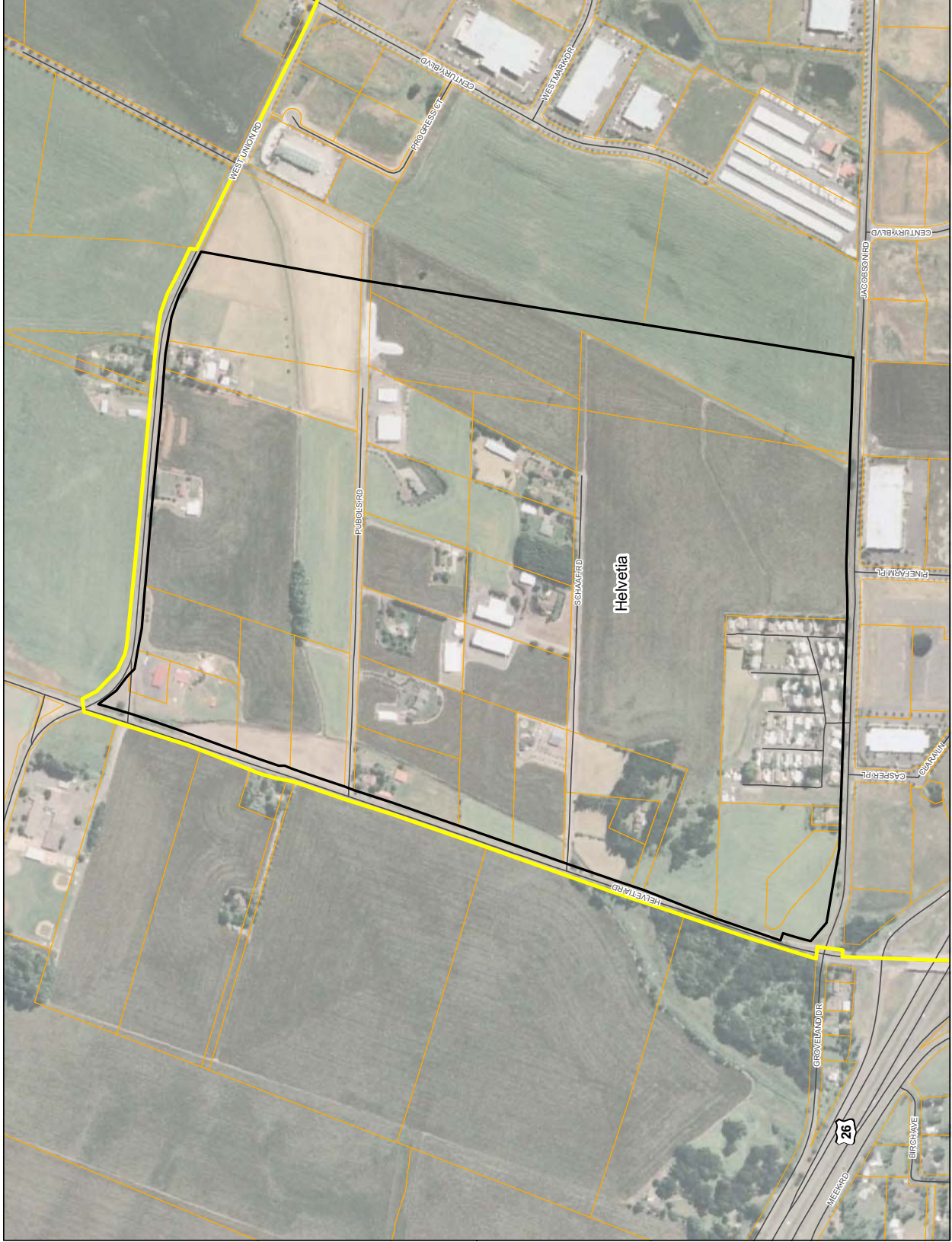


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Figure I.2
Helvetia Concept
Planning Area
 Evergreen/Helvetia UGB
 Concept Plans

LEGEND

- Helvetia Site
 (Planning Area = 242.12 ac)
- UGB
- Roads
- Tax Lots



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- Offer meaningful opportunities for participation and involvement of stakeholders and property owners in shaping the development options and implementation steps;
- Establish a clear understanding of industrial development steps and implementation actions such as zoning and annexation; and
- Identify opportunities for partnerships between property owners, the development community and the City.

2. Project Approach

The project approach for the Helvetia Concept Plan included compiling information on existing conditions in the study area to create a “baseline” for future planning, engaging in a public involvement strategy that actively involved property owners and interested citizens, and soliciting advice from economic development, real estate, and regulatory, land use, and transportation specialists. To this end, the project was informed by Economic Trends Workshop panelists (see Chapter III., Helvetia Concept Plan Development Program), a Technical Advisory Committee, a Project Development Panel, and the Helvetia Stakeholders Advisory Group (HSAG) which was comprised of property owners within the Helvetia planning area and some additional interested parties.

The following is a summary of the objectives and expected outcomes of the Helvetia Concept Plan planning process:

- Compliance with Metro’s Concept Planning requirements and the conditions that the Metro Council placed on the area;
- Recommendation for industrial land uses and design concepts that demonstrate how the area can develop in an efficient manner;
- Identification of public facility and infrastructure needed to support industrial development;
- Participation and involvement of stakeholders and property owners in shaping the development and design concepts and implementation steps;
- Demonstration of market feasibility, strengths, opportunities, conditions and requirements to achieve the industrial development concepts; and

- Completion of implementation steps including comprehensive plan and zoning ordinances, annexation strategies and management plans and tools.

The ultimate goal of the project was to develop one or more Industrial Conceptual Illustrations (see Chapter IV. Helvetia Industrial Area Concept Plan) and develop a comprehensive Concept Plan that would serve as a road map for future development in Helvetia. Implementation of the Concept Plan will be carried out through the City's adoption of policy changes to the Comprehensive Plan and amendments to the Development Code to include the Helvetia Special Industrial District (see Chapter V., Implementation Steps).

3. Technical Advisory Committee

The Helvetia Concept Plan's Technical Advisory Committee (TAC) was comprised of representatives from the Department of Land Conservation and Development (DLCD), Oregon Department of Transportation (ODOT), Washington County Planning Division, Port of Portland, and the City's Planning Department. Members acted as technical advisors for the project, as well as liaisons to policy makers within their agencies. The TAC met three times during the course of the project and provided technical and policy information that assisted in the refinement of the Industrial Urban Growth Diagrams (see Chapter IV. of the Concept Plan).

4. Stakeholder and Community Involvement

Shortly after the kick-off in January 2007 of the Helvetia Concept Plan project, a survey was sent to all property owners in the study area. Answers to the survey questions indicated how long residents had resided or owned property in the area, their knowledge about the Helvetia area being brought into the UGB, and the current use of their land. Most important to the planning process, survey responses also indicated suggestions to guide growth in the area.

At the start of the project, the Project Management Team decided to involve property owners more directly with the planning process by assembling them into a stakeholders' advisory group. Helvetia Stakeholders Advisory Group (HSAG) membership was open to the 22 property owners within the study area. Four HSAG meetings were held over the course of the project; one of these meetings was held in conjunction with a project open

house. HSAG meeting attendance ranged from 9 to 16 attendees. HSAG members reviewed and provided feedback on key findings and conclusions of the planning process, including survey results, existing conditions in the study area, and proposed industrial urban growth concepts. In the final HSAG meeting, members discussed refinements to the growth concepts and proposed comprehensive plan policy and development code amendments that would implement the Helvetia Concept Plan.

One open house was held to present information related to the concept planning project and to solicit feedback from a wider public. Participants at the open house were primarily planning area property owners, neighboring property owners, and members of Citizen Planning Organization (CPO) #8. A newsletter was developed to inform the public about the planning process and to invite people to attend first open house. This newsletter was distributed to the HSAG, property owners in the Evergreen area, and neighboring properties. The open house was held principally to discuss existing conditions within the study area and to solicit issues for the project team to consider as it prepared the Concept Plan. The last HSAG meeting was also open to interested members of the public and focused in detail on the Industrial Urban Growth Concepts (see Chapter IV. of the Concept Plan) and the proposed policy and land use regulatory language that implements the Concept Plan.

The HSAG and other interested members of the public were also kept informed through a project website (www.evergreen-helvetia.org) where information and products related to the Helvetia planning process were posted. Additionally, an informational meeting was held for the residents of Country Haven manufactured home community early in the process. Thirty-two residents attended. Appendix C contains a complete summary of community outreach activities associated with the Helvetia concept planning. Appendix D contains the materials used at HSAG meetings.

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II. Existing Conditions

A solid and comprehensive understanding of the existing conditions in the Helvetia area provided the foundation for the development of the Concept Plan. An analysis of existing physical, policy, and economic characteristics that define the area and an identification of issues relevant to the area was the subject of the Existing Conditions Report (Appendix A). The summary of the site conditions for the Helvetia area included in this section is based on information in the Existing Conditions Report.

The Helvetia area is in unincorporated Washington County and is zoned Future Development 20 Acre (FD-20). Ultimately, in order for industrial development to occur in Helvetia, properties will need to annex to the City of Hillsboro and be zoned for urban industrial uses (See Chapter V., Implementation Steps, in the Concept Plan).

A. Area Characteristics

The Helvetia planning area is located to the northeast of downtown Hillsboro. It encompasses 249 acres and lies northeast of the Highway 26 Shute Road interchange, east of NW Helvetia Road. West Union Road forms the northern boundary of the study area and NW Jacobson Road is the southern most boundary. NW Schaaf Road and NW Pubols Road are the two main east-west roads.

The Helvetia planning area is characterized by relatively flat land, historically used for farming. The topography is gently sloping to rolling, ranging from approximately 255 feet elevation in the eastern portion of the planning area to approximately 185 feet at the Waible Creek floodplain in the west. Areas along Helvetia in the northern portion of the study area contain mapped wetlands and areas of fish and wildlife habitat associated with tributaries of Waible Creek and the McKay Creek watershed (see Natural Resources section in this report).

Existing development in the Helvetia planning area is primarily associated with farm practices, with the notable exception of a mobile home park (Country Haven) located off of NW Jacobson Road. There is also a commercial building located in the corner of the site, at

the intersection of West union Road and NW Helvetia Road. Bonneville Power Administration power lines run through the western part of the site.

Agricultural land surrounds the Helvetia planning area to the west and north. Light industrial uses lie to the east and south. Notable businesses in the area include Credence Systems Corporation, between Sunset Highway and NW Jacobson Road, and Convergys Corporation, south of Sunset Highway.

B. Transportation Network

Future growth in the Helvetia area will have impacts on the transportation network in the area. A list of the roadways that serve the Helvetia area, which jurisdiction is responsible for them, their classification and the current average daily vehicular trips they carry is included in Table III-1 below.

Table III-1: Existing Roadway Jurisdiction, Functional Classification and Characteristics²

Roadway	Jurisdiction	Motor Vehicle Functional Class			Approximate ADT
		ODOT	Washington County	City of Hillsboro	
Hwy 26 west of Shute Rd	ODOT	Rural Principal Arterial	Freeway	Freeway	40,800
Hwy 26 east of Shute Rd	ODOT	Urban Principal Arterial – Freeway	Freeway	Freeway	56,300
West Union Rd	County	N/A	Arterial	Arterial	3,970
Evergreen Rd	County	N/A	Arterial	Arterial	12,770
Evergreen Pkwy	County	N/A	Arterial	Arterial	12,920
Helvetia Rd	County	N/A	Arterial	Arterial	5,080
Shute Rd	County	N/A	Arterial	Arterial	30,600
Cornelius Pass Rd	County	N/A	Arterial	Arterial	27,410
Jacobson Rd	City	N/A	Collector	Collector	3,840
Huffman St	City	N/A	Collector	Collector	1,350
Meek Rd	County	N/A	Collector	N/A	340
NW 229 th Ave	City	N/A	Collector	Collector	10,380
Century Blvd	City	N/A	Collector	Collector	N/D

Notes: ADT obtained from published ODOT, Washington County, and City of Hillsboro data.

