

OR 22 Access Management Plan in Mill City



Prepared for



**ODOT &
City of Mill City**

Prepared by

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The contents of this document do not necessarily reflect views or policies of the State of Oregon.

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1. INTRODUCTION

The goal of this *Access Management Plan* is to identify short-, medium-, and long-range strategies for access management along OR 22 (North Santiam Highway) within the city limits of Mill City, Oregon that promote safe and efficient roadway operation. Access management is the practice of balancing access and mobility based on a roadway's functional classification while also preserving the safety and efficiency of the transportation system. For instance, few access points are provided along interstate freeways to provide for high-speed travel while numerous access points are provided on local streets as entry points to residential properties.

The statewide Transportation Planning Rule provides the following access management definition:

“Access Management” means measures regulating access to streets, roads and highways from public roads and private driveways. Measures may include but are not limited to restrictions on the siting of interchanges, restrictions on the type and amount of access to roadways, and use of physical controls, such as signals and channelization including raised medians, to reduce impacts of approach road traffic on the main facility.”¹

Research has shown that effective access management can provide the following benefits²:

- Up to 50-percent reduction of crashes
- 23- to 45-percent increase in roadway capacity
- 40- to 60-percent reduction in travel time and delay

This section provides the study area, project background to date, and project objectives. This *Access Management Plan* includes a summary of the applicable statutes, rules, plans, and policies, existing conditions (roadway, land use, approaches, and traffic), and access management strategies for the short-, medium- and long-range.

1.1. Study Area

OR 22 within the city limits of Mill City (Milepost 29.46 through 30.59) is the primary study corridor as illustrated in Figure 1. Secondary study roadways that intersect or parallel OR 22 are also included in the study area because they directly and indirectly impact the operations of the highway. The characteristics of these study area roadways are described in Section 3.1.

¹ Oregon Administrative Rule 660-012 (*Division 12- Transportation Planning*). Oregon Land Conservation and Development Department. March 15, 2007.

² *Access Management Manual*. Transportation Research Board, National Academy of Sciences, 2003.





MILL CITY, OREGON

Figure 1 - Study Area


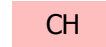


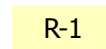
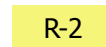




*OR 22
Access Management Plan*

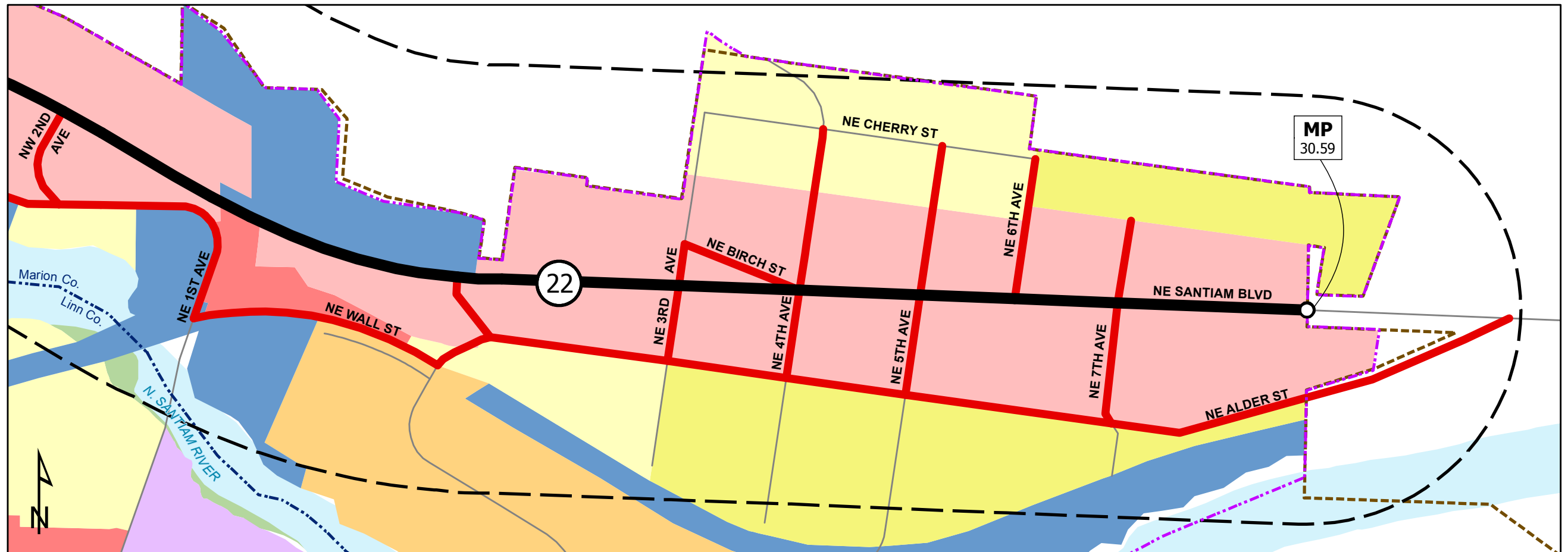
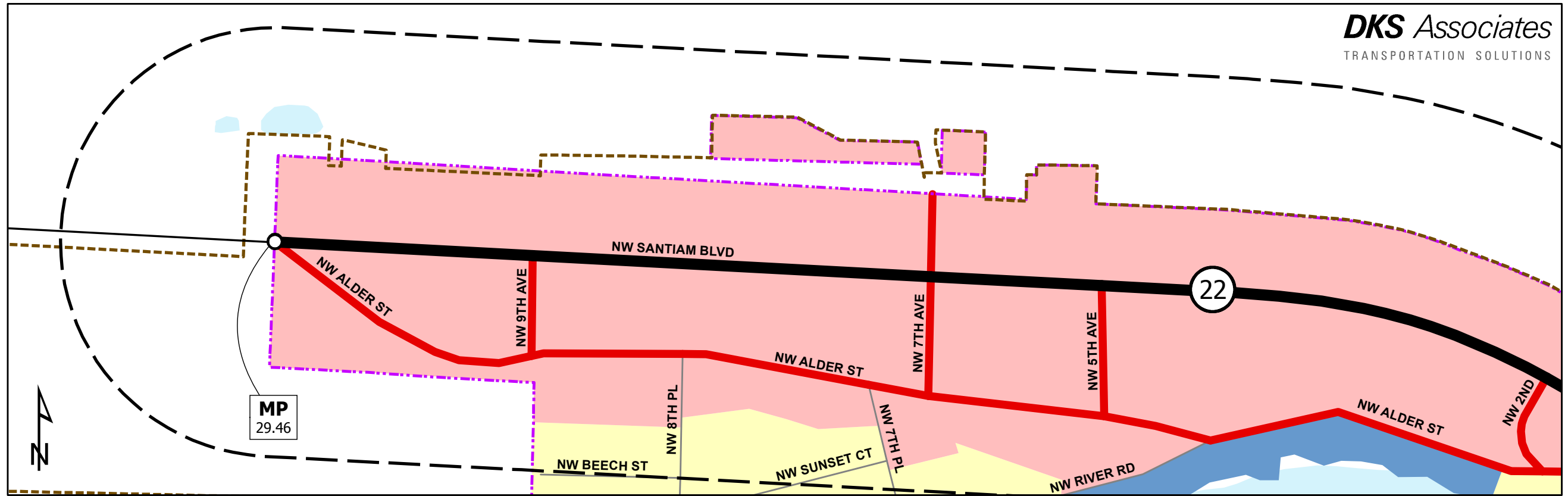
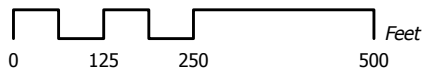
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Legend

-  Study Corridor
-  Secondary Study Roadways
-  Streets
-  500' Proximity to Study Corridor

ZONING

-  CC Central Commercial
-  CH Highway Commercial
-  IND Industrial
-  PUB Public
-  R-1 Residential Single
-  R-2 Residential Multiple
-  SPD Special Planned District
-  City Limits
-  County Boundary
-  Mill City Urban Growth Boundary



1.2. Project Background

This *Access Management Plan* documents the efforts of the Oregon Department of Transportation (ODOT)³ and the City of Mill City who have been working together to develop access management strategies for OR 22 within the city limits. Since OR 22 is a state facility under ODOT's jurisdiction, ODOT is responsible for reviewing and approving access permits for the highway. Mill City is responsible for developing land use zoning throughout the City, including the land directly abutting OR 22, and for reviewing and approving the land uses (including site plans and circulation) along OR 22. The City of Mill City and ODOT proposed the development of this *Access Management Plan* to address the following issues using strategies that benefit the City, ODOT, and property owners along OR 22:

- **Access Points:** Years of uncontrolled access along OR 22 and adjacent local streets has resulted in many driveway approaches that do not have ODOT access permits and that are not constructed to current ODOT standards (e.g. location, width, turning radii). This has resulted in numerous conflict points along the corridor.
- **Parking:** Although parking is not allowed along OR 22 a number of motorists park on the shoulders when accessing property uses along OR 22. Performing parking maneuvers (e.g. backing into a traffic lane) along OR 22 poses safety risks to those parking and to through traffic on OR 22.
- **Pedestrian and Bicycle Circulation:** A need has been identified to plan for pedestrian and bicycle circulation along OR 22 and to provide connectivity between OR 22 and Mill City's downtown and residential areas.
- **Local Street Network:** Local traffic could use Alder Street as a parallel route to OR 22 if it is improved along with its access points at OR 22. This is particularly important during summer and winter weekends when traffic volumes on OR 22 are at their highest. These improvements would also allow highway traffic to use Alder Street as an alternate route in the event of a traffic incident or major emergency on OR 22 in Mill City.
- **Clear Standards and Guidelines:** Since strict adherence to current ODOT access spacing standards does not support existing land uses, this plan is needed to provide clear standards and guidelines to property owners and developers while also supporting the City's future development vision.

1.2.1. Public Involvement

Collaboration with the public is a key component of this *Access Management Plan*. In order to gather input and meet the current and future needs of its citizens, property owners, and business owners the City of Mill City held the following public forums during the past three years:

- June 8, 2004: Planning Commission Workshop/Open House
- February 10, 2005: Concept Plan Open House
- March 3, 2005: Concept Plan Open House
- March 15, 2005: Public Hearing
- May 23, 2007: City Council and Planning Commission Open House/Public Hearing
- June 20, 2007: City Council and Planning Commission Public Hearing

In addition to these open forums and public hearings, City staff met with individual property owners to discuss the impacts of the draft *Access Management Plan's* impact on specific driveways and property development. The Mill City Planning Commission also reviewed and discussed various components of the *Access Management Plan*, including the preliminary

³ Mill City is located within ODOT Region 2.

engineering concept plan, streetscape elements, and the zoning and subdivision code amendments during its regularly scheduled monthly meetings from January 2005 to June 2007. The Commission invited and considered testimony from its consultants and from interested citizens during those regular meetings.

Appendix A includes materials (e.g. notices, agendas, and minutes) from the public involvement process.

1.3. Project Objectives

The objectives of this *Access Management Plan* include the following:

- Improve safety, mobility and operating efficiency of OR 22 consistent with its designation as a state Freight Route.
- Comply with state policies, administrative rules (OAR 734, Division 51, Highway Approaches, Access Control, Spacing Standards and Medians), and roadway design standards; and comply with local standards, plans, and policies.
- Bridge the gap between the access permitting and land use approval processes conducted by ODOT and Mill City.
- Identify access management strategies in the project area for all modes (vehicles, bicycles, and pedestrians) that provide safe access to local streets and properties and that support existing and future land uses.
- Improve the access to and use of Alder Street as a parallel route to OR 22 for local trips.
- Identify parking improvements that support existing land uses and that deter motorists from parking along OR 22.
- Involve local citizens and affected property/business owners in the access management process.
- Incorporate this *Access Management Plan* as a part of the Mill City *City Code*.
- Clearly identify future improvements and funding strategies that can be used to guide new development along OR 22 and to obtain funding for needed public roadway improvements.

