

SALEM PARKWAY – KROC CENTER ACCESS STUDY

Summary Report

Prepared for:

The City of Keizer

The City of Salem

The Oregon Department of Transportation

The Salem Keizer Area Transportation Study (SKATS)

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Executive Summary

Pedestrian and bicycle connections between the cities of Salem and Keizer, Oregon are few and far between due to the limited number of crossings of both Salem Parkway (Hwy. 99E, a limited access highway) and the BNSF Railway railroad tracks. The lack of reasonably spaced connections, while posing difficulties for all modes of travel, creates a significant barrier for walking and biking between the two cities and limits public access to notable community assets, including the Salvation Army Kroc Community Center and the Claggett Creek Natural Area.

Shortly after the opening of the Salvation Army Kroc Community Center in 2009, residents and elected officials expressed concerns about the lack of safe access to the Community Center from the area north of Salem Parkway. In response, the cities of Salem and Keizer, the Oregon Department of Transportation (ODOT), and the Salem Keizer Area Transportation Study (SKATS) undertook a multi-jurisdictional study, working with stakeholders that represented a broad range of interests, to identify ways to improve bicycle and pedestrian connectivity between Salem and Keizer with an emphasis on providing safe access to the Salvation Army Kroc Community Center and the Claggett Creek Natural Area.

Study Process: A range of possible projects to provide connectivity between Salem and Keizer was identified for further study, including shared-use paths (off-street paths designed for use by pedestrians as well as bicyclists), bridges, and undercrossings. These six initial options were narrowed down to the three most promising alternatives, which were further developed and evaluated using a mixture of quantitative and qualitative measures. In February 2013, based on input from the evaluation process and the public and with guidance from the Technical Advisory Group and the Project Team, the Stakeholder Advisory Committee (SAC) recommended both near-term projects (to be constructed as soon as possible) and longer-range projects (to be considered further in the future depending on future needs and available funding) to improve connectivity. The SAC also requested that the Project Team examine ways to provide a safer street crossing at the Salem Parkway/Hyacinth Street NE/Verda Lane intersection as a part of the near-term improvements. The near-term and longer-range project recommendations were then further refined and brought back to the SAC for review in July 2013.

Recommended Near Term Improvements

- **Alternative H:** Construction of a bicycle/pedestrian connection from Hyacinth Street NE to Bill Frey Drive NE with crossing enhancements at intersections and with transit stops on Hyacinth Street NE

This connection could be constructed either as a part of the planned roadway extension of Salem Industrial Drive NE (adopted project in the Salem TSP—not currently programmed for funding) or could be constructed as a separate shared-use path through the conservation easement and with its own bridge over Claggett Creek (see the red route on Figure ES-1) should funding for the path become available sooner than funds for the

roadway extension. The planning level cost estimate for a shared-use path with a bridge over Claggett Creek, transit stops, and enhanced crossing of Bill Frey Drive NE leading to the Kroc Center is \$1 to \$2 million.

The near-term improvements also call for bicycle and pedestrian crossing enhancements at the Salem Parkway/Hyacinth Street NE/Verda Lane intersection to increase the visibility and safety of pedestrians and bicyclists.

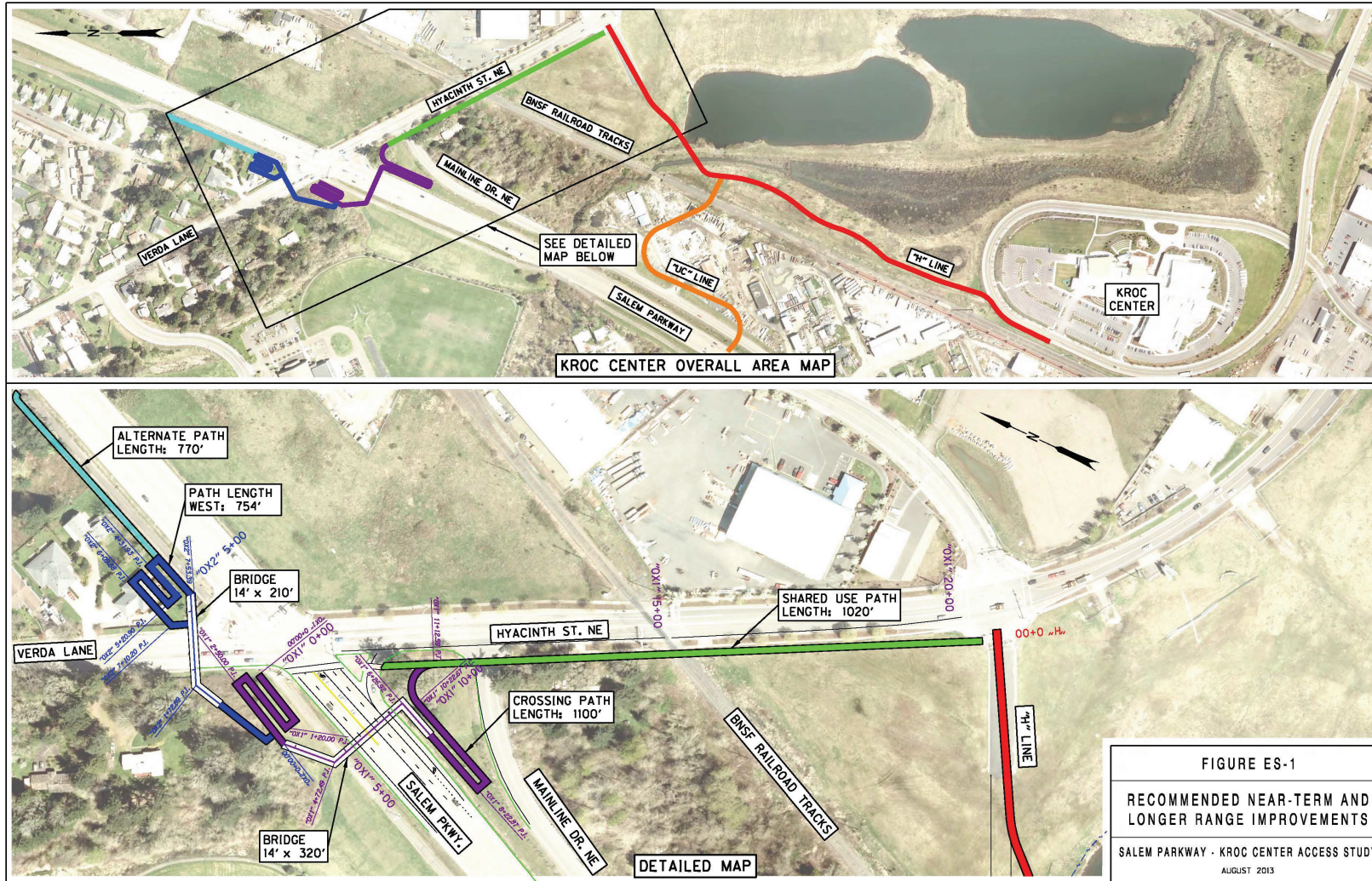
Recommended Longer-Range Improvements

Additional improvement projects recommended for consideration are listed below. The intent is that construction of these improvements would be phased commensurate with need and funding availability.

- Construction of a shared-use path along the south side of Hyacinth Street NE between Salem Parkway and Salem Industrial Drive (see the green route on Figure ES-1) (\$550,000 estimate)
- After the above improvements are made, a bridge over Salem Parkway at Verda Lane/Hyacinth Street NE (see the purple route on Figure ES-1) to completely separate bicycles and pedestrians (\$3 - \$3.5 million) should be considered to further enhance bicycle/pedestrian safety.

As an alternate, future improvements could include construction of Alternative UC (see the orange route on Figure ES-1) which calls for a bridge over Salem Parkway and undercrossing of the railroad. A bridge over Verda Lane would also enhance overall safety. These improvements would be dependent on how the area develops in the future and the increases in pedestrian, bicycle and vehicle traffic. Other factors, such as funding availability and regional transportation system changes, may also play a role in determining the relative timing for these improvements.

Figure ES-1
Recommended Near-Term and Longer Range Improvements



INTRODUCTION

Background

Even though Salem and Keizer share a common boundary line, travel between the two cities is difficult due to the limited number of crossings of Salem Parkway (a limited access 55 mph highway). There are only two crossings of Salem Parkway (Cherry Ave. NE and Verda Lane/Hyacinth Street NE) between Chemawa Road and Broadway Street NE, a distance of approximately 3 miles (see Figure 1). Further complicating travel in the area is the presence of the BNSF railroad tracks which parallel Salem Parkway. The lack of reasonably spaced connections, while posing difficulties for all modes of travel, creates a significant barrier for walking and biking.

This lack of bicycle and pedestrian connectivity became more apparent in 2009 with the opening of the Salvation Army Ray & Joan Kroc Community Center. This 91,500-square-foot community center incorporates a variety of community functions, including a library, sports and fitness center, Junior Olympic swimming pool, indoor water park, and performing arts space. The facility is open to members as well as the general public and serves residents of Salem, Keizer, and communities throughout the valley. Adjacent to the Kroc Community Center is the Claggett Creek Natural Area, which when fully developed, will provide the public with paths and recreational opportunities for walking, jogging, bird watching, etc.

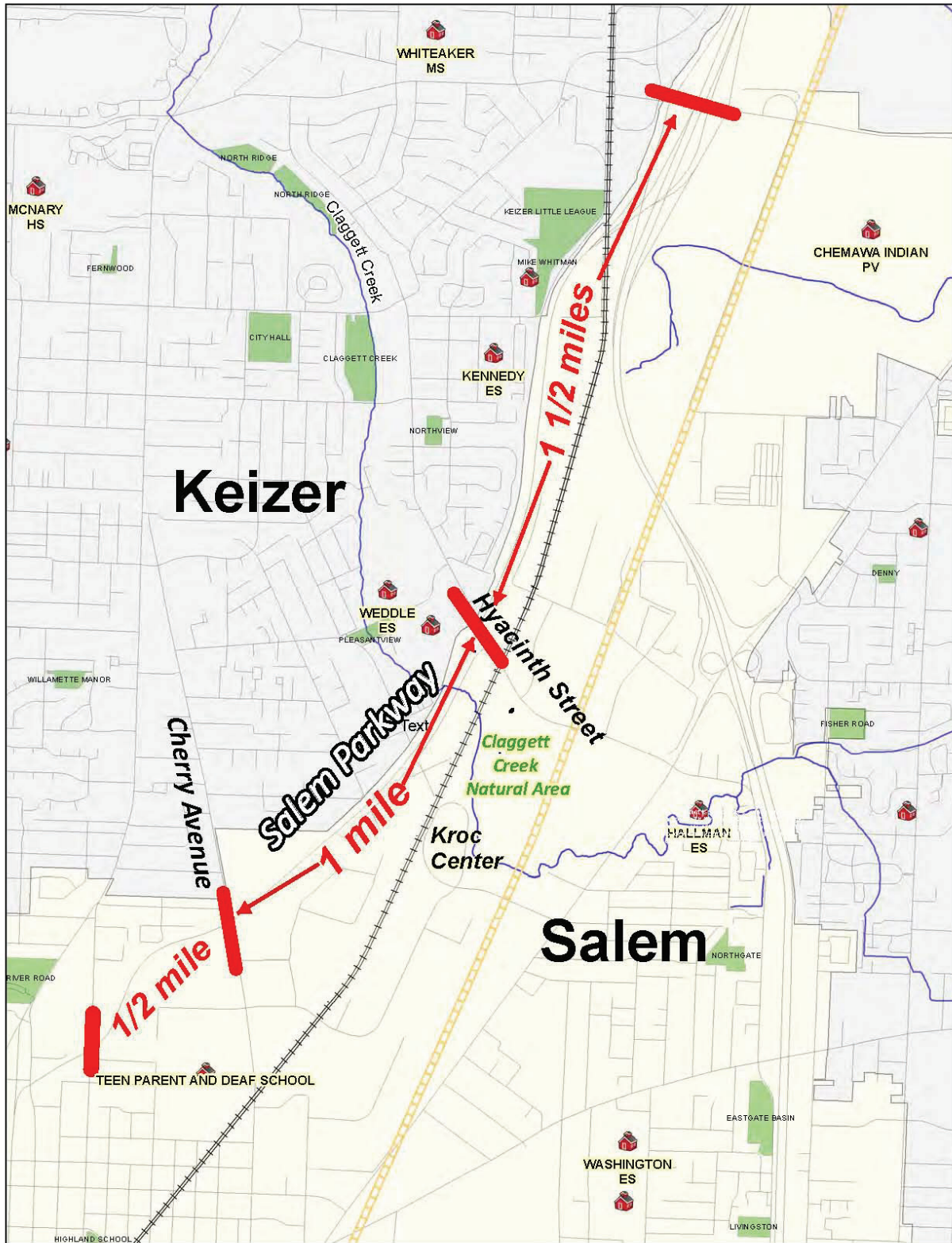
These two community assets are currently only accessible from Portland Road NE or from Salem Industrial Drive NE. While Salem Industrial Drive NE is acceptable for motorized travel, it is undesirable for walking and biking due to the lack of sidewalks and bike lanes and the high volumes of truck traffic. Limited bicycle and pedestrian access to the area from the northwest has prompted some people to take shortcuts. Evidence of foot paths and illegal crossings of the BNSF railroad tracks can be found near the Kroc Center and the



Claggett Creek Natural Area. A bigger safety concern is the occasional person who attempts a mid-block crossing of Salem Parkway where vehicles travel from 50 to 60 miles per hour.

A hole in the fence next to the BNSF tracks that people use to take an illegal and dangerous short cut.

Figure 1
Existing Crossings of Salem Parkway Near the Kroc Center



Project Participants and Public Outreach

A Project Team composed of staff from the City of Salem, City of Keizer, ODOT, and SKATS provided oversight for the study. The consultant team, led by CH2M HILL with OBEC Consulting Engineers, provided planning and engineering support. A Technical Advisory Group made up of planners, engineers, railroad operations, and technical staff representing the Cities of Salem and Keizer, ODOT, and SKATS provided additional technical expertise.

Involving the public early in the study was an integral part of the study process. A Public Outreach Plan (see Appendix A) was prepared to ensure that the public had an opportunity to be involved in all phases of the study. A Stakeholder Advisory Committee (SAC) representing a diverse range of interests provided ongoing guidance throughout the project (see the Acknowledgments page for a listing of SAC members).

The project website (<http://www.kroconnections.org/>) has been available throughout the study and provided regularly updated information including upcoming meeting dates, a document library, and contact information. The website also provided the public with an opportunity to participate in project surveys and to submit comments or ask questions about the project.



The Salem Parkway – Kroc Center Access Feasibility Study Website

The Project Management Team sought feedback about the project from the public at “Listening Station Surveys” that were held on four separate days in August 2012. Maps of the initial six alignment concepts (discussed below in the Alternatives Development and Analysis section) were developed for these events, and individuals were given a short

survey. More than 130 survey forms were completed, which provided information on the public's current travel patterns to get to the Kroc Center, desired connection attributes, and feedback on the six initial alignment concepts. The survey results are included in Appendix A.

During January and February of 2013, the Project Team sought additional input regarding project objectives and the three preferred alignments selected for further analysis. A public workshop was held at Claggett Creek Middle School, and a survey was posted on the project website. Sixty-five survey forms were completed which provided feedback on how well the three remaining alignments addressed the project objectives and whether respondents were likely to use the new pedestrian/bicycle crossing once constructed.

ALTERNATIVES DEVELOPMENT AND ANALYSIS

Identification of potential crossing and alignment locations began with an evaluation of the opportunities and constraints within the Study Area (Figure 2). Existing data on schools, parks, land use, zoning, land ownership, demographics, transportation, safety, right-of-way/easements, relevant engineering design criteria and standards, geology, soils, seismic attributes, drainage, erosion, flooding, utilities, hazards, biological resources, wetland mitigation, and historic resources were reviewed. A technical memorandum was prepared documenting potential opportunities as well as constraints for alignment locations (see Appendix B). These opportunities and constraints are summarized below.

Opportunities

There were three important opportunity areas identified within the study area:

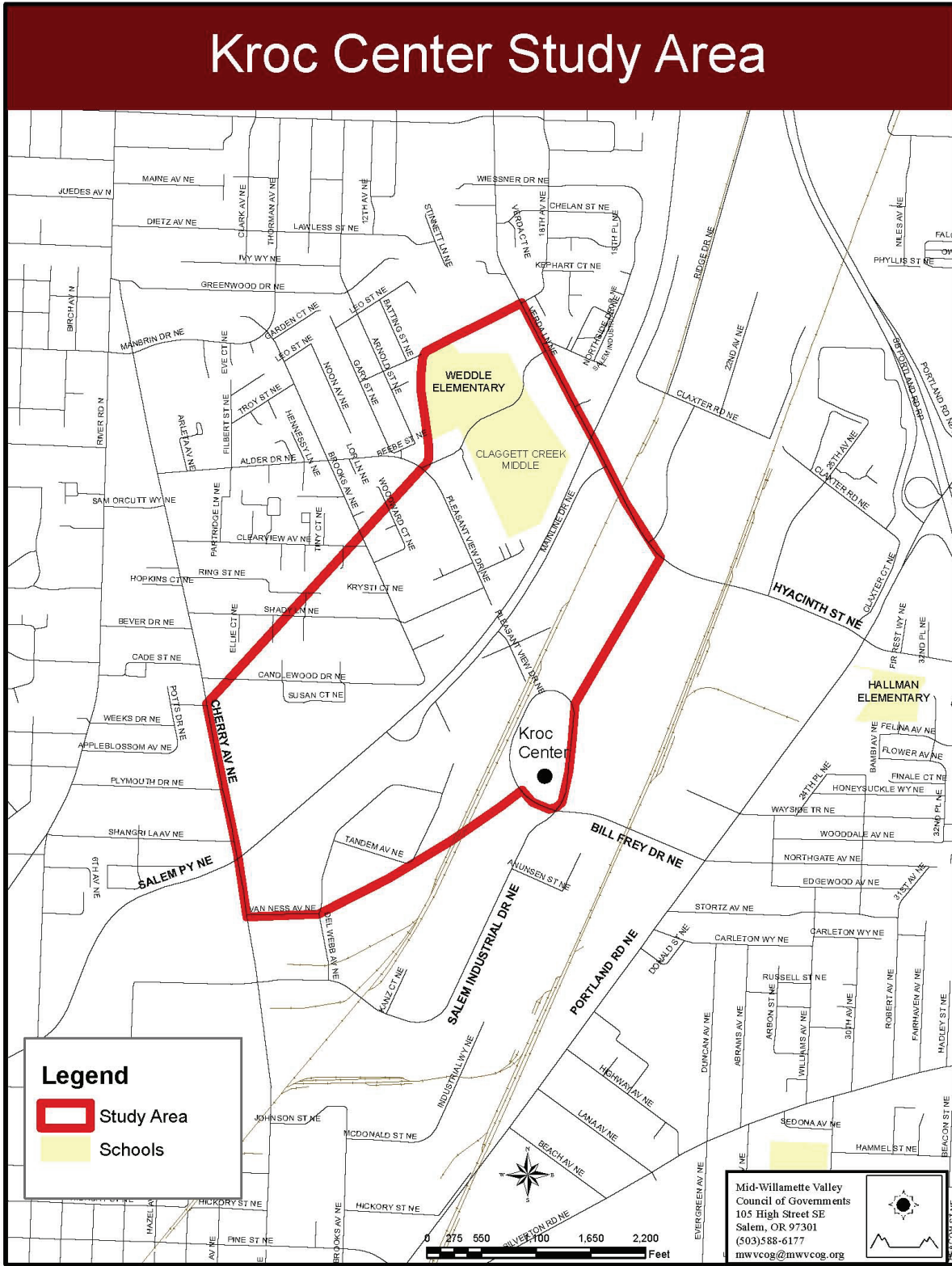
1. Rights-of-way/easements owned by Public Agencies:

- The City of Salem Urban Renewal Agency owns 100% of the land needed to provide a connection from Hyacinth Street NE to Bill Frey Drive NE.
- City of Salem and ODOT own a significant portion of the right-of-way needed for a bridge over Salem Parkway and Mainline Drive.
- City of Salem and ODOT own land within the industrial area between Salem Parkway and the BNSF railroad tracks which may provide an opportunity for a land swap.

2. BNSF Railroad Tracks:

- An at-grade (meaning at ground level) pedestrian crossing of the BNSF Railway tracks already exists at Hyacinth Street NE.

Figure 2
Project Area



- Double and triple siding tracks, used for switching train cars, terminate just north of Candlewood Street NE, narrowing the length of a potential railroad crossing/undercrossing.
- Just north of Candlewood Street NE the BNSF railroad tracks are elevated, allowing for an almost at-grade undercrossing of the railroad tracks at this location.

3. Access to Transit:

- Currently the Kroc Community Center is served by Cherriots Salem-Keizer Transit Route 14 bus service. A new connection from Bill Frey Drive NE to Hyacinth Street NE would allow for a new Transit Stop on Hyacinth Street NE. This new stop could serve both Route 14 (Cherry Avenue/Kroc Center) and Route 15 (Keizer Station/Chemeketa Community College) and provide expanded transit access to the Claggett Creek Natural Area and the Salvation Army Kroc Center.

Constraints

Several types of constraints exist within the study area which requires careful consideration:

1. Physical

- A clear-span bridge would be required to cross Salem Parkway; the median does not provide enough width for a bridge support.
- Bonneville Power Authority (BPA), Portland General Electric (PGE), and Salem Electric high voltage lines run adjacent and parallel to the BNSF railroad tracks.
- PGE high voltage wires are located adjacent and parallel to Pleasant View Drive.
- The BPA Switch Pole adjacent to Bill Frey Drive requires a 50-foot radius clear safety zone
- Railroad tracks require a minimum clearance of 23 feet 4 inches for a bridge overcrossing.
- Original water and sewer lines are present throughout the project area and would need to be avoided during construction.
- Claggett Creek and designated Floodway/Floodplain are present within the study area.

2. Environmental

- Claggett Creek Wetlands Mitigation Area will need special design considerations.
- Moderate landslide hazard exists near raised embankment adjacent to the Salem Parkway.

- High to very high relative ground-shaking amplification hazard is present in the area.
- Anticipated boring depths for a bridge structure would be between 50 and 100 feet.

3. Land Use

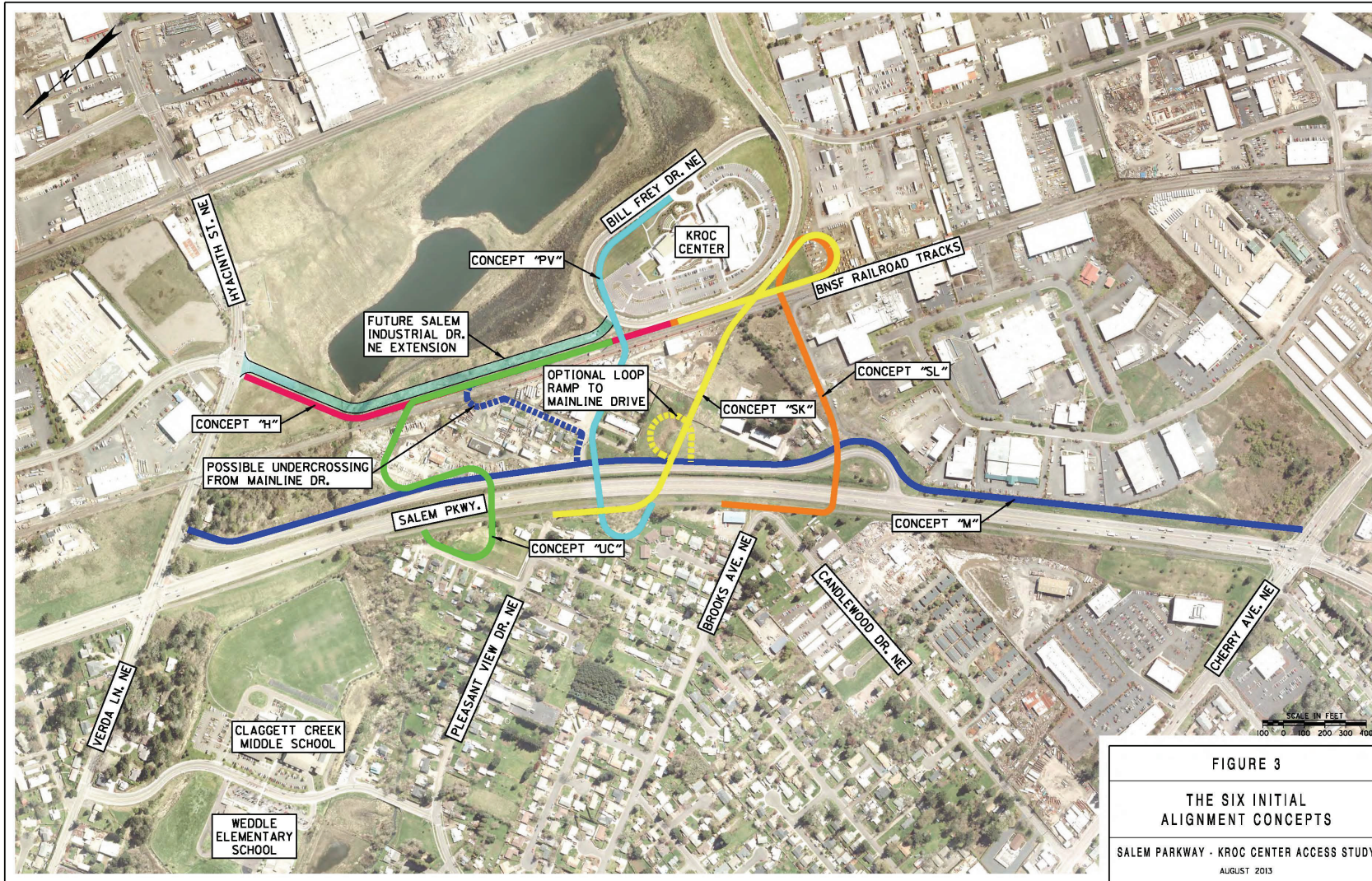
- Dual and triple railroad track sidings prevent an at-grade crossing for much of the study area.
- Impacts to Weddle Elementary School and Claggett Creek Middle School property must be avoided.

Initial Alignment Concepts

Six initial alignment (or “fat line”) concepts were identified based upon the opportunities and constraints analysis. These initial six alignments are shown on Figure 3 below.

Concepts "PV," "SL" and "SK" would construct bridges over Salem Parkway and over the BNSF railroad tracks to connect to Bill Frey Drive NE (the "loop" road where the Kroc Center is located). **Concept "M"** provides an at-grade trail parallel to the south side of Salem Parkway and adjacent to Mainline Drive NE; this path could be combined with an overcrossing of Salem Parkway and either an undercrossing or overcrossing of the BNSF railroad tracks to connect to Bill Frey Drive NE. **Concept "UC"** would provide an overcrossing of Salem Parkway and then an undercrossing of the railroad tracks. **Concept "H"** would provide an at-grade path from Hyacinth Street NE to Bill Frey Drive NE. All six of these alignment concepts would shorten the distance pedestrians and bicyclists would need to travel between the Salvation Army Kroc Center and the residential areas of Keizer. Concept H would provide an additional route of travel to get to the Kroc Center for Salem residents and employees located north and east of the Kroc Center.

Figure 3
The Six Initial Alignment Concepts



Initial Concepts Screening

A summary highlighting the advantages and disadvantages of each alignment was developed and is included in Appendix C, Initial Concept Advantages and Disadvantages.

As noted above, Listening Station Surveys were conducted on four separate days in August 2012 (three at the Kroc Center, one at a Keizer event) to obtain information from the public on current travel patterns, feedback on the six initial alignment concepts, and the community's preferred characteristics for a bridge or path. A total of 134 surveys were filled out over the four Listening Station events. Survey participants were shown the six alternative concepts and asked to select up to three concepts they liked best: Concept "H" had the highest appeal, while all of the other concepts had somewhat equal, lesser appeal. The survey responses yielded the following additional information:

- 46% indicated that personal safety and security were the most important characteristics of the new bridge or path concept, followed by connection to the larger bicycle/pedestrian system (40%) and cost (11%)
- Out of the 134 surveys, 111 people said they support the construction of a new bicycle/pedestrian bridge or pathway; zero said they didn't support it, and 23 were undecided or didn't respond.
- 48% said they would use a new bridge or path to the Kroc Center or other locations; 19% said they wouldn't use it; and 31% were undecided or didn't answer.

The advantages and disadvantages report for the six initial alternatives along with the survey information were presented to the SAC. At this point in the study, Concepts PV, SL, and M were dropped from further consideration. Concept PV was dropped based on the significant impact to the overhead high voltage power lines and equipment. Concepts SL and M shared certain commonalities with other, preferable alignment concepts and were therefore eliminated.

Evaluation Framework

An Evaluation Framework was developed, based upon input from the community survey and the SAC, to aid in the selection of a preferred alternative. Details are contained in Appendix D (Technical Memorandum: Evaluation Framework). This framework provided a method for evaluating and comparing facility alternatives. The evaluation criteria contained a mixture of quantitative and qualitative measures and were organized into the following eight objectives:

- Personal Safety and Security for Users of the Facility
- Directness of Route
- Integration with the Larger Multi-modal System
- Property and Environmental Impacts
- Transportation and Utility Impacts

- Public Support
- Cost
- Ability to Phase the Project

The Stakeholder Advisory Committee weighted each criterion based upon level of importance. Personal safety (which includes minimizing the potential for pedestrian/vehicle conflicts) and security and Integration with the Larger Multi-modal System were given the most weight.

Selected Alternatives and Evaluation Process

Selected Alternatives

Three project alternatives (H, UC and SK) were selected for refinement and further analysis as they best met the study objectives. The Consultant Team developed sketch level plans, cross sectional views, and cost estimates, which are presented in Appendix E (Technical Memorandum: Transportation Alternatives and Evaluation Report). These alternatives are described below:

Alternative H (see Figure 4) provides an at-grade connection from Hyacinth Street to Bill Frey Drive, including a new bridge across Claggett Creek and an enhanced crosswalk with a median refuge island at Bill Frey Drive to access the Kroc Center (this crosswalk design would be used for Alternatives UC and SK as well). This alternative can be constructed in conjunction with the future extension of Salem Industrial Drive or as a separate path built in advance of the street connection.

Alternative UC (see Figure 5) provides an overcrossing of Salem Parkway, an undercrossing of the BNSF railroad tracks, and an at-grade shared-use path with an enhanced at-grade crossing of Bill Frey Drive NE to get to the Kroc Center. A switchback in the path is required to drop the grade of the path between Mainline Drive and the railroad undercrossing to meet the maximum 5% grade required under the Americans with Disabilities Act (ADA).

Alternative SK (see Figure 6) provides an overcrossing of both Salem Parkway and the railroad tracks. Between Mainline Drive and the BNSF tracks, the path would remain elevated about 30 feet above existing grade to meet ADA requirements.