N/A = Not Applicable

N/D = No Data Available

² Two existing County roadways within the study area that not included in this table are NW 273rd Avenue and NW 253rd Avenue.

Analysis included as part of the Existing Conditions Report (Appendix A) provided a review of existing transportation conditions for the Helvetia study area that was used to establish a baseline for the evaluation of the impact of the proposed industrial development. Several intersections in the City of Hillsboro and Washington County that will be utilized by future employment users in the area were evaluated. At each location, traffic data was gathered and analyzed to evaluate current conditions and performance for all modes of travel. Additional data was collected for other aspects of the transportation system including built facilities, as described by Metro GIS data, and reported traffic volumes on state and county facilities. The Transportation chapter of the Existing Conditions Report describes the characteristics, usage, and performance of the study intersections.

All of the study intersections currently operate within the performance standards during the PM peak hour.³ The greatest delay at an unsignalized intersection is experienced at NW Helvetia Road/Jacobson Road where over 180 vehicles make a westbound left turn during the evening peak hour.

Truck (heavy vehicle) volumes were collected as part of the intersection turn movement counts and were used in motor vehicle operations calculations. Of the eight study intersections, the three nearest to the Helvetia Concept Plan site experience the lowest truck volumes.

The assessment of pedestrian facilities found that narrow sidewalks exist along many of the study area roadways with gaps occurring mostly where there are vacant properties or properties outside the city limits of Hillsboro. For bicyclists, bike lanes are provided on many of the arterial roadways within the city limits of Hillsboro. There are no bike lanes provided outside city limits or adjacent to the Helvetia Concept Plan area. Pedestrian and bicycle volumes at the study intersections were counted during the PM peak periods. The peak hour volumes indicate that there is relatively more bicycle demand at study intersections than pedestrian usage. The most activity was at the Cornelius Pass Road/Jacobson Road intersection, where 7 bicyclists (traveling north-south) and 9

³ The PM peak hour intersection volumes were used to determine the existing study intersection operating conditions based on the 2000 Highway Capacity Manual methodology for signalized and unsignalized intersections.

pedestrians (5 traveling north-south; 4 traveling east-west) were counted during the PM peak.

Transit service is provided in the study area by the Tri County Metropolitan Transportation District of Oregon (TriMet), which provides transit service for the Portland Metro area including the counties of Clackamas, Multnomah and Washington. Route 47 travels along Baseline Road, NW 229th Avenue, and Evergreen Parkway, connecting the Hillsboro Transit Center to the Willow Creek/SW 185th Ave Transit Center.

C. Utilities

Currently, utilities in Helvetia are commensurate with the agricultural and rural residential land uses in the area. A more detailed description of the existing utilities available in Helvetia can be found in Chapter V. of the Existing Conditions Report (Appendix A). A summary of available utilities is found below.

1. Public Utilities

Clean Water Services (CWS) is the public utility responsible for providing wastewater and stormwater services in the Tualatin River Watershed. The primary regulatory driver for sanitary sewer is Clean Water Services and their Design and Construction Standards. These standards regulate the design, conveyance, and installation of sanitary sewer within the Washington County UGB. There is a pump station discharging to a 4-inch force main in the southern area of the Helvetia planning area. The pump station is located within the NW Helvetia Road planning area and serves a small subdivision directly north of NW Jacobson Road. The force main extends a distance of 900 feet in NW Jacobsen Road and connects to the Sunset trunk approximately 1,925 feet south of the planning area via a 12-inch gravity pipe. No sanitary sewer service mains have been identified along NW Jacobson Road to the south, NW Helvetia Road to the west, or West Union Road to the north. The existing sanitary sewer will not be available or have the capacity to serve future industrial development in the Helvetia concept planning area.

Clean Water Services also manages the conveyance, detention and water quality treatment of stormwater with the Washington County UGB. There is currently no stormwater

conveyance system within the Helvetia concept planning area with the exception of a discharge from the Jacobson Road stormwater system to the southern drainage swale in the planning area. A 12-inch diameter storm system currently serves the south side NW Jacobson Road discharges to Wiable Creek at Jacobson and Helvetia Road. The north side of Jacobson Road is not curbed and is served by a roadside drainage ditch. NW Helvetia Road, along the west side of the planning area, is served by roadside ditches that discharge in to Wiable Creek. West Union Road along the north side of the planning area is also served by roadside ditches draining into Wiable Creek or its tributary.

The Helvetia development site is located adjacent to the service area of the Tualatin Valley Water District (TVWD). There is currently a water distribution network adjacent to the east and south sides of the Helvetia concept planning area. The existing 24-inch service main along NW Jacobson Road to the south would most likely be used to serve development in the Helvetia area. There are no identified water distribution service mains along Helvetia to the west or West Union Road to the north. However, the 12-inch existing service main located along West Union Road that terminates east of the Helvetia Planning Area may be extended to serve the area from the north. This line could then be extended south along NW Helvetia Road and connected to the 24-inch main along NW Jacobson Road to provide a looped system to service the area from all sides.

2. Private Utilities

Private utility providers to the Helvetia area include Portland General Electric (PGE), NW Natural Gas, Bonneville Power Administration, and Qwest and Verizon (telephone).

Electric power is supplied to the planning area by Portland General Electric (PGE). PGE's Sunset Reliability Center is a power substation designed and built to meet the requirements of several semiconductor fabrication facilities in the area, including Intel's Ronler Acres site, and other high tech customers in the vicinity. The power substation is located at 235th and Evergreen. PGE is also planning to build a technology enhanced substation on

approximately 10 acres within the Evergreen concept planning area. This substation will be configured in a manner similar to PGE’s existing Sunset substation.⁴

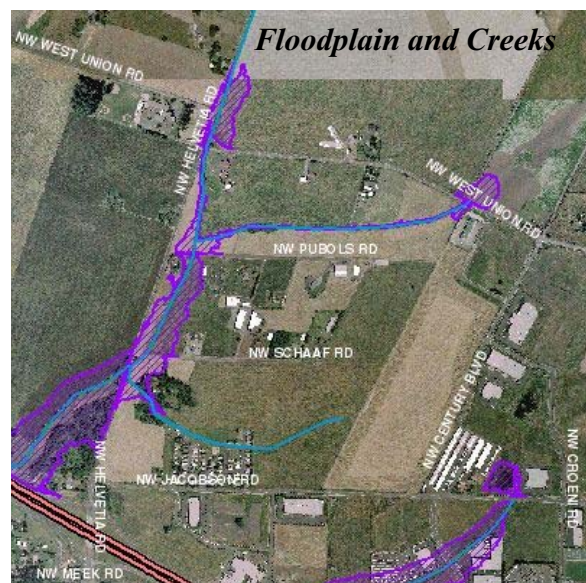
D. Natural Resources

Natural features and environmental constraints identified in the 249-acre Helvetia planning area include riparian corridors, wetlands, groundwater resources, and natural areas. Defining the natural landscape in the Helvetia area is the Lower McKay Creek streamshed.

Two tributaries to Waible Creek, a tributary of McKay Creek., cross the planning area; both tributaries flow directly to Waible Creek at the western edge of the planning area. The topography of the site is gently sloping to rolling, ranging from about 255 feet elevation in the eastern portion of the planning area to about 185 feet at the Waible Creek floodplain to the west.

The Helvetia area is flat to gently sloping and populated primarily with hydrologic group C and D soils. These soils have relatively low rates of infiltration and high runoff potential, particularly when wet. Average annual precipitation is on the order of 40-inches per year, with the majority of precipitation falling during the winter months.

The major stream in the Helvetia area is Waible Creek, a tributary of McKay Creek. Waible Creek runs north to south near the east side of Helvetia Road, crossing under Helvetia Road near the south end of the planning area. It is mapped on the preliminary (September 28, 2007) Flood Insurance Rate Maps (FIRM) as a Special Flood Hazard Area (SFHA) and designated as a Special Flood Hazard Area (SFHA) and designated as Zone AE in the preliminary Flood Insurance Study. A SFHA is defined as the area that will be inundated by the flood event having a 1-percent



⁴ April 19, 2007 Memo from PGE System Planning Department regarding Evergreen UGB Expansion Area Vision.

chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the “base flood”. Within areas designated Zone AE, purchase of mandatory flood insurance is required by FEMA.



Waible Creek looking north from Schaaf Road

There are two tributaries to Waible Creek in the planning area. Both drainages flow from east to west, one along the north side of the planning area, north of Pubols Road and the other along the south side, south of Schaaf Road. Portions of the northern tributary are mapped on the preliminary FIRM as a SFHA

and designated as Zone AE, and portions of northern tributary are designated as Zone X, which are areas of moderate flood hazard having a 0.2-percent annual chance flood. Flood insurance is available but not required in areas designated Zone X. As shown on the FIRM, only a small section of the southern tributary near its confluence with Waible Creek is mapped as a SFHA and designated Zone AE. On the north and south sides of the Zone AE designation, the FIRM indicates areas of moderate flood hazard which are designated Zone X.

E. Cultural Resources

The Helvetia concept planning area is part of the original D. T. Lennox Donation Land Claim (DLC)(General Land Office 1862). Lennox was born in 1802 in Catskill, New York and settled his claim in Washington County in 1844. A review of abstracts from applications for Donation Land Claims shows Lennox to have been a prominent and active member of the community (Genealogical Forum of Portland 1957).

Two notable landmarks are present on lands adjacent to the Helvetia site: West Union Baptist Church and the Five Oaks Meeting Place.

West Union Baptist Church and Cemetery.

Constructed in 1844 on land donated by D.T. Lennox, the church is notable for being the first Baptist Church west of the Rocky Mountains. The church is located in the northwest quadrant of the intersection of West Union Road and Dick



Road. The church is listed on the National Register of Historic Places. D. T. Lennox is buried in the adjacent church cemetery.

Five Oaks Meeting Place. This location, originally the site of five large Oregon White



Oaks, is located on the Alexander Zachary DLC (General Land Office 1862). It is a locally significant historic site known as a meeting place for local historic figure Joseph Meek and other early mountain men and settlers. Parades, picnics, religious meetings horse races and sessions of the

County Court were all held at this location as late as the early 1900s. Two of the original five oaks remain on the site. The site is located just south of the Helvetia Parcel off of Casper Place and is marked by an informational kiosk.

III. Helvetia Concept Plan Development Program

A. Summary of Economic Trends Workshop

On Monday February 26, 2007, the City of Hillsboro hosted an Economic Trends Workshop at the Hillsboro Civic Center Auditorium that served as the “kick-off” to the Evergreen and Helvetia Concept Plans. The Workshop consisted of three panels and a roundtable forum, where experts from the Portland metro region and around the country discussed economic and industry trends from both a local and national perspective. The workshop was intended to inform the upcoming concept planning of the Evergreen and Helvetia Industrial Areas through the exploration of economic trends and emerging industry clusters in Washington County. Panelists discussed issues related to workforce, flexibility in site planning, target industries, and regional collaboration. A full summary of the Economic Trends Workshop is included in Appendix E.

B. Economic Characteristics of the Area

In order to assess the area’s development potential, a detailed analysis of ownership and development patterns was performed at the beginning of the concept planning process. This work is included in the Existing Conditions Report (Appendix A). There are ___ landowners in the Helvetia Area. An estimated 37 percent (89 acres) of property in the study area is vacant. Forty-six percent (109 acres) of property is improved, primarily with single-family residences and farm structures. The development potential of 40 acres of undeveloped property along the eastern edge of the Area’s boundary within the Bonneville Power Administration’s easement is severely limited and is not classified as vacant.