2. STATUTES, RULES, PLANS, AND POLICIES

A primary goal of this *Access Management Plan* is to conform to state and local statutes, rules, plans, and policies already in place. This section includes a summary of relevant state, county, and city documents that were consulted during the development of this plan.

2.1. Oregon Statutes and Rules

Oregon state law pertaining to transportation is included in the Oregon Revised Statutes (ORSs) and the Oregon Administrative Rules (OARs). The ORSs consist of statutes, often referred to as laws, and the OARs include rules that are standards or regulations meant to interpret or prescribe the statutes. Table 1 highlights the statutes and rules that pertain to access management.

Table 1. Oregon Access Management Statutes and Rules

Statute/Rule	Access Management Content
ORS 374: Control of Access to Public Highways ⁴	Addresses access control of approaches on highways: Intergovernmental agreements for public county/city approaches Permits for private approaches
OAR 660-012: Transportation Planning Rule (TPR) ⁵	Requires all transportation system plans include access control measures that are consistent with a roadway’s functional classification e.g. spacing standards, median control guidelines
OAR 734-051: Highway Approaches, Access Control, Spacing Standards, and Medians ⁶	Key sections within Division 51, whose purpose is to provide a safe and efficient transportation system by using access management practices: 0035: Administration of Rules 0115: Access Management Spacing Standards for Approaches 0155: Access Management Plans & Interchange Area Mgmt Plans 0275: Removal of Approaches 0285: Project Delivery

It is important to note that the Oregon statutes and rules are not intended to deny reasonable access to any property abutting a state highway or to affect existing grandfathered approaches unless there are safety hazards or proposed changes in land use that impact the function of the approach or the property has reasonable alternative access off the state highway.

The location, size, and placement of approaches to the state highway system are determined through the permitting process. Administrative rule as defined by OAR 734-051 provides guidance and approval criteria for access permits. Additionally, conditions of approval of an approach road permit may be necessary and may require mitigation measures. The need for mitigation measures is based on anticipated safety or operational characteristics associated with the site-generated traffic and the permitted turning movements.

⁴ *Oregon Revised Statute Chapter 374 (Control of Access to Public Highways)*. Legislative Counsel Committee of the Oregon Legislative Assembly. 2005 ed.

⁵ *Oregon Administrative Rule 660-012 (Division 12- Transportation Planning)*. Oregon Land Conservation and Development Department. March 15, 2007.

⁶ *Oregon Administrative Rule 734-051 (Division 51- Highway Approaches, Access Control, Spacing Standards, and Medians)*. Oregon Department of Transportation. March 15, 2007.

2.2. Oregon Department of Transportation Plans

ODOT provides statewide guidance on access management in two of their plans, which are discussed in this subsection: the *Oregon Transportation Plan* and the *Oregon Highway Plan*.

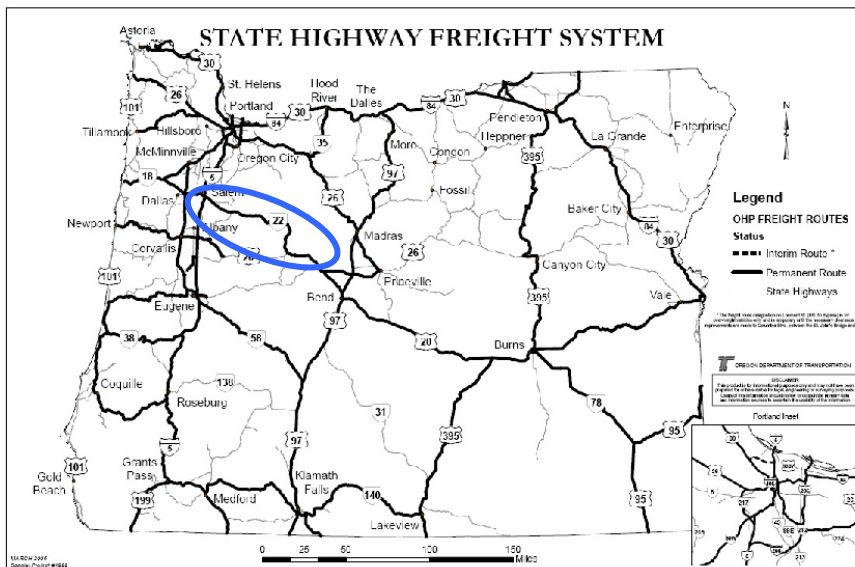
2.2.1. Oregon Transportation Plan (OTP)

The *Oregon Transportation Plan*⁷ provides a framework for planning, development, and management of an integrated statewide multi-modal transportation network that includes highways, bicycles, pedestrians, aviation, public transportation, and railways. One of the capacity and operational efficiency strategies in the *OTP* includes the use of access management to protect the integrity of statewide transportation corridors. More specific guidance on implementing this strategy is included in the *Oregon Highway Plan* and local plans discussed herein.

2.2.2. Oregon Highway Plan (OHP)

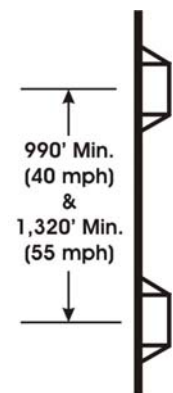
The *Oregon Highway Plan*⁸, which is an element of the *OTP*, provides a refinement of the *OTP* goals and policies with respect to the state highway system over the next 20 years. Goal 3, one

of the five main goals in the *OHP*, focuses solely on access management. It includes policies on highway classification, spacing standards, median placement, interchange access, deviations to standards, and appeals. The *OHP* classifies OR 22 as a statewide rural highway on the national highway system within the study area. It also identifies it as both a state freight route and a federally designated truck route.



Key access management policies in the *OHP* that apply to the study area include the following:

- OR 22 should provide for the high-speed, continuous flow of through traffic.
- Direct access to abutting properties is a minor objective.
- Access rights should be purchased as the opportunity arises.
- Minimum spacing between unsignalized approaches is 990 feet where the posted speed is 40 mph and 1,320 feet where the posted speed is 55 mph.
- Spacing standards do not apply to legal approaches until redevelopment, change of use, or highway construction/reconstruction/modernization occurs.
- Avoid conditions that warrant the installation of a traffic signal.



⁷ *Oregon Transportation Plan*. Oregon Department of Transportation, Planning Section, Transportation Development Division. Adopted Sept. 20, 2006.

⁸ *1999 Oregon Highway Plan Including Amendments November 1999 through January 2006*. Oregon Department of Transportation. Aug. 2006.

- Consider the installation of non-traversable medians where safety could be improved (e.g. locations with inadequate sight distance).

2.3. Marion County Policies and Standards

Marion County includes access management policies and standards in the following documents:

- *Marion County Rural Transportation System Plan*⁹: Includes access spacing standards and other access management practices (e.g. approach consolidation).
- *Marion County Comprehensive Plan*¹⁰: Includes general development and access policies.
- *Ordinance No. 651*: Ordains requirements for access permits, engineering design, maintenance, and fees.
- *Engineering Standards*¹¹: Includes standards on access location, surfacing, width, slope, and drainage.

Marion County's access management guidelines apply to county roadways, including NE Alder Street in Mill City until such time jurisdiction for NE Alder Street is transferred to the City of Mill City. In particular, Marion County provides the following minimum spacing standards between an approach and any intersection with a state highway: 300 feet for major collectors, 200 feet for minor collectors, and 150 feet for local roads.

2.4. City of Mill City Policies and Standards

The City of Mill City provides driveway access standards and horizontal alignment and spacing standards between intersections in its adopted *Public Works Design Standards*. Section 2.14 ("Horizontal Alignments") of the *Design Standards* includes intersection spacing and alignment requirements that apply to all roadways under the City's jurisdiction. Standards for driveway widths, spacing, and design are included in Sections 2.28 and 2.29 of the *Design Standards*. Key City standard requirements include the following:

- Driveways for corner properties shall be located on the lowest classification street and as far from the intersection as possible.
- Residential driveways shall be located a minimum of 30 feet from an intersection or one-half the lot frontage, whichever is greater.
- Commercial driveways shall be located a minimum of 20 feet from an intersection with a minor street and a minimum of 30 feet from an intersection with a collector or arterial street.
- Commercial driveways shall have a minimum 22-foot separation between driveways.

Once this *Access Management Plan* is adopted, the City Engineer recommends the City of Mill City amend its *Public Works Design Standards* to require compliance with this *Access Management Plan* and require driveways to be closed or located per the Implementation Plan (Section 5).

⁹ *Marion County Rural Transportation System Plan*. Marion County Public Works. Chapter 10. Dec. 21, 2005.

¹⁰ *Draft Marion County Comprehensive Plan, Transportation Element*. Marion County Public Works. Feb. 2006.

¹¹ *Marion County Public Works Engineering Standards*. Adopted by Marion County Board of Commissioners. April 11, 1990.

3. EXISTING CONDITIONS

This section includes an overview of the study area existing conditions and includes roadway characteristics, land use characteristics, an approach inventory, and traffic characteristics.

3.1. Roadway Characteristics

This section provides an overview of the roadway characteristics of OR 22 and its cross-streets within the project area. OR 22 and the NW 2nd/1st Avenue connector to the 1st Avenue North Santiam River bridge falls within ODOT's jurisdiction. All of the cross-streets and NW Alder Street are the responsibility of Mill City. NE Alder Street is under Marion County's jurisdiction. All of the intersections along OR 22 are stop-controlled on the cross-street. No traffic signals or stop signs are used to control traffic on OR 22.

3.1.1. OR 22

OR 22¹², also called North Santiam Highway or Santiam Boulevard, is an east-west roadway classified as a Statewide Highway by ODOT¹³ and classified as a Rural Principal Arterial per the federal functional classification system¹⁴. It extends from western Oregon (US 101 in Hebo) to central Oregon (US 20 at the Santiam Junction) and provides access to collectors and local streets in northern Mill City within the project area. Key characteristics of OR 22 in the project area include the following:

- Three-lane roadway with one travel lane in each direction and a center two-way left-turn lane through most of study area:
 - West of NW 9th Ave to East of NW 2nd Ave
 - NE Alder St (west) to east of NE 7th Ave
- Two-lane roadway with one travel lane in each direction in rest of project area
- Dedicated eastbound right turn lane at NW 2nd Avenue
- No on-street parking
- No curbs or sidewalks
- No clear delineation of public roadway or private property approach (driveway) limits where they abut OR 22
- Bicycles are accommodated on the shoulder
- Sub-standard line of sight and rockfall safety zone on OR 22 between approximate MP 30.0 and 30.2
- Gradual "S"-curve between NW 5th Avenue and NE Alder Street (west)
- No significant grades or vertical curvature of the roadway
- Guardrail on the south side of OR 22 where the embankment drops off steeply between NW 2nd Avenue and NE Alder Street (west)



Looking West at OR 22 from NE 7th Ave

¹² Although locals often refer to OR 22 as Highway 22, ODOT refers to the section of OR 22 within the project area as Highway 162 for internal record keeping purposes.

¹³ 1999 Oregon Highway Plan, Including Amendments November 1999 through January 2006. Oregon Department of Transportation, Aug. 2006.

¹⁴ Functional Classification and National Highway System Status on Oregon State Highways. Oregon Department of Transportation, Road Inventory and Classification Services Unit, June 23, 2006.

- Posted speed of 40 mph from west of NW 7th Ave to east of NE 7th Ave
- Posted speed of 55 mph west and east of 40 mph zone

3.1.2. OR 22 Cross-Streets

The cross-streets along OR 22 in the project area are typically two lane roadways with one lane in each direction. The City of Mill City classifies NW 2nd Avenue as a Rural Major Collector and NE Alder Street as a Minor Collector¹⁵. All of the other cross-streets are classified as Local Roads. The posted speed is generally 25 mph on the cross-streets.