Figure 5
Alternative "UC"

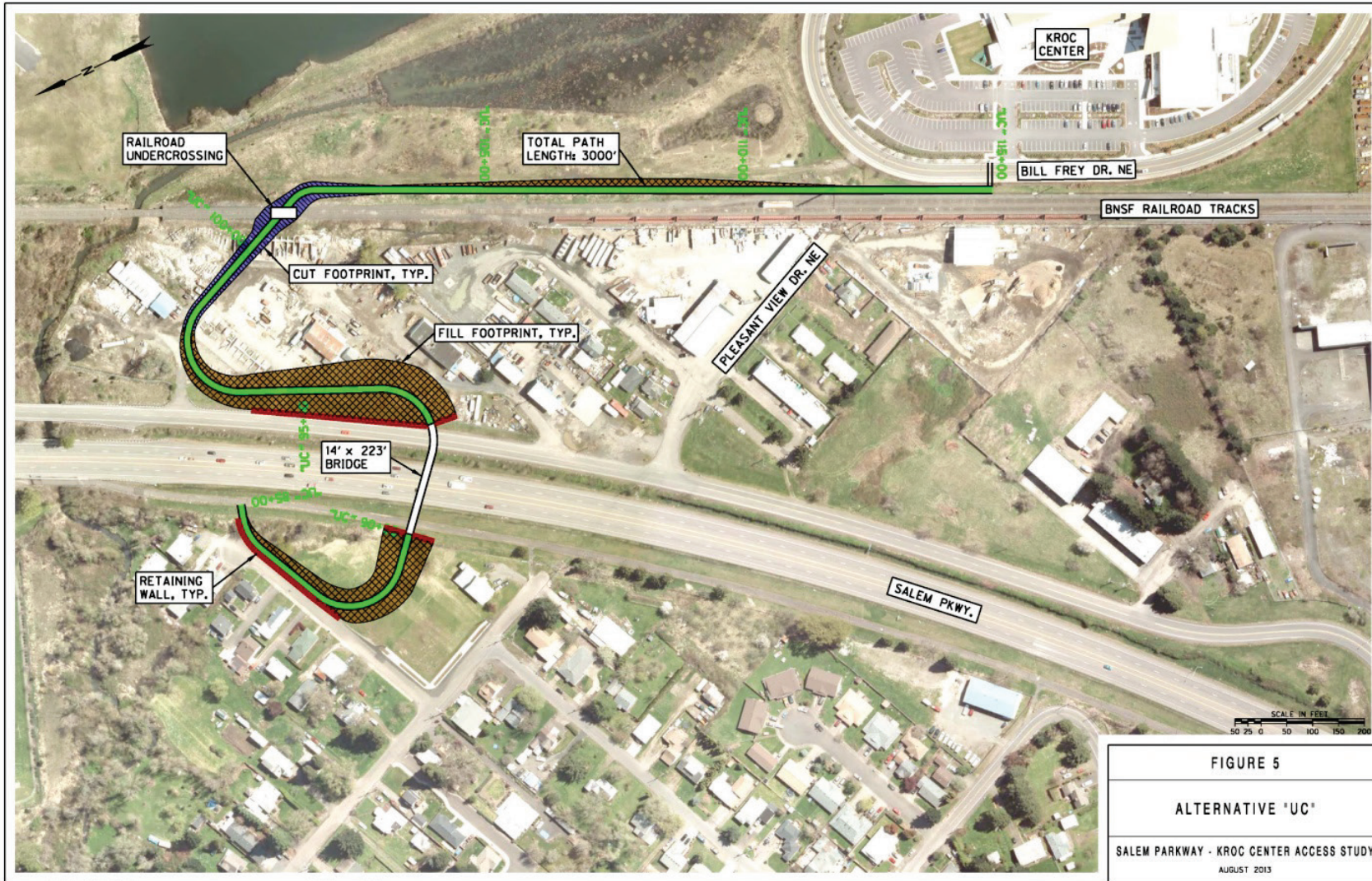
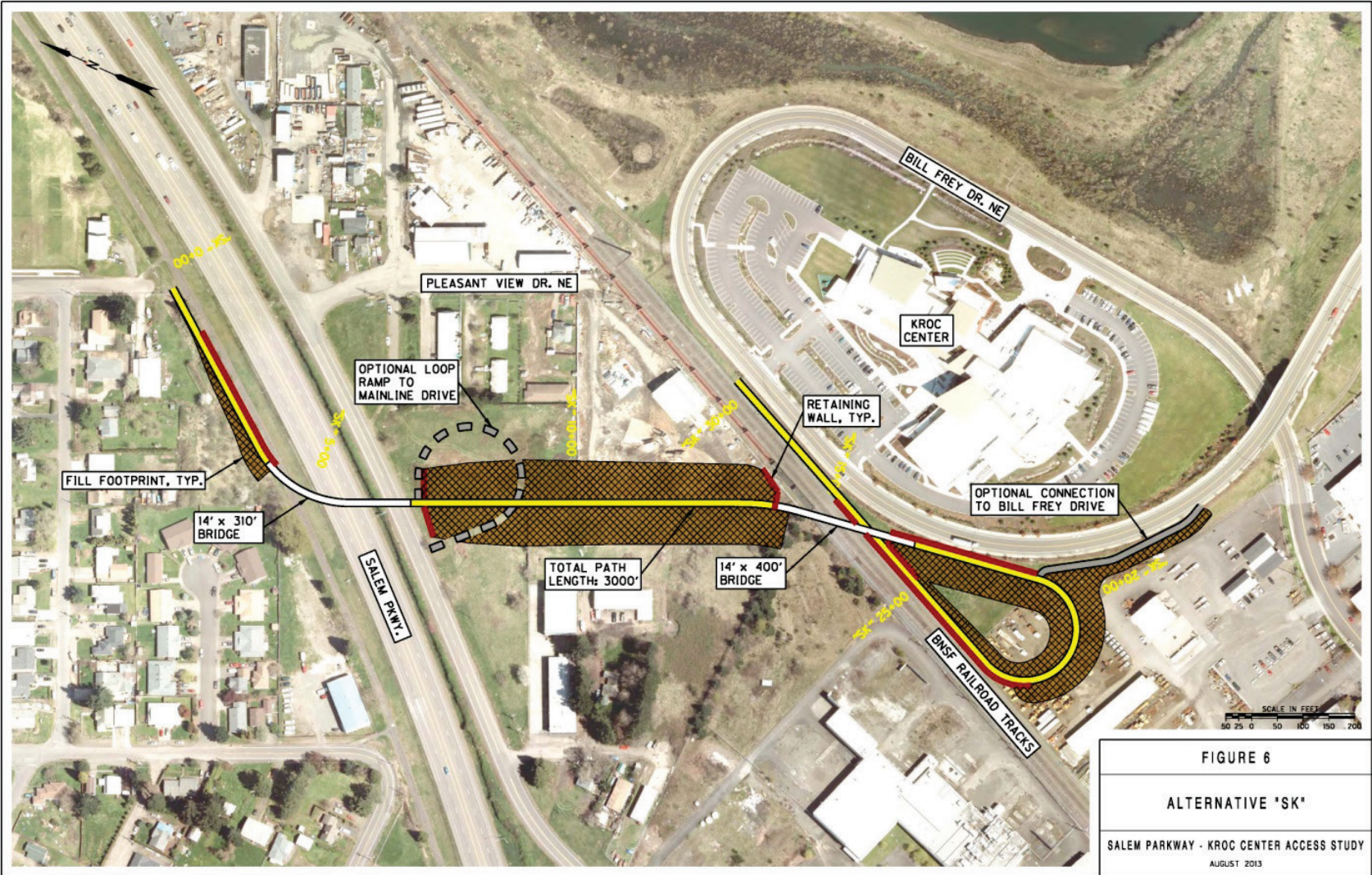


Figure 6
Alternative "SK"



Evaluation Process

An Evaluation Matrix was prepared to highlight relative differences between alternatives to aid the decision-making process (see Appendix E, Technical Memorandum: Transportation Alternatives and Evaluation Report). The summary below highlights key findings. Alternative H scored the most points, with an overall score of 3.28. Alternative UC scored nearly the same, with a score of 3.27, and Alternative SK scored the least, with a score of 2.51.

Alternative H scored well overall because it has the lowest cost (\$1-\$2 million, depending on its design features), has fewer property or utility impacts, and ranked higher for personal safety. Alternative H scores worst with respect to the criterion with the greatest weight, Criterion 1a: Minimizes the potential for vehicle conflicts at facility crossings, because it is the only alternative with an at-grade crossing of Salem Parkway. The other two alternatives provide a bridge over Salem Parkway.

Alternative UC scored well with respect to Criterion 1a: Minimizes the potential for vehicle conflicts at facility crossings because users would not have an at-grade crossing of Salem Parkway, and only one uncontrolled at-grade crossing at Bill Frey Drive. Alternative UC also scores well because it ties in with existing and planned bicycle and pedestrian paths (the multi-use path parallel to Salem Parkway, with connections to Candlewood Drive, Brooks Avenue and Pleasant View Drive). Alternative UC scores lower for Criterion 1c: Personal safety and security. Both the elevated bridge and undercrossing are have some isolated areas. The planning level cost estimate for Alternative UC is \$8.5 - \$9.5 million.

Alternative SK scored well with respect to Criterion 1a: Minimizes the potential for vehicle conflicts at facility crossings because users would have only one uncontrolled at-grade crossing, at Bill Frey Drive. Alternative SK scores well with respect to Criterion 4b: Minimizes impacts to nearby wetlands (Claggett Creek and other natural resources in the study area) because it is the farthest away from those resources. While the crossing is fairly direct between the intersection of Brooks Avenue, Candlewood Drive, and the Kroc Center, the crossing itself is circuitous because of the ramps required at each touchdown point. It scores the worst with respect to Criterion 1c: Personal Safety and Security because the user would be isolated on ramps and elevated structures for the entire crossing. Alternative SK also has the highest cost (\$14 - \$16 million).

Additional Public Input

During the months of December 2012 and January and February 2013, additional input was received regarding the three alternatives from community groups and the public. Public and stakeholder sentiment expressed throughout the study process indicates that the volume of traffic and high speed of vehicles on Salem Parkway and the resulting safety risks associated with at an at-grade crossing of Salem Parkway was a chief concern for pedestrians and cyclists. Cost of the construction of the separated grade alternatives was also a primary concern.

ALTERNATIVES REFINEMENT AND STUDY RECOMMENDATIONS

Study Findings

The principal finding of this study is that improved bicycle and pedestrian connections between Salem and Keizer and to the Salvation Army Kroc Community Center are needed and desired. Secondly, additional at-grade crossings (ground level crossings) of Salem Parkway and the BNSF railroad tracks will not be permitted by ODOT and the BNSF Railway. Finally, an overcrossing of both Salem Parkway and the BNSF railroad tracks would be very costly since it would require relocation of BPA, PGE, and Salem Electric power lines and would require the path to be elevated the entire distance to meet the maximum 5% grade required by law. These factors significantly increase project costs.

At their February 12, 2013 meeting, the SAC reviewed the information from the evaluation process and public outreach activities. They discussed the merits of each alternative, including cost and safety, and recommended a phased construction program of bicycle/pedestrian improvements commensurate with travel demand and available funding. In other words, breaking the selected project into separate stages to be funded and built over time as needed. The recommended near-term improvements include construction of a bicycle/pedestrian connection from Bill Frey Drive NE to Hyacinth Street NE with improvements to the at-grade intersections. At their February meeting the SAC also initially recommended that the long-range plan include construction of Alternative UC, which provides an overcrossing of Salem Parkway and an undercrossing of the railroad tracks.

Refinements

From February to July 2013, the Project Team refined the near-term and longer-range improvements to better meet the study objectives and respond to input from the community.

Refinement efforts for Alternative H focused on designing the path to minimize the cost of construction and to maximize the utility of the path. To that end, the Project Team looked into utilizing the reserved easement through the Claggett Creek Natural Area which parallels the future extension of Salem Industrial Drive. This option has the advantage of providing access to and through the Natural Area as well as serving bicyclists and pedestrians traveling from Keizer and Salem via Hyacinth to the Kroc Center. A path through the Natural Area could include overlook areas, benches, and an orientation map of the Natural Area, with connections to the future walking path that will circle the ponds and wetlands.

Additionally, a new connection from Bill Frey Drive NE to Hyacinth Street NE would allow for installation of a new Transit Stop on Hyacinth Street NE to serve the Kroc Community

Center. Currently, the Kroc Community Center is only served by Route 14. This new stop could serve both Route 14 (Cherry Avenue/Kroc Center) and Route 15 (Keizer Station/Chemeketa Community College).

During the refinement process (from February to July) the Project Team also looked for ways to minimize personal safety, personal security, and cost concerns, which were a high priority among the SAC as well as the public. This analysis examined the merits of shifting the location of the future bicycle/pedestrian bridge over Salem Parkway nearer to the intersection Salem Parkway/Hyacinth Street NE/Verda Lane. Points of isolation at this location would be fewer. The bridge would also build on the Alternative H project and use the existing railroad crossing on Hyacinth Street NE thereby reducing project costs.

Study Recommendations

The refinements described in the previous section were considered by the SAC at a meeting in July 2013. The SAC recommended the following near term and longer range improvements for implementation.

Recommended Near Term Improvements

- **Alternative H:** Construction of a bicycle/pedestrian connection from Hyacinth Street NE to Bill Frey Drive NE with crossing enhancements at intersections and with transit stops on Hyacinth Street NE

This connection could be constructed either as a part of the planned roadway extension of Salem Industrial Drive NE (adopted project in the Salem TSP—not currently programmed for funding) or could be constructed as a separate shared-use path through the conservation easement and with its own bridge over Claggett Creek (see the red route on Figure 7) should funding for the path become available sooner than funds for the roadway extension. The planning level cost estimate for a shared-use path with a bridge over Claggett Creek, transit stops, and enhanced crossing of Bill Frey Drive NE leading to the Kroc Center is \$1 to \$2 million.

The near-term improvements also call for bicycle and pedestrian crossing enhancements at the Salem Parkway/Hyacinth Street NE/Verda Lane intersection to increase the visibility and safety of pedestrians and bicyclists.

Recommended Longer-Range Improvements

Additional improvement projects recommended for consideration are listed below. The intent is that construction of these improvements would be phased commensurate with need and funding availability.

- Construction of a shared-use path along the south-west side of Hyacinth Street NE between Salem Parkway and Salem Industrial Drive (see the green route on Figure 7) (\$550,000 estimate)

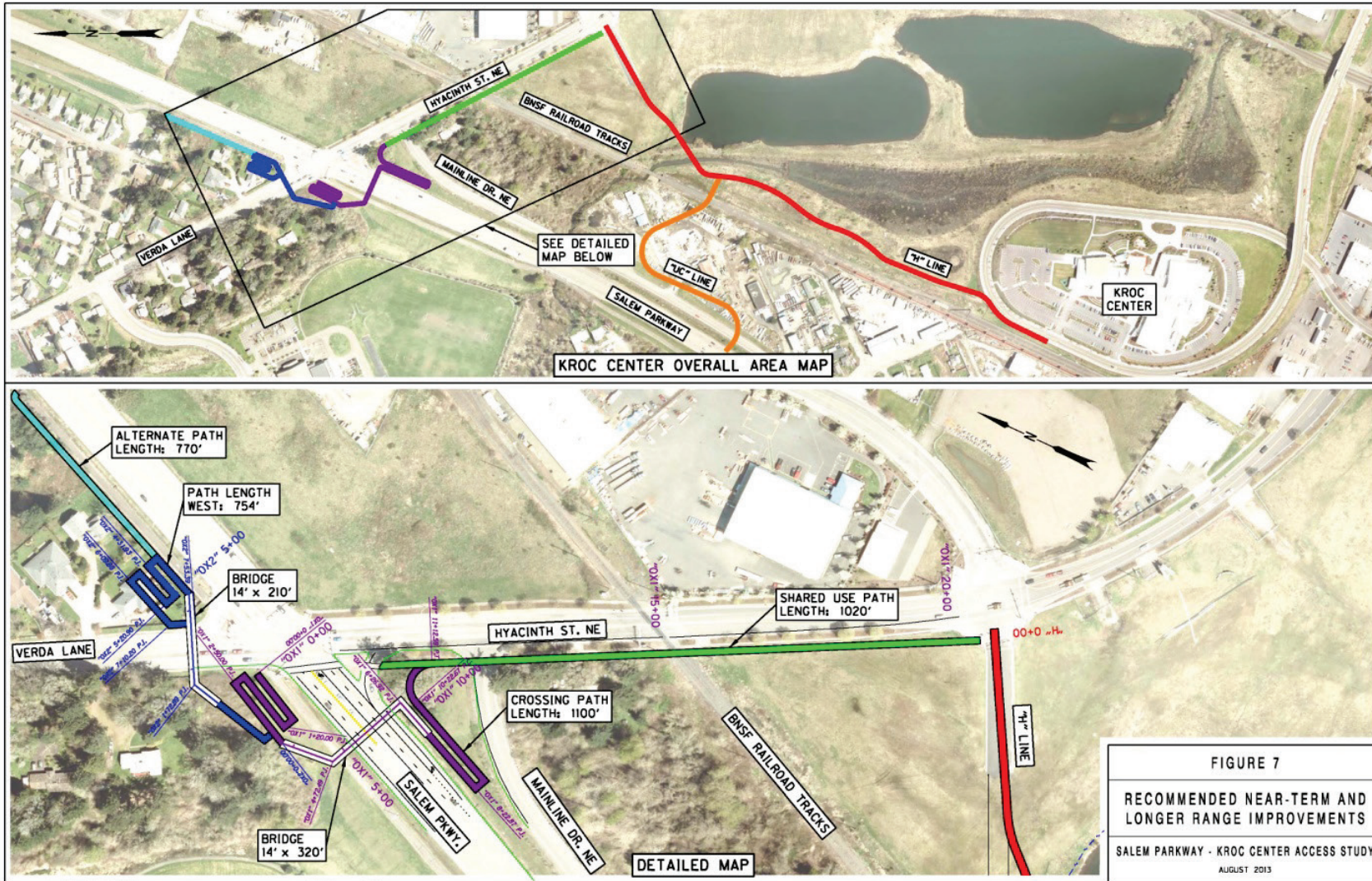
- After the above improvements are made, a bridge over Salem Parkway at Verda Lane/Hyacinth Street NE (see the purple route on Figure 7) to completely separate bicycles and pedestrians (\$3 - \$3.5 million) should be considered to further enhance bicycle/pedestrian safety.

As an alternate, future improvements could include construction of Alternative UC (see the orange route on Figure 7) which calls for a bridge over Salem Parkway and undercrossing of the railroad. A bridge over Verda Lane would also enhance overall safety. These improvements would be dependent on how the area develops in the future and the increases in pedestrian, bicycle and vehicle traffic. Other factors, such as funding availability and regional transportation system changes, may also play a role in determining the relative timing for these improvements.

NEXT STEPS

The first step to advance these projects to the next phase of project development includes amending the Salem TSP, Keizer TSP, and SKATS RTSP to add a description of the project recommendations. Once funding for the near term improvements is secured, design and construction can begin on the recommended Alternative H near-term improvements (the connection between Hyacinth Ave and Bill Frey Drive with transit stops).

Figure 7
Recommended Near-Term and Longer Range Improvements



***Appendix A:
Public Outreach Plan and Survey Results***

Kroc Center Access Study *Public Involvement Plan*

This Plan is intended to guide the Public Outreach for the Kroc Center Access Study. The purpose of the Public Involvement Plan is to ensure that the public has an opportunity to be involved in all phases of the planning process.

The public involvement strategies outlined below are intended to provide a variety of opportunities for the public to participate in the planning process and to include citizens and agencies representing a variety of backgrounds in the planning process. These activities are designed to give the public adequate time to understand the issues and to provide input. The plan also strives to provide a range of settings for community members to participate either actively or anonymously. The plan calls for the formation of a Stakeholder Advisory Committee as well as a Technical Advisory Group. These committees are intended to allow for ongoing guidance from the community and as a forum for building consensus among the different interests.

Title VI Populations and Outreach Strategy

This public involvement plan includes specific steps to provide opportunities for participation by federal Title VI communities. The boundaries for this project include Census Tract 4, Block Groups 2 and 3, and Census Tract 15.03 Block Groups 1, 2, and 3. Over thirty five percent (35.97%) of the population within these census tract block groups are Hispanic or Latino according to the 2010 Decennial Census. Over seven percent (7.2%) of the population within the area is over the age of 65. (2010 Decennial Census) In addition, 25.3% of the population within Census Tracts 4 and 15.03 have income rates that fall below the federally established poverty level and 17% of households have no available vehicle. (Geographic Profile of Transportation Disadvantage populations in the SKATS Area).

Specific Title VI Outreach Strategies for this project include:

- Targeted outreach to organizations representative of affected Title VI populations providing project notification, updates and opportunities for input.
- Include the City of Salem's Non-Discrimination Title VI Statement on all printed materials available to the public
- Provide documents on the project website in English and Spanish
- Include contact information (in Spanish) for a on all project documents for Limited English Proficiency (LEP) populations
- Distribute/collect the voluntary Title VI statistical form at all public project meetings, workshops and activities
- Conduct all meetings at convenient times and locations
- Record all issues related to Title VI outreach and adjust strategy accordingly

Public Involvement Strategies

Ongoing Public Information

Purpose: To provide an up to date and readily accessible source of project information.

Tasks and Tools:

- Designate Public information contacts for each city and the Mid Willamette Valley Council of Governments (MWVCOG).
 - **Nate Brown** will be the point of contact for the City of Keizer
 - **Judith Johnduff** will be the point of contact for the City of Salem
 - **Mike Jaffe** will be the point of contact for the MWVCOG.
- Develop a web page--Kroconnections.org--to include project map, project purpose statement, current status and list of contacts.

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Salvation Army Kroc Center Access Study

- Provide periodic project updates via newsletters such as the Urban Development Quarterly and emails to interested parties
- Maintain an Interested Parties List
- Web-based public feedback tool
- Posted notices of upcoming public meeting invitations
- Maintain a Project fact sheet

Timing: May 2012 through project completion

Project Announcements:

Purpose: To provide information regarding the project and how to obtain information and participate.

Tasks and Tools:

- Press release in Salem Statesman Journal, Keizer Times, Agency webpages or via Keizer water bill mailing
- Email announcement to interested parties list

Timing: Project Announcements will be timed to correspond with the Public Workshops and Public Hearings

Salvation Army Kroc Center Intercept Survey and Listening Stations

Purpose: To understand and document the views of stakeholders regarding issues and opportunities.

Description:

- The survey/listening station will be designed to ask people how they currently travel to the Kroc, how often, how often they bike generally and would they be more likely to bike or walk to the Kroc Center depending on the construction of one of the bike/pedestrian paths and bridges (i.e. concepts).
- The survey is also intended to have additional preliminary public feedback on the initial “fat line” concepts
- Interviews will be confidential regarding specific statements by individuals in order to encourage candor and protect privacy.

Timing: Scheduled to coordinate with the SAC review of the initial six alternatives.

TAG Meetings

A Technical Advisory Group will be formed to work with the Consultant team to provide technical expertise regarding opportunities and constraints, concept feasibility, project costs, and related issues. A minimum of five meetings will be held to review and provide input regarding:

1. Environmental Opportunities and Constraints
2. Initial Concepts
3. Alternatives
4. Alternatives and Evaluation Report, and
5. Plans, Estimate and Prospectus

SAC Meetings

A Stakeholder Advisory Committee will be formed from a diverse range of interests. The committee will provide direction on initial facility concepts, review refined alternatives and select a preferred alternative. Meetings will be held to:

1. Review Environmental Opportunities and Constraints
2. Review and Develop Evaluation Criteria
3. Review Concepts
4. Review Refined Alternatives, and Recommend a preferred Alternative
5. Review “Alternatives and Evaluation” Report
6. **Timing:** Five meetings will be held throughout the life of the project, starting in June.

Public Outreach Meetings

Purpose: To provide project information to, and an opportunity for feedback from, key stakeholder groups.

Description:

- Project staff will visit interested community organizations at their own meeting venues, to provide project briefings and an opportunity for feedback.
- The structure of the outreach meetings will be tailored to the agenda and group. The general

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format will consist of a summary briefing, distribution of working materials, and question and answer period for participants.

- Resulting comments will be catalogued and posted on the project webpage

Timing: Scheduled to coordinate with the SAC review of the alternatives.

Community Workshops:

Purpose: To provide for public review of the work to-date and gather feedback, as well as to get information out to the public about the project.

- Community Workshop #1: **Present Alternatives and Analysis of Evaluation Criteria**
- Community Workshop #2: **Present Recommended Facilities**

The agenda and resulting comments will be catalogued and posted on project webpage.

Timing: Workshop #1 will be scheduled to coordinate with the SAC review of the four facility alternatives associated with Task 4.2.2. Workshop

#2 will be scheduled to coordinate with the SAC refinement of the preferred facility.

Adoption Process

The preferred alternative will be presented to the City of Salem City Council, the City of Keizer City Council and the Salem-Keizer Area Transportation Study (SKATS) Policy Committee for review. If approved, the Transportation System Plans of the respective agencies will then be amended to include the project. The TSP amendment process will include a series of public hearings held by the respective jurisdictions.

Si necesita ayuda para comprender esta información, por favor llame 503-588-6211.

If you need help understanding this information, please call 503-588-6211.

Intercept Surveys on Initial Concepts - August 2012

Executive Summary

In early August 2012, an intercept survey was conducted at the Salvation Army Kroc Center. Posters with aerial photos and overlay drawings of the initial six concepts were displayed, and persons visiting the Kroc Center (both members and non-members) were asked to look at the concepts and answer a survey. Surveys were conducted on a Saturday morning, a Monday early evening, and a Thursday morning. 116 surveys were completed on those 3 days (although a few people did not see or respond to the questions on the back side of the survey). In addition, posters and surveys were handed out at a Keizer Chamber of Commerce function (a teacher recognition event at Keizer Rapids Park) with 18 surveys were completed.

The 134 surveys were entered into a MS Access database. The attached report has frequency tables and crosstab tables of the survey results. Here are the key findings of the survey:

- **High Public Support** - There was almost universal support for a project to address the need for better access to the Kroc Center. **111** persons answered that they supported the construction a new bridge or path; zero persons answered that they didn't support it. Ten (10) persons checked that they were undecided.
- **Bus Service** - Question 5 asking if more frequent/convenient bus service would be desirable had some limited appeal, with about **30%** saying they would use the bus if it was more frequent/convenient.
- **Concept Preference** - People were asked to pick up to 3 concepts they liked best. Concept H had the highest appeal, but many persons looking at the map and talking with us envisioned concept H as both a bike path and the Salem Industrial Drive roadway extension (for vehicles), and therefore some evaluated it as both a way to get to the Kroc Center by car and/or by biking and walking.

After H, the other concepts had about equal appeal when looked at individually (see results for question 6).

- **Using a New Facility** - On question 7 ("would you use it?"),
 - **48%** said they would use the new concept it was if constructed;
 - **19%** said they wouldn't use it, and
 - **32%** said they didn't know or gave no answer.Given that over 90% of people surveyed said they came by car, it is interesting to see so many people that said they would use it to walk or bike.

53% of those living 5 miles or less from the Kroc Center said they would use the new facility, versus 38% of those living greater than 5 miles.

- **Important Characteristics of New Facility** - For question 8 on most important characteristics:
 - **89** persons checked "Personal safety and security",
 - **78** persons checked "Connection to the larger bicycle/pedestrian system",
 - **21** persons checked "Cost".(Note: cost information was not available at the time of the survey, but concepts were verbally described to some persons as "lower cost" or "higher cost".)

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August 2012 Intercept Survey (134 total surveys)

*** Responses are shown in parenthesis and tables ***

1. Where do you live?

Keizer (43)

Salem (86)

Other (5) - 2 from Silverton, 1 each from Mt, Angel, Portland, and Marion County

ZIPCODE

Zipcode	
ZIPCODE	Total
blank	16
97301	24
97302	10
97303 (primary Keizer Zipcode)	38
97304	7
97305	24
97306	9
97317	3
97362	1
97381	2

2. How far away from the Kroc Center do you live?

Distance	Total
blank	3
0-1 miles	8
1-3 miles	44
3-5 miles	42
more than 5 miles	37

3. Do you consider it a problem to travel to the Kroc Center?

Yes (27)

No (107)

Comments (all from people that said "yes [it is a problem]")

Comments
"M" concept would make much easier
Access

Comments
cars don't yield to pedestrians
either come in Silverton Rd or Hazelgreen St and there is no direct path
especially biking
far away
field trip on bus is confusing for the bus drivers
it could be easier
located so far north that not bike-able for our kids
need additional vehicle access from NW
No easy way to get here from West Salem, but we make it work.
on my bike
pedestrian/bike inefficient

4. When you visit the Kroc Center, how do you usually travel to get to the Kroc Center?

Usual Mode	Total
car/motorcycle/truck	123
bike	16
bus (includes school bus)	7
don't go to Kroc	4
walk	3

5. Would you take the bus to the Kroc Center if it was more frequent or more convenient than it is now?

- Yes, I would take the bus
 I don't know
 No, I would not take the bus

Take Bus if it was more frequent/convenient					
Age Group	Total	"Yes"	"No"	Don't know	blank
blank	11	4	5	1	1
16-24	14	5	5	4	
25-34	25	10	10	3	2
35-44	25	6	14	5	
45-64	48	9	29	6	4
65+	11	2	8	1	
Total	134	36	71	20	7

Salem Parkway / Kroc Center Feasibility Study

6. Of the six bridge / pathway concepts shown today, which one(s) do you like the best? [*please check up to 3 choices*]

- _ **"H" concept** - path from Bill Frey Drive to Hyacinth St.
- _ **"UC" concept** - new bridge over Salem Parkway, with a path under the railroad tracks
- _ **"M" concept** - path next to Mainline Drive, with connection "options" to Kroc Center
- _ **"PV" concept** - new bridge (along Pleasant View) over Salem Parkway and railroad tracks, ending at the Kroc Center (inside Bill Frey Drive "loop")
- _ **"SK" concept** - new bridge (between Brooks Ave and Pleasant View) over Salem Parkway and railroad tracks, with loop ramp ending east of the rail tracks
- _ **"SL" concept** - new bridge (from Brooks Ave) over Salem Parkway and railroad tracks, with loop ramp ending east of the rail tracks

City of surveyed person	H	UC	M	PV	SK	SL	none selected
Keizer	16	14	7	14	10	8	3
Salem	40	20	21	20	17	13	6
Other	4	1	2	0	0	0	0
Total	60	35	30	34	27	21	9

Notes:

1. The map illustrating the concepts showed the planned roadway extension of Salem Industrial Drive, from the Bill Frey loop to Hyacinth Avenue, and many said they liked "H" because they saw it as a way to drive to the Kroc Center in addition to biking.
2. 77 surveys had one concept checked as "best", 14 had two checked, and 34 had three concepts checked. Of the 77 surveys with only one concept, 34 picked "H" only; 16 picked "M" only; 9 picked "PV" only; 9 picked "UC" only; two picked "SL" only; and one picked "SK" only.