While most existing development occupies only a limited portion of each parcel, a 15-acre property on the southern edge of Helvetia’s boundary is more intensively developed as a mobile home park. Approximately 25 percent of improved properties in the Helvetia Area are small- to medium-size lots less than 10 acres with limited development, while 12 percent are larger lots of 10 acres or more with limited development. An estimated 105 acres (44 percent) of property in the Helvetia Area is owned by four property owners with 10 or more acres of land.

Existing demographics also provide an indication of future development types in the area. The Economic Characteristics chapter of the Existing Conditions Report summarizes population, employment, income, and educational attainment. One of the conclusions from this data research is that there is an available, well-educated workforce in Hillsboro and Washington County, which makes these places a desirable location for high-tech employers that require a high degree of education, specialized training and management experience.

Hillsboro's industrial economy is fueled by companies such as Intel and Sun Microsystems that specialize in computer and electronic product manufacturing (NAICS 334). In addition to several large, high-tech manufacturing employers, major healthcare facilities and customer service call centers also are located in Hillsboro. The majority of existing industrial users on the Westside are within the high-tech cluster. Recent investments by companies such as Genentech and SolarWorld have increased interest and speculation with regard to the City's potential to attract biosciences and sustainable industries firms. Local real estate and economic development experts generally agree that the Evergreen and Helvetia Areas are most likely to accommodate growth in the high-tech and semiconductor industries and sustainable industries.

C. Development Program

A development program – a narrative and quantitative description of how a property or area could be developed – was developed for both Helvetia and Evergreen to serve as a guide for the development of the respective Concept Plans. The development program (Appendix F) describes an overall identity for the project areas, including how the properties will be best positioned. The overall objective is to prepare concept plans that offer the opportunity to capture target markets, maintain economically viable conditions, and strengthen prospects for financial success while addressing Metro's and Hillsboro's goals for job creation and place making.

The development program for Helvetia responds to a series of "Big Ideas" that describe the general type of development that the community desires and that is likely to be achieved. Serving as objectives for the planning effort, these Big Ideas become benchmarks against

which concept alternatives can be evaluated. The Big Ideas that will drive employment growth in Hillsboro, and Helvetia in particular, are described below:

Category	Users	Land/Building
Industry of Today (what we've already got)	Silicon (Intel, solar, display panels)	Large campuses (200 acres, 100 acres, etc.)
Industry of Tomorrow (what Hillsboro is beginning to see)	Medical, pharma, bio (Genentech, OHSU), sustainable energy	Medium campuses (75 acres)
Industry of the Future (what Hillsboro could get someday)	Medical (biochips, merging of industries of today/tomorrow)	Office/flex/R&D space, medium to large single-user campuses
Other components		
Services to support all three paradigms	Software companies, suppliers	Leased space in industrial parks or 10-20 acre single-user sites
Commercial service center	Hotel, bank, food	5-10 acres

The ability for Helvetia to actually capture the above industries is driven by Hillsboro's strengths, such as having a pool of skilled workers in the technology and silicon industries, relatively cheap and reliable power, and a proximity to similar types of industries.

The development program includes a variety of assumptions about market opportunities, and implementation. These assumptions include a program development planning horizon of year 2030 and an expectation that more distribution and lower intensity employment will take place at Helvetia, as compared to likely campus development and associated higher-density office employment in Evergreen. A complete list of these assumptions is found in Appendix F.

1. Development Types

The program (Appendix F) for Helvetia includes combinations of development types and typical parcel sizes. The following development types were explored as possible future land users in the Helvetia and Evergreen area:

Sustainable Environmental and Energy Businesses (50 to 100+ acres): These sites provide locations for major corporate and manufacturing campuses for global companies in

the sustainable, environmental, and energy industries. The variety of sizes allows for a range of product development (vertically integrated) as well as supporting corporate office and R&D functions. Potential industries could include those related to solar and silicon manufacturing, wind energy, high technology, and biotechnology.

Biotech Campus (35 to 50+ acres): A biotech campus would provide a medium-sized parcel for a business that would be directly related to Hillsboro’s emerging biotech industry.

Industry Suppliers (10 to 20+ acres): Industry supplier parcels provide sites for businesses that provide materials and services in support of the larger industrial users in Evergreen and elsewhere in Hillsboro. These could include both manufacturers as well as distributors of products that are used in the manufacture of products at other companies. Potential users could include suppliers of test equipment, uniforms and linens, lab supplies, sub-components and circuit boards, and packaging materials.

Industrial Incubators, Start-ups, and Spin-offs Business Parks (12 to 40 acres): These sites would be developed by commercial developers and leased in multi-tenant business and industrial parks. Leased park space is needed for smaller and emerging companies that do not have the capital or desire to be owners or for those that are in a growth mode and want the flexibility to move in the future. Industrial business parks typically have a unifying brand and image, which is controlled by a set of CC&Rs. Some industrial business parks may have a focus on raw industrial space, while others may be more focused on flex buildings that combine office and industrial space. Based on interviews with developers, sites of between 20 and 40 acres are preferred.

Industry Research and Development (R&D) Parks (20 to 30 acres): Similar to the above, industry R&D parks provide flexible development space (either as a single user or multi-tenant) for supporting businesses and spin-offs from Hillsboro’s core and emerging technology industries.

Distribution Businesses (10 to 70 acres): Helvetia’s location near Highway 26 may make it attractive to warehouse/distribution businesses that have a focus on Washington County. Distributors that have a wider focus will likely choose sites along I-5 instead. Any

distributor parcels in Helvetia could easily be reclassified as supplier or developer parcels since the parcel size is the same.

These development types were the basis for the industrial use categories listed in the proposed Helvetia Road Area Special Industrial District (HSID) in the Hillsboro Development Code (see Appendix L).

2. Program for the Alternative Concept

Helvetia has relatively few options for internal traffic circulation, thus the greatest variable in formulating a development program for the area was the size of parcels. Since the circulation will be relatively fixed, and parcel lines can be moved relatively easily, only a single concept plan was developed for Helvetia. The development program for the Helvetia area provides the opportunity for a range of development sites and smaller campuses to provide space for flex uses and research and development companies. The development program assumes that future land users in Helvetia will have a direct connection to the large campus users in the surrounding area, and those expected in Evergreen in the future. In addition, Helvetia is expected to accommodate distribution businesses, industries that require good access to the transportation network, via Highway 26, in order to deliver goods throughout the region.

A unique development program has been prepared that corresponds to the Conceptual Illustration for the Helvetia Concept Plan (see Chapter IV.) The *Helvetia Development Programs* tables in Appendix F demonstrate the types of users, and the amount of land they would use, under the growth scenario.

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IV. Helvetia Area Concept Plan

A. Industrial Urban Growth Conceptual Illustration

The purpose of this section is to present an illustration of how the Helvetia area may develop in the future. The Industrial Urban Growth Conceptual Illustration (“Conceptual Illustration” or “Concept”) was developed for Helvetia reflects the types of users the City of Hillsboro would like to attract to the area, considers the lotting patterns and physical location of the area that will be urbanized with industrial uses, and respects existing natural features. The Conceptual Illustration is not a zoning map but rather is an expression of how the area could develop, consistent with the Concept Plan. The Conceptual Illustration is consistent with the proposed policy and code language that implements the Concept Plan (see Chapter V., Implementation Steps) and the corresponding transportation improvements necessary to support the anticipated industrial development (see Section B, Transportation Plan).

1. Conceptual Illustration A

Conceptual Illustration A was developed in response to a desire to create support industry sites characterized by efficient, flexible site layout opportunities that are effectively served by roadway transportation connections (see Figure IV.1.).

As shown in Conceptual Illustration A, the most visible edges of the site, those with the most direct roadway connections to Route 26, are designated Distribution Businesses and are intended to serve distribution uses. The least visible areas of the site are designated Industrial Business Park and are intended for users that do not depend on public visibility for their business. The plan also provides smaller parcels for each of the two land uses, yet accommodates one parcel exceeding 50 acres. The plan respects the 100-year floodplain to the west and the BPA easement to the east, and neither was encroached upon by the proposed concept.

Increased traffic flow and safety is accommodated by proposing an improved NW Jacobson Road connection to NW Helvetia Road and the opportunity for an improved connection of NW Groveland Drive to NW Helvetia Road at the current NW Schaff Road intersection.

The plan also proposes extending NW Pubols Road and NW Schaff Road to the east to connect with NW Dick Road and NW Union Road, thus providing a street grid with multiple choices for vehicles traveling to and from the site.

B. Transportation Plan

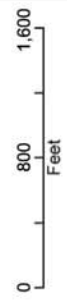
This section provides an overview of the future transportation conditions within the Helvetia Concept Plan area, both without additional development in the Helvetia planning area and with full development of the Helvetia planning area consistent with the Conceptual Illustrations. Listed in this section are improvements to the transportation network that will be needed to mitigate traffic levels anticipated from development in Helvetia. Also listed are improvements and associated costs needed to onsite collector roads and fronting arterial streets.

1. 2030 Future Conditions

In order to determine what impacts future industrial development in the Helvetia planning area would have on the transportation system, twenty-one study intersections were analyzed without the addition of Helvetia project traffic for the 2030 PM peak hour to determine the transportation system improvements that would be required if buildout of the Concept Plan did not occur. Seventeen of the study intersections would require mitigation in order to meet performance standards. The following table identifies those 17 intersections that will require improvements to meet performance standards without the addition of any development in the Helvetia planning area (see Appendix G, Transportation Forecasting Documentation for full transportation analysis).