3.2. Land Use Characteristics

Although many of the properties within the study area have already been developed, assigned land use designations are useful for determining access requirements for vacant or underdeveloped properties or for when property redevelopment occurs. Property fronting on OR 22 is zoned as Highway Commercial (CH) on both sides of the roadway throughout the entire study area (see Figure 1 in the Introduction section for zoning along and nearby OR 22). Uses permitted outright or conditionally under Single-Family Residential (R-1) or Multi-Family Residential (R-2) zoning and single-family dwellings occupied by personnel that support commercial establishments on the same property are permitted outright under CH zoning¹⁶. Commercial uses permitted under Central Commercial (CC) zoning are permitted under CH zoning based on a site plan review.

Mill City is currently in the process of updating their *City Code* to require properties zoned as CH to conform to this *Access Management Plan* and to require City review of the following uses and actions¹⁷:

- Zoning or plan amendment designation changes.
- Construction of new buildings.
- Addition of existing buildings by more than 600 square feet.
- Division or consolidation of property boundaries.
- Proposed changes in land use, development, or site circulation (including changes in inter-parcel circulation).
- Reestablishment of a property's use after discontinuance for two years or more.

3.3. Approach Inventory

A total of 12 public approaches and 71 private approaches are included in the study area and 50 of the 71 private approaches are located on OR 22. Private approaches on cross-streets were included for properties that abut both OR 22 and a cross-street. The public approaches provide connections to both commercial and residential land uses. Approximately 25 percent of the private approaches on OR 22 provide access to residential land uses.¹⁸ Additional residential properties are located along OR 22 but gain access to the transportation network via city cross-streets instead of the highway. The other 75 percent of private approaches on OR 22 provide access to commercial properties with a variety of uses such as:

¹⁵ *Oregon Transportation Map Showing Functional Classification of Roads, City of Mill City*. Oregon Department of Transportation, Geographic Information Services, Map Distribution Unit, 2004.

¹⁶ *Mill City City Code*, Title 17: Zoning.

¹⁷ Siegel, Scot (Siegel Planning, LLC). Memorandum regarding "Mill City Code Assistance – Access Management Plan Draft Comprehensive Plan and Code Amendments" addressed to Dave Kinney (Mill City), Steve Oulman (ODOT TGM), and Sue Geniesse (ODOT TGM). Feb. 9, 2007.

¹⁸ As noted in Section 3.2, these residential properties are zoned CH and as such, are subject to potential redevelopment for commercial use.

- Dining
- Real Estate
- Retail (sporting goods, lumber, furniture, art, convenience items)
- Fueling/Auto Services
- Moose Lodge
- Banking
- Laundromat

Appendix B includes a detailed inventory of the existing study area approaches and includes details such as location, width, material, ownership, associated land use, permit status, and right-of-way reservations. All approaches are required to have an approach permit except for approaches that are considered grandfathered. Grandfathered approaches include those constructed prior to 1949 and may also include those allowed to remain open per the ODOT Region Manager as part of an ODOT improvement project prior to April 1, 2000. In the study area approximately 30 percent of the approaches have legal approach permits (with or without access deviations) and the other 70 percent are either grandfathered or illegal.

ODOT's spacing requirements (990 feet for 40 mph and 1,320 feet for 55 mph) are not met along OR 22 in the study area. OR 22 has an approach density of approximately 30 approaches per mile on the north side and 27 approaches per mile on the south side, which equates to an average approach spacing of 175 feet and 195 feet on the north and south sides, respectively. Some approaches are located closer together than these averages. There should only be approximately five approaches per mile, or 6 approaches for the entire study area, for OR 22 to comply with ODOT's spacing requirements. Table 2 lists the existing spacing between public approaches in the study area. Not considering private approaches there is only one segment between public approaches that currently meets ODOT's spacing standards and another three segments are within 10 percent of the spacing standards. Private approaches are located throughout almost all of the public approach segments.

Table 2. Public Approach Spacing in Study Area

OR 22 Segment	Segment Distance	Posted Speed (mph)	ODOT Access Spacing Standards Met?		
			Required	Difference	Met?
NW Alder St to NW 9 th Ave	570'	40	990'	-420'	No
NW 9 th Ave to NW 7 th Ave	925'			-65'	
NW 7 th Ave to NW 5 th Ave	405'			-585'	
NW 5 th Ave to NW 2 nd Ave	1,055'			+65'	Yes
NW 2 nd Ave to NE Alder St	925'			-65'	No
NE Alder St to NE 3 rd Ave	620'			-370'	
NE 3 rd Ave to NE 4 th Ave	295'			-695'	
NE 4 th Ave to NE 5 th Ave	275'			-715'	
NE 5 th Ave to NE 6 th Ave	220'			-770'	
NE 6 th Ave to NE 7 th Ave	235'			-755'	
NE 7 th Ave to NE Alder St	915'	40/55	1,320'	-75'	

Note: This table does not take into account private approaches located along each segment.

3.4. Traffic Characteristics

Traffic volume and crash data were compiled to determine the traffic characteristics of the study area. These characteristics play a key role in evaluating access management strategies so that mobility and safety can be preserved and/or enhanced.

3.4.1. Traffic Volumes

Figure 2 illustrates the annual average daily traffic (AADT) volumes on OR 22 from 1996 through 2005. The most recent data from 2005 indicates that OR 22 carries approximately 7,400 vehicles (two-way total) east of NW 2nd Avenue and 5,700 vehicles (two-way total) east of NE 4th Avenue. Over the 10-year period from 1996 to 2005 the AADT grew at approximately 1.6 percent per year east of NW 2nd Avenue and stayed fairly constant east of NE 4th Avenue.

Based on historical trends ODOT expects the AADT on OR 22 to reach 8,300 vehicles (two-way total) east of NW 2nd Avenue and 5,800 vehicles (two-way total) east of NE 4th Avenue by year 2025¹⁹. This correlates to a growth rate of less than one percent over the 20-year period from 2005 to 2025.

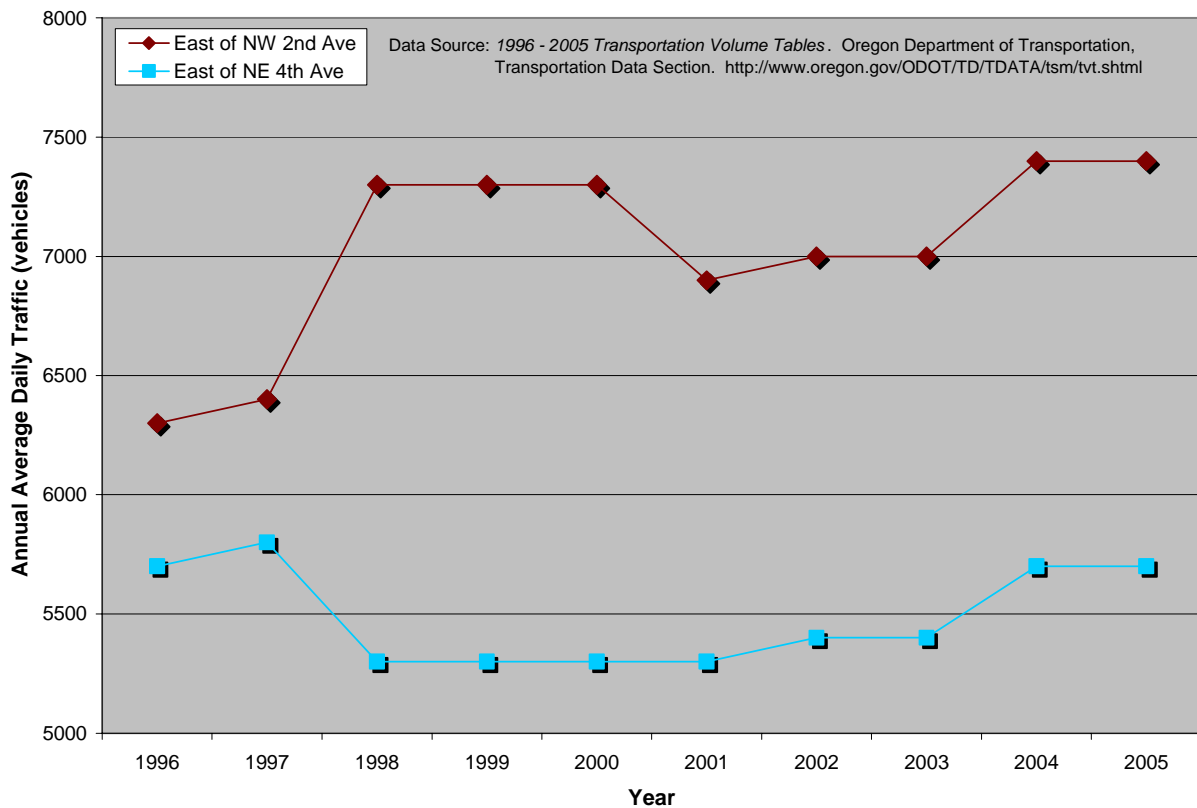


Figure 2. Annual Average Daily Traffic Volumes on OR 22

A permanent automatic traffic recorder (ATR) station is located on OR 22 approximately three miles east of Mill City. The data at this ATR indicates the following trends on OR 22 in 2005²⁰:

- The average weekday traffic is approximately 80 percent of the average daily traffic, which indicates traffic volumes are higher on the weekend.
- Traffic volumes are highest between May and September, with July peaking at approximately 162 percent of the average daily traffic.

¹⁹ 2025 Highway Future Volume Table. Oregon Department of Transportation, Transportation Development Division, Planning Section. <http://www.oregon.gov/ODOT/TD/TP/TADR.shtml>. Accessed April 9, 2007.

²⁰ 2005 ATR Trend Summary. Oregon Department of Transportation, Transportation Data Section, Traffic Monitoring.

- Traffic volumes are lowest in January.
- The 30th highest hour is approximately 23 percent of the average daily traffic.
- Passenger cars comprise approximately 90 percent of the traffic and heavy vehicles comprise approximately 10 percent (3.5 percent single unit trucks, 5 percent single trailer trucks, and 0.5 percent double trailer trucks).

The following trends may be inferred about the project area based on the ATR data:

- The ADT on OR 22 east of NW 2nd Avenue was approximately 12,000 vehicles (two-way total) in July 2005 and is expected to reach approximately 13,500 vehicles (two-way total) by July 2025.
- The 30th highest hour on OR 22 east of NW 2nd Avenue in 2005 included approximately 1,700 vehicles (two-way total).

3.4.2. Crash History

The crash data for OR 22 in the study area from 2001 through 2005 are listed in Table 3. A total of three crashes resulting in injuries occurred along the 1.13 mile section of OR 22 within Mill City during that five-year time frame. This is equivalent to a crash rate of 0.26 crashes per million vehicle miles, which is less than the 2005 statewide crash rate of 0.90 for rural principal arterials in rural cities.

The study area does not include any ODOT-designated Safety Priority Index System (SPIS) sites with rankings within the state's top ten percent. In order for a site to receive the SPIS classification there must have been three or more crashes or one or more fatalities at the same location during the previous three years. Once identified as a SPIS site, ODOT scores each site based on crash frequency, crash rate, and crash severity. The top 10 percent SPIS sites are then evaluated to determine potential improvements that will reduce crashes while also meeting ODOT's benefit-to-cost requirements.

Table 3. OR 22 Crash Data in Study Area for 2001 – 2005

Collision Type	Number of Crashes by Year ²¹						Crash Rate (per million vehicle miles)	
	2001	2002	2003	2004	2005	Total	OR 22 in Study Area	2005 Statewide Average (Rural Principal Arterial) ²²
PDO	0	0	0	0	0	0	0.26	0.90
Injury	0	0	1	1	1	3		
Fatality	0	0	0	0	0	0		
Total	0	0	1	1	1	3		

PDO = Property Damage Only

Table 4 provides a summary of the three crashes that occurred from 2001 to 2005 in the study area. All three crashes took place at a public or private approach and two of them happened on a section of OR 22 where a center two-way left turn lane is not currently provided.

²¹ PRC Report for North Santiam Hwy #162 (Route 22) from MP 29.46 to MP 30.59. Oregon Department of Transportation, Transportation Data Section, Crash and Analysis Reporting Unit, March 15, 2007.

²² 2005 State Highway Crash Rate Tables. Oregon Department of Transportation, Transportation Data Section, Crash Analysis and Reporting Unit, Aug. 2006.