Reasons given [written] for their choice:

Concept Like	Reason for Choices
[none selected]	no opinion
[none selected]	No time to study [the choices].
[none selected]	don't know-as long as someone is representing taxpayers/bicyclists/pedestrians on your committee I'm good with what you decide
[none selected]	Don't know the area well enough to say which is best.
[none selected]	Prefer a new alternative: from Advantage Pre-cast

[none selected]	Complete Bill Frey Extension to Hyacinth
H	Probably less expensive cause it doesn't create a new bridge. Crossings at Parkway & railroad already, could be made safer too.
H	would be closer for me to travel here
H	it's all the way straight, less curves
H	Access road opens more options for Keizer residents and still provides access for pedestrians/bikers.
H	it's all strait would work better
H	simplest plan. Works well for the way I get to Kroc (Hyacinth)
H	that is the direction I come from
H	H. - That would be most convenient for my approach. PV - I'd like to see bike improvements on the Salem Parkway.
H	most economical? Most ADA accessible.
H	I need more time to consider the options but the "h" concept seems like the smartest choice
H	best access for me
H	Major travel way for me every day.
H	looks like a more direct path
H	It's the only common-sense alternative (for so many reasons)
H	closer for me
H, M	Great to have two roads - H. More bike paths through Salem & Kroc - M.
H, M, PV	Seem like most direct/efficient ways to access Kroc from the North.
H, PV	h-if road put in too
H, PV	Safer to go over tracks them under them.
H, PV, SL	they all seem like good choices-hard to pick one
H, PV, UC	closer to home
H, SK	Gives better access from north, west for bikes and peds; adds auto access to H from east residents
H, SK, SL	any pathway under is more dangerous. Need easy access from Keizer
H, SK, UC	Easy access from Verda Lane.
H, SK, UC	Hyacinth would be nice because we live in Keizer
H, SK, UC	do not go under railroad tracks, add vehicle option to "H"
H, UC	very direct-convenient
M	I live close to cherry dr.
M	so I could ride my bike from SE Salem
M	that is the direction I would take from where I live
M	cost effective
M	more accessible from my workplace
M	front St seems good idea
M	Adds another bike path - options for crossing tracks.
M	future options for expansion
M	shorter distance between 2 points
M, PV, SK	("M" and "PV") they will connect east and north to fitness and a sense of community
M, PV, SL	safety-closest to bridge
M, UC	less bridge

Salem Parkway / Kroc Center Feasibility Study

PV	looks most simple and nice view
PV	most direct
PV	works best where I live.
PV	sounds like the best
PV, SK, SL	like idea for path over parkway
PV, SK, SL	Ease for closest residential area
PV, SK, UC	Hyacinth already has a street nearby. It's quite out of the way for the other nearby people
PV, SK, UC	I live in Keizer
PV, SK, UC	Access to existing walkways
PV, SL	simple and direct design works from the north and south
PV, SL, UC	More access to the Kroc!
PV, UC	home/school location
PV, UC	Makes it easier for kids from Claggett Creek and its residents without burden of a very long walk because of mom with young kids and strollers.
SK	easier/faster for me
SK, SL, UC	SK-closest to center of adjacent neighborhood except "PV" too expensive to build that much bridge then SL or UC at opposite ends of neighborhood- H and M don't help much
SK, UC	good access
SL	access to Keizer from NE Salem
SL	Close to my home.
UC	most direct and most logical
UC	it looks like the most convenient
UC	easier
UC	access for schools to walk.
UC	convenient from Keizer
UC	no reason
UC	busy roads

7. If a new bicycle and pedestrian bridge or pathway like the ones shown today was constructed, would you use it? [check any that apply]

- I would use the new bridge/path to travel to the Kroc Center.
- I would use the new bridge/path to travel to other locations in Salem or Keizer.
- I would not use the new bridge/path.
- I don't know

Responses	Total	Percent
Would use to travel to Kroc Center	36	27%
Would use to other locations in Salem and Keizer	11	8%
Would use to Kroc Center; would use to other locations in Salem and Keizer	18	13%
Would not use	26	19%
Don't know	31	23%
no answer	12	9%
Total	134	100%

48 %

31 %

Concept Liked	Use to travel to Kroc	Use to other locations	Would not use	Don't know
blank	1		2	4
H	25	12	8	17
M	17	9	7	4
PV	14	9	11	4
SK	14	8	6	3
SL	8	5	6	7
UC	15	13	8	5

Note: 242 responses due to multiple choice response of the "like best" question.

Distance	Use to travel to Kroc	Use to other locations	Use to Kroc + other locations	Not use	Don't know	No answer
Not given	1			1		1
0-1 miles	2	4			2	
1-3 miles	9	4	5	4	17	5
3-5 miles	13	2	11	10	5	1
more than 5 miles	11	1	2	11	7	5
Total	36	11	18	26	31	12

Salem Parkway / Kroc Center Feasibility Study

8. What do you think are the most important characteristics of a new bridge or pathway?
[check all that apply]

- Personal safety and security Cost
- Connection to the larger bicycle/pedestrian system Don't know
- Other (please enter) _____

Characteristic	Keizer	Salem	Other city	Total	Percent
Personal safety - security	28	60	1	89	46%
Connection to system	21	56	1	78	40%
Cost	6	13	2	21	11%
Don't know	1	4	0	5	3%
blank	5	6	2	13	7%

Note: 206 responses due to multiple choice response of the "characteristics" question

Characteristics	Female	Percent (female)	Male	Percent (male)
Personal safety - security	62	46%	27	44%
Connection to system	53	40%	25	40%
Cost	13	10%	8	13%
Don't know	4	3%	1	2%
blank	2	1%	1	2%
Total	134	100%	62	46%

Response of people who entered "Other"
More options for cyclists
Simplicity
Cost is always a factor
Convenience
Tie-in with ongoing bike/ped survey by Salem Planning Dept.
Logical efficient route
Easy access from freeway

9. Overall do you support or not support the construction of a new bicycle/pedestrian bridge or pathway connecting Keizer to the Kroc Center and other locations in northeast Salem?

- Support (111)** **Not support (0)**
- Undecided (10)** **no answer (13)**

Finally, just to make sure our study includes a mix of people:

10. Gender

11. Age

Age	Female	Male	Total
blank	1		1
16-24	7	7	14
25-34	19	6	25
35-44	18	7	25
45-64	31	17	48
65+	7	4	11
Total	83	41	124

Note: 10 persons gave no answer

12. Day of Interview

Weekday **(92)**

Weekend **(42)**

13. Are you a Kroc member, a day-visitor to the Kroc Center, or never go to the Kroc Center?

Kroc Member **(86)**

Day-Visitor **(30)**

Never go to the Kroc Center **(6)**

not answered **(12)**

14. Days and times you use/visit the Kroc Center, if applicable *(check all that apply)*

Weekdays (Monday-Friday)

Mornings (5:30 AM - noon)

Saturday

Afternoons (noon- 6 PM)

Sunday

Evenings (6 PM - 10 PM)

Days / times go to Kroc	Total Responses
Weekdays	100
Saturday	58
Sunday	26
Mornings	66
Afternoons	40
Evenings	43
blank	17

Salem Parkway / Kroc Center Access Study Survey Results (2-12-2013)

A public survey was created for the Open House at Claggett Creek Middle School, the displays in the Keizer City Hall lobby and the project's website. All surveys had identical questions.

The surveyed asked two basic questions. Of the three alternatives, which one do you like "best" and which one do you like "least". The tables below show the responses, shown by the person's residence. Alternative "H" was the favorite of Salem residents, with "UC" and "SK" more favored by Keizer residents.

1. Alternative liked "best"	City of Residence			Grand Total
	No answer	Keizer	Salem	
H		7	12	19
UC	3	11	5	19
SK	1	13	2	16
Hybrid		2	3	5
No-build		1	2	3
Other		1	2	3
Grand Total	4	35	26	65

(Note: for individual comments on the alternative they liked best, see the list at the end of this report)

3. Alternative liked "least"	City of Residence			Grand Total
	No answer	Keizer	Salem	
blank		2	2	4
H	1	13	6	20
UC	1	7	6	14
SK	2	13	12	27
Grand Total	4	35	26	65

(Note: for individual comments on how to make the alternative they liked best more appealing)

Salem Parkway / Kroc Center Access Study

Survey Results (2-12-2013)

Question 2 asked the respondent to rank the alternative they liked best to a series of characteristics and how well their choice met the characteristic (very well, somewhat, or not at all). The following tables are the results.

	How does it address cost?		
Choice of "best" alternative.	Very Well	Somewhat	Not at all
H	13	4	2
Hybrid	1	4	
No-build	2		
Other	2		
SK	4	8	
UC	5	8	1
	How does it address Bicycle and Pedestrian Safety		
Choice of "best" alternative.	Very Well	Somewhat	Not at all
H	7	7	
Hybrid	3	2	
No-build	1		1
Other		3	
SK	13	3	
UC	15	3	
	How does it address Personal Safety and Security		
Choice of "best" alternative.	Very Well	Somewhat	Not at all
H	5	8	1
Hybrid	3	2	
No-build	1		1
Other		2	
SK	9	6	1
UC	11	4	2
	How does it address Impacts to property and the environment		
Choice of "best" alternative.	Very Well	Somewhat	Not at all
H	10	4	2
Hybrid	3	2	
No-build	1		1
Other	1	1	
SK	3	10	
UC	13	3	2

Salem Parkway / Kroc Center Access Study Survey Results (2-12-2013)

	How does it connect to where you want to go		
Choice of "best" alternative.	Very Well	Somewhat	Not at all
H	9	5	1
Hybrid	2	2	
No-build			2
Other	1	2	
SK	13	3	
UC	10	4	1
	Is it inviting to Bicyclists and Pedestrians		
Choice of "best" alternative.	Very Well	Somewhat	Not at all
H	6	8	
Hybrid	3	2	
No-build			2
Other		3	
SK	9	6	
UC	10	5	1
	How does it tie in with existing bicycle, pedestrian, transit and roadway system		
Choice of "best" alternative.	Very well	Somewhat	Not at all
H	10	4	1
Hybrid	4	1	
No-build		1	1
Other	1	1	
SK	9	6	
UC	8	5	3

Salem Parkway / Kroc Center Access Study Survey Results (2-12-2013)

Question 6 asked about how frequently would the respondent use one of the alternative pathways. Although they were not responding about the specific pathway their choice as the one they liked best, the results have been tabulated by that choice.

6. If a new bicycle and pedestrian bridge or pathway like the ones shown today was constructed, how frequently would you use it?						
	Daily	Weekly	Once a month	A few times a year	Never	Grand Total
H	2	4	1	8	4	19
UC	1	7	3	2	2	15
SK	1	12		2		15
Hybrid		4		1		5
No-build				1	2	3
Other			1	1	1	3
Grand Total	4	27	5	15	9	60

Question 7 asked how the respondent would use the alternative bicycle and pedestrian path. The next two tables show the answers separately for Keizer residents and for Salem residents.

7. Choose how you might use the new bicycle/pedestrian path (Keizer Residents):							
	Grouped by alternative they liked best						
	H	Hybrid	No-build	Other	SK	UC	Grand Total
For access to the Kroc Center or the Claggett Creek Natural Area	4	2		1	7	4	18
For recreation or exercise	2				2	4	8
To get to school, work, or shopping					4	1	5
none of the above	1		1				2
Grand Total	7	2	1	1	13	9	33

Salem Parkway / Kroc Center Access Study Survey Results (2-12-2013)

7. Choose how you might use the new bicycle/pedestrian path (<u>Salem Residents</u>):							
	Grouped by alternative they liked best						
Row Labels	H	Hybrid	No-build	Other	SK	UC	Grand Total
For access to the Kroc Center or the Claggett Creek Natural Area	5	1		1	1	4	12
For recreation or exercise	3	2	1				6
To get to school, work, or shopping					1		1
none of the above	3		1	1		1	6
Grand Total	11	3	2	2	2	5	25

Salem Parkway / Kroc Center Access Study Survey Results (2-12-2013)

Question 8 ask about support or non-support for the a new bridge/path. The first table shows the results by the question #1 response of the best alternative.

Question 8. Overall do you support or not support the construction of a new bicycle/pedestrian bridge or pathway connecting Keizer to the Claggett Creek Natural Area and the Kroc Center?				
"Best Choice"	Support	Not Support	Undecided	Grand Total
H	11	6	2	19
UC	15	1		16
SK	14		1	15
Hybrid	5			5
No-build		3		3
Other	1	1	1	3
Grand Total	46	11	4	61

The table below shows support and non-support by residence of respondent.

Question 8. Overall do you support or not support the construction of a new bicycle/pedestrian bridge or pathway connecting Keizer to the Claggett Creek Natural Area and the Kroc Center?				
Row Labels	Support	Not Support	Undecided	Grand Total
Keizer	30	3	2	35
Salem	16	8	2	26
Grand Total	46	11	4	61

Salem Parkway / Kroc Center Access Study

Survey Results (2-12-2013)

Comments (after question #1) about their choice of alternative (sorted by the alternative)

"Best alternative"	Comments
H	What we "like" is less important than what we can afford. Projects that require new debt at the local, state or federal level are all very dangerous to the overall sustainability of our American lifestyle. I do not support borrowing money to improve access.
H	Creating a bike/walking path allows people greater access to the Kroc without the level of risk that current biking there entails. Also, this is far lower cost than any other option and the greenest alternative.
H	SK sounds nice with the option of Mainline Dr as well, but seems cost prohibitive. H seems the most straight forward and economical.
H	UC and SK could be done some day when more money is available. H could be done now in phases.
H	SK is too much money. There are so many other lower cost projects that need to get done first.
H	Seems like a sad misuse of budgeted funds. New routes promotes laziness within our society when we already have ways of accessing the area. QUITE WASTING MONEY! PLEASE!
H	I see no reason to spend millions of taxpayers dollars on new bike/pedestrian paths when we have adequate bike/pedestrian paths in place already. We should re-allocate the money into research of self sustainable energy.
H	Can we donate money?
Hybrid	I like the idea of a combination of H and UC as this would provide access from both Hyacinth and Salem Parkway. I do have two concerns though. First is the extensive path directly along side the RR tracks. Though I would expect some sort of barricade there are far too many kids that would be tempted to walk the tracks instead of the path. Second is the security of the undercut. Without proper lighting (and possibly a camera) it could become a haven for unwanted activities including but not limited to tagging and drug use.
Hybrid	I think that you need to make sure there are connections from both sides of Salem Parkway so there should be a hybrid of H and UC but do not build the Hyacinth St extension. It is unnecessary and the money saved can go into building the bike routes.
Hybrid	I like the price of H, but feel it is unsafe for bikers to cross the busy intersection over Hyacinth.
No-build	Alternative "H" is not safe enough. The others are too expensive. The funds could be better spent on other bike/ped projects.
Other	Any pathway that does not go UNDER, as I've had bad experiences with vagrants in under-passages. Would be *wonderful* to have a pedestrian/bike/skate way from downtown to the Kroc.

Salem Parkway / Kroc Center Access Study

Survey Results (2-12-2013)

Other	<p>Modified H. Pursue the extension of Salem industrial with the inclusion of an adjoining bicycle/pedestrian path. It's already on the books.</p> <p>Bridges and under crossings for a single destination are not a wise investment in my opinion and in the semi isolated area are attractive to gang related safety issues</p>
Other	<p>None of the alternatives benefit Salem residents. The Kroc Center should have never been permitted to be at this location. Salem Industrial Drive is the best/least worst option right now but it needs bike lanes. If any of these options are incorporated into the TSP, it will be one more expensive mega-project that other projects throughout the city must compete with for funding. The Minto-Island Bridge is already drawing money away from other Bike/Walk Salem projects. Salem needs put more energy and resources into making existing facilities safer, more attractive, and more user friendly before taking on another mega-project.</p>
SK	It's closer to our school so it gets us their easy and fast.
SK	It's by a school so more people would use it!
SK	More kids and pedestrian would use it because it is by a school.
SK	Right by school and more kids would use it. Safer.
SK	Yes, what is an alternative? But i love it?
UC	<p>I put many miles on my bike around this city, I live on the west side of River Road in Keizer and one of my common ways to get back to my house is on the bike path along the Salem parkway and through the light at Hyacinth and the Parkway. As a parent of a Claggett Creek Middle School student and another that will be going there in a few years I would not allow my kids to ride or walk on a route to the Kroc center that would require them to cross the Parkway. As a parent I would wonder how cautious they would be at that very busy intersection with cars driving through it at 55 MPH or higher. I understand the cost difference is a major obstacle but I believe it would be worth the safety of our children.</p>
UC	<p>All three options are hideous! Option "H" would send children across the dangerous Salem Parkway" are you out of your mind!!! This intersection already has a high accident history, why make it worse? It looks like the original attraction of a plot of land that was affordable was ultimately a very short sighted choice. The land is in the middle of nowhere and has no safe, affordable access.</p>
UC	Better Suited for Kids
UC	Hybrid was also checked and a big NO! next to SK with Too Much Money and Too complicated written next to the Which of these do you like the least)

Salem Parkway / Kroc Center Access Study

Survey Results (2-12-2013)

Question #4: Comments on how to make the alternatives they liked best more appealing

Choice	Comment
H	See comments above.
H	Ensure lots of lighting for safety and night use. Consider providing a parking area nearby so people could park and walk if they wanted. Make sure access is well engineered so there are safe ways to enter and exit without getting hit by on-coming cars.
H	Better signage
H	Look into recycled materials for construction and conduct studies on how this would reduce traffic, and save money in the long run.
H	<p>I am not sure that H is even needed. I am very concerned that it won't be utilized much by cyclists or pedestrians due to security and location. There is a perception that this area of town is not the most safe part of town. Why would I let my kids cycle or walk this route. It seems like it could become an area for gangs to hang out.</p> <p>Certainly, a sky bridge would be visible and thus may attract use but again, where is the need?</p> <p>Why is this project even being considered in the first place? What am I not getting here?</p> <p>What is the Clagget Creek Natural Area? Is there fishing? Is it a park?</p>
H	H - phase the pfoject. If you put in the bridge, volunteer could raise oney and put in a gravel path for the rest.
H	less fill---smaller footprint
H	Improvements to intersection at Salem Parkway.
H	Grow a garden instead ! Use area to hold free community gardens!
H	Reduce the cost
H	The UC
Hybrid	Extra lighting and wireless camera. (See note above.)
Hybrid	Make it more of a straight shot access.
Hybrid	Connectivity to existing bicycle paths and lanes that would feed the Kroc connectors, but also make them viable leisure ride or walk areas, especially given that the future Claggett Creek Natural Area is in the picture.
Hybrid	As I wrote above, do not build the Hyacinth St Extension. It is redundant without being a part of a proper street grid. If people want to drive to the Kroc Center from Hyacinth, they can get on Portland Rd.
No-build	dont do,it

Salem Parkway / Kroc Center Access Study

Survey Results (2-12-2013)

No-build	<p>Why are we wasting our tax money, whether local or federal, on such ridiculous projects? Let each City spend their tax dollars on upkeep and development of quality of life services such as public safety, road maintenance and etc. that will effect all citizens.</p> <p>Perhaps when the economic situation, both locally and nationally improves we can consider frivolous, wasteful and absolutely pointless projects such as this.</p>
No-build	Explain the that money could be better spent on other bike/ped projects in the community.
Other	Linking to existing bikeways that are safe for families to ride on
Other	ties into already on the books plan, build the road at the same time
Other	My alternative is to stripe bike lanes on Salem Industrial, improve the intersection at Cherry, and make the bike route from Maple St. more transparent.
SK	Fundraiser
SK	Having a fundraiser at school.
SK	Fundraisers
UC	I believe that ease of use with regard to safety is the appealing part of this alternative.
UC	Use overpass bridge as a place to advertise and charge advertisers for the right to rent advertising space..
UC	Have it end on Pleasant View.
UC	More light to lighten it up!
UC	Trees! and Decorations
UC	Signs
UC	It is not too expensive, effective way for peds to get around.

***Appendix B:
Technical Memorandum: Environmental
Opportunities and Constraints***

Salem Parkway/Kroc Center Access Study: Environmental Opportunities and Constraints

PREPARED FOR: Salem Parkway/Kroc Center Consultant Team

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DATE: August 10, 2012

Executive Summary

This document serves two purposes: 1) use data collected from local sources to describe the natural and built environment within the study area; and 2) evaluate that information as being opportunities or constraints for potential bicycle and pedestrian overcrossings or under-crossings to the Kroc Center and larger bicycle and pedestrian network.

Opportunities

The Southeast Keizer Neighborhood, northwest of Salem Parkway in Keizer, was once connected to the area surrounding the Kroc Center, prior to the construction of Salem Parkway. A bicycle and pedestrian crossing is an opportunity to reconnect the neighborhood to points east, including the Kroc Center.

A bicycle and pedestrian path is envisioned for the Claggett Creek Wetlands Area, (see Figure 8), and is included in the adopted City of Salem Transportation System Plan (TSP). A bicycle and pedestrian crossing to the Kroc Center could provide either a direct or indirect connection to this planned path.

Weddle Elementary School and Claggett Creek Middle School are located northwest of the Salem Parkway and BNSF railroad tracks. A crossing or undercrossing could connect students to the Claggett Creek Wetland Area and the Kroc Center. Claggett Creek also provides a potential unifying theme – the creek runs along the school property and beneath Salem Parkway. Reinforcing the natural connection Claggett Creek provides with a bicycle and pedestrian crossing could enhance the creek and wetlands area as a community asset.

Current right-of-way (ROW) ownership presents several opportunities for an under or overcrossing structure, lessening the need for additional ROW purchase. As depicted in Figure 9, ODOT owns the property around Mainline Drive, a strip of property south of Mainline Drive, and a large amount of property at the north end of Mainline Drive and Salem Parkway.

The City of Salem owns a strip of ROW to the west of the BNSF line that is currently used by the adjacent property owner, a recycling center (Figure 9). The adjacent property owner has

asked for the ROW to be vacated, but the City could use the land to swap for property elsewhere that would be beneficial for an overcrossing or undercrossing.

Salem Parkway is lower than the existing, parallel, multi-use path along the Parkway, and Mainline Drive. Based on a site visit, it appears that the slopes to the elevated multi-use path and elevated Mainline Drive are within the clear zone of Salem Parkway. The elevated path and Mainline Drive are advantageous for an overcrossing, because less steep grade would be required of a structure to get up to the required clearance over Salem Parkway. It is worth noting that the existing ditch/berm may not meet current standards, and if an overcrossing modified the ditch/berm, the project may be required to improve it to standards.

Constraints

Constraints exist in the study area that requires careful consideration going forward. Within the residential neighborhood to the northwest (Southeast Keizer) environmental justice populations exist, including those with income rates below the poverty threshold, a significant percentage of Hispanic and Latino population, minorities and the elderly. When planning a crossing or undercrossing, care must be taken to avoid disproportionate impacts to these populations, though the entire Salem Keizer area has been shown to be affected by transportation projects, and so the threshold for “disproportionate” would be very high. Moreover, a bicycle and pedestrian crossing over Salem Parkway would be a benefit to the environmental justice populations as it would safely increase their non-auto dependant access.

The wetlands northeast of the Kroc Center present constraints in that they must be preserved and protected. Any crossing or path that is constructed through the area must be carefully designed such that it does not disrupt the sensitive environmental habitat of the wetlands.

High voltage wires run along both sides of the BNSF track for the entire study area and pose a significant constraint. The wires hanging from these poles run parallel to and some of the distribution lines hang as low as 21 feet above the existing railroad tracks and in some locations cross the track(s). If a bridge were to cross the tracks, a clearance of 23 feet and 4 inches would need to be maintained over the tracks to the bottom of the bridge. Assuming the bridge would have a 2 foot minimum thickness from the bottom of the bridge to the finish grade of the bridge; Burlington Northern Santa Fe (BNSF) would require a 10 foot tall protective fence above the path surface, which would translate to the top of the fence being located 35 feet above the top of the track(s). Additional clearance is required between the top of the fence and the overhead wires. The low distribution wires would need to be relocated, either higher or undergrounded, and it is likely that the upper high voltage wires would need to be relocated even higher. The funding to relocate these wires would be a project cost. For planning purposes, this project should assume the need to raise the voltage wires to accommodate a bridge structure. The cost and feasibility of raising the wires will need to be reviewed in greater detail following the development of design concepts.

Personal safety concerns for an undercrossing would need to be addressed so pedestrians felt safe traversing an undercrossing, particularly at night. The same would be true, to a lesser extent, for an overhead crossing. Ample lighting and sight distances would enhance one’s feeling of security though or under a crossing. Lighting throughout the entire path to

the Kroc Center would be required, and would likely be similar to lighting used for the path from the west end of the Union Street Bridge to Wallace Road.

The original water and sewer grid, predating Salem Parkway, still exists at Brooks Avenue, Pleasant View Avenue and into the field south of Weddle Elementary School. Impacts to the system should be avoided with construction. The condition of the lines is unknown, and for planning purposes, this project assumes construction in close proximity to the old lines would necessitate their replacement.

Introduction

The Salvation Army Kroc Center was constructed in 2009. The Kroc Center is located in an industrial area southeast of the Burlington Northern Santa Fe rail line and Salem Parkway. The site is on 10 acres of former city-owned land within the Bill Frey Drive “loop” which connects Portland Road to Salem Industrial Drive. To the east of the Kroc Center is the Claggett Creek Wetlands area, which was created in 2005 and overtime will evolve into another community asset, although like the Kroc Center it is not easily accessible by walking or biking.

Access to the Kroc Center is only available from Portland Road via Bill Frey Drive or from Salem Industrial Drive. From Portland Road, Bill Frey Drive is grade separated above the Union Pacific rail line and has bike lanes and sidewalks. Salem Industrial Drive serves industrial businesses and truck traffic, has open ditches on both sides and is currently an undesirable road for walking and bicycling.

There is no direct access to the Kroc Center from the north or west (i.e. Keizer and north Salem), therefore residents in those areas are more likely to drive to the Kroc Center, or take transit (when available). From the south Keizer neighborhoods -- around Pleasant View Drive or Brooks Avenue -- travel distances via Hyacinth St. to Portland Rd. and Bill Frey Drive or via Cherry Avenue and Salem Industrial Drive is approximately 2 miles. A bridge over Salem Parkway or undercrossing could cut that distance to less than 1/2 mile.

The purpose of this feasibility study is to identify and evaluate alternative routes, alignments and capital projects (multi-use paths and/or bicycle/pedestrian bridges) that would improve pedestrian/bicycle access and safety across Salem Parkway and to the Salvation Army Kroc Center, as well as tie into the larger existing and future planned bicycle and pedestrian system in Salem and Keizer (Figure 1 and Figure 2).

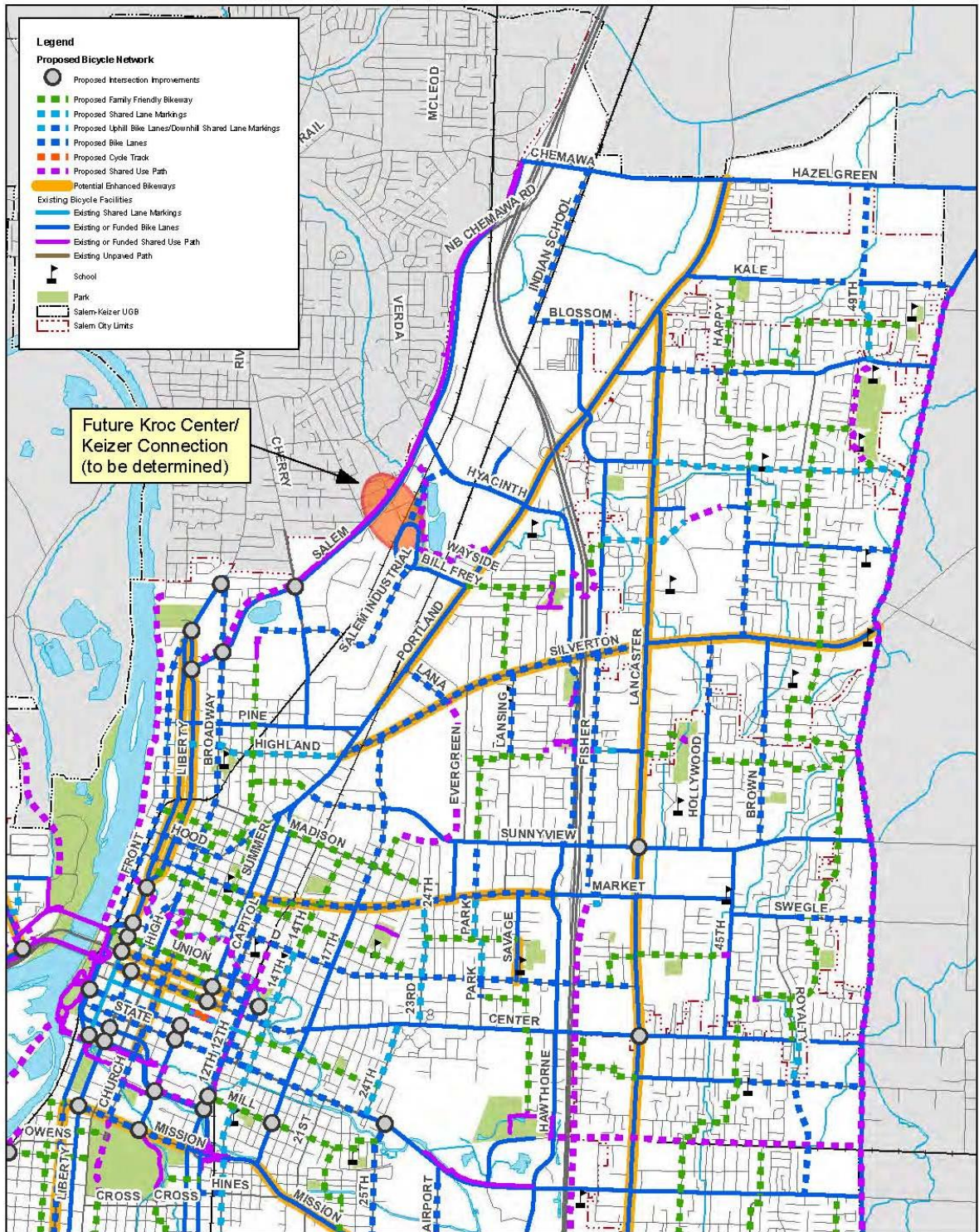


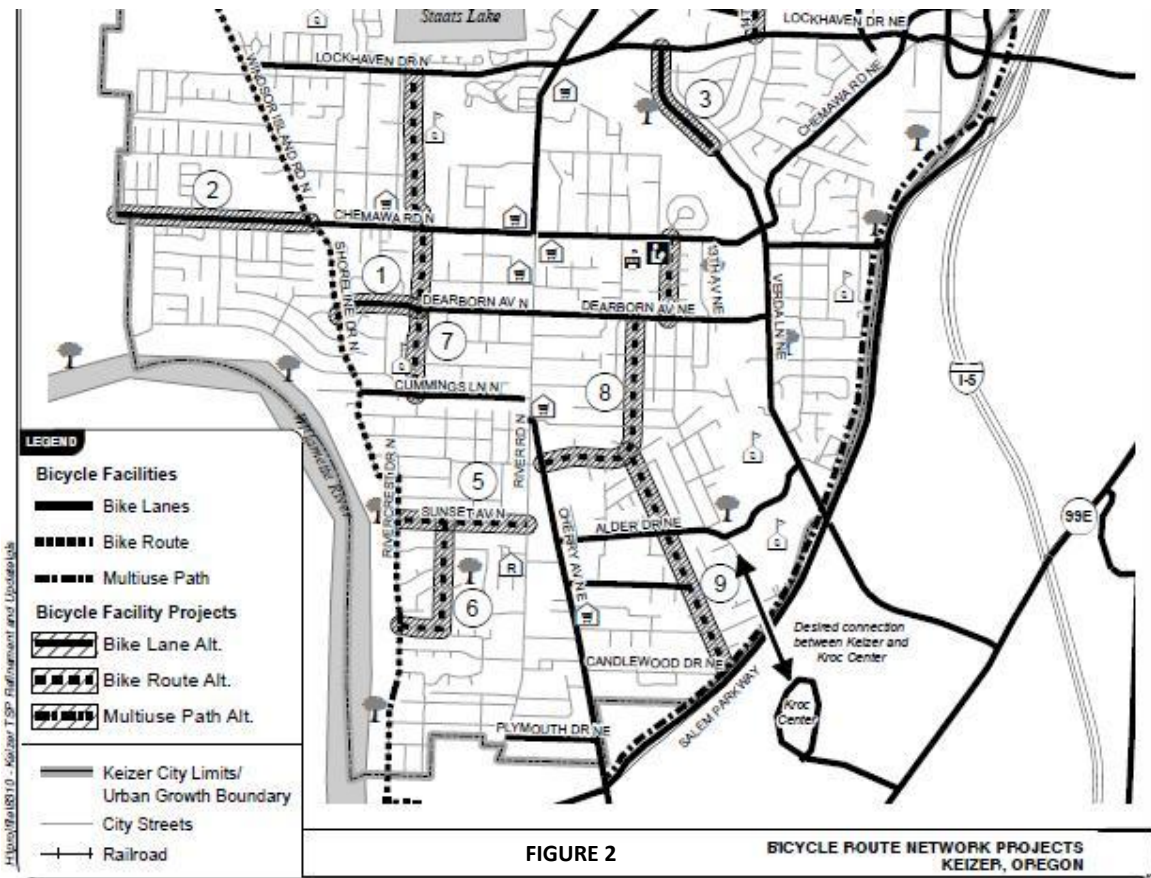
Figure 1: Bicycle Network - Northeast Salem

Bike & Walk Salem

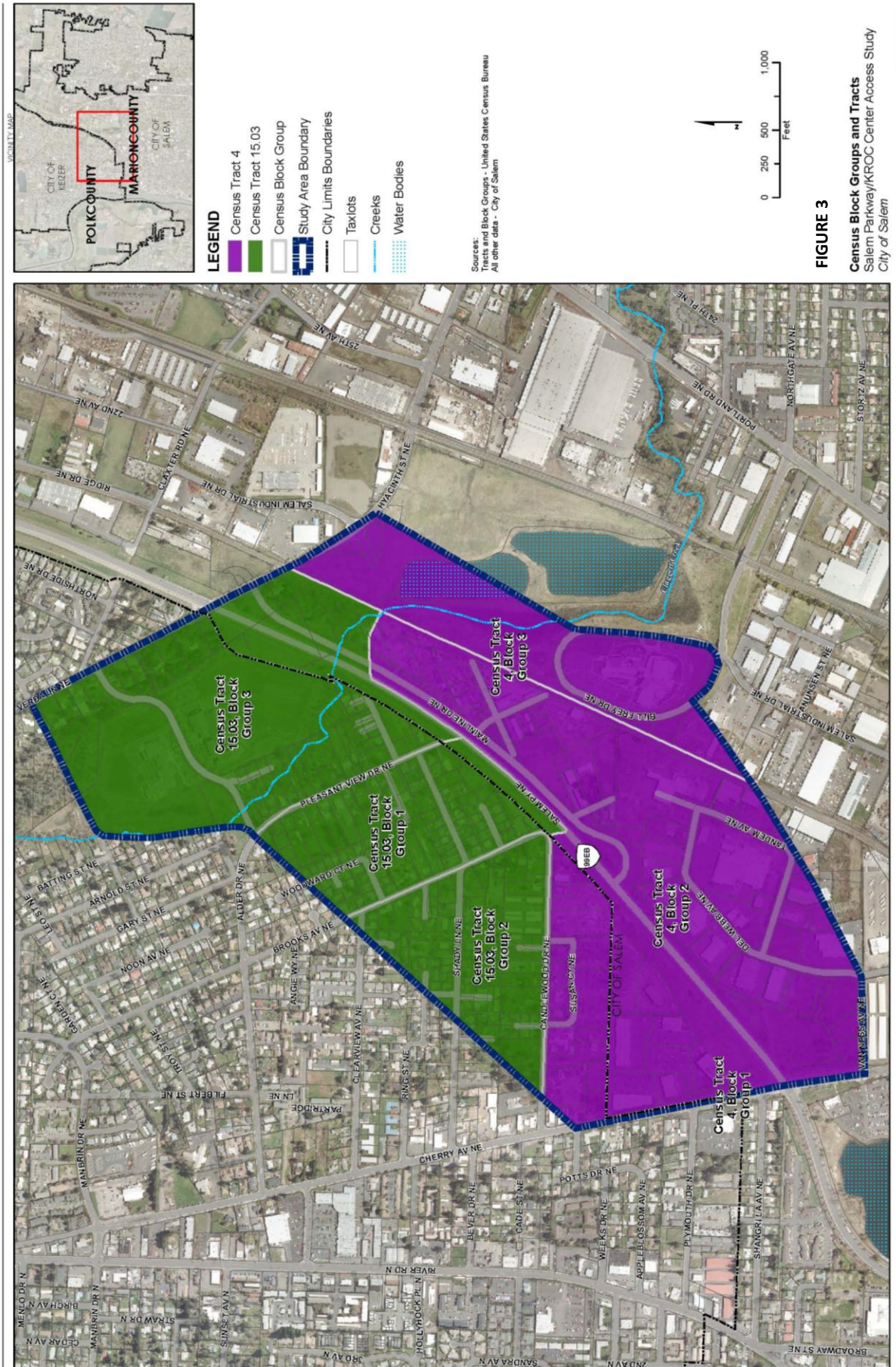
Source: City of Salem, ODOT, MWVCOG, Cherriots, Salem-Keizer School District
 Author: Alta Planning + Design



Disclaimer: The alignment of proposed facilities is shown at a conceptual level only. Final alignment and design will be determined through further analysis.