Figure IV.1
Conceptual
Illustration A
November 2007

Legend
 Industrial Business Park
 Distribution Business



Angelo
planning
group

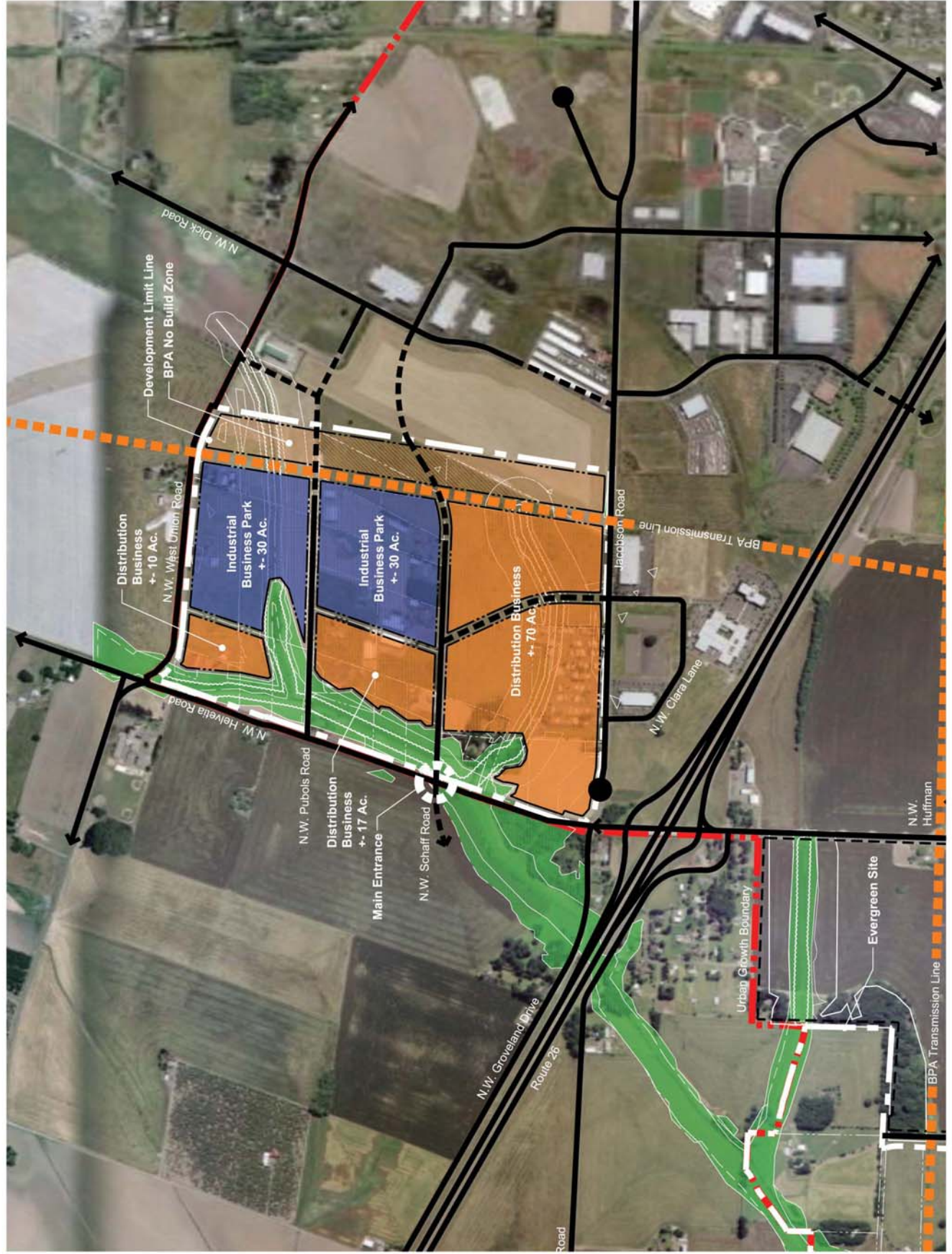
CH2MHILL
IDC

LCG

DKS Associates
TRANSPORTATION SOLUTIONS



CITY OF HILLSBORO



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Table IV-1: Transportation Mitigations for 2030 No Build Conditions (Without Concept Plans)

	Location	Improvement Item	Planned Project?
1	NW Glencoe Rd/ NW Evergreen Rd	Add a northbound right turn lane	NEW
		Add a northbound right turn overlap	NEW
		Add second westbound left turn lane	NEW
		Add additional southbound receiving lane on Glencoe south of intersection to Milne for dual westbound left turn	NEW
2	NE Jackson School Rd/ NW Evergreen Rd	Add a northbound right turn overlap phase	NEW
3	Evergreen Road	Widen to 5 lane section from NE 253rd-Glencoe (<i>TSP project</i>)	Hillsboro TSP
4	New East-West Carrying Capacity	New roadway (or expanded existing roadway) to relieve traffic on Evergreen at Shute Road and Cornelius Pass (<i>Needs to be considered in TSP update</i>)	NEW
5	NW Shute Rd/ NW Evergreen Pkwy	Add northbound right turn overlap phase	NEW
6	NW 229 th Ave/ NW Evergreen Rd	Add a northbound right turn overlap phase	NEW
		Add a southbound right turn lane	Hillsboro TSP
		Add second northbound right turn lane	NEW
7	NW Jackson School Rd/ NW Meek Rd	Add a single lane roundabout	NEW
8	NW Jackson School Rd/ Hwy 26 WB Ramp	Add a traffic signal	NEW
		Add a second westbound left turn lane	NEW
		Add a second southbound receiving lane on Jackson School south of the intersection	NEW
9	NW Cornelius Pass Rd/ NW Evergreen Pkwy	Add an eastbound right turn lane	Hillsboro TSP
		Add a northbound right turn lane	
		Add second northbound left turn lane	Hillsboro TSP
		Add second southbound left turn lane	Hillsboro TSP
		Add second westbound left turn lane	Hillsboro TSP
		Add westbound right turn lane	Hillsboro TSP
	Add second westbound right turn and overlap	NEW	
10	NW Helvetia Rd/ NW Jacobson Rd	Add a traffic signal	NEW
		Add a northbound right turn lane	NEW

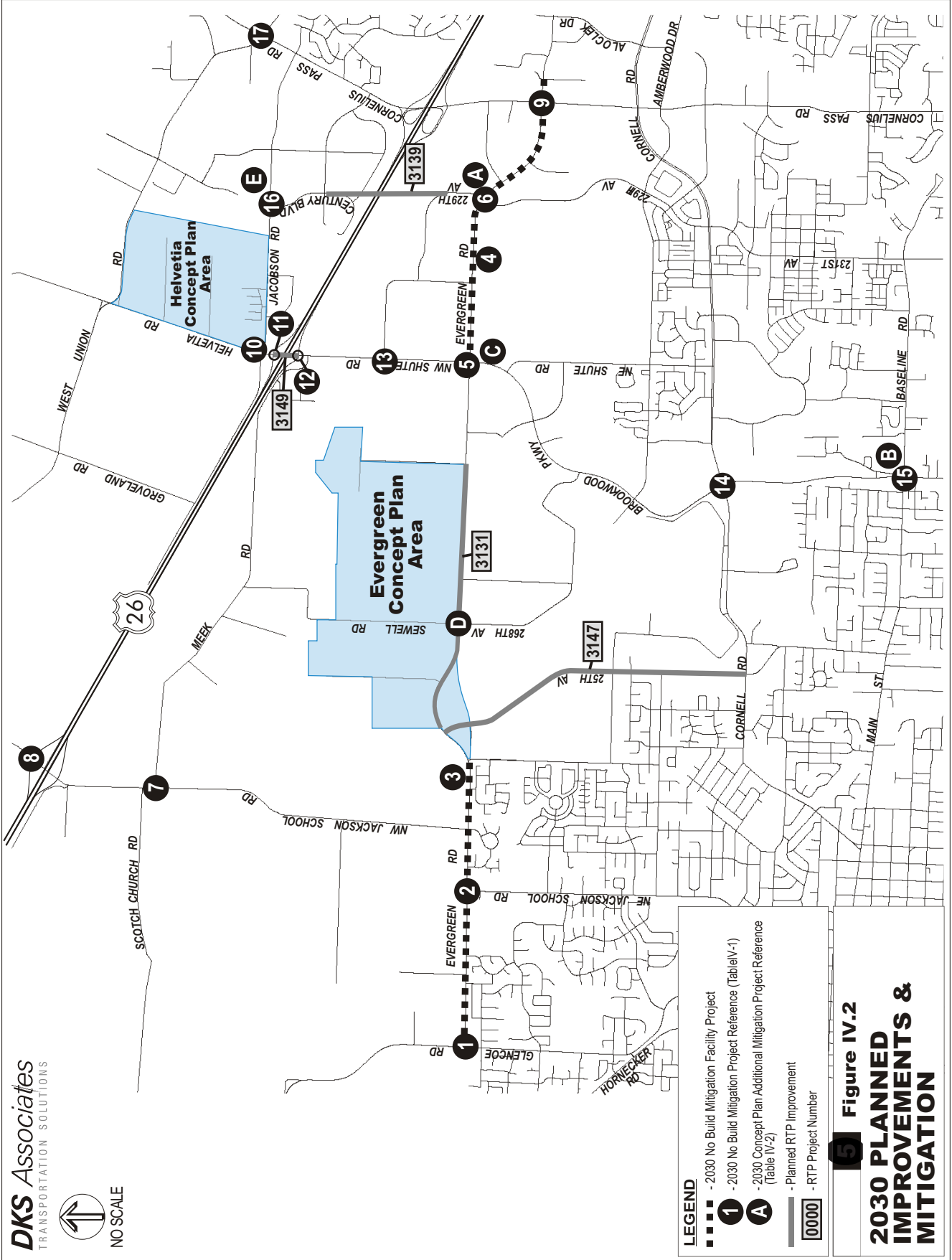
	Location	Improvement Item	Planned Project?
11	NW Shute Rd/ Hwy 26 WB Ramp	Add a single lane roundabout	Draft RTP
		Widen structure over Hwy 26 for additional northbound lane (modification to current RTP project)	NEW
12	NW Shute Rd/ Hwy 26 EB Ramp	Add second northbound through lane	NEW
13	NW Shute Rd/ HW Huffman St	Remove trees in median and install two-way left turn lane.	NEW
		Install traffic signal controls.	<i>Built by Others</i>
14	NE Brookwood Pkwy/ NE Cornell Rd	Add second eastbound left turn lane	NEW
		Add second westbound left turn lane	NEW
		Add westbound right turn lane	NEW
		Add southbound through lane	NEW
15	NE Brookwood Pkwy/ W Baseline Rd	Restripe to add second eastbound through lane (five lane section east of intersection as TSP project)	NEW
		Add second southbound through lane	NEW
		Add southbound receiving lane south of intersection	NEW
		Add second westbound left turn lane	NEW
16	NW Jacobson Rd/NW Century Blvd	Add a traffic signal	NEW
		Add northbound right turn lane	NEW
		Add northbound right turn overlap phase	NEW
		Add southbound left turn lane	NEW
17	NW Cornelius Pass Rd/ NW Jacobson Rd	Add second eastbound left turn lane	NEW

The project numbers in Table IV-1 correspond to project locations indicated on Figure IV.2.

Only four study intersections would not require mitigation due to background traffic growth. These improvements would be triggered by other growth in the area without the assumed Concept Plan development. These findings indicate that transportation improvements in the area are needed in addition to what was projected in the Washington County and Hillsboro TSPs. The additional improvements account for traffic growth projected to the year 2030, ten years beyond the 2020 TSP projections.



NO SCALE



LEGEND

- - 2030 No Build Mitigation Facility Project
- 1 - 2030 No Build Mitigation Project Reference (Table IV-1)
- A - 2030 Concept Plan Additional Mitigation Project Reference (Table IV-2)
- Planned RTP Improvement
- 0000 - RTP Project Number

Figure IV.2
2030 PLANNED IMPROVEMENTS & MITIGATION

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Since most of the study intersections would not meet performance standards under the 2030 No Build (e.g. no development in Helvetia) scenario, a number of transportation mitigations would be needed without the adoption of the Evergreen or Helvetia Concept Plans. Most of the mitigations are focused on adding capacity at major intersections. A few would involve substantial expansion to existing roadways, and should be considered as part of the Transportation System Plan update for the city.

2. Recommended Improvements with Development in Helvetia Planning Area

With the addition of industrial development in the Helvetia planning area, one intersection would require additional mitigation with Concept Plan traffic levels in order to meet performance standards in 2030.

The additional mitigation required at this location (assuming mitigation triggered by the No Build scenario is built) in order to meet performance standards is listed in Table IV-2.

Table IV-2: Additional 2030 Transportation Improvements Needed for Helvetia Concept Plan

	Location	Improvement Item	Planning Cost + ROW*
E	NW Jacobson Rd/NW Century Blvd	Add an eastbound right turn lane	\$375,000
		TOTAL COST	\$375,000

Notes: *Assumes additional 50% to project costs for Right of Way.

The project letter in Table IV-2 corresponds to project location indicated on Figure IV.2.⁵

⁵ Also indicated on Figure IV.4 are project locations A-D. These are intersection mitigation projects on Evergreen Road and NW Brookwood Parkway/W. Baseline Road that are necessary due to development in the Evergreen area. See Appendix G for the full transportation analysis for both the Evergreen and Helvetia planning areas.