Table 4. OR 22 Crash Details for 2001 - 2005

Crash Location	# of Injuries	Crash Details
Driveway (MP 30.16)	4	Motorist turned left from highway in front of oncoming vehicle who had the right-of-way*
Driveway (MP 30.17)	1	Motorist improperly tried to pass a vehicle under unsafe conditions*
NE 4 th Avenue	1	Motorist ran off road and hit a legally parked car on NE 4 th Avenue

* This crash occurred on a section of OR 22 that does not have a center two-way left turn lane for vehicle refuge.

3.5. OR 22/NW 2nd Avenue Traffic Operations

A study, which is included in Appendix C, was conducted in 2004 to evaluate the existing and future traffic operations of the OR 22/NW 2nd Avenue intersection²³. NW 2nd Avenue is classified as a Rural Major Collector whereas all the other cross-streets in the study area are Minor Collectors or Local Roads. Additionally, NW 2nd Avenue is the closest access point to N 1st Avenue, which is the only roadway in the City that crosses the North Santiam River. Downtown and the majority of Mill City’s residential neighborhoods are located south of the Santiam River.

The key recommendation from the study is to install a merge divider on OR 22 at NW 2nd Avenue to reduce conflicts and lower the volume-to-capacity ratio of the intersection. Although existing and design hour volumes for year 2022 meet traffic signal Warrant 1- Case B at this intersection the installation of an isolated traffic signal in a rural area disrupts driver expectancy and increases safety concerns. The study recommends the following design features for the merge divider based on year 2022 traffic conditions²⁴:

- 200-foot westbound left turn lane
- 200-foot northbound left turn lane
- 660-foot westbound acceleration lane to accommodate northbound left turns

Another alternative for improving traffic operations at this intersection that may be considered during project development would include the construction of a roundabout on OR 22 at the intersection with NW 2nd Avenue. A preliminary analysis conducted by ODOT staff of a three-leg, single-lane roundabout at this location indicated that such an improvement could provide for acceptable operation through the year 2027.

When considering this alternative, it should be recognized that the right-of-way needs associated with a roundabout may be very different than those previously identified for the proposed highway improvements and that the ability of the assumed 140-foot diameter roundabout with associated 25 mph design speed to adequately accommodate freight movement must still be verified. Also, ODOT roadway design standards may change during the period prior to project development.

²³ Springer, Carl and Sean Kennedy (DKS Associates). Memorandum regarding “Mill City Traffic Analysis Study” addressed to Steve Ward (Westech Engineering). Feb. 24, 2004.

²⁴ These design values do not include required taper lengths or reverse curve lengths.

3.6. Existing Conditions Summary

Findings for the existing conditions along OR 22 in Mill City include the following:

- A center two-way left turn lane currently provides refuge throughout most of the study area for vehicles turning from or onto OR 22.
- The existing land uses along OR 22 are consistent with Mill City's *City Code*.
- The spacing between existing approaches on OR 22 falls significantly short of ODOT's access spacing standards for a rural statewide highway. There should only be a maximum of 6 approaches spaced at a minimum of 990 feet (or 1,320 feet at the east end) per ODOT's standards instead of 62 approaches (12 public, 50 private).
- In 2005 the AADT on OR 22 was measured at 7,400 vehicles (two-way total) east of NW 2nd Avenue and 5,700 vehicles (two-way total) east of NE 4th Avenue. The traffic volume on OR 22 is approximately 60 percent higher than the AADT during the month of July. The AADT is expected to grow less than one percent per year between 2005 and 2025.
- The crash rate on OR 22 in the study area was 0.26 crashes per million vehicle mile for 2001 to 2005, which is less than the 2005 statewide crash rate of 0.90 for similar facilities.
- A 2004 study recommended the installation of a merge divider at the OR 22/NW 2nd Avenue intersection that provides westbound and northbound left turn lanes and a westbound acceleration lane for northbound traffic turning left. ODOT staff is also willing to consider a roundabout or other design alternatives at this intersection to improve traffic operations and traffic safety.

4. ACCESS MANAGEMENT STRATEGIES

ODOT, the City of Mill City, and the public developed short-, medium-, and long-range access management strategies for OR 22 in Mill City that support the project objectives listed in Section 1.3 and are consistent with the City's development vision of OR 22 as a gateway to the community that supports traveler services. By identifying a set of phased strategies now, it will help ODOT and Mill City gradually improve roadway operation and safety through the implementation of these strategies in future years as funding opportunities arise. This section includes a description of the OR 22 access management strategies.

4.1. Short-Range Strategies (0 – 5 Years)

The short-range strategies, which are intended for the next five years, work with the existing property uses or will require property redevelopment. Public funding is not currently anticipated for the implementation of short-range strategies. These strategies include the following:

- Maintain existing approaches on OR 22 that are necessary to support existing land uses and businesses.
- Maintain existing approaches on OR 22 for properties that are otherwise land-locked (lack alternative reasonable access off the state highway).
- Close approaches on OR 22 when property redevelops if one of the following conditions is met:
 - ◆ Alternative reasonable access can be taken from a lower classification roadway, or
 - ◆ A land-locked property has more than one existing approach, or
 - ◆ A shared approach may be used with an abutting property in conjunction with inter-parcel circulation.
- Approaches allowed to remain open until property redevelops are considered “temporary” since they are not ideal locations for “permanent” approaches. Since redevelopment may occur during the short-, medium-, or long-range this strategy applies to all cases. The approximate locations of combined or relocated approaches are shown in the Implementation Plan section. The final location of driveway approaches will be determined at the time of property (re)development.

4.2. Medium-Range Strategies (5 – 10 Years)

Medium-range strategies are aimed at improvements on City roadways over the next five to ten years so that the City can allocate local funding as a part of their *Capital Improvement Program (CIP)*. These strategies include the following:

- Strive toward meeting Marion County's access spacing standards for the nearest approach to OR 22 on all cross-streets: 300 feet on major collectors, 200 feet on minor collectors, and 150 feet on local roads. Due to the short length of the cross streets, all driveway approaches may not be able to meet these standards, but should be located at the most optimal location to meet access spacing standards, improve sight distance, and enhance pedestrian and vehicular safety.
- Limit properties to one approach on all OR 22 cross-streets.
- Improve east-west connectivity on City roadways to improve circulation and provide local traffic with alternates to using OR 22.

4.3. Long-Range Strategies (10 – 20 Years)

OR 22 is the focus of the long-range strategies, which are most likely to occur during the next ten to twenty years and should be considered for funding allocation as part of ODOT's *Statewide Transportation Improvement Program (STIP)*. These strategies include the following:

- Strive toward meeting ODOT's access spacing standards along OR 22: 990 feet where the posted speed is 40 mph (west of NW 7th Ave to east of NE 7th Ave) and 1,320 feet where the posted speed is 55 mph (remaining project corridor).
- Restrict turning movements off of and onto OR 22 to reduce the number of conflict points along the project corridor.
- Consider alternate operational improvements to avoid the installation of any traffic signals on OR 22, such as u-turn refuge lanes.
- Improve traffic operations and safety of the intersection of NW 2nd Avenue and OR 22. During future ODOT project development, the Project Development Team (PDT) will consider alternate intersection design improvements at this intersection. Design alternatives may include, but are not limited to, a roundabout or median controlled turn refuges with a westbound merge lane. Local stakeholders will have input on the evaluation of these design alternatives in public meetings conducted by ODOT.
- Improve capacity, traffic operations and safety of OR 22 throughout the city limits with the installation of non-traversable medians at such locations in addition to the OR 22/NW 2nd Avenue intersection as deemed warranted by the ODOT PDT²⁵. The inclusion of medians in a modernization project on OR 22, other than those needed for the safe operation of the OR 22/NW 2nd Avenue intersection, will be subject to consideration of further input by city stakeholders regarding design, timing of installation and business operations at a public meeting(s) conducted by the PDT.
- Relocate approaches from OR 22 to cross streets when access can be taken from a lower classification roadway.
- Prohibit more than one approach on OR 22 to properties that are land-locked or that cannot reasonably take access from a lower classification roadway.
- Replace individual property approaches with a shared approach centered on the tax lot line of abutting properties.
- Relocate approaches to the most optimal location on a property frontage to best meet spacing standards or enhance safety (e.g. optimal sight distance).

5. IMPLEMENTATION PLAN

An implementation plan was developed using the access management strategies discussed in the previous section and by obtaining public input through a series of open houses and public hearings. Since strict adherence to the existing access management standards may adversely affect or limit access to existing land uses and businesses, it was extremely important to work individually with each property owner to meet their access needs. Figure 3 (3A through 3F) depicts the access management plan for the entire study area. Appendix D lists the recommended access improvements and improvement timeframe (short, medium, or long) by individual approach and Appendix E illustrates the phasing plan for improvements. This section also includes a general description of the implementation actions for the short-, medium- and long-range.

²⁵ ODOT Project Development Teams include staff from the affected local jurisdictions such as, but not limited to, the city manager, public works director and fire department.

The inclusion of an action in the medium-range or long-range plans should not preclude it from being considered in earlier implementation stages and some short-range actions may take longer to occur than assumed in this plan. It should be recognized that the timeframes shown for recommended actions are for planning purposes only and that all actions should be pursued as opportunities arise.

The City and ODOT have agreed to work together to implement this plan. Each party recognizes conditions that exist in 2007 will change as traffic volumes increase and properties adjacent to OR 22 are developed or redeveloped. Consequently, the short-range, medium-range, and long-range strategies proposed provide both the City and ODOT with some flexibility. The City and ODOT will work together to implement those strategies that will improve highway safety and functionality while enhancing the OR 22 corridor in Mill City as a viable commercial district.

5.1. Short-Range Implementation Plan (0 – 5 Years)

The focus of the short-range implementation plan is the closure of approaches on OR 22 as property redevelops and improvements at the west and east entries to the community. Short-range implementation actions and projects include the following:

- Adopt City land use and engineering standards to implement this *Access Management Plan*. This includes adoption of implementation measures to the zoning and subdivision sections of the *City Code* and the adoption of amendments to the City's *Public Works Design Standards* for streetscape improvements.
- Install "Welcome to Mill City" entry signs and add streetscaping at the west and east city limits on OR 22.
- Construct local cross-street improvements if funding is available.

In addition to the improvements cited above that will be required by the City development permit process, ODOT may require developers to install traffic control measures, such as medians, as part of the OR 22 approach permitting process. The City and ODOT recognize that, to the extent such improvements are funded by grants and/or an ODOT OR 22 modernization project, private developers will be relieved of the financial burden of paying for improvements required by the City and ODOT development permit processes.

It should be noted that ODOT may defer mitigation measures identified through the approach road permitting process until a highway improvement project is constructed. The adoption of this *Access Management Plan* may provide some flexibility with mitigation measures. This Plan includes recommendations for the installation of medians and traffic separators that would be consistent with mitigation measures associated with access permitting/and or a highway modernization project.

Though mitigation measure could be deferred by ODOT prior to the construction of a highway improvement project, it may be necessary for developers to mitigate for traffic impacts. The need for mitigation measures would be based on anticipated safety or operational characteristics associated with the site-generated traffic for the permitted turning movements. Common mitigation measures may include one or more of the following items: striping, signing, non-traversable medians, traffic separators, and turn lanes.

In 2007, ODOT awarded the City of Mill City a Small Cities Allotment grant to improve NW 9th Avenue, one of the local cross-streets. Funding for additional public improvements is not

anticipated to be available over the next five years unless grant funding can be obtained by the City.