This memorandum documents existing constraints and opportunities within the built environment surrounding the Kroc Center. Constraints and opportunities are highlighted within the Kroc Center study area, Figure 3, and are described within specific topic areas: demographics and Title VI populations; schools, parks and places; land use and zoning; land ownership; transportation and circulation for all modes; safety; right-of-way; relevant engineering design criteria and standards; geology, soils, and seismic; drainage, erosion and flooding; utilities; hazards and hazardous materials; biological resources/wetland mitigation; and historic resources. Constraints and opportunities are highlighted within each subsection with a separate call-out.



Demographics and Title VI Populations

This section highlights general demographics within the study area as well as groups of particular interest, such as Title VI populations. Title VI of the 1964 Civil Rights Act (42 U.S.C. 2000d-1) states that "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." Title VI bars intentional discrimination as well as disparate impact discrimination (i.e., a neutral policy or practice that has a disparate impact on protected groups). This section documents the presence of Title VI populations to determine potential impacts of a project in the future.

The President's Executive Order on Environmental Justice (EJ) further amplifies Title VI by providing that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

The planning process will seek participation by and consideration of federal Title VI communities. The boundaries for this project include Census Tract 4, Block Groups 2 and 3, and Census Tract 15.03 Block Groups 1, 2, and 3 (Figure 3). Over thirty five percent (36.97%) of the population within these census tract block groups are Hispanic or Latino according to the 2010 Decennial Census. Over seven percent (7.2%) of the population within the area is over the age of 65 (2010 Decennial Census). In addition, 25.3% of the population within Census Tracts 4 and 15.03 have income rates that fall below the federally established poverty level and 17.1% of households have no available vehicle. Within Census Tracts 4 and 15.03 respectively, 8.5% and 6.6% are linguistically isolated, meaning a household in which no person aged 14 or older speaks English, or speaks English "very well" (Geographic Profile of Transportation Disadvantaged Populations in the SKATS Area, 2006-2010 census data). Based on these data, the study area has a substantial presence of Title VI, EJ, and transportation disadvantaged populations. When planning a crossing or undercrossing, care must be taken to avoid disproportionate impacts to these populations, though the entire Salem Keizer area has been shown to be affected by transportation projects, and so the threshold for "disproportionate" would be very high.

Constraint: The study area has a substantial presence of Title VI, EJ, and transportation disadvantaged populations. When planning a crossing or undercrossing, care must be taken to avoid disproportionate impacts to these populations, though the entire Salem Keizer area has been shown to be affected by transportation projects, and so the threshold for "disproportionate" would be very high. Moreover, a bicycle and pedestrian crossing would be a benefit to the Title VI, EJ, and transportation disadvantaged population in that it would provide safe, non-motorized access.

Schools, Parks and Places

The presence of schools, parks, other community facilities, and places represent a constraint to avoid within the study area. While these locations may be a constraint to avoid for a

crossing facility itself, they also represent an opportunity to connect a crossing with other community resources within the study area.

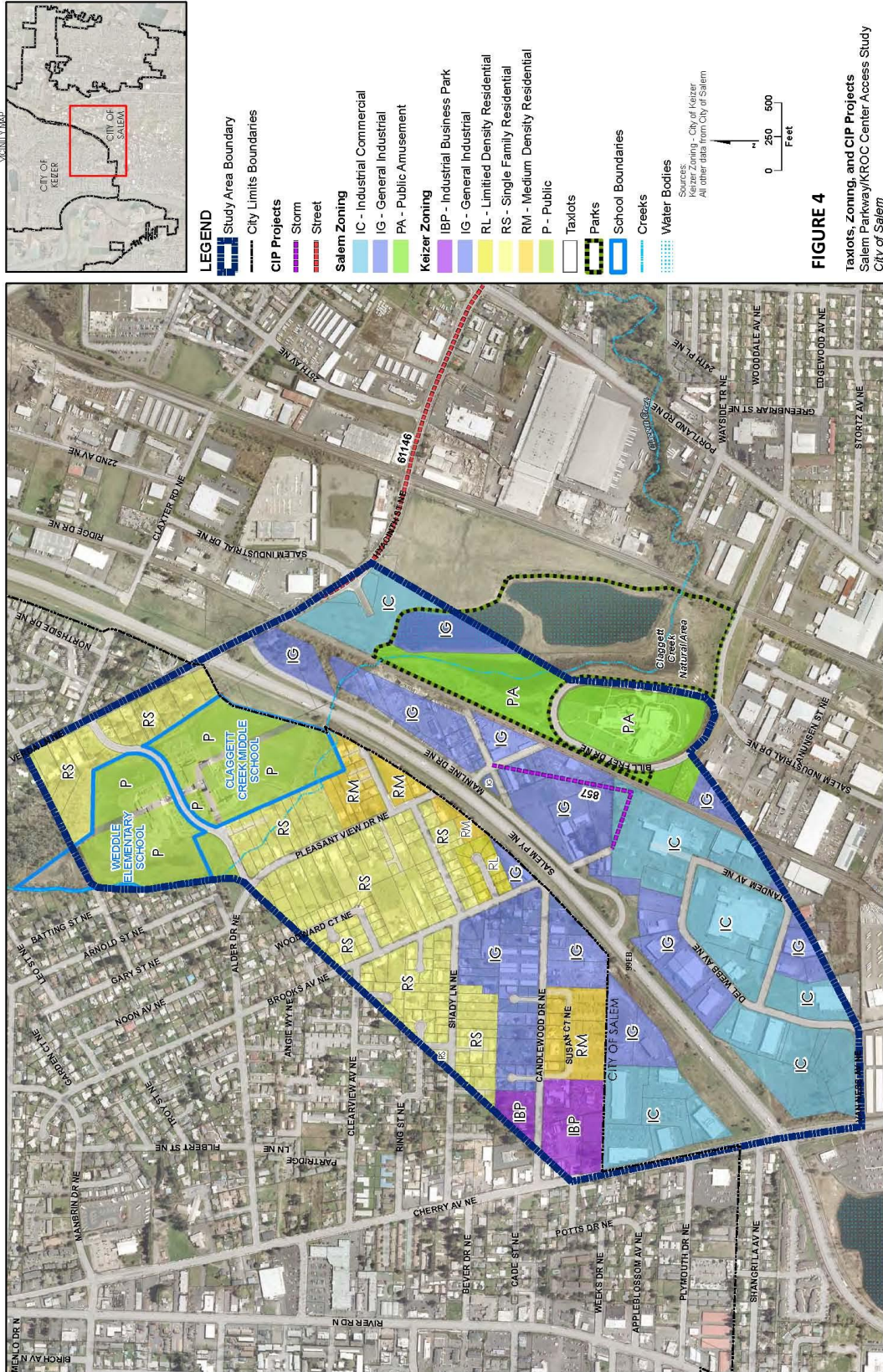
Kroc Center

The Salvation Army Ray & Joan Kroc Corps Community Center is LEED certified and features a water park, fitness center, gymnasium, game room, fine arts & education wing, amphitheater, chapel/performing arts center, 4000 square feet of event space and full in-house catering (saalemkroc.org, 2012). The Kroc Center is a standout community asset, with approximately 7,200 members (April, 2012) from both Salem and Keizer. Bike parking is present at the Kroc Center at all public entrances, the east, south, and north; however, it is limited and a simple wave rack which is not the preferred type of bike parking as many bikes can become jammed in the racks.

Schools

Two public schools exist within the study area, Weddle Elementary School and Claggett Creek Middle School, which are directly adjacent to one another, at the northern end of the study area, and northwest of the Kroc Center (Figure 4). The grounds of the two schools include areas adjacent to Claggett Creek, which flows beneath Salem Parkway and is adjacent to the Kroc Center as well. Claggett Creek provides a link between the schools and the Claggett Creek Natural Area, just north of the Kroc Center (Figure 4).

Constraint: Two public schools exist within the study area, Weddle Elementary School and Claggett Creek Middle School, and impacts to these schools should be avoided.



Parks and Open Spaces

Just north and east of the Kroc Center, within the study area is the Claggett Creek Wetlands Area (established in 2005), which is a wetland mitigation area and has been left as open space. This wetland area is within the North Gateway Urban Renewal Area. A conceptual circular path around the wetland area is shown on Figure 8. Part of this path is located west of the mitigation area alongside the Burlington Northern Santa Fe rail line. The path represents an opportunity for a bicycle and pedestrian connection, which could possibly activate the space with users – the space is presently difficult to access by walking or biking. Like the Kroc Center, the Claggett Creek Wetlands Area, is to evolve into another community asset.

Constraint: Impacts, both permanent and during construction, to Claggett Creek Wetlands should be avoided.

Land Use and Zoning

The study area (Figure 4) is within both the City of Salem and the City of Keizer. The Salem city limit is west and alongside Salem Parkway within most of the study area. West of Salem Parkway is within the City of Keizer. The area east of Salem Parkway and Mainline Drive is generally industrial in use, and the area west of Salem Parkway is generally residential in use, although there are also industrial uses and commercial uses (see Figure 4).

City of Salem

Within the City of Salem, west of the Kroc Center and east of Salem Parkway and Mainline Drive, uses are primarily industrial, including a large recycling center (Figure 5), with access via Mainline Drive. Several residential units are scattered on parcels throughout the study area. Parcels are zoned either Industrial Commercial or General Industrial.

The industrial uses surrounding the Kroc Center are a stark contrast in use from the Kroc Center as a community center; however, the industrial uses within the study area, are separated by Bill Frey Drive the Burlington Northern Santa Fe rail line and landscaping surrounding the Kroc Center.



Figure 5: Overlooking Recycling Center

North Gateway Urban Renewal Area

The Kroc Center and portion of the study area within Salem city limits are within the North Gateway Urban Renewal Area. It is Salem's largest urban renewal area and most of the investments have focused on infrastructure improvements, including the "Northgate Extension," which constructed Bill Frey Drive, completed in 2005, and was key to attracting the Kroc Center. Within the study area, no overlay zone related to the urban renewal area exists.

City of Keizer

Parcels northwest of Salem Parkway within the City of Keizer are single family residential in use and primarily zoned residential (Figure 6). The area is referred to as the Southeast Keizer Neighborhood, although they are not represented by a neighborhood association. See the “Demographics” section for a description of residents within the study area, which primarily live in this area. This neighborhood used to be connected to points southeast across, what is now Salem Parkway. The neighborhood is more isolated from points southeast due to the parkway, and a bicycle or pedestrian connection across the parkway would be a neighborhood asset.



Figure 6 Single Family Residential Neighborhood northwest of Salem Parkway

Land Ownership

Northwest of Salem Parkway, within the single family housing area of southeast Keizer, ownership of taxlots is generally individual. The industrial area between Salem Parkway and the Burlington Northern Santa Fe rail line and Bill Frey Drive were examined more carefully because several parcels have been consolidated for a single use, and also owned by a single entity, as well as these are the parcels most likely to be impacted by a crossing. Although 64 taxlots exist in this area, generally six entities own parcels within this area and several parcels have been consolidated into a single use. Within this industrial area are less than ten, scattered residential units and an apartment complex.

Transportation/Circulation

Prior to the construction of Salem Parkway, the Southeast Keizer neighborhood was connected to the industrial area to the southeast via local roads, Brooks Avenue, Pleasant View Drive, and Candlewood Drive (Figure 4). These local roads are now dead-ended into an off-street path within the neighborhood, northwest of Salem Parkway, and Mainline Drive southeast of Salem Parkway. A connection across the parkway would restore this neighborhood’s access to points southeast, including the Kroc Center. With no direct access to the Kroc Center or points southeast from the north or west, residents in the areas are more likely to drive to the Kroc Center or cross the access limited Salem Parkway and the BNSF tracks on foot illegally, which is dangerous. From the Southeast Keizer neighborhood, travel distances via the closest signalized intersections at Hyacinth Drive to Portland Road and Bill Frey Drive or via Cherry Avenue and Salem Industrial Drive are approximately 2 miles; whereas, a direct crossing across Salem Parkway would be a distance of a ½ mile.

Access to the Kroc Center is only available from Portland Road via Bill Frey Drive or from Salem Industrial Drive. From Portland Road, Bill Frey Drive is grade separated above the Union Pacific rail line and has bike lanes and sidewalks. Salem Industrial Drive serves

industrial uses, has frequent driveway accesses, truck traffic, has open ditches on both sides and is currently an undesirable road for biking and walking.

Opportunity: A safe, bicycle and pedestrian connection across the parkway would restore this neighborhood's access to points southeast, including the Kroc Center.

Surrounding Roadways

This section describes roadways within the study area and the presence of sidewalks and bike facilities.

Salem Parkway is owned by ODOT and designated a Regional highway, with daily traffic of 25,000 and a posted speed limit of 55 miles-per-hour. It is access limited, and Cherry Avenue and Hyacinth Drive are the two signalized intersections that provide access to points east. The unsignalized intersection with Mainline Drive only allows right-in and right-out turns. The City of Salem classifies Salem Parkway as a parkway.



Figure 7: Bill Frey Drive

One option for an overcrossing bridge over the Salem Parkway would require the addition of a column in the median, which would require an approved design exception from ODOT. It is unlikely that ODOT would approve an exception for a median obstruction (bridge column) with the current substandard left shoulders at this location. As a result, an overcrossing bridge would likely require spanning the entire Salem Parkway from shoulder to shoulder, which would translate to a minimum span length of 82 feet, assuming a crossing of the Parkway at 90 degrees, with no skew. Crossing at a skew would require a longer clear span. For beam style bridges commonly used for these applications, a longer span requires a bigger beam, which means the ramps to reach the bridge deck are longer.

Bill Frey Drive is owned by the City of Salem, and is a circular roadway, surrounding and providing access to the Kroc Center. It is classified as a collector. Crossing Bill Frey Drive by bike or foot is difficult because of the continuous curves and limited sight-distance. Bill Frey Drive has complete sidewalks on both sides and striped bike lanes (Figure 7).

Both Cherry Avenue, the southwestern boundary of the study area, and Hyacinth Street, the northeastern boundary of the study area are classified as major arterials, and both have bike lanes southeast of Salem Parkway. Hyacinth Street, southeast of Salem Parkway has complete sidewalks on both sides. Cherry Avenue, east and south of Salem Parkway has partial sidewalks and the proposed Bike & Walk Salem Plan (2012) calls for the completion of sidewalks. North of Salem Parkway, Cherry Avenue and Verda (opposite of Hyacinth) have sidewalks and bike lanes.

Mainline Drive is a frontage road providing access to industrial uses, and is classified as a local roadway. No sidewalks or bike lanes exist on the roadway. Mainline Drive is at a higher grade than Salem Parkway. Based on the as-constructed plans for Salem Parkway, Mainline Drive is approximately four feet higher than the shoulder edge of pavement of

Salem Parkway, which means that Mainline Drive is likely the controlling factor for the vertical alignment of the multi-use path. It is worth noting that Mainline Drive shoulders are currently substandard.

Although outside of the immediate study area, Salem Industrial Drive presently provides important access to the Kroc Center. Salem Industrial Drive serves industrial uses, has frequent driveway accesses, truck traffic, has open ditches on both sides and is currently an undesirable road for biking and walking. It has incomplete sidewalks, and the proposed Bike & Walk Salem Plan (2012) calls for sidewalk completion and bike lanes.

Planned Roadways

The City of Salem TSP and the North Gateway Urban Renewal Area plan propose a new road, connecting Bill Frey Drive to Salem Industrial Drive, crossing Hyacinth Street (Figure 8). A partial roadway and intersection off of Hyacinth has been constructed for the planned road. However near term construction of this section of roadway is unlikely due to funding constraints.

Constraint: Overcrossing bridge would likely need to clear-span Salem Parkway, and for beam style bridges commonly used for these types of crossings, a longer span requires a larger beam, which means the ramps to reach the bridge deck are longer too.

Constraint: Crossing Bill Frey Drive by bike or foot is difficult because of the continuous curves and limited sight-distance.

Opportunity: Mainline Drive is approximately four feet higher than the shoulder edge of pavement on Salem Parkway, which would require less steep grade of an overcrossing to clear Salem Parkway.



Off-Street Paths

This section describes off-street paths, both present and planned within the study area.

On the west side of Salem Parkway is an off-street path that is between the residential neighborhood and Salem Parkway. It provides off-street bicycle and pedestrian access between Cherry Avenue and past Hyacinth Street. This path continues north of the study area along Salem Parkway and into northeast Keizer. There are short, rudimentary asphalt paths between this multi-use path and two local streets in Keizer (the end of Pleasant View Drive and where Candlewood Drive meets Brooks Avenue).

The North Gateway Urban Renewal Area plans for a conceptual off-street, circular path within the Claggett Creek Wetlands Area (see Figure 8). The path concept would include two bridge structures, a couple of docks for view points, and could activate the wetland area space. Providing a bicycle and pedestrian connection to the wetland area is an opportunity to further develop the area as a community asset by providing more access.

Opportunity: Providing a bicycle and pedestrian connection to the wetland area is an opportunity to reinforce the wetland as a community asset.

Transit

Cherriots (Salem Keizer Transit) began providing bus service to the Kroc Center, Route 14, in 2009. Daily ridership averages 191. Service is provided Monday through Friday, 6:15 a.m. to 9:00 p.m. There are no plans currently to provide Saturday or Sunday service.

Capital Improvement Projects

Between Candlewood Drive and Brooks Avenue, a Capital Improvement Project exists within the Stormwater category (#857): Salem Industrial Park, east of Tandem Avenue NE to Bill Frey Drive NE - Pipe Replacement. The project calls for the removal of an underground injection control (UIC) at old Sumco North Campus. It calls for the installation of 1,130 feet of 30" and 990 feet of 18" pipelines and necessary appurtenances to collect and convey storm water to the discharge point.

Railroad

The Kroc Center is located southeast of the Burlington Northern Santa Fe (BNSF) rail line. Any over or undercrossing of Salem Parkway to the Kroc Center would involve crossing the Burlington Northern Santa Fe rail line. The State of Oregon does not support new, at-grade bicycle and pedestrian crossings of railroad lines. It is an active line and most of the track is double through the study area with an area that is triple track. Portland & Western Railroad currently operates three scheduled trains that pass the area, with each making a reverse route, equating to six train movements within the study area. Of these three trains, one train operates seven days a week, while the other two operate five days a week. Future operations could include more trains at higher speeds (Anzur, 2012). Secondary tracks are used for car storage. The double and triple track of the line prevents any at-grade crossing, as the railroads accept at-grade crossings for single track lines only, and encourages grade separation when possible.

Towards the northern end of the study area, the railroad crosses over Claggett Creek using a train trestle. This area has limited potential as an undercrossing point (there is an underpass

of the creek beneath Salem Parkway as well). A crossing alongside Claggett Creek could thematically tie the creek area adjacent to the school grounds to the Claggett Creek Wetlands Area across Salem Parkway. The existing trestle would need extensive revisions to allow pedestrian traffic under it. These revisions would be both structural (reconfiguring the bracing of the trestle) and functional (placing containment under the tracks). The owner would most likely require the structure to be replaced. A new structure would need to comply with BNSF grade separation structure guidelines.

One potentially favorable condition or opportunity for an undercrossing of the BNSF track is north of Candlewood Drive up to the Claggett Creek Trestle. This section of the BNSF track is a single track, and the single track is on a berm, which elevates it higher than the adjacent land. This elevated section has some potential for an undercrossing.

Constraint: Railroads encourage grade-separated track crossings as much as possible, and the presence of double and triple track prevents the potential for an at-grade crossing.

Opportunity: Towards the northern end of the study area, the railroad crosses over Claggett Creek using a train trestle, which has limited potential as an undercrossing point. The existing trestle would need extensive revisions to allow pedestrian traffic under it, and the owner would most likely require the structure to be replaced.

Opportunity: North of Candlewood Drive and south of the Claggett Creek Trestle, this section of the BNSF track is a single track, and the single track is on a berm, which elevates it higher than the adjacent land. This elevated section has some potential for an undercrossing.

Safety

Several safety concerns are present in the Kroc center study area. The safe crossing of Salem Parkway is a key component of access to the Kroc Center from the west. Currently the two closest marked pedestrian crossings across Salem Parkway are located at Hyacinth Street and Cherry Avenue. However, once crossing Salem Parkway from the west there is not continuous sidewalk infrastructure to the Kroc Center. Also pedestrians have been observed to be crossing the high speed Salem Parkway at unmarked locations as evidenced by many cuts in fencing and worn paths in surrounding areas. The team observed people crossing the BNSF tracks during the site visit, which is also unsafe.

Industrial use in the study area creates potentially unsafe conditions for pedestrian and bicycle travel if not designed correctly. At-grade railroad crossings are located on Hayacinth Street and Salem Industrial Way. The Burlington Northern Santa Fe railroad lines are adjacent to the Kroc Center site, with the lines closest to Bill Frey Drive having three tracks (The city of Salem installed fencing to discourage people from crossing the rail-line to get to the Kroc Center, but the non-metal sections of this fence have been broken by people who want to cross or use the rail line to get to Kroc). Any pedestrian crossings will have to take these safety issues into consideration.

Sight distance is of concern on Bill Frey Drive due to the tight radius of its curves. Pedestrian crossings would be preferable on the east or west of this "oval" road, as opposed to north or south in order to cross on tangential sections of the roadway where the sight distance is best.

Crash data from the City of Salem indicates there were 6 crashes at the Bill Frey Drive/Portland Road intersection between 2005 and 2010. At least one driver or passenger was injured in 4 out of the 6 crashes. Crash data also shows there were 2 crashes at Bill Frey Drive/Salem Industrial Drive between 2005 and 2010. Neither of these crashes produced injuries for drivers or passengers involved.

Any crossing would need to be located such that it minimizes the likelihood of bicyclists or pedestrians from crossing the tracks. Crossing the tracks is generally considered to be dangerous.

Personal safety from crime is also a consideration when comparing possible locations of a crossing or undercrossing. A long undercrossing could isolate users from “eyes on the street,” making them more vulnerable in the event of any kind of emergency. Lighting throughout the entire path to the Kroc Center would be required, and would likely be similar to lighting used for the path from the west end of the Union Street Bridge to Wallace Road. Well-light conditions increases safety and visibility.

Constraint: Sight distance is limited on Bill Frey Drive due to the tight radius of its curves.

Constraint: Personal safety from crime is a consideration for both an under and over-crossing. When designing an under or over-crossing, care should be taken to avoid unlit, isolated areas.

Right-of-Way/Easements

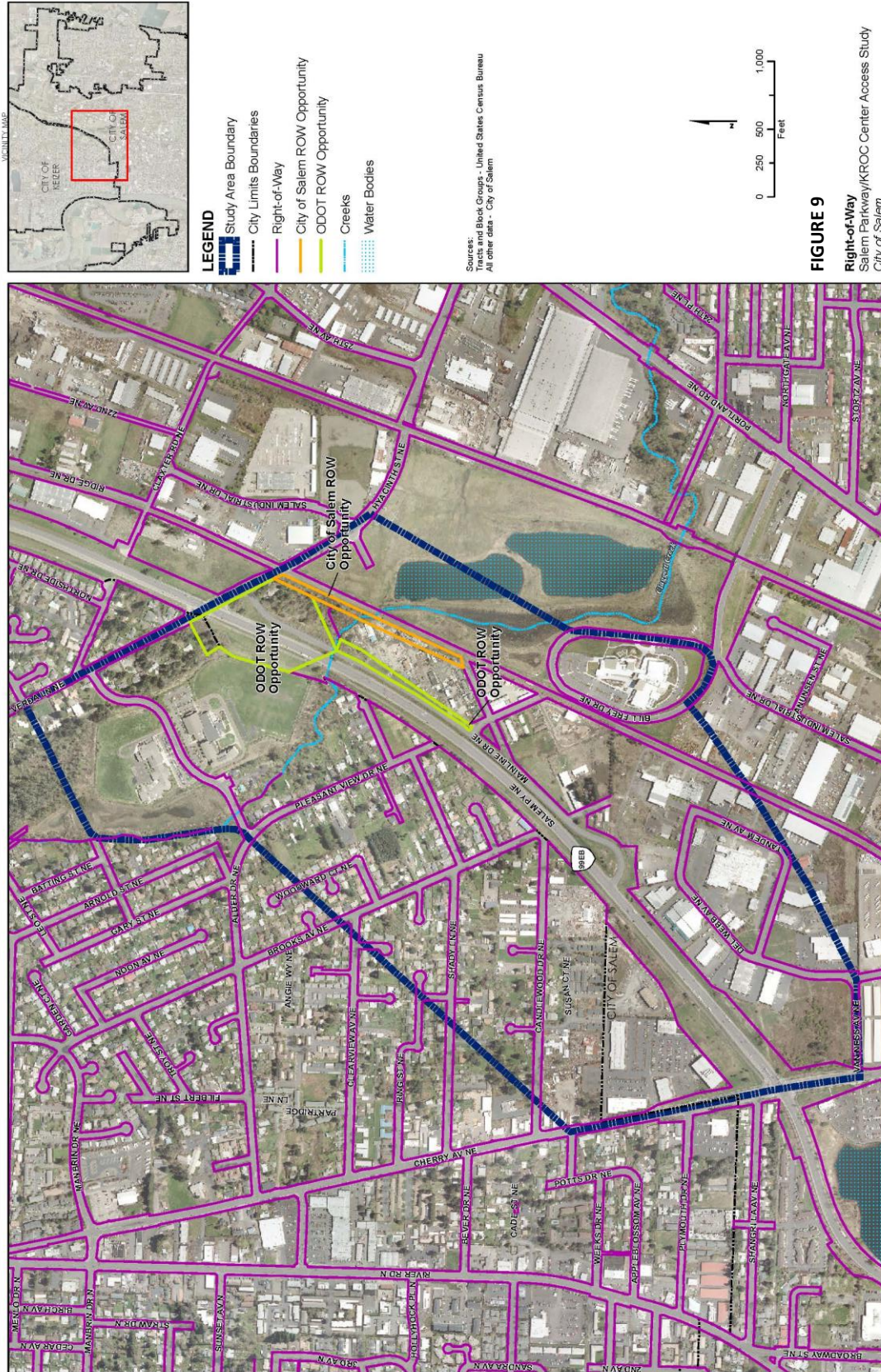
Figure 9 shows the right-of-way in the study area. Crossing the Salem Parkway and railroad easements would require significant coordination with the state and the Burlington Northern Santa Fe railroad.

Current right-of-way (ROW) ownership presents several opportunities for an under or overcrossing structure, lessening the need for additional ROW purchase. As depicted in Figure 9, ODOT owns the property around Mainline Drive, a strip of property south of Mainline Drive, and a large amount of property at the north end of Mainline Drive and Salem Parkway.

The ROW for the extension of Salem Industrial Drive to Hyacinth has been secured by the Urban Renewal Agency. The City has an easement agreement for 60 foot ROW for the entire length of the roadway between Bill Frey Drive and Hyacinth.

The City of Salem owns a strip of ROW to the west of the BNSF line that is currently used by the adjacent property owner, a recycling center (Figure 9). The adjacent property owner has asked for the ROW to be vacated, but the City could use the land to swap for property elsewhere that would be beneficial for an overcrossing or undercrossing.