3. Site Circulation and Access Improvements

The Helvetia Conceptual Plan Illustration identified new street networks that connect to existing public streets along the frontage. The street improvements associated with the Helvetia Road site were evaluated to determine preliminary engineering cost estimates. Most of these improvements are onsite collector roads, and the half-street improvements to the fronting arterial streets.

The street improvements for the Helvetia Road site include the upgrading of existing NW Schaff Road and NW Pubols Road, and the re-alignment of NW Jacobson Road to connect with Schaff Road east of its intersection with Helvetia Road. All onsite streets would be collector or local level, with the NW Jacobson Road facility planned to serve 3-lanes of traffic (one through lane in each direction, with space for left-turn pockets where appropriate). The NW Pubols Road and NW Schaff Road streets would be industrial class streets built to Washington County industrial standards.

In addition, the fronting street improvements of NW Helvetia Road to a full 5-lane section from the US 26 Ramps to NW Schaff Road, and 3-lanes from that point north to West Union Road would be required. Also, West Union Road would be upgraded to urban standards as a 3-lane arterial facility. The cost estimates include right-of-way onsite, street constructions, and conservative assumptions about project design, administration and construction. The total cost for these improvements is \$55 million, including the cost for right-of-way. The NW Helvetia Road and West Union improvements should be eligible for System Development Charge credits, since they are or will be considered as a planned improvement in the Washington County Transportation System Plans. Refer to Appendix G for cost estimate details.

Table IV-3: Helvetia Road Site Street Improvements

Street	Extent	Facility Type	Right-of-Way	Construction Costs	Total Cost
Pubols Road	Helvetia Road to E. Boundary	2-lane Collector	\$4,106,520	\$6,105,000	\$10,211,520
Schaff Road	Helvetia Road to E. Boundary	2-lane Collector	\$4,355,400	\$6,475,000	\$10,830,400
Jacobson Road	Helvetia Road to Clara Lane	3-lane Collector	\$3,222,996	\$4,273,500	\$7,496,496
				\$16,853,500	\$28,538,416

Table IV-4: Helvetia Road Site Frontage Improvements

Street	Extent	Facility Type	Right-of-Way	Construction Costs	Total Cost
Helvetia Road	US 26 Ramps to West Union Road (Schaff Road)	Arterial	\$612,000	\$3,048,780	\$10,818,470
West Union Road	Helvetia Road to plan boundary	Arterial	\$0	\$8,140,000	\$8,140,000
Helvetia Road	Jacobson Road (Schaff Road) to West Union Road	Arterial	\$0	\$6,715,500	\$6,715,500
				\$17,904,280	\$25,673,970

C. Highway 26 / Shute Road Interchange

The Highway 26 / Shute Road interchange has been and will continue to be a major entry point to the large industrial employment base in the northern portion of the City of Hillsboro. The addition of the Evergreen and Helvetia planning areas to the Urban Growth Boundary and the anticipated employment that will be generated in these areas will place greater demand on the Highway 26 / Shute Road Interchange to provide access into this section of the City. The Shute Road Interchange is currently approaching or exceeding the mobility standard identified in the *Oregon Highway Plan (OHP)* for this facility. Of primary concern is the heavy westbound off ramp traffic during the AM peak hour heading southbound and the corresponding northbound to eastbound movement in the PM peak and their effect on traffic operations in the vicinity of the interchange. The Meek Road/Shute Road and Jacobson Road/Groveland Road/Helvetia Road intersection do not

meet OHP access spacing standards and have operational concerns due to their proximity to the interchange. A project to address operational and mobility concerns at the interchange, including establishing a westbound to southbound loop ramp, has been identified in the financially constrained *2004 Regional Transportation Plan (RTP)* and has been submitted for inclusion in the financially constrained *2007 RTP* by Washington County.

In order to ensure that improvements to the interchange are in place to support industrial development in the Evergreen and Helvetia Concept Plan Areas, the Oregon Department of Transportation, Washington County and the City of Hillsboro will work collaboratively to identify a preferred design for future improvements at the Highway 26 / Shute Road Interchange and attempt to develop a funding strategy (public/private). This work will need to consider the operation of the interchange within the context of the overall transportation system in this section of Hillsboro, including the arterial network that feeds into this and other US 26 interchanges and overcrossings. This joint effort should build upon the results of the transportation evaluation conducted for the Evergreen and Helvetia Concept Plans which identified a series of improvements to the existing transportation network and new transportation facilities necessary to serve future employment growth (see Appendix G).

ODOT, Washington County and Hillsboro will work together to:

- Determine the ultimate configuration of the Highway 26 / Shute Road Interchange;
- Identify incremental improvements to the interchange that can be phased over time;
- Prepare an Interchange Area Management Plan addressing land use strategies for protecting the interchange for its planned function and identifying access spacing and access management requirements;
- Determine the ultimate location for NW Meek Road, NW Jacobson Road and NW Groveland Road as they access NW Shute and NW Helvetia Roads respectively;
- Attempt to develop an implementation strategy for constructing/funding improvements (public/private contributions towards interchange improvements may include developer proportionate share contributions/construction of incremental interchange improvements); and
- Develop and adopt an Interchange Area Management Plan, including any necessary updates to transportation system plans and implementing ordinances.

The Helvetia Conceptual Illustration “A” indicates that the existing connection of NW Jacobson Road with Helvetia Road will be closed with a cul-de-sac. Based on the evaluation of future improvements to the Shute Road Interchange, the NW Jacobson Road connection with Helvetia Road may be able to operate safely in a right-in / right-out configuration shifted slightly north of its existing location. The Helvetia Concept Plan Document recognizes this possibility. The ultimate determination and configuration of a NW Jacobson Road connection with Helvetia Road will be made during the design and evaluation of future improvements to the Shute Road Interchange. This design process will consider a cul-de-sac, right-in / right-out configuration, and a full movement signalized intersection.

D. Natural Resources Plan

1. Level of Protection

Consistent with the City’s Goal 5 provisions of Section 6, Natural Resources, Open Space, Scenic and Historical Sites, of the Hillsboro Comprehensive Plan, significant wetland and riparian/upland wildlife habitat resources in the Helvetia Area must be protected prior to urbanization. Upon annexation of lands with such resources to the City, these resources will be given an appropriate protection level, as prescribed by Section 131A, Significant Natural Resources Overlay (SNRO) District, of the Hillsboro Zoning Ordinance. The City is currently undertaking an inventory and will determine which of the inventoried resources are significant. For the significant resources, the City will conduct an ESSE analysis and will determine the level of protection. Once annexed, the City will add these resources to the mapped areas protected under the SNRO District.

In addition, some natural resource areas within Helvetia may be considered Habitat Benefit Areas, as defined by the adopted Tualatin Basin Fish & Wildlife Habitat Program. A key element of this program is the encouragement of the use of habitat Friendly Development practices, including Low Impact-Development (LID) techniques, designed to reduce the environmental impacts of new development and remove barriers to their utilization. The intent is to provide flexibility in the land development ordinances to encourage the protection of qualified Habitat Benefit Areas. Habitat-Friendly development techniques, design, and construction practices are included in Section 131B, Habitat Friendly Development, of the Hillsboro Zoning Ordinance.

E. Public Facilities and Services Plan

1. Sewer

Appendix H, Draft Sanitary Sewer Trunk Concept Design Helvetia Road Planning Area, provides a complete overview of the existing sanitary services in the planning area, the challenges in sewerage the area, and the proposed method of providing future sanitary service. The Helvetia area lies in Washington County, outside and adjacent to the current Clean Water Services (CWS) service area. The area will be brought into both the City’s and CWS’s service area. The planning area is relatively steeply sloped. Wiable Creek, a tributary of McKay Creek, runs north to south along the east side of NW Helvetia Road. Creek crossings by the sanitary system, particularly the crossing of NW Pubols Road across Wiable Creek, presents some challenges.

There is one proposed alternative for planning a sanitary collection system to accommodate future growth in Helvetia (see Figure IV-3). The low point in the planning area is in the southwest corner near the intersection of NW Helvetia Road and NW Jacobsen Road. This area is also lower than the areas to the south of the planning area, making gravity discharge a non-viable option. The proposed sewerage plan is to use gravity lines in NW Pubols Road and NW Schaaf Road to convey flows to a gravity mainline in NW Helvetia Road. A new pump station will be placed near the intersection of Helvetia Road and Jacobsen Road. The existing pump station should be taken off line and connected to the new pump station by gravity.

Planning level cost estimates are given in Table IV-5. The cost estimate for the conceptual alternative is based on best professional judgment. Total program cost includes engineering fees equal to 30% of the construction cost. These are costs for main lines only and do not include minor collectors or laterals.

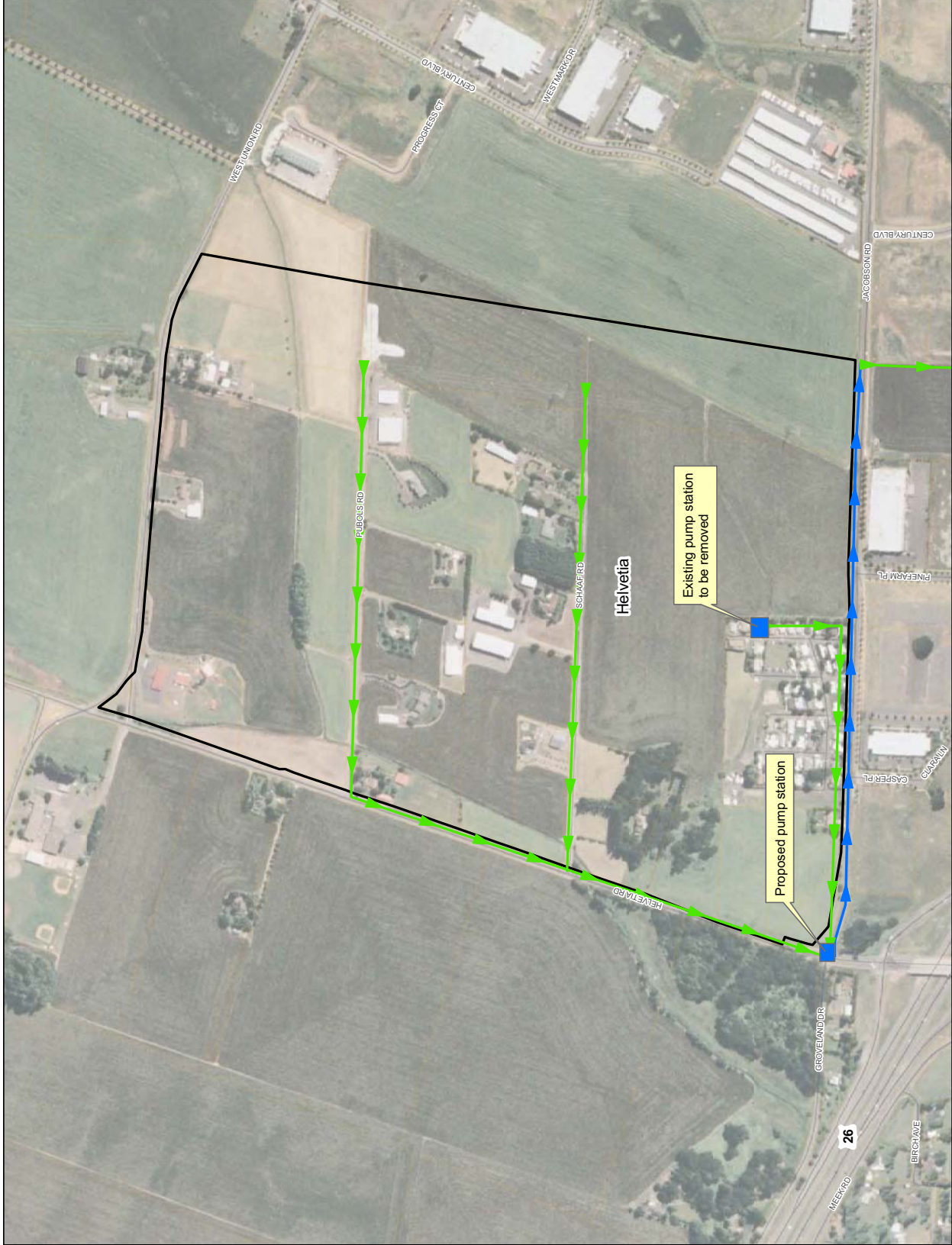
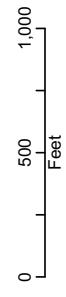
Table IV-5: Sewer Conceptual Construction and Program Costs (based on I&I of 1,650 gpad)