5.2. Medium-Range Implementation Plan (5 – 10 Years)

The medium-range implementation plan includes the relocation and combination of approaches on OR 22 cross-streets and connectivity improvements on City roadways that may be funded through the City’s *CIP* or other sources during the next five to ten years. Due to the large extent of the study area, the medium-range implementation plan will likely need to be constructed in phases to minimize disruptions to the City roadway network and to obtain adequate funding. Implementation of the improvements shown in Figure 3 is recommended in the following phasing order, which is also depicted in Appendix E:

<u>Phase 1</u>	<u>Phase 2</u>	<u>Phase 3</u>	<u>Phase 4</u>	<u>Phase 5</u>
■ NW 2 nd Ave/ N 1 st Ave	■ NE Alder St ■ NE 3 rd Ave ■ NE 5 th Ave ■ NE 7 th Ave ■ NE Alder St Cul-de-sac	■ NW Alder St (2 nd to 5 th) ■ NW 5 th Ave	■ NW Alder St (5 th to 9 th) ■ NW 7 th Ave	■ NE Wall St ■ NE Birch St Cul-de-sac

The phasing order may be reorganized as opportunities arise, but it should be kept in mind that the improvements at NW Alder Street/NW 9th Avenue, NW 2nd Avenue/N 1st Avenue, and NE Alder Street/NE 7th Avenue are most critical to supporting the long-range implementation plan.

The medium-range implementation plan anticipates the City and ODOT will cooperatively identify funding alternatives for street improvement projects that conform to this plan, such as streetscape, bikeway and pedestrian improvements on both OR 22 and local streets. Such project(s) conforming to the plan can be funded with grants and constructed prior to a long-range *STIP* modernization project. They will enhance the commercial vitality of the Mill City corridor and encourage private investment by calming traffic, enhancing pedestrian and bicycle safety, improving the appearance of the community, and creating a stronger sense of place for residents and the traveling public. Project funding will also avoid incremental implementation that would occur through the City’s and ODOT’s development permitting process.

5.3. Long-Range Implementation Plan (10 – 20 Years)

Improvements to OR 22 and the approaches on OR 22 are the focus of the long-range implementation plan (10 – 20 year timeframe) and funding for these improvements should be requested as part of the *STIP*. It would be ideal to construct all improvements to OR 22 at one time to minimize disruptions to through traffic and local traffic. If the improvements to OR 22 must be phased due to funding restrictions, the first phase should concentrate on improvements between NW 5th Avenue and NE 4th Avenue since this section includes the OR 22/NW 2nd Avenue intersection that is most critical to connectivity between OR 22 and downtown Mill City. The phasing order of the sections west of NW 5th Avenue and east of NE 4th Avenue is less critical after the first phase has been completed. This section includes a description of the improvements recommended to OR 22, OR 22 public approaches, and OR 22 private approaches.

5.3.1. Recommended OR 22 Roadway Improvements

The following improvements shown in Figure 3 are recommended to improve access along OR 22:

- Replace the center two-way left turn lane on OR 22 between the west city limits and NE 3rd Avenue with a non-traversable median. Include breaks in the median accompanied by left turn lanes at the following locations:
 - NW 9th Avenue
 - NW 7th Avenue
 - NW 5th Avenue
 - NW 2nd Avenue
 - NE Alder Street (west): westbound lefts only
- Maintain the center two-way left turn lane on OR 22 from NE 3rd Avenue to east of NE 7th Avenue due to short spacing between public approaches.
- Install intersection improvements at the OR 22/NW 2nd Avenue intersection. Viable options include a merge divider or a roundabout. The merge divider design alternative at OR 22/NW 2nd Avenue will allow northbound vehicles on NW 2nd Avenue to turn left and head westbound on OR 22 into their own lane without having to wait for a gap in westbound OR 22 traffic. The additional westbound lane from NW 2nd Avenue through NE 7th Avenue will provide adequate acceleration and weaving distance. Maintain the dedicated eastbound right turn lane at NW 2nd Avenue.

During public hearings in 2005 and 2007, property owners and local emergency service providers expressed concerns that medians may have a negative impact on business activity, emergency response, and access to individual properties. Consequently, this plan anticipates that the ODOT PDT will hold public planning meetings and work closely with the community to identify the specific location and length of medians prior to their installation. City officials recognize the ODOT PDT design staff will consider, in addition to community input, a variety of factors in evaluating and placing medians on OR 22, including operational safety, ODOT roadway design standards and capacity.

Non-traversable medians may be installed:

- As a requirement of an ODOT approach permit, pursuant to OAR 734, Division 51, or
- Concurrently with a *STIP* modernization or resurfacing project for the entire Mill City OR 22 corridor, or
- Concurrently with intersection improvements at NW 2nd Avenue, or
- After a modernization of the Mill City corridor in order to improve traffic safety, or
- As needed to increase or preserve capacity of the roadway.

5.3.2. Recommended OR 22 Public Approach Improvements

The following public approach improvements shown in Figure 3 are recommended along OR 22:

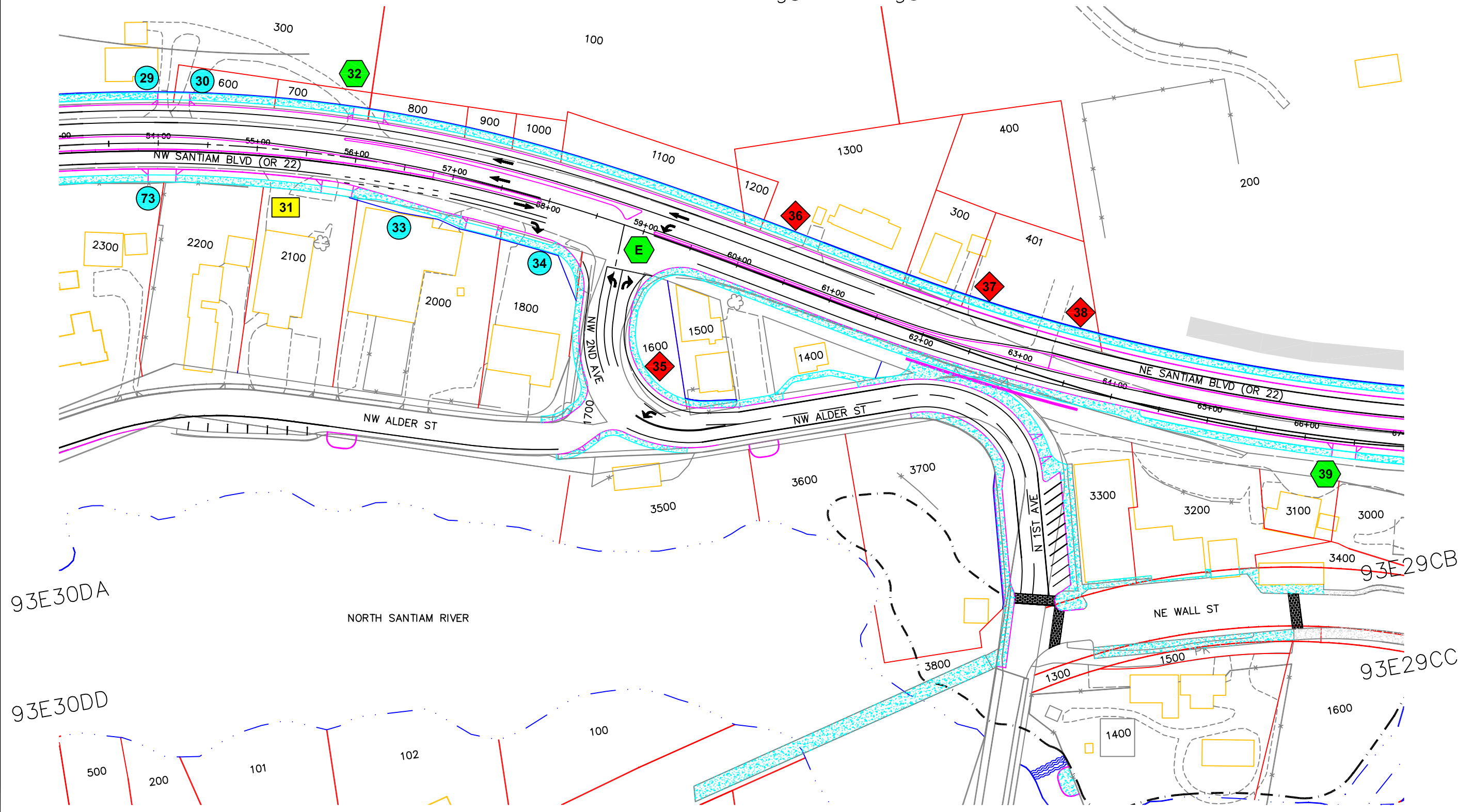
- Improve all public approaches that will remain open to ODOT's engineering standards for roadway design (e.g. turning radii, slope, and drainage). Many approaches do not likely meet the current standards.
- Vacate NE Alder Street approach (west, Sta. 68+75) on tax lot 2900 and change to private approach. NE Alder Street connects to numerous other local roadways that directly access OR 22.
- Vacate NE 6th Avenue as a public street and change to a private approach.

5.3.3. Recommended OR 22 Private Approach Improvements

The following private approach improvements shown in Figure 3 are recommended along OR 22:

- Improve all private approaches that will remain open to ODOT's, Marion County's, and the City of Mill City's engineering standards for driveway width, surfacing, slope, and drainage.
- Restrict access to right turns only through the use of a non-traversable median between the western city limits and NE 3rd Avenue. Provide breaks in the median to allow westbound left turns, but not northbound left turns at the new approach that replaces NE Alder Street (west).
- Close approaches where access is available on another roadway. All study area roadways that intersect OR 22 are of a lower functional classification than OR 22.
- Limit properties without access to other roadways to one approach or a shared approach where feasible. Close additional existing approaches.
- Consolidate approaches into a shared approach centered on a tax lot line where feasible.
- Align private approaches across from public approaches where feasible.
- Close approaches to properties that are currently vacant or unused.

SEE APPENDIX D FOR THESE ACCESS IMPROVEMENTS LISTED IN TABULAR FORMAT.

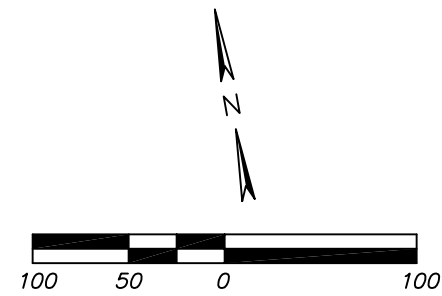


FEATURES LEGEND

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- EXISTING EDGE OF GRAVEL
- PROPOSED EDGE OF PAVEMENT
- PROPOSED FACE OF CURB
- PROPOSED APPROACH
- PROPOSED SIDEWALK
- EXISTING TAX LOT LINE
- EXISTING BUILDING
- EXISTING STREAM OR RIVER