Opportunity: ODOT owns property around Mainline Drive and City of Salem owns property west of the BNSF rail line which could be used to reduce the need for ROW acquisition.



Design Criteria and Standards

This section cites relevant standards that will become criteria to consider when designing an over-crossing or under-crossing.

The Oregon Bicycle and Pedestrian Design Guide (2011) calls for the following design standards to be used for construction of a multi-use bicycle/pedestrian path:

Table 1 – Oregon Bicycle and Pedestrian Design Guidelines

Design Standard	Quantity	Unit
Paved width	12	Ft
Cross slope	2%	Max
Shoulder	1	Ft (min)
Grade	5%	Max
Overhead clearance	10	Ft
Slope without fence	3H:1V	(Side Slope)
Rail Height	42	Inches (General rail height)
	48	Inches (To protect bicyclists from severe hazard)
	54	Inches (Used sparingly where bicycles may vault over rail)
Pavement Section		
AC	3	Inches
Base	5	Inches
	OR	Inches
PCC	6	Inches
Base	6	Inches

The AASHTO Guide for the Development of Bicycle Facilities (1999) calls for the following design standards to be used for construction of a multi-use bicycle/pedestrian path:

Table 2 – AASHTO Guidelines for the Development of Bicycle Facilities

Design Standard	Quantity	Unit
Lean angle	15	Degrees
Design Speed	20	Mph
Radius of Curve	100	Ft
Grade	5%	
Friction	0.25	
SSD (down)	127	Ft
SSD (up)	127	Ft
Eye Height	4.5	Ft
Object Height	0	Ft

The ODOT Highway Design Manual (HDM) calls for the following design standards to be used for construction of an urban expressway (i.e. Salem Parkway):

Table 3 – ODOT Highway Design Manual Guidelines for Urban Expressway

Design Standard	Quantity	Unit	Comments
Lanes	12	Ft	From aerial, ex. 12'
Shoulders	8	Ft	
Shy	2	Ft	
Striped Median	10	Ft	The Salem Parkway construction contract plans show it designed as a 10' wide striped median at this location.
Conc. Barrier Median	10	Ft	(4 lane section)
Vertical Clearance	17.33	Ft	(Designated high route)

The ODOT HDM calls for the following design standards to be used for construction of street on the urban/suburban fringe (i.e. Mainline Drive):

Table 4 - ODOT Highway Design Manual Guidelines for Streets on Urban/Suburban Fringe

Design Standard	Quantity	Unit	Comments
Lanes	12	Feet	
Shoulders	6	feet	
Shy	2	Feet	
Vertical Clearance	16	Feet	(non-NHS, non-high route, acceptability to be verified with stakeholders)

Reviewing the UPRR/BNSF Guidelines for Railroad Grade Separation Projects, the following citations apply:

- Minimum vertical clearance shall be 23 feet and 4 inches above the top of high rail within 25 feet of centerline track. Additional clearance may be required for construction or for flood considerations. The study area along BNSF tracks, north of Candlewood Drive NE is within a 100 and 500 year flood zone.
- The railroad discourages the construction of new underpass structures. If an underpass structure is the only feasible structure type of the proposed site, a detailed type selection report must be submitted to justify its use.

An additional design consideration is that a bridge structure would need protective screening and rails. Salem Parkway has a 10 foot painted median, and any crossing that would require a pier structure in the median would require a design exception. Vertical clearance requirement over the Parkway is 17 feet 4 inches and City roadways require a vertical clearance of 17 feet.

Preliminary Geotechnical Evaluation

A pedestrian crossing of the Salem Parkway is proposed to provide access to the Kroc Center in Keizer, Oregon. The purpose of this section is to provide a high-level, preliminary geotechnical evaluation for the project. Proposed improvements may include any or a combination of the following:

- A pedestrian bridge over the Salem Parkway
- A pedestrian bridge over the BNSF and under the High Voltage Transmission lines
- A pedestrian undercrossing beneath the BNSF Railroad tracks and High Voltage Transmission Line ROW
- Associated footpaths paved with asphaltic concrete

Subsurface Conditions

Available drawings show Soil Conservation Survey (SCS) soil types mapped by location in the study area. The SCS website was used to generate a brief report that includes descriptions for the various soil types within several feet of the ground surface. The two primary soil types mapped in this area are alluvial deposits; Bashaw clay (Ba), and Cloquato silt loam (Cm).

Logs for nearby water wells were reviewed to provide a preliminary understanding of the deeper soil profile. In general, the site appears to be underlain by inter-layered deposits of fine-grained and coarse-grained alluvium. The well logs suggest the static groundwater level could be within about 7 to 15 feet of the ground surface.

Geotechnical Design Considerations

Key geotechnical considerations for the project may include:

Mapped Geotechnical Hazards

Geotechnical hazard maps (Dogami, 2008) indicate the following risks for the project site:

- Relative Landslide Hazard – moderate. This mapped hazard is not expected to be applicable for the project because the native grades are relatively gentle. However, static and seismic stability of the existing raised embankment that supports the Salem Parkway, extending approximately 1,000 feet south from the intersection with Hyacinth Street, may need to be evaluated for a bridge crossing in that vicinity.
- Relative Ground-Shaking Amplification Hazard – high to very high. Seismic design parameters will be determined in accordance with AASHTO guidelines.
- Relative Liquefaction Hazard – low to moderate. Because the site is underlain by alluvial soils and shallow groundwater is present, liquefaction could result in soil strength loss and/or settlement during the design seismic event. Liquefaction will need to be evaluated as part of bridge design and embankment stability analyses.

Deep Foundations for the Pedestrian Bridge

Deep foundations are anticipated for the proposed pedestrian bridge to mitigate the presence of relatively soft near surface soils, and due to the potential for liquefaction.

Exploratory borings will need to be completed at each abutment and interior bent for the selected bridge site to characterize the soil conditions. The borings should be advanced deep enough for use in evaluating deep foundation alternatives, including seismic considerations such as site class determination and liquefaction screening. Based on the type of structure and available well log information, boring depths from 50 to 100 feet are anticipated. Additional borings may be required for embankment stability analyses.

Laboratory testing will be required for the determination of soil moisture content, plasticity, grain size, compressibility, and corrosivity.

Subgrade Stabilization

Plastic soils may be present along the proposed crossing location. Such soils have a high affinity for water and commonly result in shrink/swell behavior as a result of seasonal changes in moisture content. Shrink/swell can lead to increased maintenance and a shortened design life for shallow improvements such as pavement and sidewalks. A series of test pits should be completed along the proposed crossing alignment to characterize the subgrade conditions, including the risk of shrink/swell. Plastic soils are commonly mitigated by increasing the base rock thickness to about 18 to 24 inches to reduce the risk of excessive seasonal movements.

Even where plastic soils are not present, test pits should be performed to determine whether subexcavation will be required to mitigate soft subgrade conditions, such as the presence of relatively deep tilled soils in areas that have not previously been improved.

Constraint: Moderate landslide hazard that would require evaluation for a bridge crossing in the vicinity of the existing raised embankment that supports the Salem Parkway.

Constraint: High to very high relative ground-shaking amplification hazard.

Constraint: Anticipate boring depths between 50 and 100 feet.

Constraint: A series of test pits should be completed along the proposed crossing alignment to characterize the subgrade conditions, including the risk of shrink/swell.

Drainage, Erosion and Flooding

Figure 10 shows 100-year and 500-year flood zones in the study area. The 100-year zone encompasses the western portion of the Weddle Elementary School and Claggett Creek Middle School site along Claggett Creek. The 500-year zone fully encloses the Kroc Center. The floodway, defined by FEMA as a channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height, follows Claggett Creek and would need to be considered if building a crossing across Salem Parkway adjacent to the creek.

High Voltage Wires

High voltage wires run along both sides of the BNSF track for the entire study area and pose a significant constraint. The high voltage wires branch off to the north following the Pleasant View Street alignment. The wires hanging from these poles run parallel to and some of the distribution lines hang as low as 21 feet above the existing railroad tracks and in some locations cross the track(s). If a bridge were to cross the tracks, a clearance of 23 feet and 4 inches would need to be maintained over the tracks to the bottom of the bridge. Assuming the bridge would have a 2 foot minimum thickness from the bottom of the bridge to the finish grade of the bridge, Burlington Northern Santa Fe (BNSF) would require a 10 foot tall protective fence above the path surface, which would translate to the top of the fence being located 35 feet above the top of the track(s). Additional clearance is required between the top of the fence and the overhead wires. The low distribution wires would need to be relocated, either higher or undergrounded, and it is likely that the upper high voltage wires will need to be relocated even higher. Undergrounding the high voltage wires would require refrigeration of the vault and would be prohibitively expensive. The funding to relocate these wires would be a project cost. For planning purposes, this project should assume the need to raise the voltage wires to accommodate a bridge structure. The cost and feasibility of raising the wires will need to be reviewed in greater detail following the development of design concepts.

Constraint: This project should assume the need to raise the voltage wires to accommodate a bridge structure. The cost and feasibility of raising the wires will need to be reviewed in greater detail following the development of design concepts.

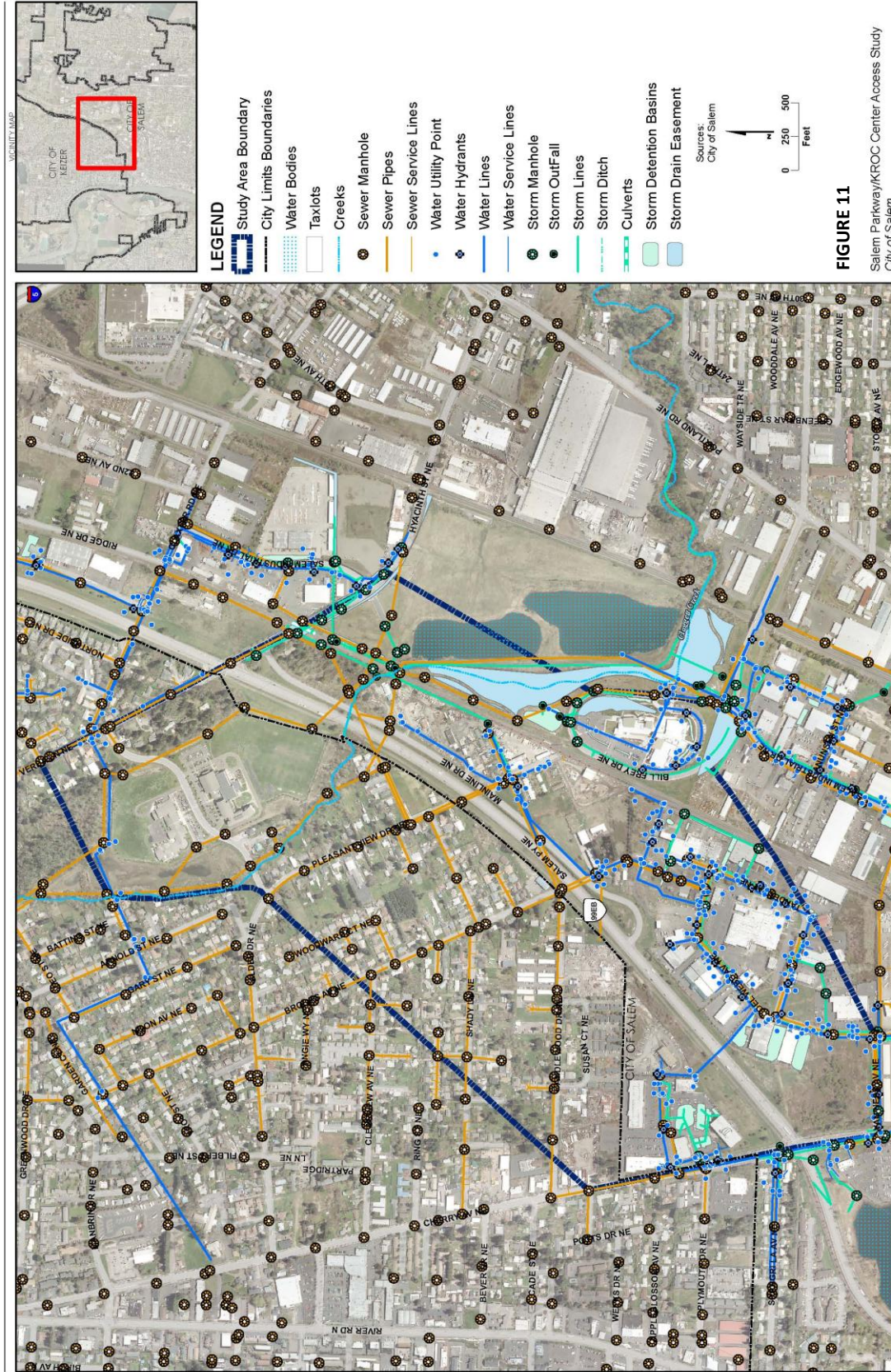
Storm, Sewer, and Water

The original water and sewer grid, predating Salem Parkway, still exists at Brooks Avenue, Pleasant View Avenue and into the field south of Weddle Elementary School. Impacts to the system should be avoided with construction. The condition of the lines is unknown, and for planning purposes, this project assumes construction in close proximity to the old lines would necessitate their replacement.

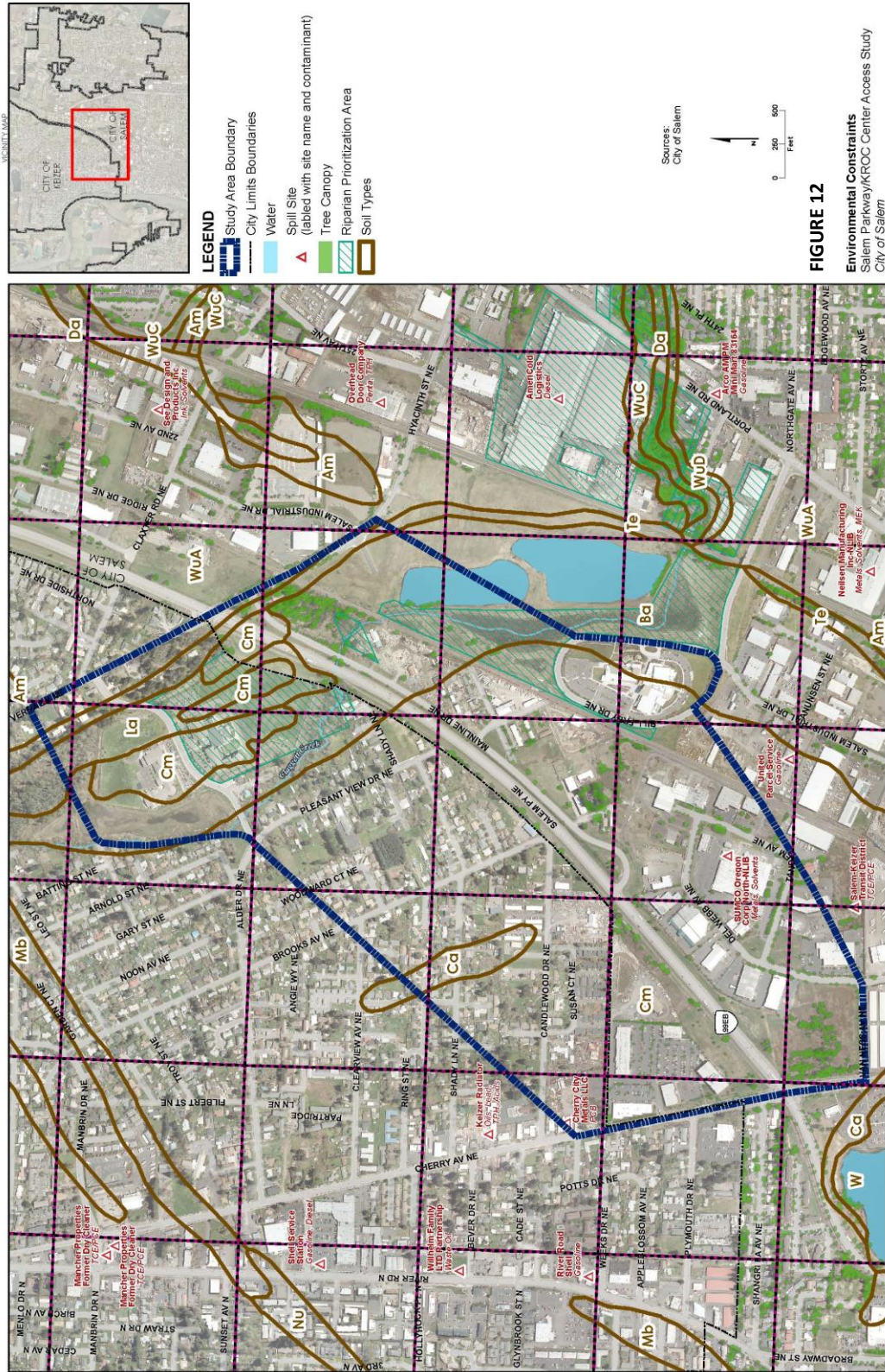
Constraint: This project assumes construction in close proximity to the old sewer and water lines would necessitate their replacement.

Hazards and Hazardous Materials

Several spill sites are located in the study area and can be seen in Figure 12. Two sites lie within the study area: Cherry City Metals located at Cherry Avenue NE/Candlewood Drive NE and SUMCO Oregon Corp North - NLIB Metals located at Del Webb Avenue NE/Tandem Avenue NE producing PCB and solvents, respectively.



CH2MHILL



CH2MHILL

Biological Resources/Wetland Mitigation

Claggett Creek is within the study area, which is within the Claggett Creek Watershed. Claggett Creek collects water from and flows through Salem, Keizer, and portions of Marion County. The main water course is Claggett Creek, but the watershed includes Labish Ditch and other water courses that flow into it. Claggett Creek is a tributary of the Willamette River connecting to the larger river at Clear Lake.

Claggett Creek has limited public access, areas thick with invasive plants, high levels of bacteria, low levels of oxygen, high temperatures, and high levels of Mercury from soil erosion. These characteristics inhibit the creek's ability to support fish and other wildlife and native plant species (Claggett Creek Watershed Council, 2012).

Making use of secondary research, this report reviews the ODOT OTIA III Statewide Bridge Delivery Program Environmental Baseline Report. Bridge #07855E on Salem Parkway is nearby, and the environmental screen provides a high level assessment. The screen states that there are no listed biological or fish species reported by the Oregon Natural Heritage Information Center (ORNHIC) within a two mile radius of the bridge.

Figure 10 shows wetlands that are located directly west, east and north of the Kroc Center. Opportunities exist to both protect and enhance these wetland areas while providing increased access to the Kroc Center.

Historic Resources

Many properties northwest of Salem Parkway were constructed in the early part of the 20th century and should be considered historic resources. In the study area there are 11 properties constructed between 1920 and 1931, 11 properties constructed between 1932 and 1943 and 50 properties constructed between 1944 and 1950. Many of the homes west of Salem Parkway are fifty years or older (Figure 13). Within the industrial area, between Salem Parkway and the Burlington Northern Santa Fe rail line, a few structures over 50 years old exist along Pleasant View Drive. A review of Oregon's Historic Site Database did not reveal any historic properties within the study area. Generally, impacts to structures over 50 years old will be avoided; however, none are listed as historic properties.



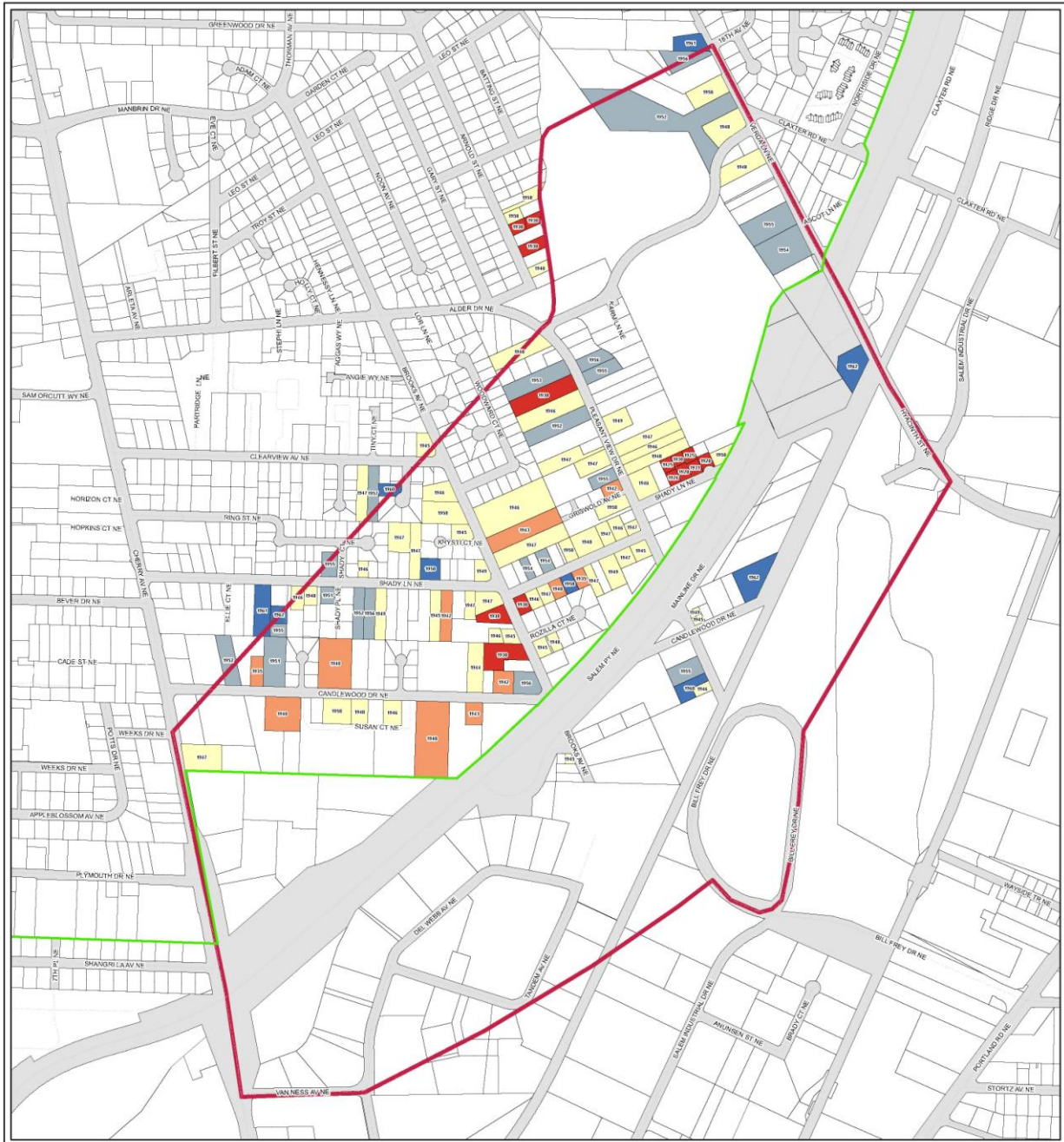
CITY OF Salem
AT YOUR SERVICE

Kroc Center Study Area

Construction 50 Years Old or Older

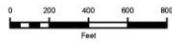
Community Development Department - Planning Division





L E G E N D

Year Constructed	1920 - 1931	1932 - 1943	1944 - 1950	1951 - 1957	1958 - 1962
	Kroc Study Area				



0 200 400 600 800
Feet

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FIGURE 13

Construction 50 Years Old or Older
Salem Parkway/KROC Center Access Study
City of Salem

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2. Kroc Center Website, salemkroc.org, 2012, retrieved April 30, 2012
3. Anzur, David; Portland Western Railroad, email on May 30, 2012.
4. Oregon Bicycle and Pedestrian Design Guide, Oregon Department of Transportation, 2011.
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8. Claggett Creek Watershed Council, retrieved from <http://www.claggettcreekwatershedcouncil.org/> on May 28, 2012

***Appendix C:
Initial Concept Advantages and Disadvantages***

Salvation Army Kroc Center Access Study

Initial Concept Advantages and Disadvantages

Concept "H" – At grade connection from Hyacinth Street to Bill Frey Drive, including new bridge across Claggett Creek

Note: Path connection is not dependant on funding/schedule of future Salem Industrial Dr. NE Extension project.

Advantages:

- Already in TSP as part of Salem Industrial Drive extension
- Low cost
- Provides new connection between Hyacinth and Bill Frey Drive
- No significant fills required for construction
- No significant utility conflicts
- Brings activity to the Claggett Creek Wetland Area as an amenity and environmental resource for users of the path and Kroc Center

Disadvantages:

- No new connection is planned across Salem Parkway, users would cross Salem Parkway at Hyacinth Street signalized intersection
- May require more out of direction travel than other alternatives
- Requires crosswalk at Bill Frey Drive
- Does not provide an easily perceived visual connection between neighborhoods to the west and Kroc Center

Concept "M" – At grade path along the east side of Salem Parkway and Mainline Drive from Cherry Avenue to Hyacinth Street. This path would be combined with either an undercrossing or overcrossing in one of the following way and potentially phased:

M - at-grade path

M1 - at-grade path + undercrossing of railroad

M2 - at-grade path + overcrossing of railroad

M3 - at-grade path + undercrossing of railroad + bridge over Salem Parkway

M4 - at-grade path + undercrossing of railroad + concept SK

Advantages:

- Low Cost for M alone or medium cost for M1
- Phases M1 thru M4 can be phased
- Provides new north-south pedestrian connection along east side of Salem Parkway
- No significant utility conflicts

Disadvantages:

- High Cost for M2, M3, and M4
- At-grade crossings introduce conflicts with auto traffic
- M by itself does not explicitly connect to the Kroc Center or west side of Salem Parkway
- M by itself duplicates pedestrian/bike connectivity available on west side of Salem Parkway to east/west streets (Verda/Cherry), which also do not provide direct connections to Kroc Center

Concept "UC" – Overcrossing of Salem Parkway and undercrossing of BNSF Railroad tracks.

Advantages:

- Provides grade separated crossing of both Salem Parkway and the railroad tracks
- No significant utility conflicts
- Compatible with future Salem Industrial Drive extension in TSP.
- Brings activity to the Claggett Creek Wetland Area as an amenity and environmental resource for users of the path and Kroc Center
- Single span of Salem Parkway serves as gateway and visual cue of a direct route to Kroc Center
- West-side touchdown brings activity to triangular parcel, links to existing roadways, path and sidewalk facilities, and creates an amenity open space.
- Medium Cost
- Preserves larger contiguous industrial parcel
- Route along Claggett Creek provides a visual amenity for users of the path.

Disadvantages:

- Requires drainage of a low point under the railroad tracks
- Requires crosswalk at Bill Frey Drive

Concept "PV" – Overcrossing of Salem Parkway, BNSF Railroad tracks, and Bill Frey Drive along Pleasant View Drive.

Note: East touchdown originates at East Entrance to Kroc Center.

Advantages:

- Provides grade-separated crossing of both Salem Parkway, railroad tracks, and Bill Frey Drive
- Crossing is very direct, nearly the shortest distance between the neighborhoods and the Kroc Center
- Utilizes existing right of way as much as possible.
- Creates a dramatic experience for bike/pedestrian users.
- Does not require a crosswalk at Bill Frey Drive.
- West-side touchdown brings activity to triangular parcel, links to existing path and sidewalk facilities, and creates an amenity open space.
- Span of Salem Parkway provides a visual cue of a direct route to Kroc Center.

Disadvantages:

- BPA has indicated that this alignment presents significant conflict with a critical High Voltage BPA Switch Pole. In addition, a bridge at this location would affect not only both BPA overhead power lines along the railroad right of way, but also the PGE overhead power lines running parallel to Pleasant View Drive.
- Requires significant amount of bridge to minimize impacts to adjacent properties – bridge 25-30 feet above existing ground adjacent to existing residences.
- High Cost
- Creates a visual barrier at north and east between the Kroc Center and the adjacent Claggett Creek Wetland Area.

Concept "SK" – Overcrossing of Salem Parkway and BNSF Railroad tracks from Pleasant View Drive to the south end of the Bill Frey Drive loop.

Advantages:

- Provides safe crossing of both Salem Parkway and railroad tracks
- Crossing is reasonably direct from the end of Pleasant View Drive to the Kroc Center
- Right of way acquisition will be of relatively undeveloped property.
- Connection to Bill Frey Drive eastbound provides easy access to Portland Road via new ramp near existing bridge
- West touchdown originates at terminus of existing Pleasant View Drive NE
- Could provide connection to Mainline Drive

Disadvantages:

- Significant right of way acquisition is required
- Skewed crossing of railroad requires longer bridge span (and higher profile)
- High cost
- Significant utility conflicts exist with overhead power lines
- Requires crosswalk at Bill Frey Drive
- Extent of fill structure/embankment west of Salem Parkway can limit sightlines and introduce potential Crime-Prevention-Through –Environmental-Design (CPTED)/Safety related issues.

Concept "SL" – Overcrossing of Salem Parkway and BNSF Railroad tracks from Brooks/Candlewood to the south end of the Bill Frey Drive loop.

Advantages:

- Provides safe crossing of both Salem Parkway and railroad tracks
- Crossing is reasonably direct from the end of Brooks Avenue to the Kroc Center
- Connection to Bill Frey Drive eastbound provides easy access to Portland Road via new ramp near existing bridge

Disadvantages:

- Significant right of way acquisition is required
- May require retaining walls to reduce right of way impacts
- High cost
- Significant utility conflicts exist with overhead power lines
- Requires crosswalk at Bill Frey Drive
- Extent of fill structure/embankment west of Salem Parkway can limit sightlines and introduce potential CPTED/Safety related issues.
- West touchdown does NOT align with Brooks Ave. or Candlewood Dr. thereby introducing out of direction travel and a visual barrier at the terminus of both ROW's.
- Loop configuration and resultant extent of fill structure/embankment on east side of RR creates an isolated area and introduces potential CPTED/Safety related issues.
- Height and width of embankment just east of RR creates visual barrier, which could also present constructability issues.
- Impacts planned wetland mitigation feature

***Appendix D:
Technical Memorandum: Evaluation
Framework***

Salem Parkway/Kroc Center Access Feasibility Study: Final Evaluation Framework

PREPARED FOR: Salem Parkway/Kroc Center Consultant Team
PREPARED BY: Sumi Malik, AICP
DATE: August 10, 2012

Background

The purpose of this memorandum is to describe the method of evaluating and comparing the facility alternatives including the proposed set of evaluation criteria, descriptions of each criterion, and a point system for scoring each criterion (aka "Evaluation Framework"). The criteria are intended to represent a broad range of City, ODOT, public and stakeholder values and objectives in this feasibility study.

An evaluation framework and analysis is useful for objectively comparing the variety of characteristics of each alternative. The purpose of this evaluation process is not to be an exhaustive study of each alternative's benefits and impact, but to highlight relative differences between alternatives to aide decision-making.

Proposed Process

Initially, the project team will develop six (6) crossing "concepts" that will be reviewed by the public and Stakeholder Advisory Committee (SAC). These concepts will then be screened down to four (4) "facility alternatives" and be more fully developed by the project team. These four facility alternatives will be evaluated using the evaluation framework and criteria in this memo. Results will be included in a draft and final "Transportation Facility Alternatives and Evaluation Report".

The evaluation criteria described in the remainder of this memo contains a mixture of quantitative and qualitative measures. Criteria are organized into eight objectives, listed below:

1. Safety for Users of the Facility
2. Directness of Route
3. Facility integrates with the larger multi-modal system
4. Property and Environmental impacts
5. Transportation and Utility impacts
6. Public Support
7. Cost
8. Ability to Phase Project

The Stakeholder Advisory Committee (SAC) weighted each criterion indicating level of importance. Weights are noted in the following tables. The Technical Advisory Committee (TAC) also provided weighting, indicating the "1c: Personal Safety and Security," "2: Directness

of Route,” and “7: Cost,” criteria are most important. SAC weighting will be applied to alternatives during the evaluation process, and following the evaluation process, additional weight will be given to criteria weighted highly by the TAG to determine if the additional weight makes a difference in selection of a recommended alternative. Weighting in the tables reflect SAC weighting only.