Alternative	Total Construction	
	Cost (\$)	Total Program Cost (\$)
Alternative 1	\$2,500,000	\$3,300,000

Figure IV.3
Helvetia Concept
Planning Area
Sanitary Sewer System
Conceptual Alternative
Evergreen/Helvetia UGB
Concept Plans

LEGEND

- Gravity Pipe
- Force Main
- Helvetia Site
(Planning Area = 242.12 ac)
- Roads
- Tax Lots



V:\STORINGISDATA\PROJECTS\PROJECTS\PHILIPSON\EVERGREEN\HELVETIA\JOB_CONCEPTS\MAP\DOCUMENT\CONCEPTS\FIGURE IV.3\HELVETIA_CONCEPT_SANITARY_SEWER\MXD '9/12/2007 14:53:08

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2. Storm

Appendix I, Draft Stormwater Concept Design Helvetia Road Planning Area, reviews the regulatory standards applicable to managing stormwater from future industrial development in Helvetia. Future development will need to meet Clean Water Services (CWS) for conveyance, water quality and detention. If a nexus exists between project permitting within Helvetia and the Federal Endangered Species Act, the project will be also subject to National Marine Fisheries Service (NMFS) consultation and their stormwater management guidelines.

Water quality treatment options are contained in Chapter 4 of CWS's Design and Construction Standards. Low Impact Development (LID) options are specifically addressed in §4.07 of CWS's Design and Construction Standards. Among the acceptable LID options for private systems are: pervious paving, Eco-Roofs/Roof Gardens; Infiltration Planters; Flow through Planters; Sand Filters; and Tree boxes. Acceptable LID options for public systems also include: Street Swales; Vegetated Filter Strips; and Vegetated Infiltration Basins. For any developments less than one acre, if at least 75-percent of the post development impervious area is treated with LID options no additional stormwater management may be required by CWS.

Discharge of piped or overland conveyance should for to Wiable Creek or to the Jacobson Road storm sewer system. It is unclear what the capacity of the Jacobson Road storm sewer system is; therefore, a downstream analysis must be performed on the system to determine permissible discharge rates. Outfalls to Wiable Creek should be designed in compliance with §5.07.7 of CWS's Design and Construction Standards. They should be above mean low water level and use energy dissipation. These outfalls may also trigger Clean Water Act permit issues

3. Water

The average water demand for the approximately 239 acre Helvetia site is estimated to be approximately 5,500 Gallons per day (GPD)/Acre, assuming that the area will be developed primarily with general industry and commercial industry. This results in a total water system average demand of approximately 1.31 Million Gallons per Day (MGD). The peaking factor

for this use is estimated to be 1.5 considering there could be irrigation demands in the summer months. This results in a peak water demand of 1.97 MGD.

The Helvetia development site is located adjacent to the service area of the Tualatin Valley Water District (TVWD). TVWD has indicated that the additional 1 to 2 MGD of average and peak demand could be provided to the Helvetia site without the need of any additional public water infrastructure improvements. TVWD currently has a 24-inch water transmission main located along NW Jacobsen Road adjacent to the southern boundary of the Helvetia site. TVWD has indicated that the development could connect to this 24-inch transmission main and extend the private water infrastructure within the site to adequately supply the needed water for general industry applications.

The primary water system infrastructure improvements required for the Helvetia development site are illustrated in Figure IV.4. The improvements primarily consist of water transmission pipeline and two interconnections and 1 metering station with the TVWD 24 inch water transmission main located along NW Jacobson Road. The concept design illustrated in Figure IV.4 illustrates the extension of new water transmission from the Jacobsen Road 24-inch transmission main through the Helvetia site, to an additional intertie with the 18-inch TVWD transmission pipeline located in West Union Road, this will provide the site water supply system redundancy and looping characteristics for the site water supply system. There are two swale/creek crossings that are required for construction of this transmission system.

See Appendix J, Helvetia Water System Concept Planning, for a complete analysis of estimated water demands, water supply sources, private water infrastructure improvements and estimated costs for developing the needed water infrastructure for industrial development in Helvetia.

Figure IV.4

**Helvetia Site
Water Infrastructure
Improvement
Everygreen/Helvetia UGB
Concept Plans**

LEGEND

- Concept Water Main
- ⋯ Existing Water Main
- ▭ Helvetia Site
(Planning Area = 242.12 ac)
- ∧ Roads
- 📏 Tax Lots



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The estimated construction costs for developing the primary water infrastructure for the Helvetia development is approximately \$1.13 M, a detailed breakdown of the cost estimate is presented in Table IV-6, this estimate is considered an Order of Magnitude estimate with an accuracy of +30%/-50%. In addition to capital improvement costs, the development will incur System Development Charges (SDCs) from TVWD for enabling the water district to provide the water supply for the Helvetia site. The SDCs are based on the water usage for the development. Based on an average flow rate of 1.31 MGD and peak flow rate of 1.97 MGD, the total SDCs for this development are estimated to be \$8.7 M. The TVWD SDC calculation worksheet is provided in Attachment A of Appendix J.

Table IV-6: Helvetia Development Water Infrastructure Improvements Order of Magnitude Comparative Construction Cost Estimates

Item Description	Quantity	Materials		Labor		Unit Price	Line Total	Costing Assumptions
		Unit	Total	Unit	Total			
General Conditions		\$130,300						
General Conditions	1 LS	\$38,700	\$38,700	\$48,200	\$48,200	\$86,900	\$86,900	Allow 10% of Total Contract Amount
Bonds/Insurance	1 LS	7,700	7,700	9,600	9,600	17,300	17,300	Allow 2% of Total Contract Amount
Mobilization/Demobilization/Site Facilities	1 LS	11,600	11,600	14,500	14,500	26,100	26,100	Allow 3% of Total Contract Amount
Earthwork		\$739,000						
Pipe Installed Thru Open Farmland--12" dia	4,000 LF	40.00	160,000	60.00	240,000	100.00	400,000	Means 06 BCCD 02510 730 2100
Pipe Installed Along County Road--12" dia	2,500 LF	50.00	125,000	60.00	150,000	110.00	275,000	Means 06 BCCD 02510 730 2100
Valved Branches in Main Line	4 EA	2,500	10,000	1,500	6,000	4,000	16,000	Allowance
Valves in Main Line	2 EA	2,000	4,000	1,000	2,000	3,000	6,000	Allowance
Swale Crossings	2 EA	5,000	10,000	5,000	10,000	10,000	20,000	Allowance
Connection and 8 inch meter to Exstg Serv	2 EA	10,000	20,000	1,000	2,000	11,000	22,000	Allowance
Subtotal Estimated Construction Cost of Helvetia Water Infrastructure Improvements						\$869,300		
+ Contingency @ 30%						260,700		
Total Estimated Construction Cost of Helvetia Water Infrastructure Improvements						\$1,130,000		

The cost estimates shown have been prepared for guidance in project evaluation and implementation from the information available at the time of the estimate. The final costs of the project will depend on actual labor and material costs, competitive market conditions, final project scope, implementation schedule and other variable factors. As a result, the final project costs will vary from the estimates presented herein. Because of this, project feasibility and funding needs must be carefully reviewed prior to making specific financial decisions to help ensure proper project evaluation and adequate funding.

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V. Implementation Steps

The Helvetia planning area lies outside of the City of Hillsboro’s city limits and is not currently subject to the city’s zoning ordinance. Land within the Helvetia area can not urbanize without first being brought into the city limits; upon annexation, parcels within the Helvetia area will be given a city plan designation and urban zoning. In order to implement the Helvetia Concept Plan, the City will need to adopt new Comprehensive Plan policies and Development Code language that addresses future development. It is the recommendation of the Concept Plan that the City adopt a new zone for the Helvetia planning area: the Helvetia Road Special Industrial District (HSID).

A. Comprehensive Plan Amendments

1. Helvetia Area Industrial Plan

The Comprehensive Plan designation to be applied to land within the Helvetia area is Industrial upon adoption of the Comprehensive Plan Amendments (see Figure V.1). A new Comprehensive Plan section, Helvetia Area Industrial Plan, has been drafted to capture the vision for future development in this area, consistent with the Helvetia Concept Plan (see Appendix K). As paraphrased below, policies in this new section include:

- Develop adopt and apply performance-based policy and code measures to guide the development of industrial uses, properties and projects within the Area, while allowing sufficient flexibility and authority to enable the City to respond to changing industrial market trends and opportunities for the Area over time.
- Provide development opportunities within the Helvetia Area for industry uses that fall within any of the preferred industry categories, as specified in the Helvetia Area Development Program, including:
 - High technology sector and related companies and businesses
 - Sustainable industries sector and related businesses and companies
 - Bio-technology, bio-medical, bio-pharmaceutical sector and related businesses and companies