APPROACH LEGEND

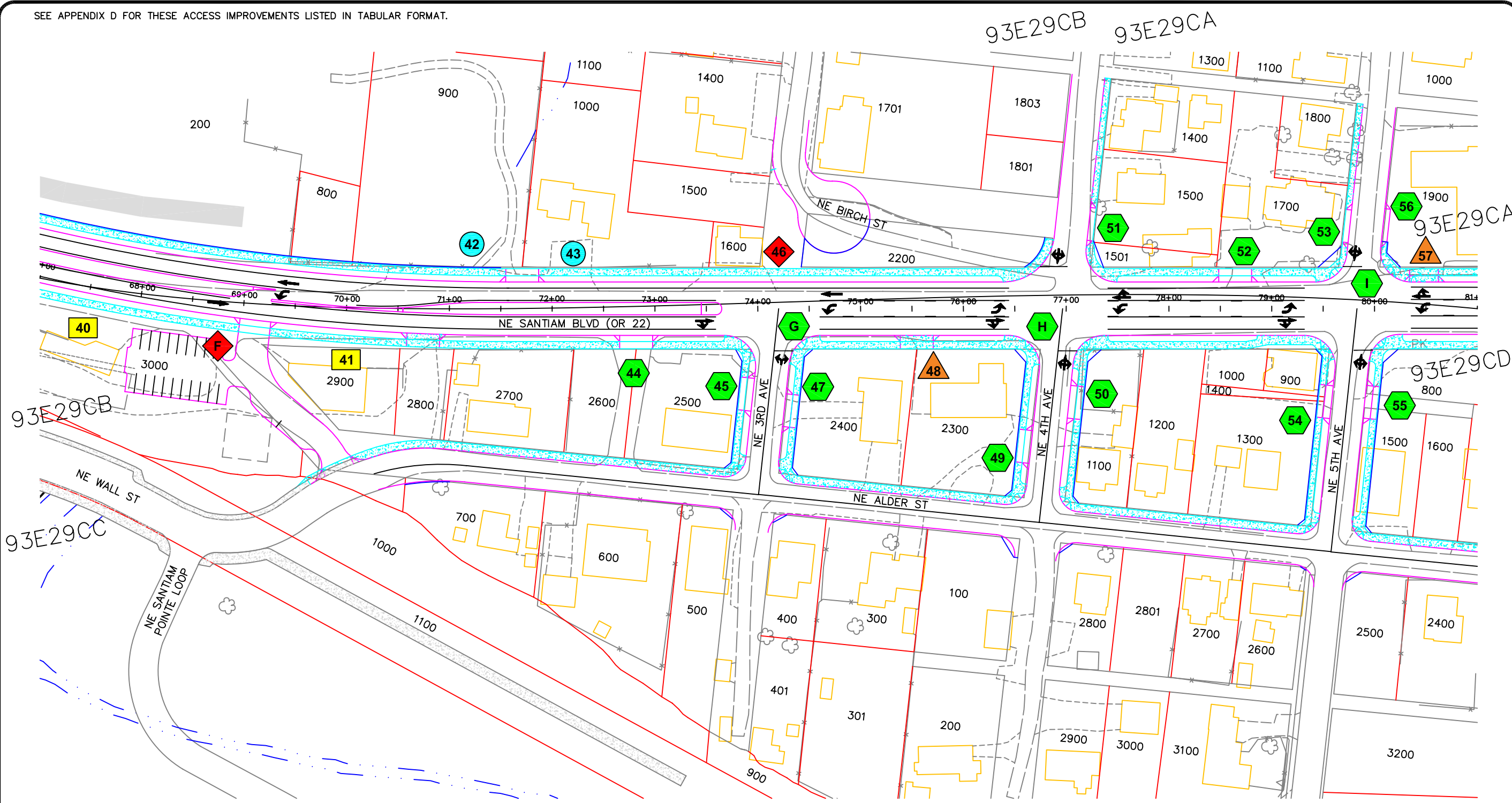
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 WESTECH ENGINEERING, INC. CONSULTING ENGINEERS AND PLANNERS 3844 Fairview Industrial Dr., S.E., Suite 100, Salem, OR 97302 Phone: (503) 585-2474 Fax: (503) 585-3886 E-mail: westech@westech-eng.com	 DKS Associates TRANSPORTATION SOLUTIONS 1400 SW Fifth Avenue, Suite 500 Portland, Oregon 97204-6502 Telephone: (503) 243-3500 Fax: (503) 243-1834	CITY OF MILL CITY, OREGON/OREGON TGM PROGRAM OR 22 IMPROVEMENTS ACCESS MANAGEMENT PLAN FIGURE 3D JOB NUMBER	VERIFY SCALE BAR IS ONE-HALF INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON SCALES ACCURACELY	DSN: SRH DRN: DKS CAD CKD: JAB DATE: 06-26-2007 NO. NO. NO. FINAL ACCESS MANAGEMENT PLANS DESCRIPTION REVISIONS BY
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SEE APPENDIX D FOR THESE ACCESS IMPROVEMENTS LISTED IN TABULAR FORMAT.

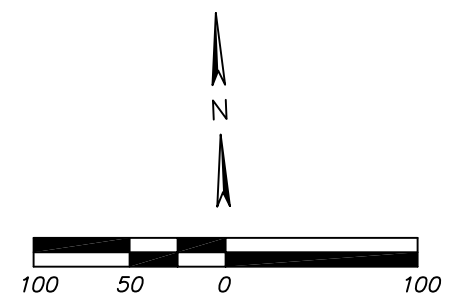


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- PROPOSED SIDEWALK
- EXISTING TAX LOT LINE
- EXISTING BUILDING
- EXISTING STREAM OR RIVER

APPROACH LEGEND

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- MAINTAIN APPROACH
- RELOCATE APPROACH
- COMBINE APPROACH WITH ADJACENT APPROACH
- CLOSE APPROACH WHEN PROPERTY REDEVELOPS
- CLOSE APPROACH



CITY OF MILL CITY, OREGON/OREGON TGM PROGRAM
 OR 22 IMPROVEMENTS
ACCESS MANAGEMENT PLAN
 FIGURE 3E
 JOB NUMBER

DKS Associates
 TRANSPORTATION SOLUTIONS
 1400 SW Fifth Avenue, Suite 500
 Portland, Oregon 97201-6502
 Telephone: (503) 243-3500
 Fax: (503) 243-1834

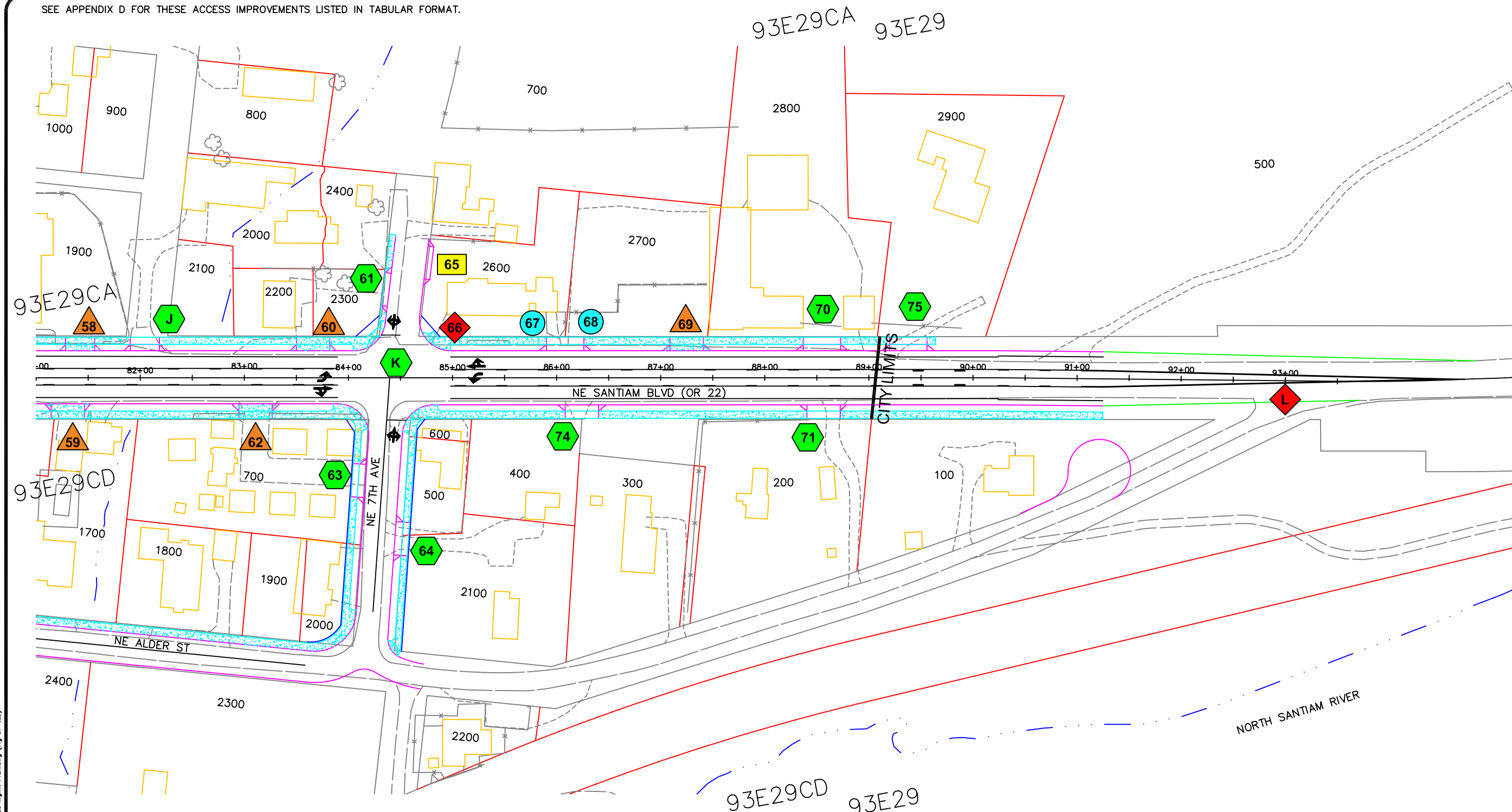
WESTTECH ENGINEERING, INC.
 CONSULTING ENGINEERS AND PLANNERS
 3844 Fairview Industrial Dr., S.E., Suite 100, Salem, OR 97302
 Phone: (503) 565-2474 Fax: (503) 565-3866
 E-mail: westtech@westtech-eng.com

NO.	DATE	DESCRIPTION	BY
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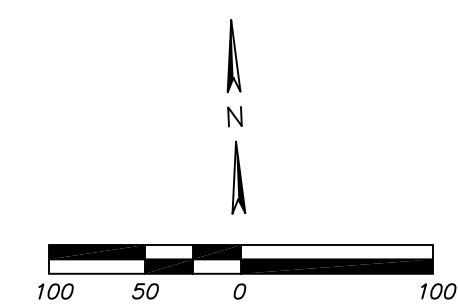


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APPROACH LEGEND

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- 00 MAINTAIN APPROACH
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VERIFY SCALE	0"	DSN. SRH	DRN. DKS CAD	NO. DATE	FINAL ACCESS MANAGEMENT PLANS	BY
WESTTECH ENGINEERING, INC. CONSULTING ENGINEERS AND PLANNERS	3844 Fairview Industrial Dr., S.E., Suite 100, Salem, OR 97302	Phone: (503) 565-2474	Fax: (503) 565-3866	E-mail: westtech@westtech-eng.com	DATE: 06-2007	DESCRIPTION
DKS Associates		TRANSPORTATION SOLUTIONS		(503) 243-5000 (503) 243-1894		REVISIONS
CITY OF MILL CITY, OREGON/OREGON TGM PROGRAM						
OR 22 IMPROVEMENTS						
ACCESS MANAGEMENT PLAN						
FIGURE 3F						
JOB NUMBER						

5.4. Cost Estimate and Funding

A number of individual projects have been identified based on the phasing discussed in the previous Implementation Plan sections and Table 5 lists each project, its estimated cost, potential funding sources, and recommended phase within its implementation timeframe. Appendix F includes the detailed cost estimates used to arrive at the total project costs included in Table 5.

Table 5. Project Costs, Funding Sources, and Phasing

Project #	Project Name	Project Limits	Estimated Cost *	Potential Funding Source	Phase
Medium-Range Projects (5 – 10 Year Timeframe): Local Streets					
1	NW 9 th Ave	OR 22 to NW Alder	\$110,000	SCA/City CIP	1
2	NW 7 th Ave	OR 22 to NW Alder	\$106,000		4
3	NW 5 th Ave	OR 22 to NW Alder	\$120,000	SCA/City CIP	3
4	NW 2 nd Ave & N 1 st Ave	OR 22 to N. Santiam River	\$480,000		1
5	NE 4 th Ave	OR 22 to NE Alder	\$98,000		2
6	NE 5 th Ave	OR 22 to NE Alder	\$98,000	SCA/City CIP	2
7	NE 7 th Ave	OR 22 to NE Alder	\$124,000		2
8	NW Alder (7 th - 9 th)	NW 7 th to NW 9 th	\$386,000		2
9	NW Alder (5 th – 7 th)	NW 5 th to NW 7 th	\$180,000		2
10	NW Alder (River Rd – 5 th)	River Rd to NW 5 th	\$149,000		3
11	NW Alder (2 nd – River Rd)	NW 2 nd to River Rd	\$121,000		3
12	NE Wall	N 1 st to NE Alder	\$145,000		5
13	NE Alder & NE 3 rd	End of NE Wall to NE 3 rd	\$237,000	SCA/City CIP/ Marion Co. CIP	2
14	NE Alder (3 rd to East End)	NE 3 rd to NE 7 th	\$426,000		2
Total Medium-Range Project Cost:			\$2,780,000		
Long-Range Projects (10 – 20 Year Timeframe): OR 22					
15	OR 22 Reconstruction	West to East City Limits	\$4,987,000	STIP	2
16	Rock Wall Excavation	50,000 CY East of NW 2 nd	\$2,500,000	STIP	1
Total Long-Range Project Cost:			\$7,487,000		
TOTAL PROJECT COST:			\$10,267,000		

* Estimated cost is in Year 2007 dollars. Improvements made as part of property redevelopment will be funded by the developer(s).