Objective 1: Safety for Users of the Facility

Criterion 1a: Minimizes the potential for vehicle conflicts at facility crossings.		Weight: 21.3%
Description: This criterion will evaluate the number of potential controlled ¹ and uncontrolled ² vehicle crossing points (i.e. locations where there could be a conflict between motor vehicles and pedestrians/bicyclists along the facility or at the end(s) of the facility.) The evaluation will consider a trip from a location northwest of the Salem Parkway to the Kroc Center		
Controlled Crossings ¹	Points	
1 or less	4	
2	2	
> 3	0	
Uncontrolled Crossings ²	Points	
1 or less	2	
2	1	
>3	0	
¹ Controlled – a crossing with either a stop sign or traffic signal		
² Uncontrolled – a crossing with no stop control, such as a driveway		

Criterion 1b: Facility meets project design criteria.		Weight: 1%
Description: AASHTO, ODOT, and BNSF design guidelines define standards for width, grade, clearance, etc. All alternatives will be designed following these guidelines, but some may require minor exceptions (e.g. horizontal curves).		
Meets Design Criteria	Points	
Yes	4	
Requires minor design exception	3	
Requires major design exception	2	
No	0	

Criterion 1c: Personal safety and security		Weight: 18.8%
Description: Qualitative assessment of whether the facility creates isolated areas, or has obscured views or confined areas; or (conversely) provides a more safe and secure environment. This criterion considers both the user of the facility and the impact of the facility on the surrounding area.		
Isolation, safety	Points	
Minimizes points of potential isolation; feels safe and secure	4	
Creates some points of potential isolation	2	
Creates several points of potential isolation; feels relatively unsafe	0	

Objective 2: Directness of Route

Criterion 2: Reduce the potential for out-of-direction travel for bicyclists and pedestrians.		Weight: 6.5%
Description: Bicyclists and pedestrians are not inclined to travel out-of-direction, which can lead to crossing unsafely across the Salem Parkway and/or railroad tracks. They prefer the most direct route. This criterion evaluates how well the facility provides a direct route for pedestrians and bicyclist to the Kroc Center. Trip length and the number of households within a prescribed distance will be evaluated for each alternative. For trip length, the evaluation will consider a trip starting from the intersection of Brooks Ave and Candlewood Drive in Keizer (located north of the Salem Parkway multi-use path) and going to the Kroc Center.		
Directness of route	Points	
Most Direct	4	
Somewhat Direct	2	
Least Direct	0	

Objective 3: Facility integrates with the Larger Multi-Modal System

<p>Criterion 3: Facility ties in with existing and planned bicycle, pedestrian, transit, and roadway system.</p> <p>Description: One purpose of the study is to identify facilities that tie-in with the larger existing and planned bicycle, pedestrian, and roadway systems. This criterion will assess how well each facility meets this objective.</p>		<p>Weight: 16.4%</p>
<p>Ties in with bicycle and pedestrian facilities and transit stops</p>	<p>Points</p>	
<p>Best connection to existing and planned facilities.</p>	<p>4</p>	
<p>Second best connection to existing and planned facilities.</p>	<p>3</p>	
<p>Third best connection to existing and planned facilities.</p>	<p>2</p>	
<p>Fourth best connection to existing and planned facilities.</p>	<p>0</p>	

Objective 4: Property and Environmental Impacts

<p>Criterion 4a: Assessment of relative overall impact to properties and structures within the study area.</p> <p>Description: This will look at the number of structures or properties potentially impacted. This is a preliminary assessment and not a full impact assessment. Because impacts from an alternative can vary substantially based on its location and design (i.e. whether a facility is constructed at grade, elevated on structures, or on berms), professional judgment will be used to assess whether there could be relatively minor, intermediate, or considerable impacts.</p>		<p>Weight: 9.8%</p>
<p>Relative Amount of Potential Impact to Structures and Properties</p>	<p>Points</p>	
<p>Least amount of impact to structures and properties</p>	<p>4</p>	
<p>Second least amount of impact to structures and properties</p>	<p>3</p>	

Third least amount of impact to structures and properties	2
Greatest amount of impact to structures potentially displaced	0

<p>Criterion 4b: Minimizes impacts nearby wetlands, Clagget Creek, and other natural resources in the study area</p> <p>Description: This is based on engineering judgment on the amount of storm water mitigation and other mitigations that may be needed for the alternative.</p>	<p>Weight: 3.2%</p>
Amount of mitigation needed	Points
Little-to-no mitigation needed	4
Some-to-moderate mitigation needed	2
Significant mitigation needed	0

Objective 5: Transportation and Utility Impacts

<p>Criterion 5: Positive-to-no impact to existing and planned transportation facilities and utilities during construction or as a permanent impact.</p> <p>Description: This is based on engineering judgment on the impact to utilities (BPA power lines), transportation facilities (railroad track and rail operations; Salem Parkway and other streets within the study area); and other infrastructure within the study area.</p>	<p>Weight: 4.9%</p>
Facilities Impacted	Points
Positive or no impact to transportation or utilities	4
Moderate impact to transportation or utilities	2
Considerable impact to transportation or utilities	0

Objective 6: Public Support

<p>Criterion 6: Public support of each alternative based on comments at public "listening stations", surveys, website comments, and public open house comments.</p>
--

General Public Support	Points	Weight: 9.0%
Received the greatest amount of support	4	
Second greatest amount of support	3	
Third greatest amount of support	2	
Least amount of support	0	

Objective 7: Cost

Criterion 7: Preliminary cost estimates of the alternatives	Weight: 9.0%
Relative Cost	Points
Least cost	4
Second lowest cost alternative	3
Third lowest cost alternative	2
Highest cost alternative	0

Objective 8: Ability to Phase Project

Criterion 8: Sub components of the project can be phased and have independent utility for users	Weight: 1.0%
Description: Due to the availability of funding, it may be advantageous to have a set of facilities that can be constructed in phases. If phased, then each phase should have independent utility (i.e. serve the public) until later phases can be constructed.	
Can project be phased with independent utility?	Points
Yes	3
No	0

An additional criterion for the design and aesthetics of the facility was considered. However, it was determined that all of the initial concepts could be designed either at a higher cost or lower cost level of design, and therefore design and aesthetics would not be a valid differentiator at this point in the feasibility study. Considerations about design and aesthetics may want to be revisited when discussing the recommended alternative at the latter part of this study.

***Appendix E:
Technical Memorandum: Transportation
Alternatives and Evaluation Report***

Salem Parkway/Kroc Center Access Feasibility Study: Final Transportation Alternatives and Evaluation Report

PREPARED FOR: Salem Parkway/Kroc Center Advisory Groups

PREPARED BY: Sumi Malik, AICP
Dave Simmons, P.E.

DATE: November 17, 2012

Background

This technical memorandum describes the concepts developed for the Salem Parkway/Kroc Center Access Feasibility Study, and the results of the evaluation process performed on the three alternatives that advanced from the concept phase into alternatives. The technical team used evaluation criteria previously established and documented in "Draft Evaluation Framework," dated August 10, 2012. Findings from the evaluation process are included. This memorandum will assist the Technical Advisory Group (TAG) and Stakeholder Advisory Committee (SAC) in weighing benefits and limitations of each alternative and selecting one preferred facility recommendation. This memorandum also includes visualizations to help illustrate the alternatives and planning level cost estimates.

The purpose of this evaluation process is not to be an exhaustive study of each alternative's benefits and impact, but to highlight relative differences between alternatives to aid decision-making.

The evaluation criteria used to evaluate project alternatives contain a mixture of quantitative and qualitative measures. Criteria are organized into eight objectives, listed below:

1. Safety for Users of the Facility
2. Directness of Route
3. Facility integrates with the larger multi-modal system
4. Property and Environmental impacts
5. Transportation and Utility impacts
6. Public Support
7. Cost
8. Ability to Phase Project

The SAC weighted each criterion indicating level of importance. Appendix B contains the evaluation including SAC weighting.

Overview of Concepts Eliminated

Originally, six concepts were developed by the technical team and presented to the TAG and SAC. Three concepts were eliminated by the SAC. These concepts are described below.

Concept PV

Concept PV (Appendix A) provides an overcrossing of both Salem Parkway and the railroad tracks. The west touchdown of this concept would be a ramp, originating near Pleasant View Drive NE, running along the Salem Parkway multi-use path. Concept PV would span over Salem Parkway, Mainline Drive and continue on a bridge above/alongside Pleasant View Drive over the railroad tracks and Bill Frey Drive. The east touchdown point for the trail would be a ramp down at the north parking and landscaped area of the Kroc Center. This concept was eliminated based on the significant impact to overhead high voltage power lines located along the railroad tracks and Pleasant View Drive.

Concept SL

Concept SL (Appendix A) provides an overcrossing of both Salem Parkway and the railroad tracks. The west touchdown of this concept would be a ramp near Brooks Avenue NE, running along the Salem Parkway multi-use path. Concept SL would span over Salem Parkway and Mainline Drive. The trail would continue on an elevated berm over the industrial area, travel on a bridge over the railroad, with the east touchdown point by the Kroc Center made up of a loop ramp that touches down between the railroad tracks and Bill Frey Drive. Users would cross Bill Frey Drive using a crosswalk. This concept was eliminated based on its similarity to Concept SK (described below) which follows a similar alignment and provides similar connectivity.

Concept M

Concept M (Appendix A) provides an at-grade trail adjacent to Mainline Drive and Salem Parkway between Hyacinth Street NE and Cherry Avenue NE. This concept could be combined with components depicted in the other concepts for crossing the Salem Parkway and the railroad tracks. The at-grade trail by itself did not provide a new connection to the Kroc Center. This concept was eliminated by the SAC because it did not provide a new connection between Keizer and the Kroc Center and when combined with other crossing elements of the Parkway and railroad, did not provide a solution that was distinct from the concepts advanced as alternatives.

Descriptions of the Alternatives Forwarded

Three concepts were forwarded to be evaluated as alternatives: Alternatives H, UC, and SK. These alternatives are described below.

Alternative H

Alternative H (Appendix A) implements a bicycle/pedestrian connection that is already planned in the City of Salem's Transportation System Plan (TSP), however the Salem TSP shows this connection as part of the future extension of Salem Industrial Drive street improvements with sidewalks and on-street bike lanes. Alternative H would provide a separated 12-foot wide multi-use path. Alternative H provides an at-grade connection from Hyacinth Street to Bill Frey Drive, including a new bridge across Claggett Creek. Alternative H connects to existing multi-modal facilities: Hyacinth Street NE southeast of Salem Parkway has complete bike lanes and sidewalks on both sides, and north of Salem Parkway, Hyacinth Street NE becomes Verda Lane, which also has sidewalks and bike lanes on both sides up to 18th Ave NE; north of 18th Ave, there are no sidewalks and narrow shoulders or bike lanes. The Alternative H path would be between the Burlington Northern Santa Fe (BNSF) railroad tracks and the Claggett Creek conservation/wetland area, using part of an easement that is reserved for the construction of

Salem Industrial Drive extension to connect to Hyacinth Street NE. It is important to note that Alternative H is not dependant on funding or construction of the planned extension of Salem Industrial Drive NE, nor is the extension of Salem Industrial Drive NE part of Alternative H. See Appendix A for a cross section illustrating the trail next to the railroad tracks and the future roadway.

Starting in the Keizer neighborhoods to the northwest, a bicyclist or pedestrian would use the existing multi-use path along Salem Parkway, cross at the Hyacinth Street NE/Verda Lane NE and Salem Parkway signalized intersection, travel east along Hyacinth Street NE and then turn right onto the Alternative H path. Users would cross Bill Frey Drive at a marked crossing with a median refuge to access the Kroc Center. See Appendix A for a graphic illustrating this crossing. Alternative H has the potential to create activity in the Claggett Creek wetlands area.

The planning level cost estimate for Alternative H is \$1.5 to \$2.0 million (2012 dollars). Anticipating the future extension of Salem Industrial Drive, a more efficient, long-term approach could be to construct the bridge across Claggett Creek that would accommodate both the path and the future roadway. Constructing the wider bridge for both the path and future extension of Salem Industrial Drive could realize efficiencies by combining the permitting and construction process. The incremental increase in cost to construct Alternative H with a bridge over Claggett Creek that would accommodate both the path and future roadway is approximately \$1.8 million. Alternative UC

Alternative UC (Appendix A) provides an overcrossing of Salem Parkway, and an undercrossing of BNSF railroad tracks, and an at-grade multi-use path parallel to the railroad tracks, with an at-grade crossing of Bill Frey Drive to get to the Kroc Center. It is compatible with the planned Salem Industrial Drive extension in the City's TSP. Alternative UC would increase activity at the Claggett Creek wetland area and the bridge over the Salem Parkway would serve as a gateway and visual cue to the Kroc Center area.

Starting in the vicinity of Shady Lane NE in Keizer, the approach ramp for the crossing would be on a berm (with a retaining wall next to Shady Lane) and be elevated over the multi-use path adjacent to Salem Parkway, Salem Parkway, and Mainline Drive and then descend on a berm/fill structure. The bridge over Salem Parkway would be a concrete box girder. East of Salem Parkway and Mainline Drive, Alternative UC's path descends and becomes at-grade briefly in the industrial area south of Salem Parkway. The trail ramps down under the railroad before turning parallel to the railroad and traveling southerly toward Bill Frey Drive. See Appendix A for a ground level perspective of the railroad tracks undercrossing and Appendix A for a profile at the undercrossing. Similar to Alternative H, users would cross Bill Frey Drive at a marked crossing with a median refuge to get to the Kroc Center. See Appendix A for a bird's eye view of the trail.

The planning level cost estimate for Alternative UC is \$8.5 to \$9.5 million.

Alternative SK

Alternative SK (Appendix A) provides an overcrossing of both Salem Parkway and the railroad tracks. See Appendix A for a bird's eye view of the trail as it crosses over the Parkway. The west touchdown of Alternative SK would be a ramp, originating at Pleasant View Drive NE, running along the Salem Parkway multi-use path. The bridge over Salem Parkway would be a concrete box girder. Like Alternative UC, the single span of Salem Parkway would serve as a gateway

and visual cue to the Kroc Center area. An additional ramp could be constructed to provide access to Mainline Drive (not included in planning level cost estimates and shown in Appendix A with dotted line to indicate it is optional). A berm would support the trail over the industrial area, and the east touchdown point by the Kroc Center would be made up of a loop ramp that touches down between the railroad tracks and Bill Frey Drive. See Appendix A for a cross section of the trail on the berm. See Appendix A for a bird's eye view of the trail as it crosses over the tracks and loops down to Bill Frey Drive. Users of the crossing would be elevated for a span of 3,710 feet, or 0.7 miles. Users would cross Bill Frey Drive using a crosswalk, similar to Alternatives UC and H.

The planning level cost estimate for Alternative SK is \$14 - \$16 million.

Evaluation of Alternatives

Appendix B contains a matrix for comparing the alternatives, including weighting established by the SAC and rationale for each alternative's evaluation by criterion. Below is an overview of the evaluation, which highlights key findings.

Of the eleven major criteria and sub-criteria, the SAC weighted the following criteria the highest, in order:

- Criterion 1a: Minimizes the potential for vehicle conflicts at facility crossings;
- Criterion 1c: Personal safety and security; and
- Criterion 3: Facility ties in with existing and planned bicycle, pedestrian, transit and roadway system.

Through the weighted evaluation, Alternative H scored the most points, with an overall score of 3.28. Alternative UC scored nearly the same, with a score of 3.27, and Alternative SK scored the least, with a score of 2.51.

Alternative H

Alternative H scores well because it is the least cost, has few property or utility impacts, and from a user's perspective, would have full sight of the path length and would be at ground level, as opposed to an isolated elevated or under crossing that are part of the other two alternatives.

Alternative H scores worst with respect to the criterion with the greatest weight, Criterion 1a: Minimizes the potential for vehicle conflicts at facility crossings, because it is the only alternative with an at-grade crossing of Salem Parkway. The other two alternatives provide a bridge over Salem Parkway. This alternative would also utilize the at-grade signalized crossing at Hyacinth Street. It should be noted that signalized intersections provide a dedicated space for pedestrians to cross (crosswalk) and the signal controls opposing auto traffic movements, which reduces the potential for pedestrian and automobile conflicts relative to unsignalized intersections. Bicyclists from the Salem Parkway path would either cross Salem Parkway using the crosswalk or cross the intersection using the bicycle lanes on Hyacinth St with the flow of automobiles – a signalized intersection similarly reduces the potential for bicyclist and automobile conflicts relative to an unsignalized intersection. Vehicles travel on Salem Parkway at high speeds, and on occasion run red lights traveling westbound on Salem Parkway. Warning signals have been added 1500 feet north of the Salem Parkway/Verda Lane

intersection to alert southbound drivers on the Parkway to the traffic light ahead, but the potential for conflict remains, creating a potential safety concern for pedestrians and cyclists using the crosswalk. Alternative H would increase the number of pedestrians and cyclists using this crosswalk, which increases the potential for conflict associated with this alternative.

While this alternative is lower cost, it does not provide the level of comfort and safety benefits of a grade separated crossing at Salem Parkway. Alternative H would introduce more pedestrians and bicyclist crossing at the Hyacinth Street NE/Verda Lane NE and Salem Parkway intersection, increasing the potential for conflicts. It is the first signalized intersection drivers encounter after exiting Interstate 5, and motor vehicle speeds are high on this section. While some design elements may be feasible to improve the level of comfort and safety for non-motorized users of this intersection, conflict points would remain.

Alternative UC

Alternative UC scores well with respect to Criterion 1a: Minimizes the potential for vehicle conflicts at facility crossings because users would have no controlled at-grade crossings, and only one uncontrolled at-grade crossing at Bill Frey Drive. Alternative UC provides the most direct line of sight for the user between the Salem Parkway off-street path and the path that would be constructed in the Claggett Creek wetlands area. Alternative UC also scores well because it ties in with existing and planned bicycle and pedestrian facilities, including constructing part of the path planned for the Claggett Creek wetlands area.

Alternative UC scores moderately relative to the other two alternatives for Criterion 1c: Personal safety and security. Both the elevated and under crossings are somewhat isolated crossings; however, the section where the elevated crossing transitions to the underground crossing provides an opportunity for a user to get off the path, if necessary. The cost estimate for Alternative UC is higher than the cost estimate for Alternative H and lower than the estimate for Alternative SK.

Alternative SK

Alternative SK scores well with respect to Criterion 1a: Minimizes the potential for vehicle conflicts at facility crossings because users would have no controlled at-grade crossings, and only one uncontrolled at-grade crossing at Bill Frey Drive. Alternative SK scores well with respect to Criterion 4b: Minimizes impacts to nearby wetlands, Claggett Creek, and other natural resources in the study area because it is the furthest away from those resources.

While the crossing is fairly direct between the intersection of Brooks Avenue, Candlewood Drive, and the Kroc Center, the crossing itself is circuitous because of the two ramps at each touchdown point. It scores the worst with respect to Criterion 1c: Personal Safety and Security because the user would be isolated on ramps and elevated structures for the entire crossing, with no options to exit the path, and little sight distance of the entire crossing due to the ramps. Alternative SK is also the highest cost.

Comparison of Travel Distances

The table below compares travel distances to the Kroc Center from a starting location where Brooks Ave (in Keizer) meets the multi-use path parallel to Salem Parkway. Appendix C provides illustrations of the travel distances.

Alternative	Feet	Miles
Alt H	6,490	1.23
Alt UC	4,360	0.83
Alt SK	3,920	0.74
No build - via Salem Industrial Drive	8,815	1.67
No build - via Hyacinth/Portland Rd.	11,957	2.27

Next Steps

The Project Management Team (PMT), the TAG and SAC will review and revise this draft evaluation report. The evaluation is not a decision-making tool itself, but provides an evaluation of alternatives against objective criteria to facilitate a discussion of each of the alternatives' strengths and weaknesses. These alternatives and evaluation results will also be presented at a public workshop for feedback. Ultimately, the SAC will recommend a preferred alternative and the project team will refine the engineering, estimate costs, and develop graphics.

Appendices

A - Concept and Alternative Figures

B - Evaluation Matrix

C - Travel Distances from midpoint of Salem Parkway multi-use path to Kroc Center

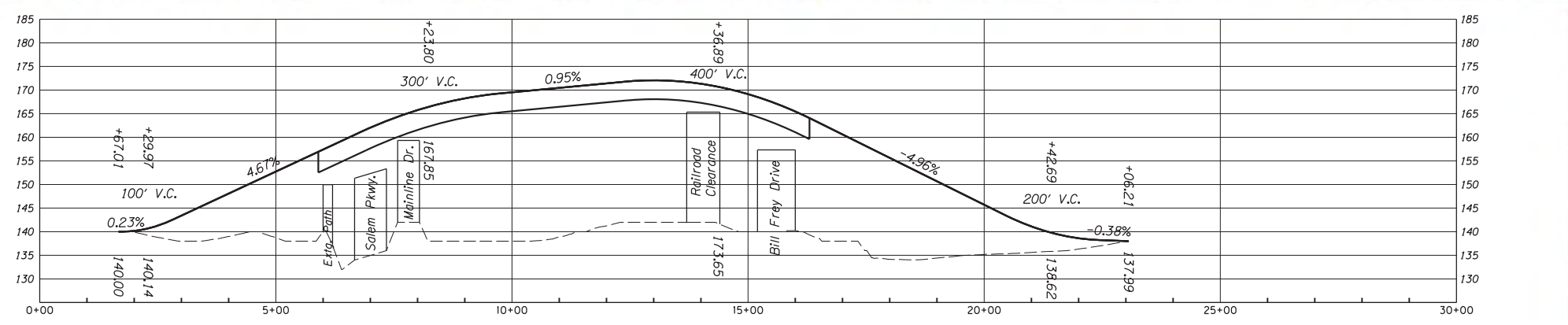
D - Sample Photographs of Bridges

Appendix A - Figures

Appendix A - Concept and Alternative Figures

List Figures

1. Plan view - Concept PV
2. Plan view - Concept SL
3. Plan view - Concept M
4. Plan view - Alternative H
5. Cross Section - Alternative H
6. Perspective of Bill Frey Crosswalk - Alternative H, UC, SK
7. Plan view - Alternative UC
8. Ground level perspective of undercrossing - Alternative UC
9. Cross Section of undercrossing - Alternative UC
10. Birds eye view - Alternative UC
11. Plan view - Alternative SK
12. Birds eye view Parkway crossing - Alternative SK
13. Cross section of berm - Alternative SK
14. Birds eye view rail crossing - Alternative SK



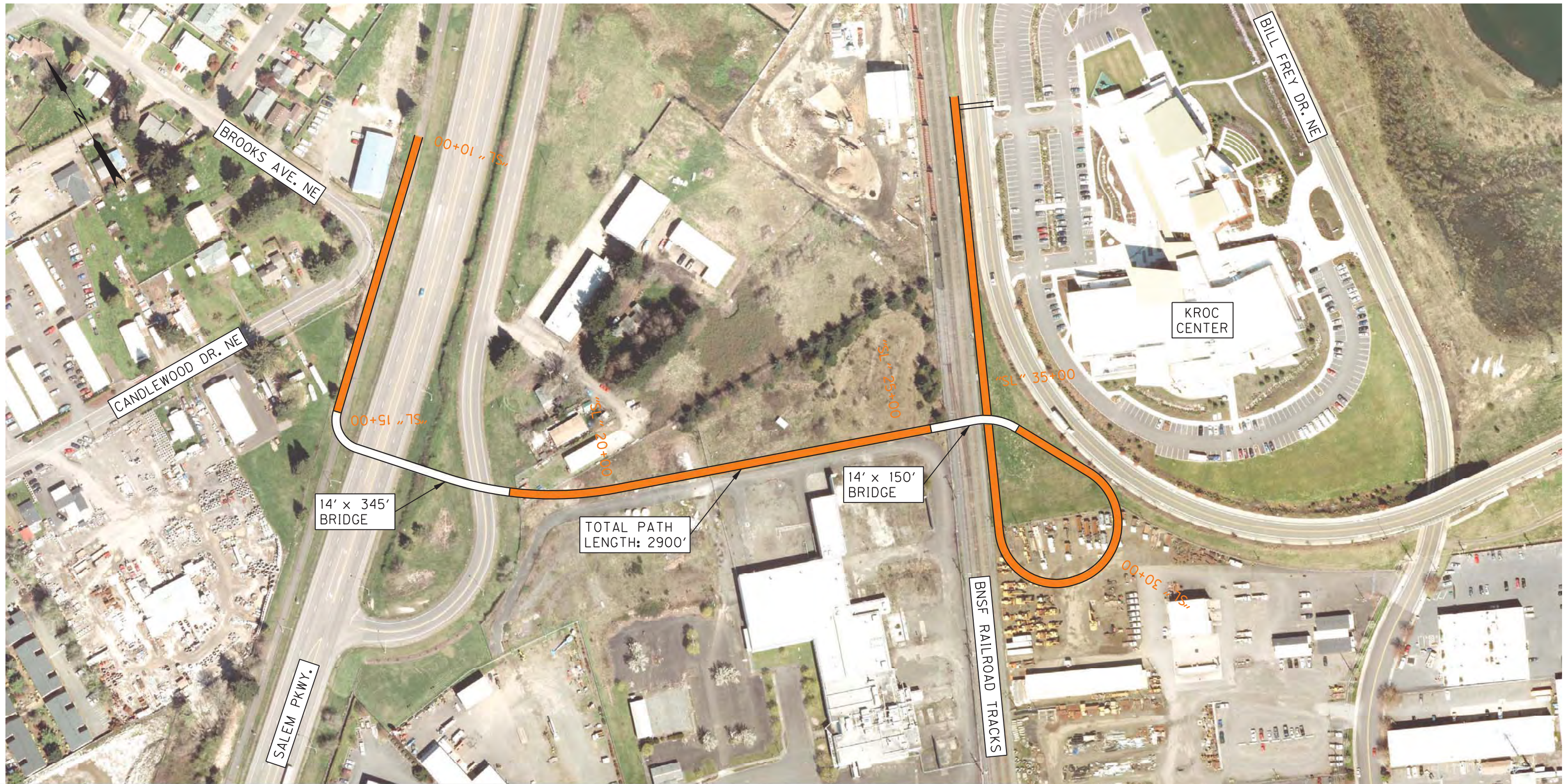
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 INITIAL STUDY CONCEPTS
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CONCEPT "PV"

SHEET NO.
5



TOTAL PATH LENGTH: 2900'

14' x 345' BRIDGE

14' x 150' BRIDGE

KROC CENTER

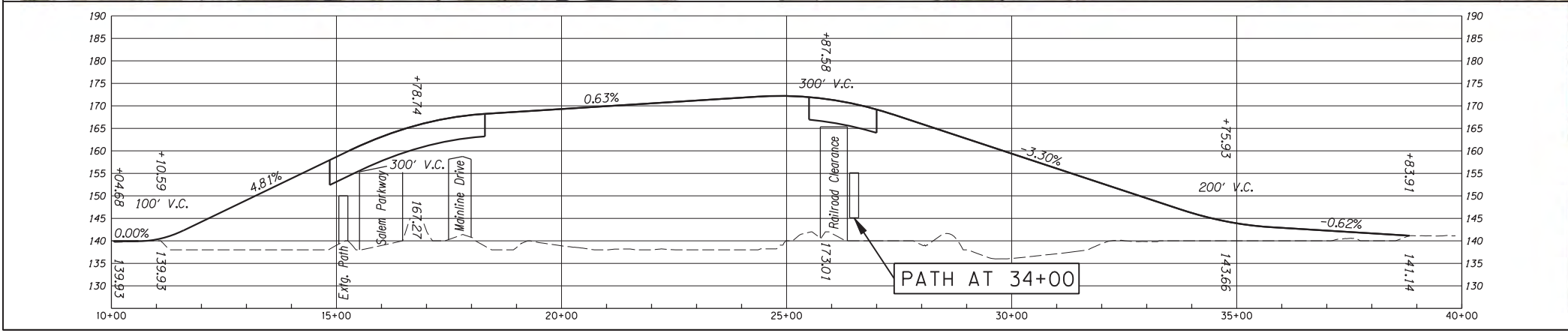
BROOKS AVE. NE

CANDLEWOOD DR. NE

SALEM PKWY.