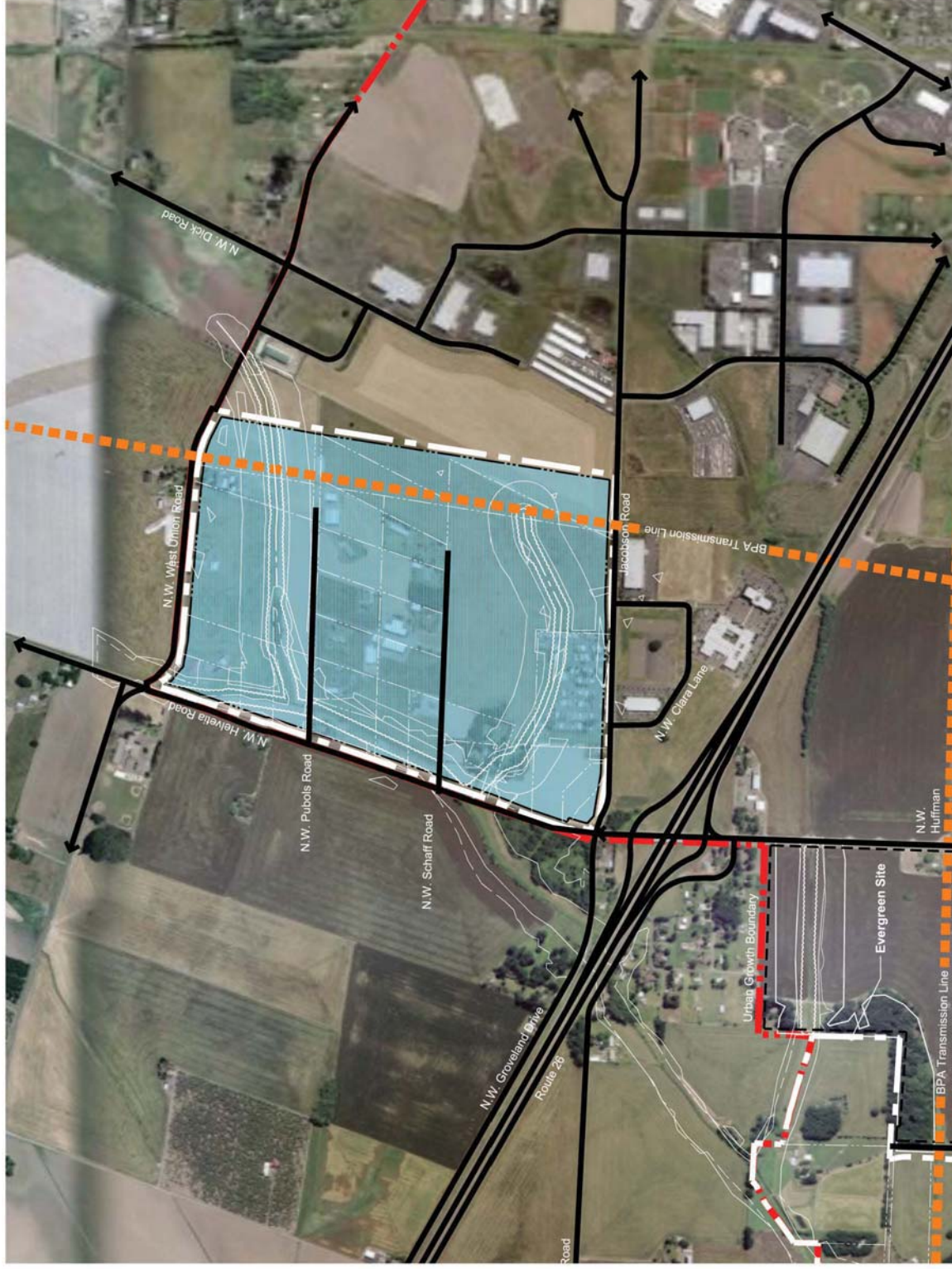
- Businesses and companies that are incubators, start-ups, spin-offs and research and development firms associated with main industrial sectors
- Industry suppliers and distribution businesses
- Where feasible accommodate large industrial sites (parcels 50 – 100 or more acres in size) for large-scale industrial campuses and development projects
- Facilitate the development of smaller, diversified industrial uses and sites (20 – 50 acres in size) - especially smaller-scaled flex-space industrial business parks - that support the main industry sectors encouraged by this Plan.
- Use the land use categories specified in the Helvetia Area Development Program and the Helvetia Conceptual Illustration “A”, (shown in Figure IV.1,) to guide new industrial development within the Area.
- Provide for aesthetically attractive, well designed industrial uses and sites within every development approved for construction in the Helvetia Industrial Area.
- Develop and apply a Helvetia Road Area Special Industrial District Ordinance that substantially complies with the Metro Urban Growth Boundary (UGB) Conditions of Approval and the Urban Growth Management Functional Plan.

Implementation measures in the new policy section presuppose the development of a Helvetia Special Industrial District (HSID) that includes regulations to govern future development in Helvetia (see subsection B, below). Approval of proposed land uses and development activities within the Helvetia will be based on whether or not the proposed use or activity is consistent with the land use categories in the HSID and if the proposal generally achieves the preferred Helvetia Conceptual Illustration A.

Figure V.1
Helvetia
Comprehensive
Plan Designation

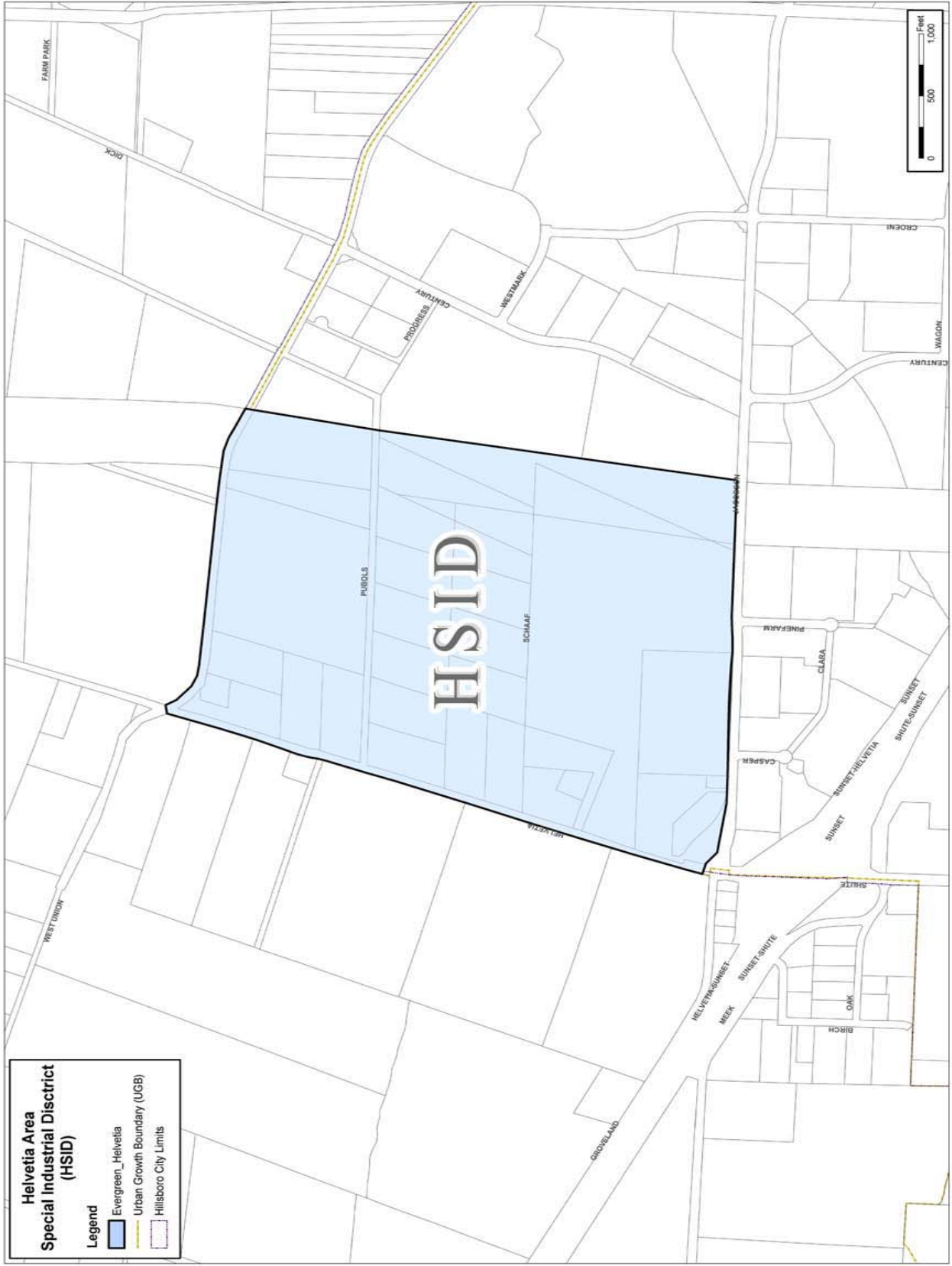
Legend

 Industrial



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Figure V.2



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The Comprehensive Plan amendments incorporate an Area Natural Resources Management Plan, Area Public Infrastructure (Water/Sewer Systems) Management Plan, and e Area Transportation System Plan, the elements of which have been discussed earlier in this document.

B. Zoning Code Amendments

In order to implement the Comprehensive Plan policies for the Helvetia Area Industrial Plan, the city must amend the Development Code and revise the City’s zoning map to include the Helvetia Special Industrial District (HSID) zone.

1. Helvetia Special Industrial District (HSID)

The Helvetia Special Industrial District (HSID) is a proposed new zoning district to implement the Helvetia Concept Plan (see Figure V.2). Consistent with proposed comprehensive plan policy in the (new) Helvetia Area Industrial Plan section, the HSID code section contains regulatory language to guide future development in Helvetia (see Appendix L).

The HSID allows all of the uses detailed in the Development Program, including Sustainable Energy and Environmental Businesses and Biotech Campuses. However, based on the Helvetia Conceptual Illustration, it is assumed that this area will develop with distribution businesses and Industry Research and Development (R&D) Parks. Some commercial is allowed in the HSID, but this is restricted to commercial and professional services uses that primarily serve the needs of the workers within the Helvetia and immediately adjacent industrial areas and is limited in size.⁶

Also noteworthy in the proposed code language, the minimum lot size in the HSID is 10 acres. Lots larger than 10 acres in size may subdivide as long as the resulting land division creates one lot or parcel of at least 10 acres and the remaining lot(s) created contains at least one parcel of 5 acres of contiguous land. This provision is to encourage the retention of

⁶ Consistent with Metro’s Title IV, buildings for these retail uses and professional services may not occupy more than 3,000 square feet of sales or service area in a single outlet, or multiple outlets that occupy more than 20,000 square feet of sales or service area in a single building or in multiple buildings that are part of the same development project.

larger lots, and lot consolidation, to maintain or create sites attractive to industrial developers. Lots of record that are below the minimum lot size may develop with a use that is listed as permitted in the HSID.

C. Annexation Strategy

Property within the Helvetia area can only be developed as urban if it is served by public utilities at an urban service level. In order to receive urban services, property will need to be annexed into the City of Hillsboro. The City of Hillsboro has a passive annexation policy and will not forcibly annex properties within the Helvetia planning area. Past city practice has been to assist property owners in recently urbanized industrial areas with the annexation procedures in order to facilitate industrial growth. City annexation policy requires that property to be annexed must be adjacent to the City of Hillsboro City Limits and within the Urban Growth Boundary.

D. Metro Compliance

When Metro brought the Helvetia planning area into the UGB the area was designated a Regionally Significant Industrial Area (RSIA). This designation is described in Title 4 of the Metro Urban Growth Management Functional Plan and its intent is to protect a supply of sites for employment uses within the metropolitan region. Title 4 limits the amount of new commercial in RSIA.⁷ The proposed HSID complies with Title 4 by limiting new buildings for stores, branches, agencies or other outlets for retail uses and services to 3,000 square feet of sales or service area in a single outlet, or multiple outlets that occupy more than 20,000 square feet of sales or service area in a single building or in multiple buildings that are part of the same development project.

The Metro Conditions of Approval associated with Ordinance No. 04-1040B, the action that brought the Helvetia area into the UGB, stated that the city must develop a lot/parcel configuration plan that results in at least one parcel in the Helvetia area that is 50 acres or larger in size. The Conceptual Illustration A (Figure IV.1) shows a configuration of future users that accommodates at least one large, 50 acre+, industrial user. There are no tax lots in Helvetia larger than 50 acres, and only one tax lot that is approximately this size. To further

⁷ In RISAs,

the region's and the city's goals to provide large industrial sites in the Helvetia area, the HSID restricts land divisions in the area. Lots larger than 10 acres in size in Helvetia may subdivide as long as the resulting land division creates one lot or parcel of at least 10 acres and the remaining lot(s) created contains at least one parcel of 5 acres of contiguous land.

E. Financing Strategy and Tools

1. Infrastructure Costs

It is assumed that private development will finance all onsite development costs in the Helvetia area (internal roads, onsite utilities, onsite open spaces and trails, etc.) and a portion of offsite development costs. As described in the infrastructure financing analysis (Appendix M), mandatory fees and charges that private developers are assessed at the time of development are expected to generate a surplus of revenues to finance offsite infrastructure costs associated with development in the Helvetia area.

Infrastructure costs related to development at Helvetia will fall into the following categories: Transportation (including storm drainage facilities), Water, and Sanitary Sewer. Detailed cost information for each of these categories can be found in separate technical memorandums: Appendix G (transportation), Appendix H (sanitary sewer), and Appendix J (water).