SCA = Special City Allotment
CIP = Capital Improvement Program
STIP = Statewide Transportation Improvement Program

Full implementation of this *Access Management Plan* is estimated to cost approximately \$10.3 million, which includes approximately \$2.8 million for local street improvements and approximately \$7.5 million for OR 22 improvements. The following alternatives have been identified as potential funding sources for implementing this *Access Management Plan*:

- **Special City Allotment (SCA):** The Oregon Legislature provides \$1,000,000 annually from state gas tax revenue for ODOT to distribute to cities with populations less than 5,000 for city street capacity and/or safety improvements. ODOT works with the League of Oregon Cities to agree on funding allocations. No one project may receive more than \$25,000 from

the SCA and each city must match the SCA funds with funding from the city gas tax revenue.

- City of Mill City Capital Improvement Program (CIP): The Mill City CIP allocates city funds for transportation system improvements.
- Marion County Capital Improvement Program (CIP): The Marion County CIP allocates county funds for transportation system improvements.
- Statewide Transportation Improvement Program (STIP): The STIP is a four-year project scheduling and funding program administered by ODOT for major state and regional transportation systems. The STIP allocates funding from numerous federal and state funding sources and is the ideal funding program for OR 22 improvements.
- Transportation Enhancement (TE) Program: ODOT administers the TE program, which uses federal highway funds to strengthen the cultural, aesthetic, or environmental value of the transportation system. Project elements of this Access Management Plan that are approved TE activities include bicycle and pedestrian facilities and landscaping and other scenic beautification. Approximately \$11 million was awarded to 14 projects for the 2009 – 2011 biennium. The application process for the 2011 – 2013 biennium will likely occur during 2009. If awarded funding the City would have to provide a minimum 10.27-percent funding match.
- Private Developers: Developers must follow the *City of Mill City Code* when developing or redeveloping property. The requirements in the *City Code* (e.g. compliance with this *Access Management Plan*, frontage improvements) will help achieve incremental improvements to properties adjacent to OR 22 and the local street network. The cost estimates in Table 5 should be reduced when private development constructs a portion of any of the projects listed in the table.

6. DEVIATIONS

According to OAR 734-051-0040 (19), a deviation is simply defined as, “a departure from the access management spacing standards.” To guide the decision-making process, specific criteria for the approval or denial of a request for a deviation has been provided in OAR 734-051-0135. With each request, ODOT staff must base a decision on this criteria with written findings produced to document the grounds of the approval or denial.

Most deviation requests are the result of property development where only the subject property can be addressed. How the access requested will interact with the surrounding transportation system and other access points over time is often uncertain, as surrounding conditions may change. When an access management plan is developed, there is an opportunity to coordinate corridor-wide improvements, which eliminates the uncertainty associated with a piece meal approach and increases the effectiveness of access management implementation.

Deviations to ODOT access management spacing standards resulting from plan recommendations were documented and reviewed by the ODOT Region 2 Access Management Engineer. While the proposed deviations were approved and the spirit of the plan as reflected in the plan objectives and access management strategies was supported, it was noted that ODOT will reserve the right to amend the access management plan when unanticipated circumstances arise that are deemed by ODOT to create a hazard to the public if the plan were implemented as recommended. A copy of the deviation approval memorandum from ODOT is included in Appendix G.

7. STREETScape PLAN

Streetscape not only provides architectural interest to the roadway environment but also typically includes elements that enhance vehicular and pedestrian safety. Appendix H includes the proposed streetscape plans for the study area that addresses the following “zones” and includes various elements such as street trees, landscaped medians, lighting, bicycle racks, benches, and trash receptacles:

- East and West Entry Treatment on OR 22
- OR 22 Transition Zone (City Limits to OR 22 Downtown Core Gateway Zone)
- OR 22 Downtown Core Gateway (NW 5th Avenue to NE 4th Avenue)
- Alder Street Cross-Section “A” (adjacent to OR 22 Downtown Core Gateway Zone)
- Alder Street Cross-Section “B” (adjacent to OR 22 Transition Zone)
- Avenues

Of note, the OR 22 Transition Zones at the west and east ends of Mill City are intended to alert motorists of the transition from high-speed rural highway environment to lower-speed developed city environment. The medians, street trees, and continuous sidewalks provide visual cues that work in conjunction with the speed reduction signage to remind drivers to reduce their travel speed. Additionally, all of the proposed streetscape for OR 22 includes a planting/furnishing zone adjacent to the curb that provides a buffer between vehicular roadway traffic and sidewalk pedestrian traffic.

8. RIGHT-OF-WAY ACQUISITIONS

Right-of-Way (ROW) will need to be acquired by ODOT along OR 22 and by Mill City along the other study area roadways in order to implement the strategies included in this *Access Management Plan*. ROW acquisition will occur only as part of a grant or ODOT OR 22 modernization project. Appendix I includes plans that illustrate the ROW that will need to be acquired as well as the preliminary civil engineering design details used to determine needs.

APPENDIX A

Public Involvement Process

HWY 22 ACCESS MANAGEMENT PLAN

DRAFT CONCEPT PLAN

Background Information:

The Mill City Planning Commission has identified a number of current problems and long range planning issues which will affect the development of private properties along Highway 22 in Mill City.

Those issues include:

- (1) Traffic safety
- (2) Pedestrian safety
- (3) Need for a clear long term plan for future improvements on Hwy 22.
- (4) Access / driveway locations onto Hwy 22 and adjacent side streets.
- (5) Required improvements for new development.
- (6) Coordination of access permits with ODOT.

The Planning Commission concluded the City and ODOT should work together to create a long term (20-year) plan for Hwy 22 within the City limits.

Citizen Input

The purpose of today=s meeting is to obtain informal comments from local businesses and property owners. We request that you fill out the back of this form and return it today. We will catalogue all comments and use them in our review of the concept plan.

Collaboration with Local Businesses

Many cities in Oregon have adopted traffic system improvement plans. The plans provide priorities and estimated costs for needed street and traffic safety improvements in the city.

ODOT and City officials propose to develop the Hwy 22 Access Management Plan in collaboration with local property owners and business owners.

The Plan will address the following issues:

- (1) Auto access along Hwy 22 within the city limits that addresses local street use, access for all businesses. The goal is to create safe accesses which will work for business property owners.
- (2) Hwy 22 Centerline alignment and a street cross section, showing future curbs, travel lanes, center turn lanes and other improvements.
- (3) Parking Plan for businesses in each of 3 sections of Hwy 22.
- (4) Improved access to and use of Alder Street for local trips.
- (5) Pedestrian and bicycle access to and from Hwy 22.
- (6) Funding opportunities.
- (7) Intergovernmental Agreement between the City of Mill City and ODOT to adopt the final plan and provide certainty to property owners and business owners.
- (8) Proposed amendments to the Mill City Comprehensive Plan and Development Code to simplify review of new developments that are consistent with the adopted Access Management Plan.

Future Funding:

The State Transportation Improvement Plan (STIP) is the 6-year plan for funding maintenance and development projects on Oregon=s state highways. The current STIP does not include Hwy 22 projects inside the City of Mill City. The Access Management Plan will be used to seek funding from ODOT and other state or federal funding sources.

When will Improvements be Built?

Unknown. First, the plan must be adopted and funding sources found.

FOR MORE INFORMATION CONTACT:

David Kinney, City Administrator, City of Mill
City
PO Box 256, E-mail: millcity@wvi.com
Mill City, OR 97360 Phone: 503.897.2302

HWY 22 ACCESS MANAGEMENT PLAN DRAFT CONCEPT PLAN

Review Comments from June 8th Meeting (2004)

1. Do you have any general comments or concerns about the proposed concept plan?

Gary Swanson (285 NE 5th): There will be adverse affects on some businesses. Others will probably be helped. The key is to simply balance impact, though some wont understand that. The improvements as proposed represent not only safety improvements but also aesthetic enhancement. What can't be overlooked is the need to carefully assess impact on every single business. None are any less significant than others. Its going to be a tough but "do-able" sell.

Jim & Paula Gundersen (921 N. W. Alder): A lot of it looks good - Slow down the traffic! N. W. 9th is currently paved on the Gundersen side as per our survey done in 1980's or 1970's. Please officially close west end of N. W. Alder.

Alan L. Girod (250 N. W. 9th Ave.): Wouldn't enforcement of the speed limit by the police be a lot cheaper and mor effective than the divides and sidewalks?

Earnest L. Freeman (850 S. W. Ivy St.): At the connector road from downtown Mill City, west bound traffic should not be able to turn into Circle K. Road traffic from Circle K should only turn to the right out of their parking lot going to the east. All traffic from the Mill City connector should always have precedence to Circle K.

Roberta Beldon (233 NE Alder St.): NE Alder speed factor if used at easement - Great plan.

Wayne & Barbra L. Thomas (963 NW Alder): Leave the highway access on Ross Mason property, as it's the only highway access to the highway from our property. Close highway access on the west end of NW Alder.

Nancy Simmons (400 N. Santiam Blvd.): Access to bank from east. - Concern: Lack of access with the median. - I think that signage would possibly alleviate the problem. US Bank - Summer traffic is west bound (customers). Parking areas are needed for RV's, boats, and trucks along entire road for easy access to existing businesses.

Joe Uffelman (285 NE Santiam Blvd): Don't need a sidewalk on the north side of 22 on the NE 200 area. I feel the turn medians would impair certain businesses by impending access from cross highway traffic. No stop light at Circle K. Vehicles (log trucks) need to turn north on NE 4th.

Mike Long (160 N Ist): The median at NE 4th will create a problem for the log trucks using Mill City hill.

Nancy Kelle (280 NE Santiam Blvd.): I don't like the middle barriers.

Larry Duckett (25115 SW Parkway Ste. B): Request copy of purposed plan around Texaco property.

1. Do you have specific concerns about a particular piece of property, street, access driveway, or improvement?

Gary R. Swanson: Proposal to shift Giovanni parking will hurt that business especially in inclement weather. Careful consideration of my business as right of way line is around 6" inside existing building (or so were told).

Jim & Paula Gundersen: We currently have a problem with long trucks using NW 9th. They wipe out signs, etc.

Earnest L. Freeman: Maybe get rid of all access to Circle K from Highway 22.

Nancy Kelle: 280 NE Santiam Blvd. Needs to be P not T.

1. Do you have any suggested revisions to the concept plan?

Joe Uffelman: I will need to digest some of this.

Do you wish to be involved in any future meetings?	10 Yes	0 No
Do you wish to receive notices or information as we proceed?	11 Yes	0 No

Hwy 22 Development Plan Update

June 23, 2004

Dear Property Owners & Business Owners:

Thank you for expressing an interest in and/or attending the June 8th workshop at City Hall to discuss the city's long range development plan for Hwy 22 improvements in Mill City. Enclosed is a copy of the concept plan that was presented at the workshop, a project description and a blank comment sheet. We request that you review the plans again and submit any new comments to us at City Hall by July 15, 2004.