BNSF RAILROAD TRACKS

BILL FREY DR. NE



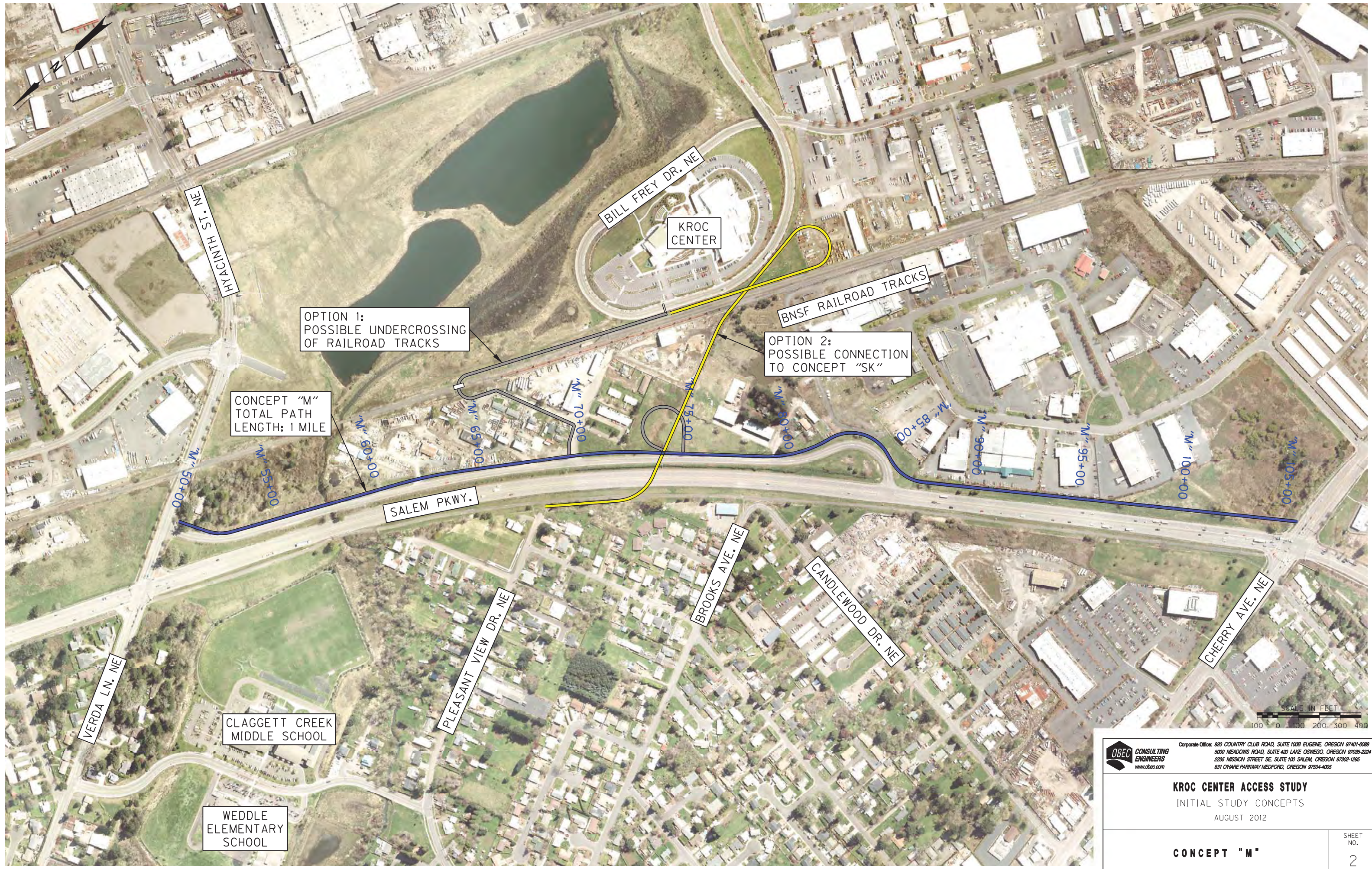
PATH AT 34+00

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CONCEPT "SL"

SHEET NO.
3



OPTION 1:
POSSIBLE UNDERCROSSING
OF RAILROAD TRACKS

OPTION 2:
POSSIBLE CONNECTION
TO CONCEPT "SK"

CONCEPT "M"
TOTAL PATH
LENGTH: 1 MILE

VERDA LN. NE
HYACINTH ST. NE
SALEM PKWY.
PLEASANT VIEW DR. NE
BROOKS AVE. NE
CANDLEWOOD DR. NE
CHERRY AVE. NE
WEDDLE ELEMENTARY SCHOOL
CLAGGETT CREEK MIDDLE SCHOOL
KROC CENTER
BNSF RAILROAD TRACKS

50+00

55+00

60+00

65+00

70+00

75+00

80+00

85+00

90+00

95+00

100+00

105+00

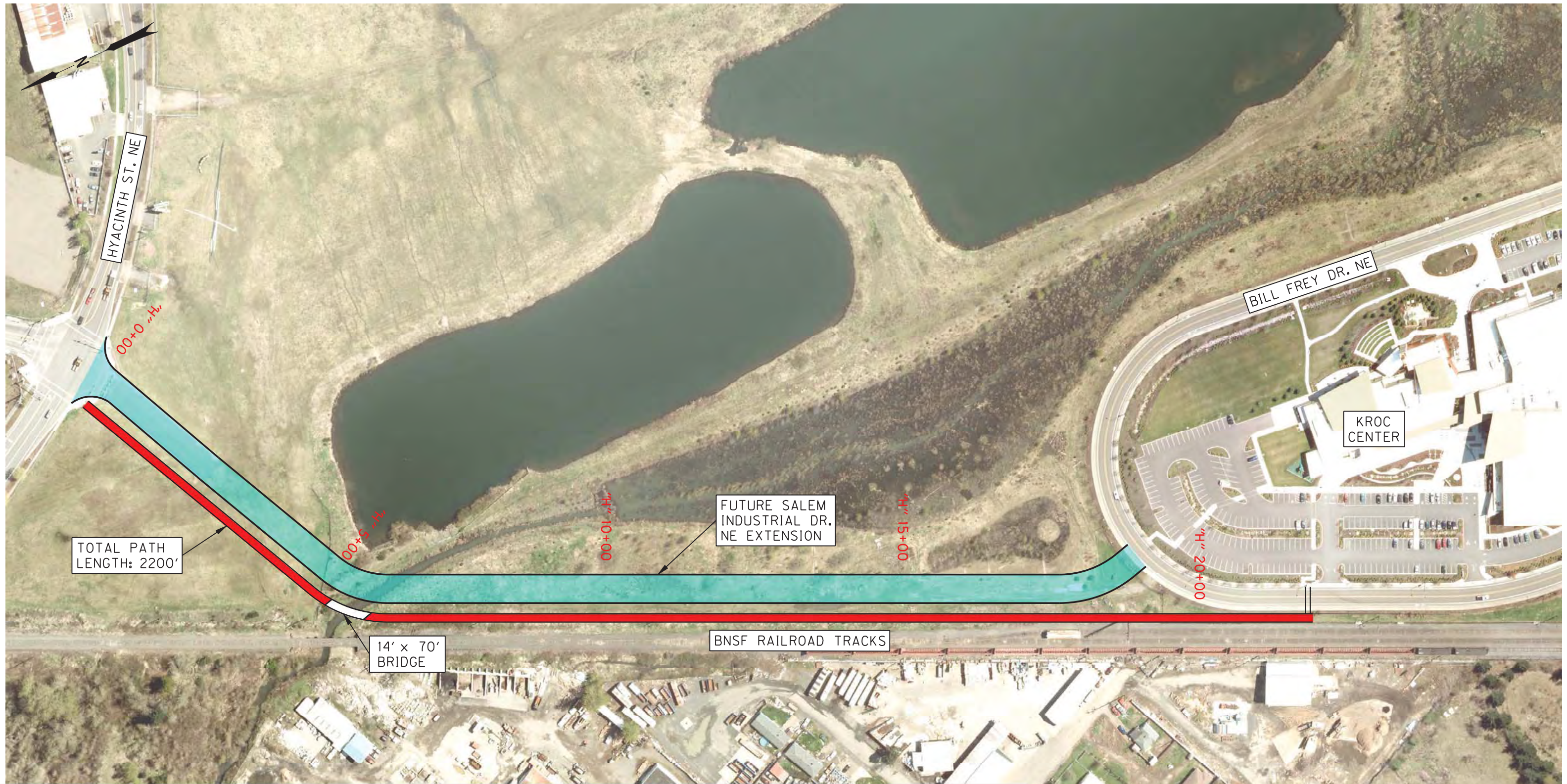
SCALE IN FEET
100 0 100 200 300 400

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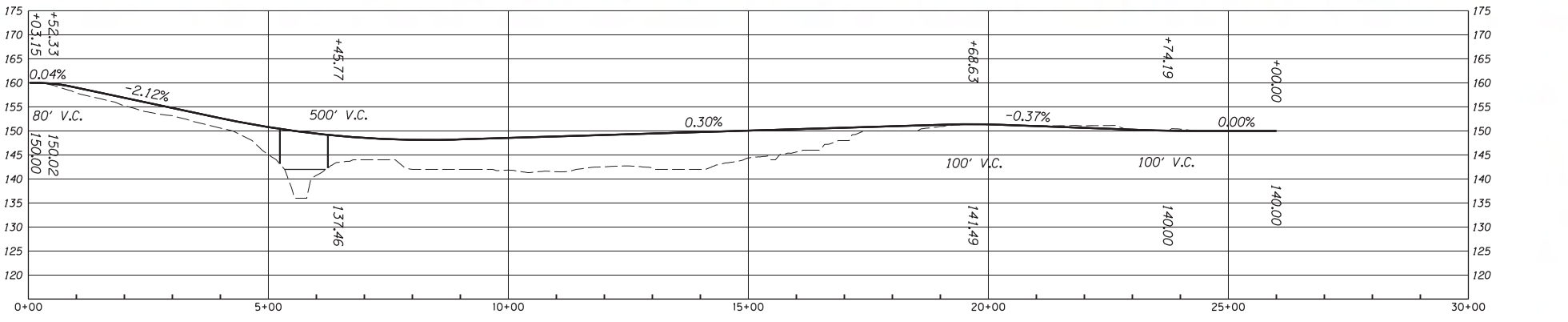
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CONCEPT "M"

SHEET NO.
2



TOTAL PATH LENGTH: 2200'

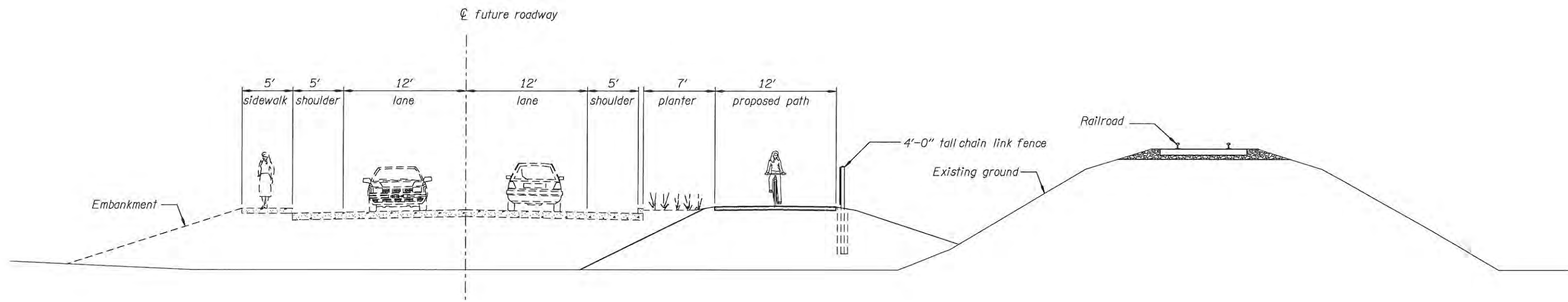


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CONCEPT "H"

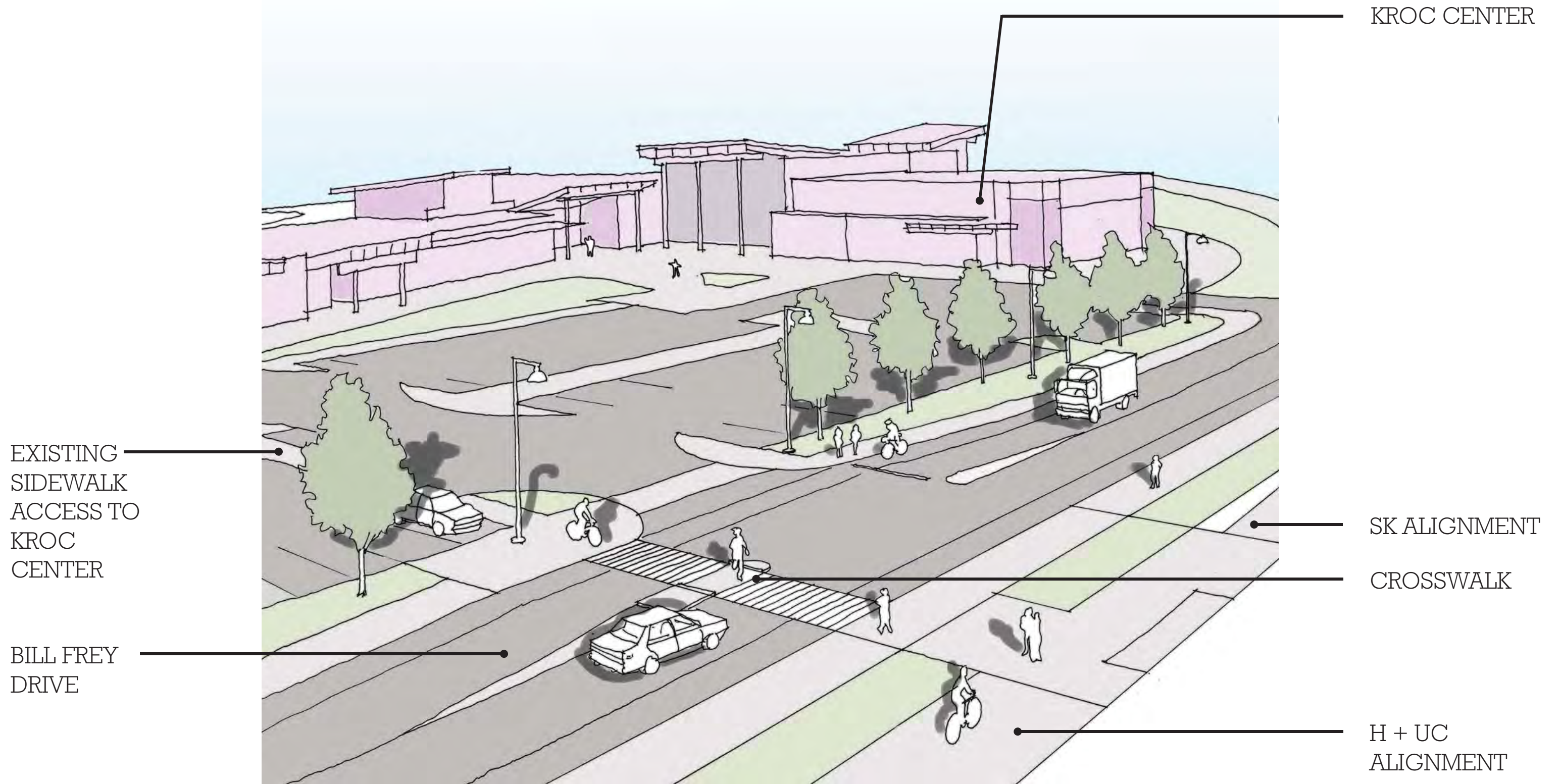
SHEET NO.
 1



SECTION SOUTH OF CLAGGETT CREEK

Scale: 1"=10'

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CONCEPT "H"	SHEET NO. 1

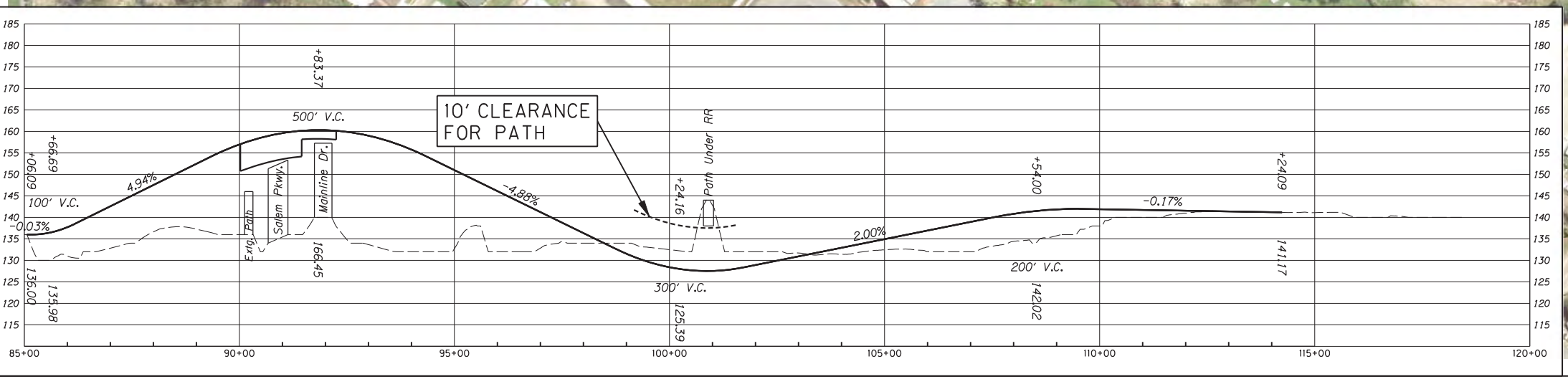
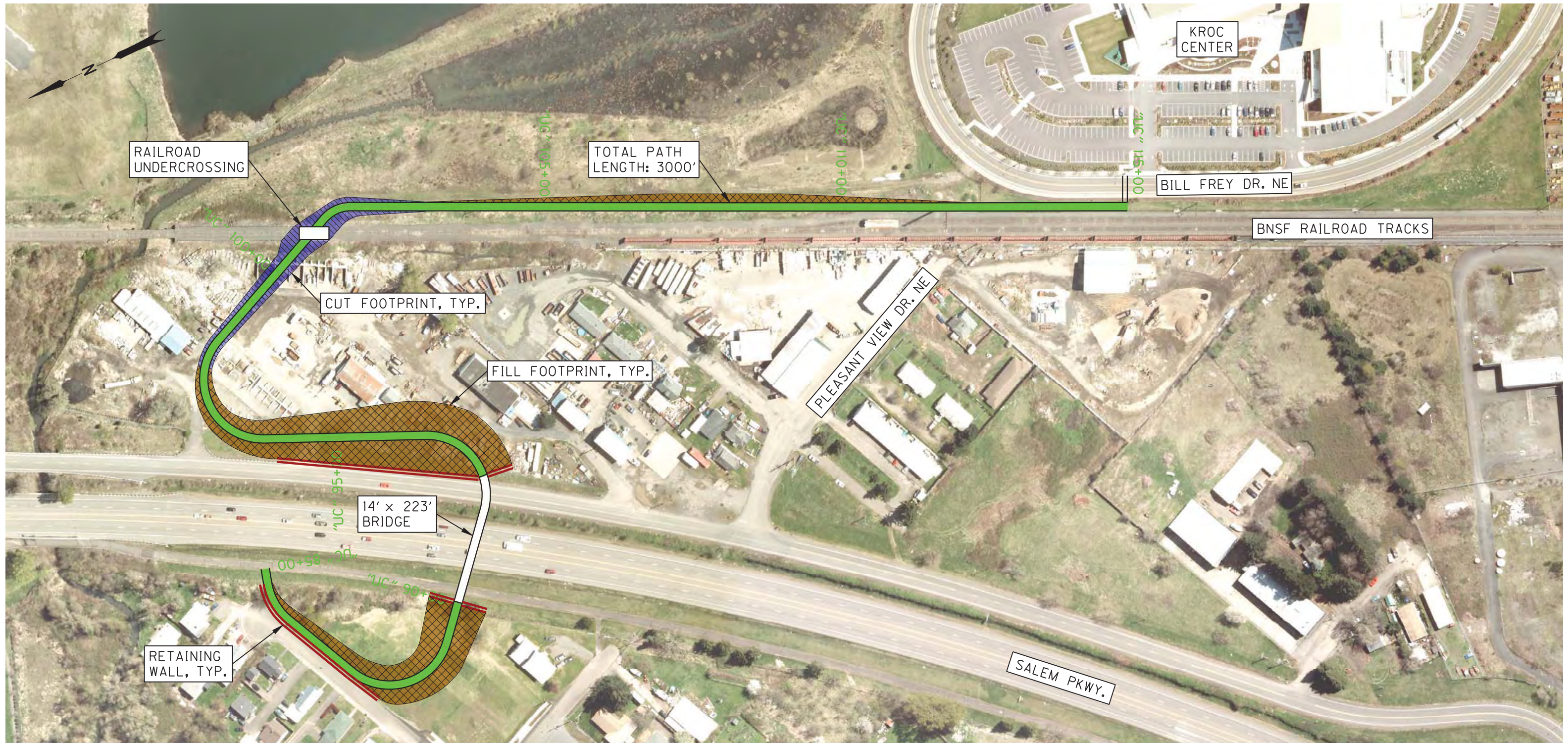


Perspective of Crosswalk – Alternative H, UC, SK

Salem Parkway/Kroc Center Access Feasibility Study

CH2MHILL



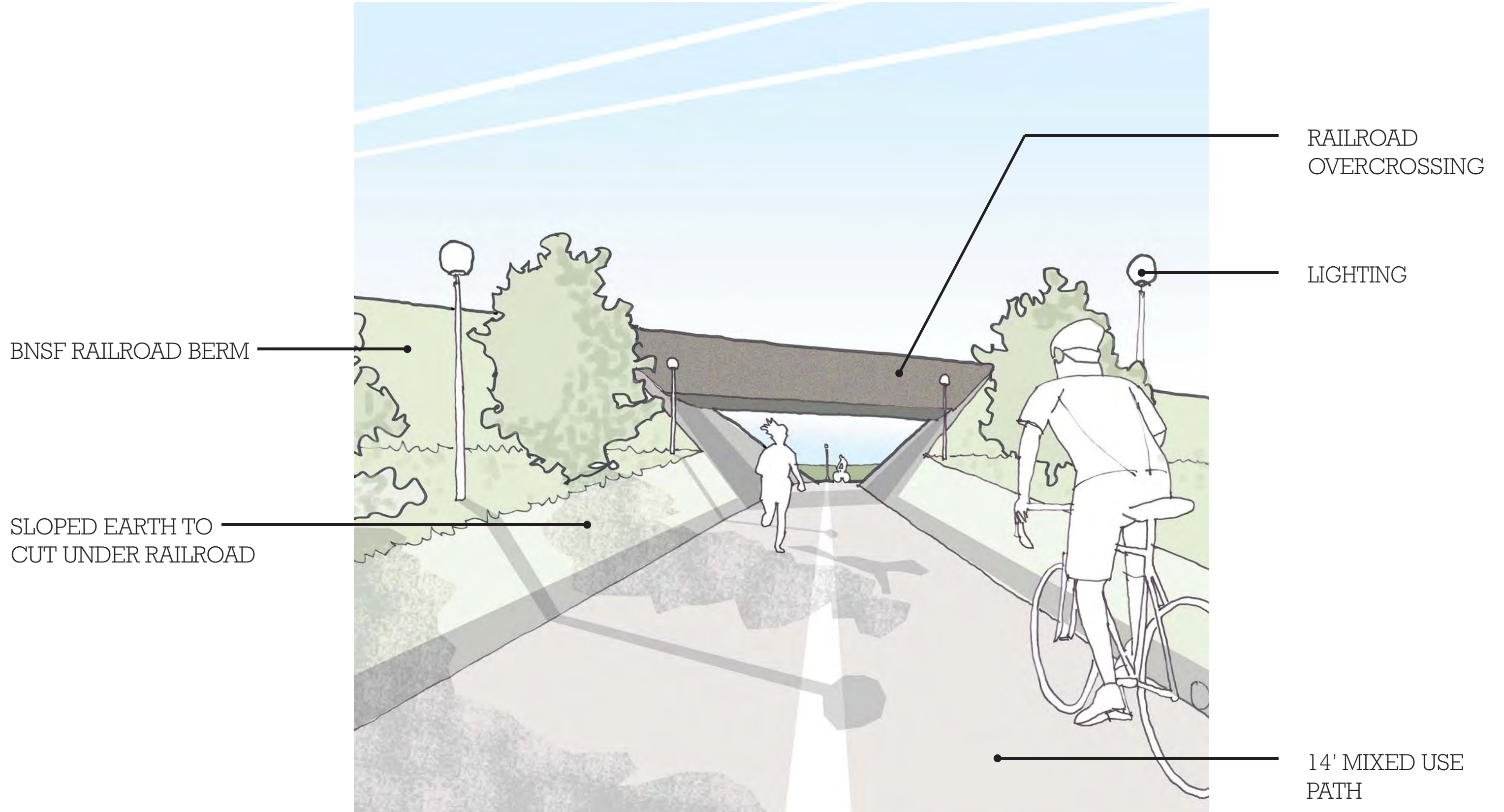


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CONCEPT "UC"

SHEET NO.
3



BNSF RAILROAD BERM

SLOPED EARTH TO
CUT UNDER RAILROAD

RAILROAD
OVERCROSSING

LIGHTING

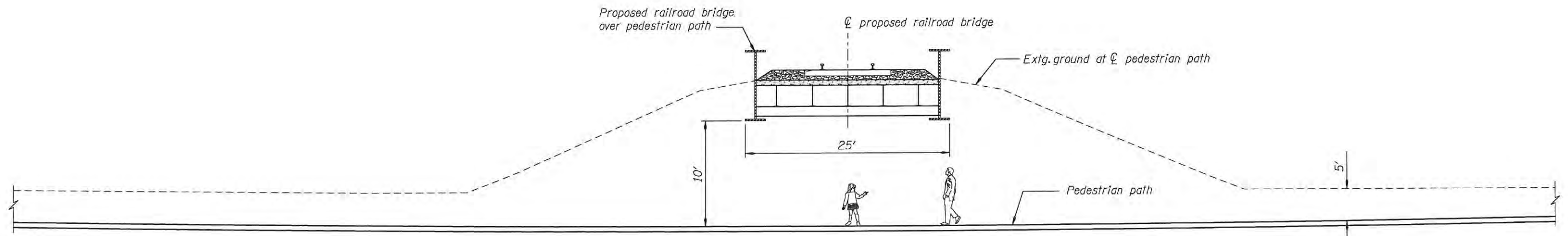
14' MIXED USE
PATH

Perspective of undercrossing – Alternative UC

Salem Parkway/Kroc Center Access Feasibility Study


CH2MHILL

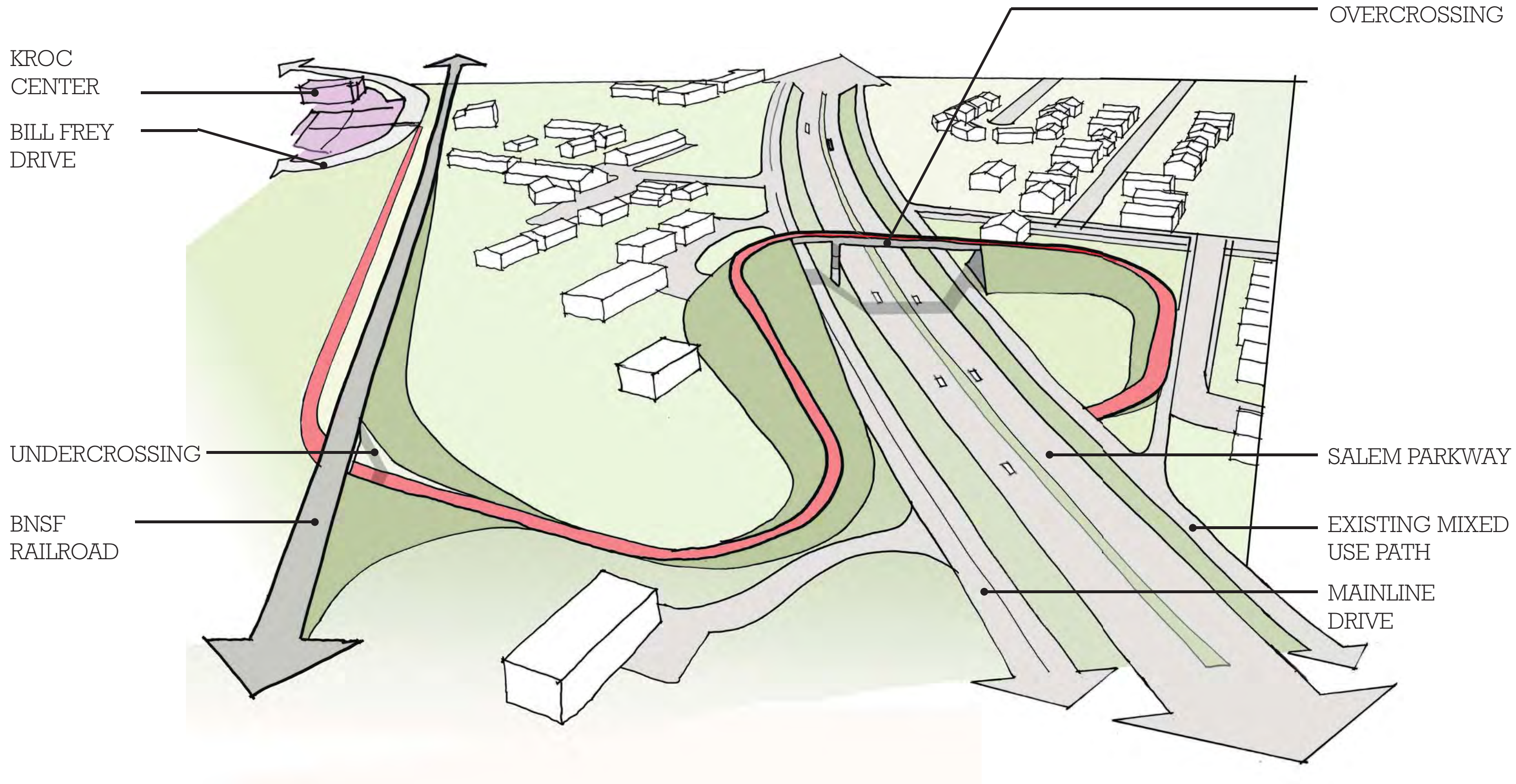




SECTION AT PROPOSED RAILROAD UNDERCROSSING

Scale: 1"=10'

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CONCEPT "UC"	SHEET NO. 1

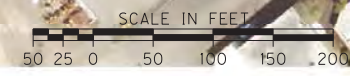
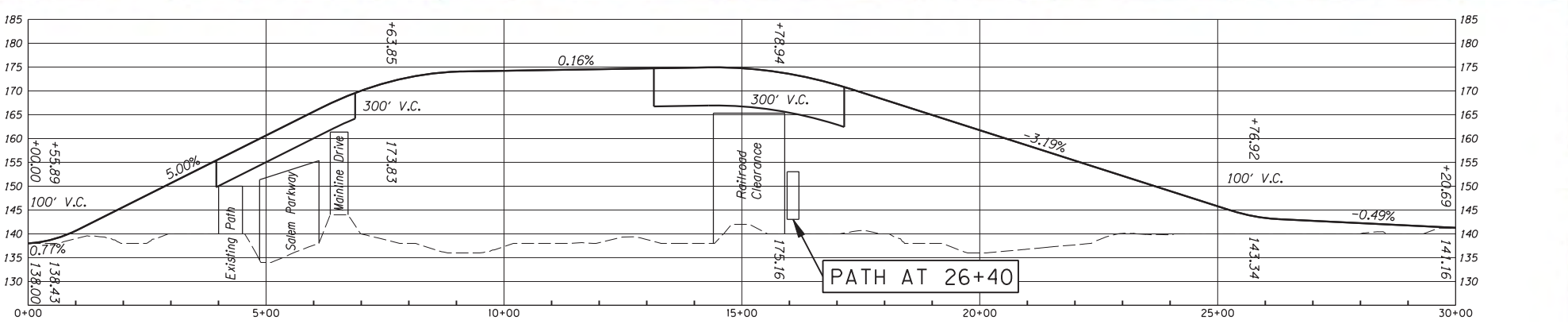
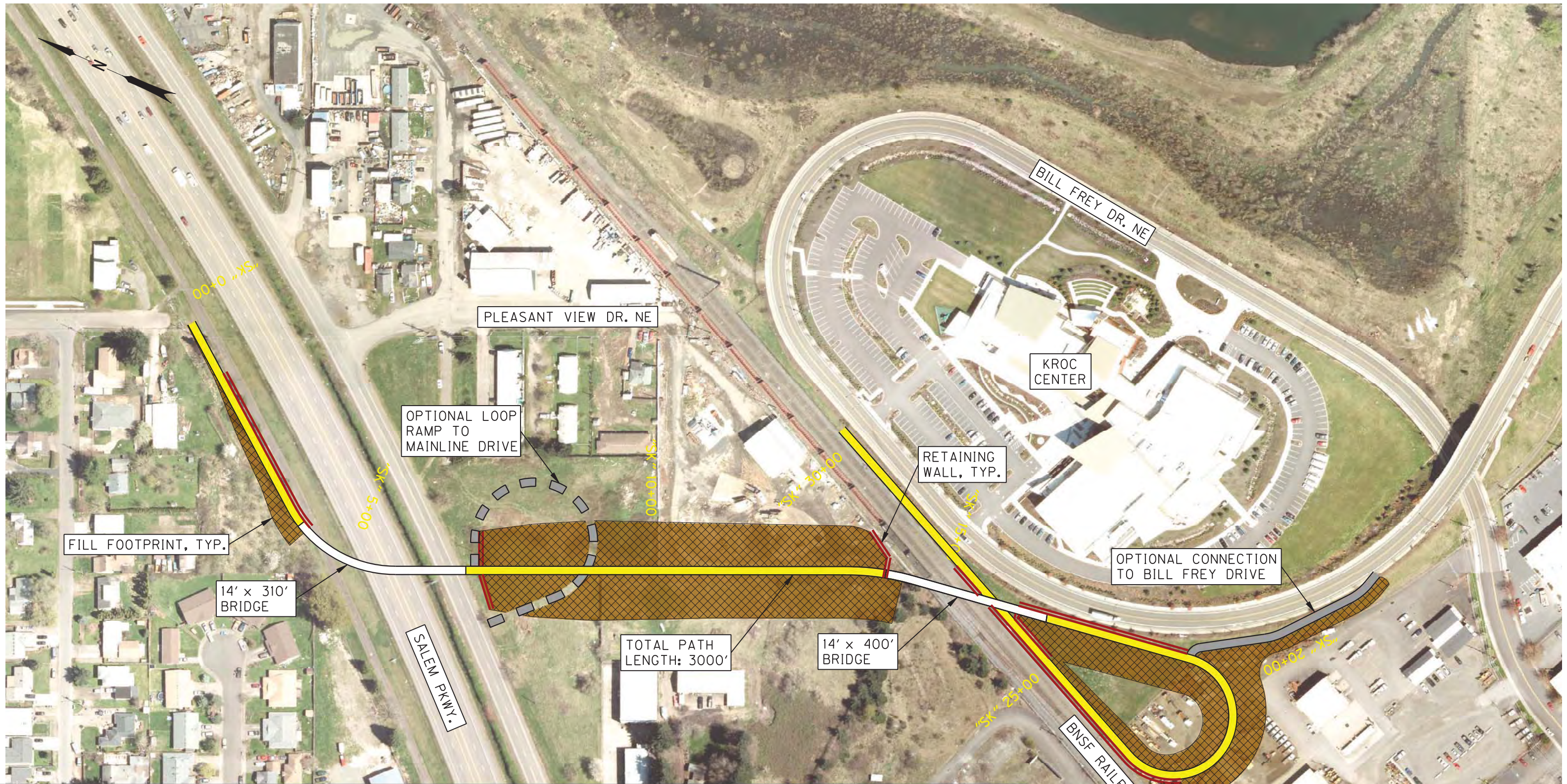