Existing City financing tools include required system development charges (SDCs) and traffic impact fees (TIF) from new development. SDCs and TIF revenues generated by development in Helvetia can be used to finance offsite improvements, including systemwide improvements. SDCs may also be used to reimburse developers for offsite sanitary sewer infrastructure costs.

Table V-1 illustrates the estimated costs and revenues for all onsite and offsite infrastructure improvements associated with the Helvetia concept plan. These are good faith estimates based on the preliminary Helvetia concept plan.

Table V-1: Summary of Costs and Revenues Associated with Helvetia Development

Infrastructure Type	Costs	Developer Requirements	TIF Revenues	Resulting Balance (Costs - Revenues)
Transportation	\$54,587,386	\$54,212,386	\$2,870,783	-\$2,495,783 (surplus)
Water	\$1,130,000	\$1,130,000	n/a	\$0
Sanitary	\$3,300,000	\$3,300,000	n/a	\$0

As shown above, revenues generated by development in the Helvetia area are projected to exceed the combined cost of onsite and offsite infrastructure improvements needed for the Helvetia concept plan by \$2.5 million. Therefore, no funding gap is anticipated.

Transportation Costs

The Helvetia and Evergreen Area Future Transportation Conditions Analysis (see Appendix G) identifies transportation infrastructure improvements that build-out of the Helvetia area will require.

The projected cost of onsite transportation infrastructure in the Helvetia area is \$54.2 million. An additional \$375,000 in offsite transportation infrastructure costs is projected and will finance the addition of an eastbound turn lane at the intersection of NW Jacobson Road and NW Century Boulevard.

Transportation Revenues

Development at Helvetia will contribute to transportation funding in two primary ways:

Onsite infrastructure: Developers will construct all onsite transportation infrastructure at their own expense.

TIFs: The City of Hillsboro collects TIFs for all new development, which is assigned to one of five general use categories: residential, business/commercial, office, industrial, or institutional. TIFs are calculated based on the total trips a development is projected to generate. Within each general use category, “unit factors” are assigned to different development types and reflect the magnitude of the impacts the development is anticipated to have on the transportation system. For example, within the industrial use category,

warehouses, which generally have a very low job density, will generate fewer trips than industrial parks, which have a higher job density.

For industrial uses, total trips are estimated by multiplying a building’s total gross square footage (TGSF) by the appropriate unit factor. The methodology for estimating total trips for most commercial uses is similar, except the unit factor is multiplied by a building’s total gross leasable square footage (TGLSF). For hotels, however, total trips are estimated by multiplying the number of rooms by the hotel unit factor.

Table V-2 shows projected TIF revenues for the Helvetia area. Assuming a job density of 17.3 employees per acre, development in the Helvetia area is projected to produce \$2.9 million in TIF revenues, which may be used to finance offsite improvements.

Table V-2: Projected TIF Revenues for Helvetia Concept Area.

Item	Area (acres)	Building Area (s.f.)	Description	No. of Units	Total Trips (Gross Bldg s.f. x No. of Units/ 1000)	Basis of Trip Rate	TIF estimate (Basis of Trip Rate x Total Trips)
Gross area	249.0						
<i>less BPA easement</i>	40.0						
<i>less infrastructure/circulation (21%)</i>	52.0						
Net development area	157.0						
Distribution Business 1	70.0	731,808	Warehouse	4.88	3,571	\$308	\$1,099,937
Distribution Business 2	17.0	177,725	Warehouse	4.88	867	\$308	\$267,127
Distribution Business 3	10.0	104,544	Warehouse	4.88	510	\$308	\$157,134
Industrial Business Park (2 @ 30 ac.)	60.0	627,264	Industrial Park	6.97	4,372	\$308	\$1,346,585
TOTAL	157.0	1,641,341					\$2,870,783

Source: Leland Consulting Group

Revenues generated by development in the Helvetia area are expected to exceed the cost of onsite transportation improvements. What is not accounted for in Table V-2 or this analysis is the cost of offsite transportation improvements that will be needed regardless of development occurring in Helvetia.

Water Costs

The Water System Concept Design developed by CH2M Hill (see Appendix J) identifies water system infrastructure improvements that will be required for the Helvetia concept area, which will be served by the City of Hillsboro. The total construction cost estimate for Helvetia area water improvements, including a 30 percent contingency, is \$1.13 million.

Water Revenues

The water system improvements described above are considered onsite improvements that would be the responsibility of developers. Thus, there will be no public utility obligations to fund water infrastructure at Helvetia.

Development at Helvetia will generate revenues based on SDCs that are levied on development as it occurs. These fees, assessed by TVWD, enable the District to build and maintain the internal capacity to serve the Helvetia area. The methodology for determining SDCs is described in CH2M Hill's technical memorandum. As previously noted, water demand generated by the Helvetia area can be accommodated by TVWD's existing system and will not trigger the need for any offsite improvements.

Sanitary Sewer Costs

The Sanitary Sewer Trunk Concept Design developed by CH2M Hill (see Appendix H) proposes one alternative for providing sanitary service to the Helvetia concept area. The total program cost estimate for Alternative 1, which will use gravity lines in NW Pubols Road and NW Schaaf Road to convey flow to a gravity mainline in NW Helvetia Road and construct a new pump station near the intersection of Helvetia Road and Jacobsen Road, is \$3.3 Million.

Sanitary Sewer Revenues

Based on CH2M Hill's analysis of sanitary sewer infrastructure requirements, it is assumed that private development will bear the total cost of sanitary sewer improvements associated with build-out of the Helvetia area. Specifically, developer requirements will include:

Onsite infrastructure: Developers will be responsible for all onsite infrastructure costs.

Connection fees/SDCs: Clean Water Services (CWS), which will be the sanitary sewer service provider for the Helvetia Area, will assess SDCs to new development to finance connection charges, which may include:

- a. Direct connections to the District sewer system;
- b. Indirect connections to the District sewer system including, but not limited to, building additions, or expansions, which include sanitary facilities;
- c. Change in the use of an existing connection; and
- d. Substantial increase(s) in the flow or alteration of the character or sewage to an existing connection.

For industrial uses, connection fees will be calculated as Dwelling Unit Equivalents (DUEs) based on the estimated or actual metered flow in incoming water, or metered effluent. The fees are calibrated to match the expected true cost of any offsite improvements required by the development. Thus, there will be no unmet funding obligation as a result of development at Helvetia.

2. Financing Methods

Despite the fact that no infrastructure financing gap is projected, the City may wish to explore alternative funding sources to buy down the cost of development in order to attract private investment to the Helvetia area or to help pay for other planned, but unfunded, improvements. The City and Washington County, working with Metro and the State, will also need to identify funding sources to pay for offsite transportation costs associated with regional growth. A wide range of funding tools is available to support capital improvements and infrastructure planning in Oregon. Many transportation funding tools are funded via the Oregon Department of transportation (ODOT) through competitive grants that are offered annually or biannually. Local funding tools, such as urban renewal and LIDs, may be used to finance capital improvements within designated geographic areas or special districts.

This section identifies a series of potential funding sources for the transportation improvements presented on Tables IV.1 and IV.2. Projects 1 through 17 (Table IV.1) are

those transportation improvements that will be needed to meet performance standards without the addition of any development in the Helvetia and Evergreen planning areas. From a transportation funding perspective these improvements will likely be funded either through Traffic Impact Fees (TIF) collected as development occurs or through future Major Streets Transportation Improvement Program (MSTIP) funds as they become available and allocated to these projects. Projects 8, 11 and 12 are associated with the Shute Road / Highway 26 interchange and will likely be funded through future State Transportation Improvement Program (STIP) funds when they are available. State transportation funding for modernization projects has become less available and there is the possibility that some local funding participation may be sought for interchange improvements such as Shute Road / Highway 26.

Project E (Table IV.2) is the transportation capacity improvement that will be needed with the addition of the anticipated industrial development in the Helvetia planning area. As indicated on Table V.2: Projected TIF Revenues for Helvetia Concept Area, development in the planning area is estimated to provide sufficient revenue to cover the added cost associated with Project E.

The following programs and funding tools are some of the most common and most likely to be of use in the Helvetia concept area.

Tax Increment Financing/Urban Renewal

Tax increment financing (TIF) is one of the most powerful public funding tools for revitalization. TIF is a mechanism where public projects are financed by debt borrowed against the future growth of property taxes in a defined urban renewal district. The assessed value of all properties within the district is set at the time the district is first established (the frozen base). As public and private projects enhance property values within the district, the increase in property taxes over the base (the increment) is set aside. Debt is issued, up to a set maximum amount (the maximum indebtedness), to carry out the urban renewal plan and is repaid through the incremental taxes generated within the district. The duration of urban renewal districts is usually 15 to 20 years. When the district is retired, the frozen base is removed and all property taxes in the district return to normal distribution. Because urban

renewal is such a useful tool for revitalization and can generate significant amounts of money for infrastructure, it should be strongly considered to help fund projects in the Helvetia Area. As a part of subsequent conceptual plan implementation, the City would need to prepare an urban renewal plan, which would identify specific projects to be funded and the likely funding capacity from tax increment revenues.

Local Improvement District

A Local Improvement District, or LID, is a special assessment district where property owners are assessed a fee to pay for capital improvements such as sidewalks, underground utilities, shared open space, and other features. LIDs are typically petitioned by and must be supported by a majority or supermajority of the affected property owners. Since LIDs are funded by private property owners, they can help share the funding burden in a public-private partnership. Further, since it requires private property owner support, it is a good mechanism to help organize property owners around a common goal. Such a mechanism could be a useful tool to fund shared amenities and infrastructure at Helvetia.

Oregon Pedestrian and Bicycle Program (ODOT)

A range of pedestrian and bicycle improvements will be a part of the Helvetia transportation infrastructure. ODOT provides grants for crosswalks, bike lane striping, and pedestrian crossing islands that fall within the rights-of-way of streets, roads and highways. Bike/ped grants usually fall between \$80,000 and \$500,000.

Oregon Transportation Enhancements (TE) Program

Using federal transportation funds, ODOT TE grants are awarded to local governments and other public agencies to support projects that improve communities and enhance the experience of traveling. New sidewalks, bike lanes, and pedestrian amenities such as benches and streetlights are eligible TE projects, as are the restoration of historic railroad stations, bus stations, and bridges. TE awards typically range from \$200,000 to \$1 million, and local governments must contribute ten percent of the project's cost.

State Transportation Improvement Program

The STIP is Oregon’s adopted four-year investment program for major state and regional transportation systems, including interstate, state, and local highways and bridges, public transportation systems, and federal and tribal roads. It covers all major transportation projects for which funding is approved and project implementation is expected to occur during a certain time frame. The STIP includes all major transportation projects and programs in Oregon that are funded with federal dollars. It also includes state-funded projects that relate to the state highway system, and “regionally significant” locally funded projects in metropolitan areas that affect the state’s transportation system.

Immediate Opportunity Fund (IOF)

The IOF program is a special program in the STIP administered by the ODOT Financial Services’ Economics and Policy Analysis Unit. It was created in 1988 by the Oregon Transportation Commission (OTC) in order to quickly process and fund transportation improvements that would attract or retain jobs. The fund is a collaborative effort between the Oregon Economic and Community Development Department (OECDD) and ODOT. It is intended as quick-response or incentive funding for either targeted business development projects or business district revitalization projects. Projects are either pulled from a city or county’s transportation system plan (TSP), or are small projects that are not listed in the TSP and may be added onto other larger projects.

Major Streets Transportation Improvement Program (MSTIP)

Washington County voters approved a third version of the MSTIP in 1995. The MSTIP uses property tax revenue to issue bonds for capital construction of major transportation projects with Countywide benefit. Most of these projects take place on County roads. From FY06-07 through FY11-12, \$140 million has been allocated for projects in MSTIP C3.