Birds eye view – Alternative UC

Salem Parkway/Kroc Center Access Feasibility Study

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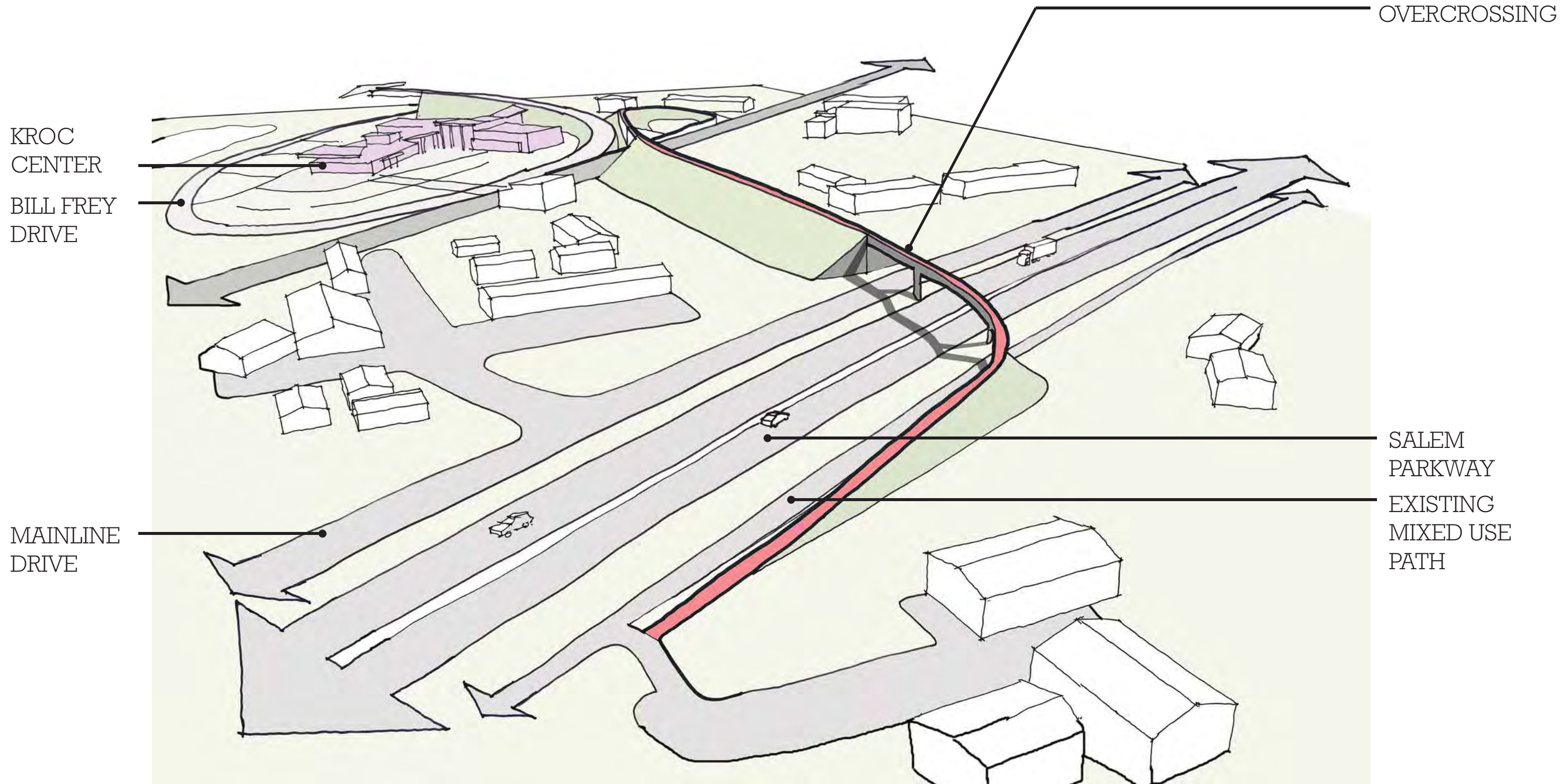


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CONCEPT "SK"

SHEET NO.
2

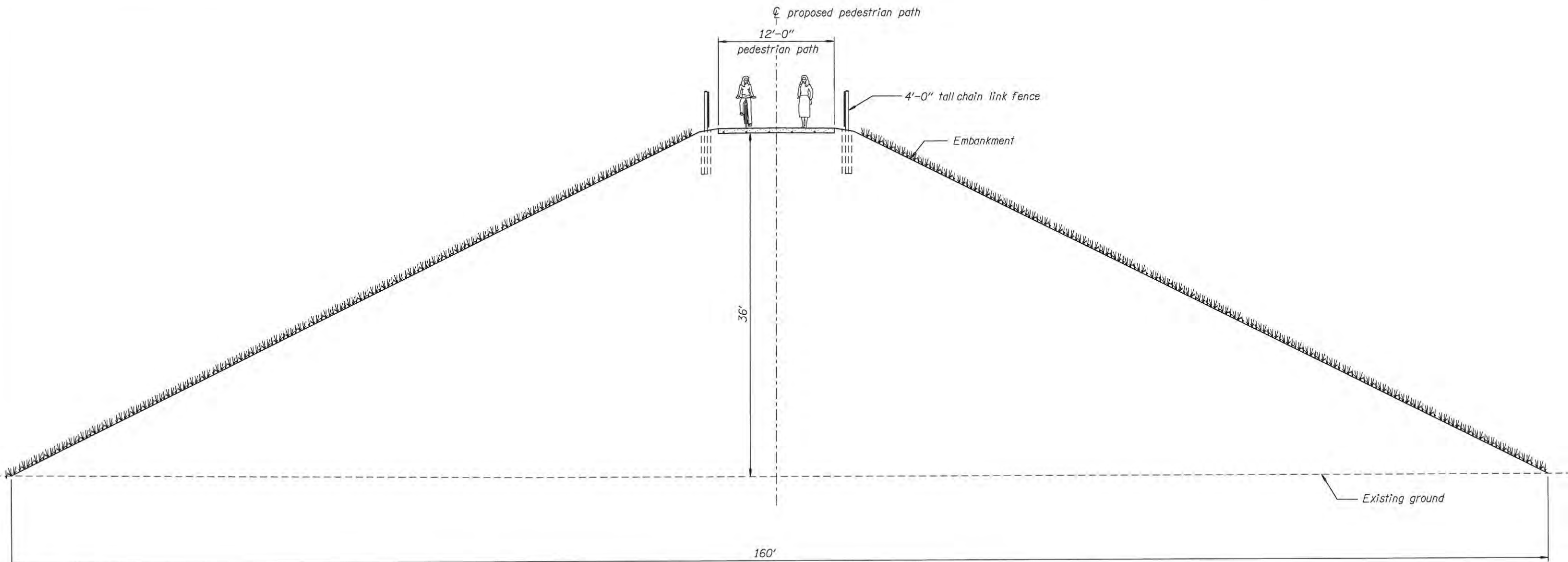


Birds eye view – Alternative SK


Salem Parkway/Kroc Center Access Feasibility Study

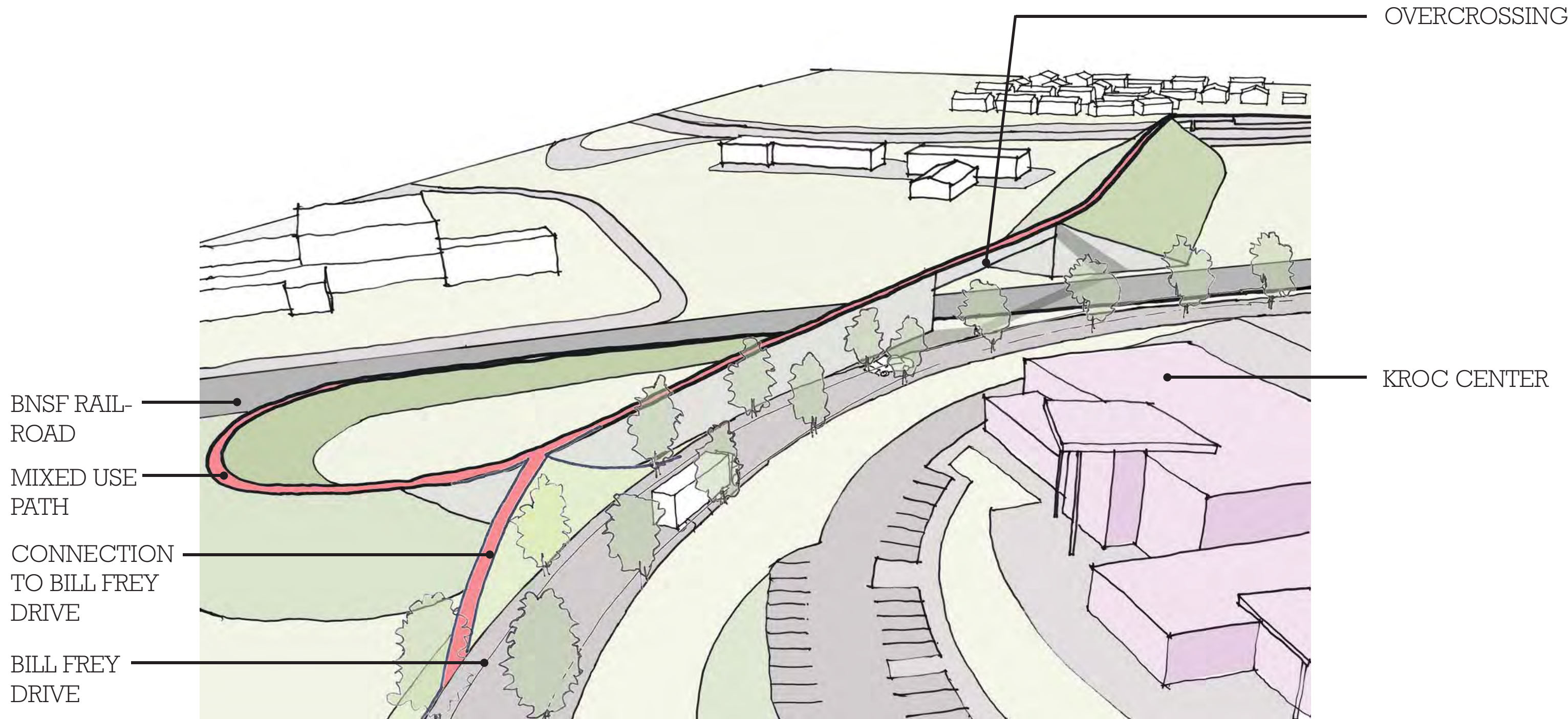
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SECTION AT EMBANKMENT
 Scale: 1"=10'

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CONCEPT "8K"	SHEET NO. 1



Birds eye view – Alternative SK

Salem Parkway/Kroc Center Access Feasibility Study

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Appendix B - Evaluation Matrix

Appendix B
Salem Parkway-Kroc Center Access Feasibility Study
DRAFT Evaluation of Alternatives November 5, 2012

Objective	Description	Weighting	Alternative						Rationale
			H	H weighted	UC	UC weighted	SK	SK weighted	
Objective 1: Safety for Users of the Facility									
Criterion 1a: Minimizes the potential for vehicle conflicts at facility crossings.	This criterion will evaluate the number of potential controlled and uncontrolled vehicle crossing points (i.e. locations where there could be a conflict between motor vehicles and pedestrians/bicyclists along the facility or at the end(s) of the facility.) The evaluation will consider a trip from a location northwest of the Salem Parkway to the Kroc Center.	0.213	4	0.852	6	1.278	6	1.278	Alternative H has 1 controlled crossing at Salem Parkway and Verda Lane, where there are known red-light runs that would put pedestrians and cyclists at greater risk relative to other Alternatives. Alternative H also has two uncontrolled crossings at Bill Frey Drive and Mainline Drive. Alternative UC and SK have no controlled crossings, and 1 uncontrolled crossing at Bill Frey Drive.
Criterion 1b: Facility meets project design criteria.	AASHTO, ODOT, and BNSF design guidelines define standards for width, grade, clearance, etc. All alternatives will be designed following these guidelines, but some may require minor exceptions (e.g. horizontal curves).	0.010	4	0.040	4	0.040	4	0.040	No Alternative requires a major design exception
Criterion 1c: Personal safety and security	Qualitative assessment of whether the facility creates isolated areas, or has obscured views or confined areas; or (conversely) provides a more safe and secure environment. This criterion considers both the user of the facility and the impact of the facility on the surrounding area.	0.188	4	0.752	2	0.376	0	0.000	With Alternative H the user is at-grade, not confined, and has full sight of the trail the entire length. Alternative UC creates a point of isolation between the ramp structure at Shady Lane and Salem Parkway. Alternative UC has both elevated and underground structure that would create confined points, but is at-grade midway between cut and fill, within the industrial area south of Salem Parkway, allowing the user ground access. Alternative SK creates points of isolation between the multi-use path along Salem Parkway and Salem Parkway itself, and at the ramp between BNSF rail line and Bill Frey Drive. From a user's standpoint, they would be on an elevated structure with limited sight-distance (due to two ramps at either end) and in a confined space along the elevated structure.
Objective 2: Directness of Route									
Criterion 2: Reduce the potential for out-of-direction travel for bicyclists and pedestrians.	Bicyclists and pedestrians are not inclined to travel out-of-direction, which can lead to crossing unsafely across the Salem Parkway and/or railroad tracks. They prefer the most direct route. This criterion evaluates how well the facility provides a direct route for pedestrians and bicyclist to the Kroc Center. Trip length and the number of households within a prescribed distance will be evaluated for each alternative. For trip length, the evaluation will consider a trip starting from the intersection of Brooks Ave and Candlewood Drive in Keizer (located north of the Salem Parkway multi-use path) and going to the Kroc Center.	0.065	2	0.130	4	0.260	3	0.195	Alternative H is direct because the path itself is non-circuitous; however, it would require out-of-direction travel for users coming from Brooks Ave. and Candlewood Drive. Alternative UC is somewhat circuitous in its path and requires a modest amount of out-of-direction travel relative to other Alternatives. With Alternative SK, the crossing itself is very circuitous because of the two ramps, the user doesn't have full sight of the crossing length, but it also does not require out-of-direction travel considering Brooks Ave. and Candlewood Drive as the origin point.
Objective 3: Facility integrates with the Larger Multi-Modal System									
Criterion 3: Facility ties in with existing and planned bicycle, pedestrian, transit, and roadway system.	One purpose of the study is to identify facilities that tie-in with the larger existing and planned bicycle, pedestrian, and roadway systems. This criterion will assess how well each facility meets this objective.	0.164	3	0.492	4	0.656	3	0.492	Salem Industrial Drive is proposed to have bike lanes, but does not presently. Alternative H implements multi-use path planned within the City of Salem TSP. Alternative UC provides a new crossing that ties in with the path along Salem Parkway, and implements part of the planned path in the Claggett Creek wetland area. Alternative SK connects to the path along Salem Parkway and provides a new crossing. It does not implement any part of the planned path in the Claggett Creek wetlands area.

Appendix B
Salem Parkway-Kroc Center Access Feasibility Study
DRAFT Evaluation of Alternatives November 5, 2012

Objective	Description	Weighting	Alternative						Rationale
			H	H weighted	UC	UC weighted	SK	SK weighted	
Objective 4: Property and Environmental Impacts									
Criterion 4a: Assessment of relative overall impact to properties and structures within the study area.	This will look at the number of structures or properties potentially impacted. This is a preliminary assessment and not a full impact assessment. Because impacts from an alternative can vary substantially based on its location and design (i.e. whether a facility is constructed at grade, elevated on structures, or on berms), professional judgment will be used to assess whether there could be relatively minor, intermediate, or considerable impacts.	0.098	4	0.392	2	0.196	2	0.196	Alternative H would have no property or structural impacts. Alternative SK has the greatest footprint and impact to properties; although it avoids impacts to any structures. Alternative UC has a footprint impact that is less than SK, but would impact the greatest number of structures of the three alternatives.
Criterion 4b: Minimizes impacts nearby wetlands, Claggett Creek, and other natural resources in the study area	This is based on engineering judgment on the amount of storm water mitigation and other mitigations that may be needed for the alternative.	0.032	2	0.064	3	0.096	4	0.128	Alternative H has the greatest potential to impact the Claggett Creek wetlands, both during construction staging and in terms of permanent stormwater runoff. Alternative UC includes a path within the wetlands area and has some potential for impact during construction and permanently in the form of additional stormwater runoff. Alternative SK is away from the wetlands and does not have potential for impact to it.
Objective 5: Transportation and Utility Impacts									
Criterion 5: Positive-to-no impact to existing and planned transportation facilities and utilities during construction or as a permanent impact.	This is based on engineering judgment on the impact to utilities (BPA power lines), transportation facilities (railroad track and rail operations; Salem Parkway and other streets within the study area); and other infrastructure within the study area.	0.049	4	0.196	2	0.098	0	0.000	Alternative H has no impact to existing or planned transportation or major utilities. Alternative UC would disrupt railroad operations during construction of the under-crossing. Alternative SK would require raising both PGE and BPA power lines, which is a substantial temporary impact.
Objective 6: Public Support									
Criterion 6: Public support of each alternative based on comments at public "listening stations", surveys, website comments, and public open house comments.		0.090	N/A		N/A		N/A		Recommend leaving this criterion open until a public open house and survey is conducted. Those from the public who stopped at the listening station overwhelmingly preferred Alternative H, likely because they mistakenly thought it would be built in conjunction with a new roadway as well, which is not true.
Objective 7: Cost									
Criterion 7: Preliminary cost estimates of the alternatives		0.090	4	0.360	3	0.270	2	0.180	Alternative H is the least cost; Alternative UC is in the middle; and Alternative SK has the greatest cost due to the greatest amount of structure.
Objective 8: Ability to Phase Project									
Criterion 8: Sub components of the project can be phased and have independent utility for users	Due to the availability of funding, it may be advantageous to have a set of facilities that can be constructed in phases. If phased, then each phase should have independent utility (i.e. serve the public) until later phases can be constructed.	0.010	0	0.000	0	0.000	0	0.000	Alternative H could not be staged. Alternative SK and UC could be staged, but each phase would not have independent utility. There was no differentiation found with this criterion.
Weighted Totals									
				3.28		3.27		2.51	From highest scoring to least: Alternative H, Alternative UC, and Alternative SK.

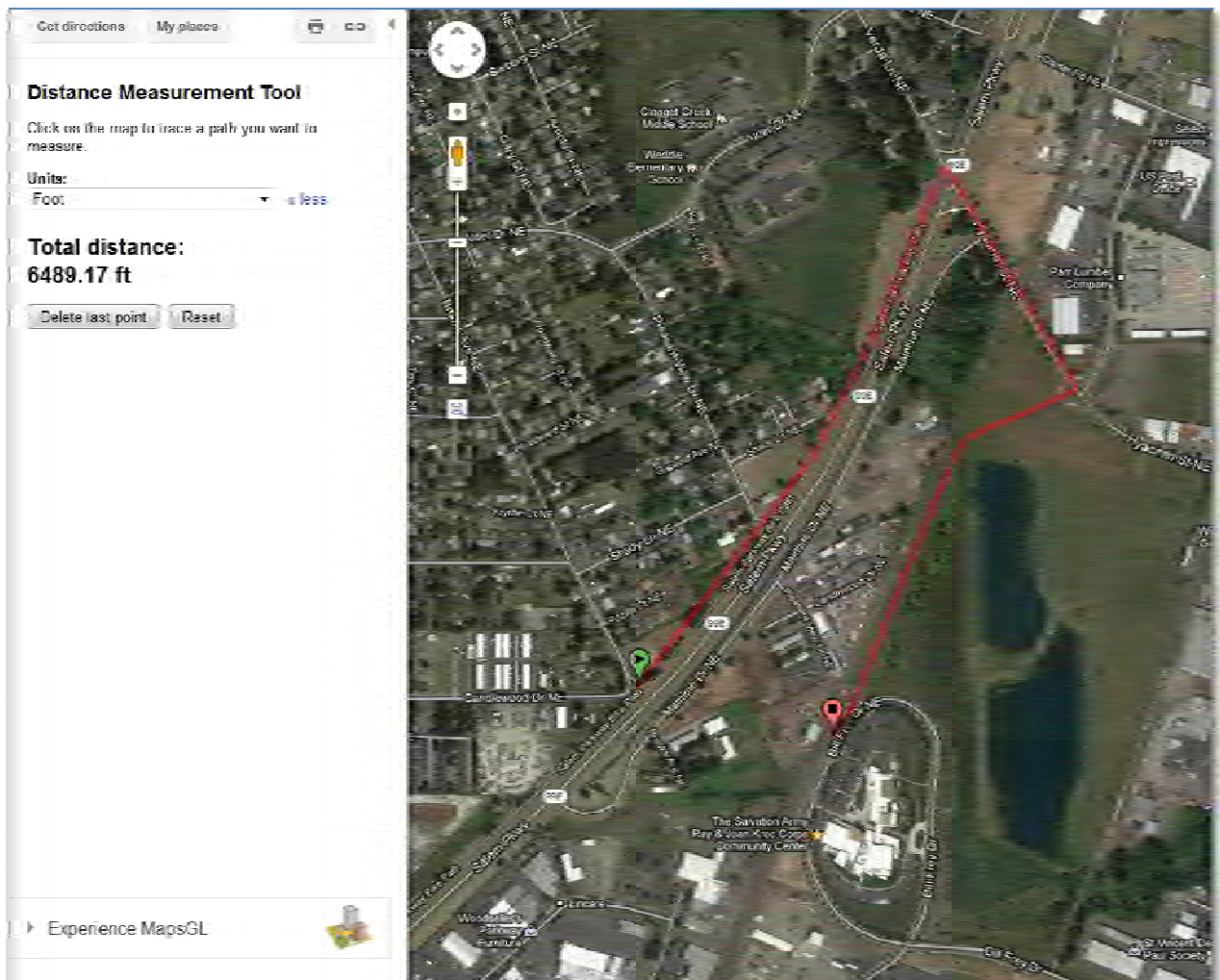
Appendix C - Crossing Distances

Appendix C Comparison of Travel Distances

All start at Brooks Ave. and Candlewood Drive

Alternative	Feet	Miles
Alt H	6,490	1.23
Alt UC	4,360	0.83
Alt SK	3,920	0.74
No build - via Salem Industrial Drive	8,815	1.67
No build via Hyacinth/Portland Rd.	11,957	2.27

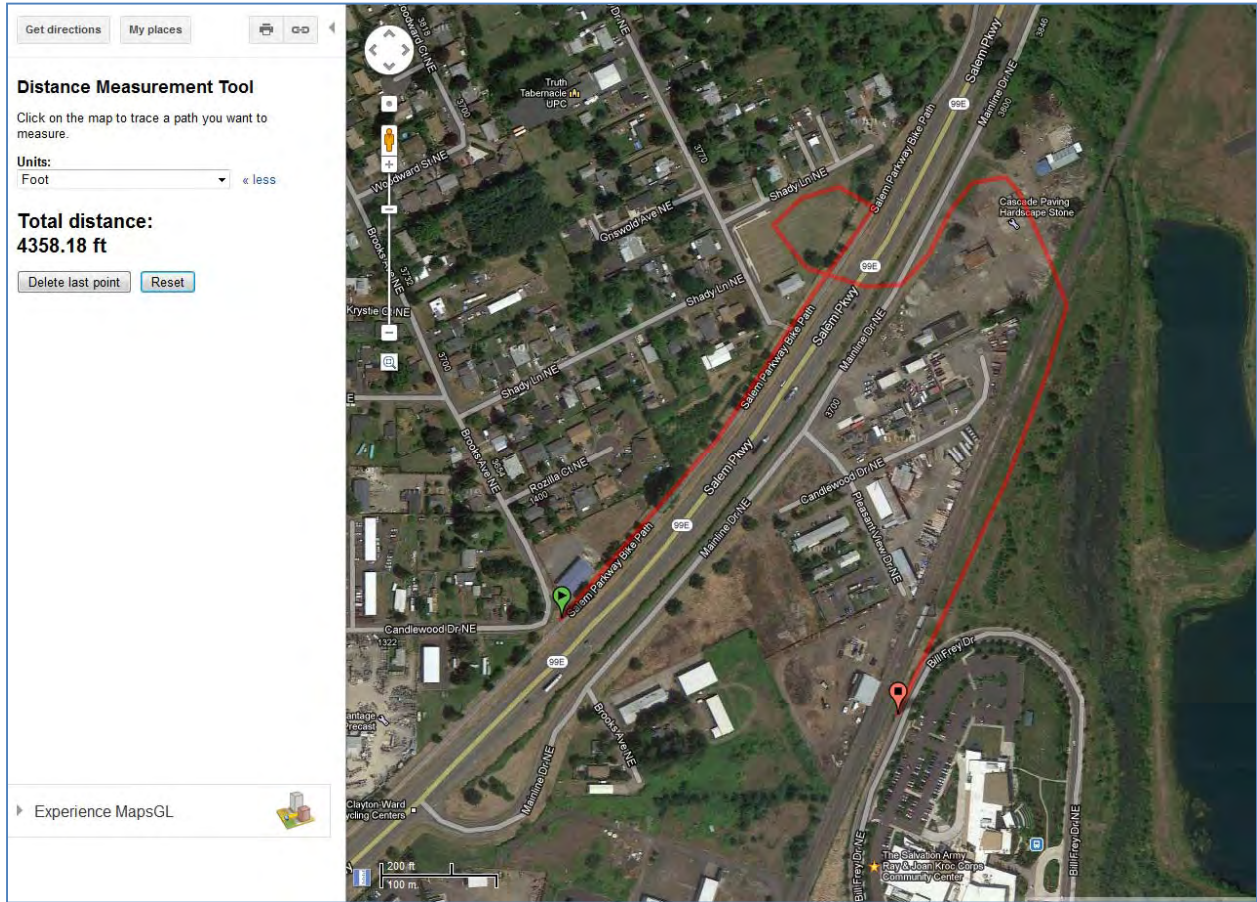
Alt H - 6490 feet (1.23 miles)



Appendix C Comparison of Travel Distances

All start at Brooks Ave. and Candlewood Drive

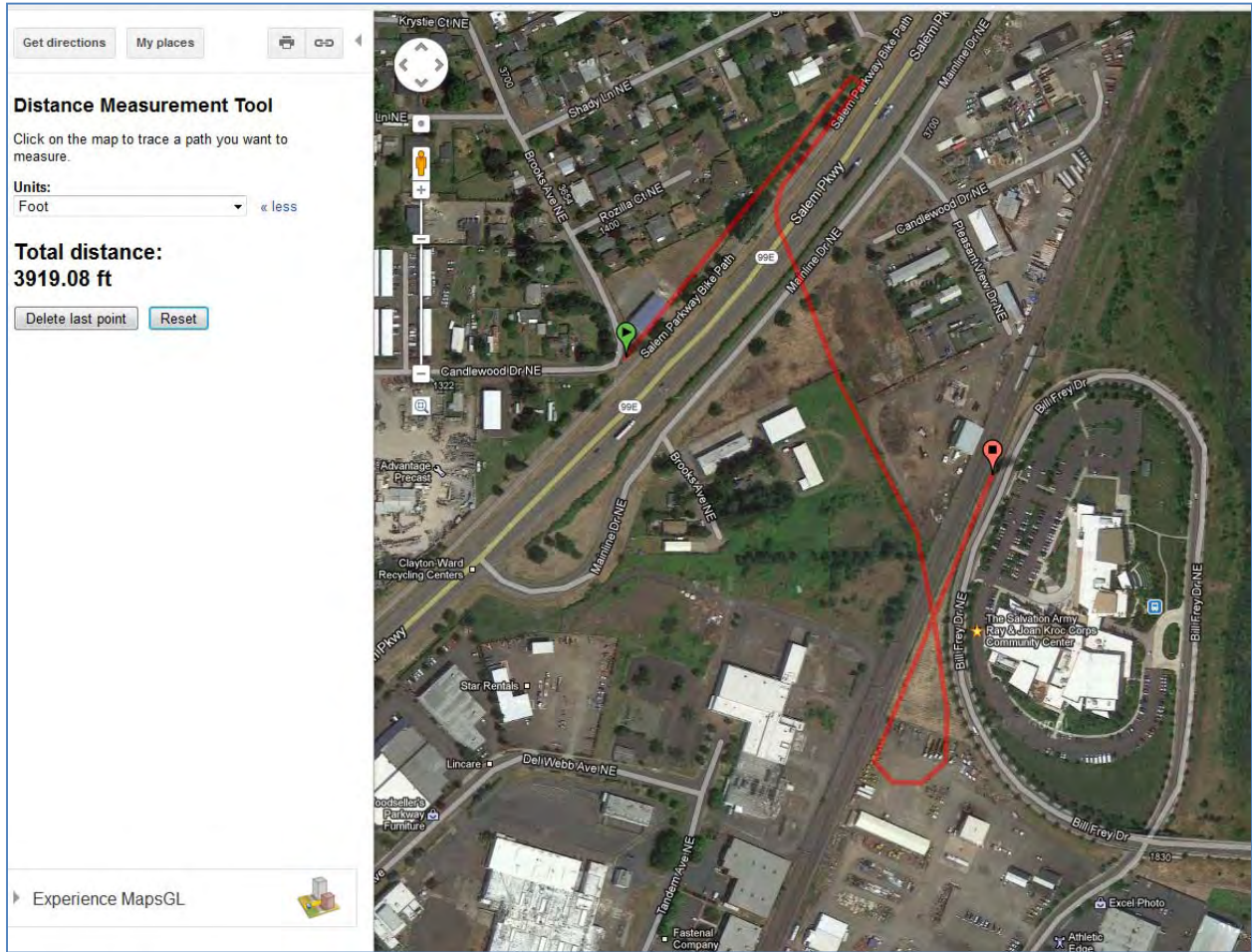
Alternative "UC" - 4360 feet (0.83 miles)



Appendix C Comparison of Travel Distances

All start at Brooks Ave. and Candlewood Drive

Alternative "SK" - 3920 feet (0.74 miles)



Appendix D - Sample Bridge Photos

Prestressed Precast Concrete Box Girders



Slant-leg Cast-in-Place Post-Tensioned Concrete Slab Bridge



Prestressed Precast Concrete Girders



Prestressed Precast Concrete Box Girders



Prestressed Precast Concrete Box Girders



Prestressed Precast Concrete Girders



Prestressed Precast Concrete Girders



Prestressed Precast Concrete Box Girders



Steel Through Truss