Approximately 45 people attended the workshop and provided comments on the concept plan. Some of the key areas of concern which were raised during the session included:

- ☞ Design of the highway needs to correct safety hazards at major intersections.
- ☞ Access to local businesses is critical. Of particular concern was access to the U.S. Bank, Circle K, Giovanni's and Poppa Al's.
- ☞ Parking for RV's and trucks needs to be incorporated into the plan.
- ☞ Use of median barriers and planting strips needs to be reviewed on a block by block basis. There are some locations where medians need to be removed or modified.
- ☞ The community would like information about funding, priorities and timing of improvements.
- ☞ Improvements to NE & NW Alder & connecting streets to Hwy 22 (such as 9th St., 7th St. or 5th St.) must occur concurrently with improvements on Hwy 22.
- ☞ Slowing traffic down & traffic speed enforcement are important and can be addressed now.

On behalf of Alan Fox, ODOT project manager, City Engineer Steve Ward and myself I wish to thank each of you for your comments. On June 25th our project team will be meet to begin the review of the comments we have received to date. We will discuss changes which need to be made to the concept plan and when revisions to the plan will be ready for public comment. Thank you again for your participation and constructive criticism of the concept design.

Sincerely,

David W. Kinney
City Administrator

cc: Planning Commission & Mayor Kirsch & City Councilors

HWY 22 ACCESS MANAGEMENT PLAN

Open House & Public Hearing - March 15, 2005
Santiam High School - Auditorium Lobby, Mill City

4:00 p.m. to 6:00 p.m. – Open House - Drop in at any time
6:00 p.m. – Public Hearing

Background Information

The Mill City Planning Commission has identified a number of current and long range planning issues which will affect the development of private properties along Highway 22 in Mill City.

Those issues include:

- (1) Traffic safety
- (2) Pedestrian safety
- (3) Need for a clear long term plan for future improvements on Hwy 22.
- (4) Access / driveway locations onto Hwy 22 and adjacent side streets.
- (5) Required improvements for new development.
- (6) Coordination of access permits with ODOT.
- (7) Street, curb, sidewalk and drainage improvements on NE Alder Street, NW Alder Street and the side streets connecting to Hwy 22.

The City and ODOT staff are working together to create a long term (20-year) plan for Hwy 22 within the City.

Citizen Input

Last July we met with over 50 property owners and interested citizens to review "DRAFT #1" of the proposed Hwy 22 Access Management Plan. Participants provided over 75 different comments and suggestions on the proposed plan. Many of these have been incorporated into "DRAFT #2".

On February 10th and March 3rd we held two open houses to give local businesses and property owners a chance to talk with us. We received a

number of additional suggestions on how to improve the plan. Thank you to each of you who attended these meetings.

Open House & Public Hearing

You are invited to **drop in at any time** between 4:00 p.m. and 6:00 p.m. The open house is intended to give you one more opportunity to informally talk with ODOT officials, City Engineer Steve Ward and City Administrator David Kinney. They will be available to talk with you and answer questions about how the plan affects your property. We will catalogue all comments and use them in our continued review of the concept plan.

The City Council and Planning Commission will hold a public hearing beginning at 6:00 p.m. You are invited to testify at the public hearing. You may also submit written comments to City Hall prior to the hearing or until March 31st.

Can I submit comments if I cannot attend?

City Administrator David Kinney is willing to meet with any property owner or citizen to discuss the plan. Call City Hall at 503.897.2302 to schedule a time when you can meet with him either at City Hall or at your property to review the plan. You may also submit written comments to City Hall.

FOR MORE INFORMATION CONTACT:

David Kinney, City Administrator
City of Mill City
PO Box 256, E-mail: millcity@wvi.com
Mill City, OR 97360 Phone: 503.897.2302

What is included in the Access Management Plan?

Many cities in Oregon have adopted traffic system improvement plans. The plans provide priorities and estimated costs for needed street and traffic safety improvements in the city.

The Hwy 22 Access Management Plan will include:

- (1) Temporary & permanent locations for driveways onto Hwy 22, Alder Street and side streets. The goal is to create safe accesses which will work for business and residential property owners and protect the safety of the traveling public.
- (2) A long term plan for Hwy 22 improvements. The plan will show future curbs, travel lanes, center turn lanes, medians, bike lanes, landscaped areas and sidewalk improvements.
- (3) Pedestrian and bicycle access to/from Hwy 22.
- (4) Funding opportunities. The plan will identify priority improvements and funding sources.
- (5) An agreement between the City of Mill City and ODOT to adopt the final plan.

When will Improvements be Built?

Unknown. First, the plan must be adopted and funding sources identified. This is a 20-30 year plan and we expect to construct the improvements in a number of phases depending on the funding sources.

The City will need to work closely with ODOT, Marion County and prospective funding agencies to identify sources of funding for projects. The plan anticipates the first projects may include NE Alder, NW Alder or connecting streets to Hwy 22.

How will adoption of a plan impact me?

Property owners and businesses will not see any immediate changes on Hwy 22. The plan is a long range plan which will be used to guide development on private properties and help the City & ODOT prioritize funding for Hwy 22 improvements.

1. Property owners who want to build a new building or redevelop property on or near Hwy 22 will use the plan to identify locations for driveways and parking areas.
2. Adoption of the plan should speed up ODOT review of driveway access permits to Hwy 22.
3. Adoption of the plan should speed up the City of Mill City review of building plans for new buildings or major remodel of buildings in the CH zone near Hwy 22.
4. Adoption of the plan will enable the City of Mill City and ODOT to clearly tell a property owner what driveway, sidewalk and curb improvement are required next to a new building or development.

Funding

The State Transportation Improvement Plan (STIP) is the 6-year plan for funding maintenance and development projects on Oregon's state highways. The current STIP does not include Hwy 22 projects inside the City of Mill City. The Access Management Plan will be used to seek funding from ODOT and other state or federal funding sources.

In order for the city to successfully compete for grant funding for highway improvements, it is necessary for the City of Mill City to have an adopted Hwy 22 plan.

APPENDIX B

Existing Approach Inventory

OR 22 Existing Approach Inventory in Mill City

		Physical Inventory										
Approach No.	Side of Hwy	Hwy Milepoint	Eng. Station	Width (ft)	Material	Public/Private	Assessor's Map	Tax Lot #	Property Owner(s)	Physical Address	Business Name	Use
A	South	29.47	778+03	57		Public	-	-	-	-	-	NW Alder St
1	North	29.49	779+05	23		Private	9S3E30CA	600	Jorge & Maria Martinez	1041 NW Santiam Blvd		Residential (SFR)
2	North	29.49	779+06	27		Private						
3	South	29.52	780+64	34		Private	9S3E30CA	1000	Ross A. & Opal F. Mason	989 NW Alder St.		Residential (SFR)
4	North	29.57	783+58	20		Private	9S3E30CA	100	Don & Catherine Hoover	909 NW Santiam Blvd		Residential (SFR)
B	South	29.58	783+73	20		Public	-	-	-	-	-	NW 9th Ave
5	South	NW 9th	-	40		Private	9S3E30CA	800	James & Paula Gunderson	211 NW 9th Avenue		Commercial - Retail/Office
6	South	NW 9th	-	12		Private						
7	South	NW 9th	-	58		Private	9S3E30DB	3400	Jim Girod	250 NW 9th Avenue	Sportsman Center	Commercial - Retail
8	South	29.60	784+86	31		Private						
9	South	29.61	785+71	13		Private						
10	North	29.60	784+86	34		Private	9S3E30DB	300	C. James Hoover Trust	833 NW Santiam Blvd	Vacant	Commercial - Retail/Office
10	North	29.60	784+86	34		Private	9S3E30DB	300	C. James Hoover Trust	833 NW Santiam Blvd	Vacant	Commercial - Retail/Office
11	North					Private	9S3E30DB	400	Santiam Memorial Hospital	825 NW Santiam Blvd	Santiam Medical Clinic	Commercial - Medical Clinic
12	North					Private	9S3E30DB	500	May M. Harris LLC	815 NW Santiam Blvd	Moose Lodge	Commercial - Moose Lodge
13	South					Private	9S3E30DB	3600	Joshua & Jessica Williamson	870 NW Alder Street		Residential (SFR)
14	North	29.66	787+97	11		Private	9S3E30DB	600	Radacorp	749-757 NW Santiam Blvd		Residential (SFR)
14	North	29.66	787+97	11		Private	9S3E30DB	600	Radacorp	749-757 NW Santiam Blvd		Residential (SFR)
15	South	29.69	789+59	15		Private	9S3E30DB	3000	Edward Rada, Jr.	756 NW Santiam Blvd		Residential (SFR)
16	South	29.72	791+42	16		Private	9S3E30DB	2600	Edward Rada, Jr.	716-718 NW Santiam Blvd	Deerhorn Apartments	Residential (Apartments)
C	North	29.75	792+94	16		Public	-	-	-	-	-	NW 7th Ave
	South	29.75	792+98	20								
17	North	NW 7th	-	13		Private	9S3E30DB	600	Radacorp	654 NW Santiam Blvd	Santiam Quick Mart	Commercial - Gas Station/Mini-Mart
18	South	NW 7th	-	21		Private	9S3E30DB	1800	Radacorp			
19	South	29.77	793+92	139		Private	9S3E30DB					
20	North	29.77	794+16	16		Private	9S3E30DB	1400 & 1500	Edward Rada, Jr.	603 NW Santiam Blvd		Residential (SFR)
21	South					Private	9S3E30DB	1900	Christina M. Morris			Residential (SFR)
22	North	29.79	795+08	12		Private	9S3E30DB	100	Radacorp			Vacant
23	North	29.83	796+96	17		Private	9S3E30DB	100	Radacorp			
D	South	29.83	797+01	21		Public	-	-	-	-	-	NW 5th Ave
24	South	NW 5th	-	80		Private	9S3E30DB	2000	Dallas & Sara Benton	500 NW Santiam Blvd	Hair Connection	Commercial - Retail
25	South	NW 5th	-	19		Private	9S3E30DA	2700	Lawrence J. Higgins, Jr.	264 NW 5th Avenue		Residential (SFR)
26	North	29.88	799+90	17		Private	9S3E30DA	400	Marie M. Stewart Trust			Vacant
27	South	29.88	799+63	29		Private	9S3E30DA	2400	U. S. Bancorp	400 NW Santiam Blvd	U. S. Bank	Commercial - Financial/Bank
28	South	29.90	800+95	18		Private	9S3E30DA					
29	North	29.94	802+82	12		Private	9S3E30DA	300	Marie M. Stewart Trust			Vacant
30	North	29.94	803+03	11		Private	9S3E30DA	600	Marie M. Stewart Trust	347 NW Santiam Blvd		Residential (SFR)
31	South	29.96	804+05	19		Private	9S3E30DA	2100	Dale & Mary Kirsch	320 NW Santiam Blvd	Mountain Edge Café	Commercial - Restaurant
32	North	30.03	807+78	27		Private	9S3E30DA	700 800	Marie M. Stewart Trust State of Oregon			
33	South	29.98	805+22	114		Private	9S3E30DA	2000	Rex A. Lucas	250 NW Santiam Blvd		Commercial - Retail
34	South	30.01	806+85	42		Private	9S3E30DA	1800	Mau-Linh Ngoe et al.	202 NW Santiam Blvd	Circle K	Commercial - Retail
E	South	30.03	807+55	42		Public	-	-	-	-	-	NW 2nd Ave
35	South	NW 2nd	-			Private	9S3E30DA	1600	State of Oregon			Vacant
36	North	30.06	809+41	15		Private	9S3E30DA	1300	Sean Hosman	127 NW Santiam Blvd		Residential (SFR)
37	North	30.09	811+01	17		Private	9S3E29CB	300	Victor J. Morrett	113 NW Santiam Blvd		Residential (SFR)
38	North	14.73				Private	9S3E29CB	401	State of Oregon			Vacant
39	South	30.16	814+83	70		Private	9S3E29CB	3100	Johan & Moira Cates	146 NE Santiam Blvd	Giovanni's Mountain Pizza	Commercial - Restaurant
40	South	30.19	815+95	159		Private	9S3E29CB	3000	Gene & Dianna Slye	198 NE Santiam Blvd	Poppa Als	Commercial - Restaurant

OR 22 Existing Approach Inventory in Mill City

		Physical Inventory										
Approach No.	Side of Hwy	Hwy Milepoint	Eng. Station	Width (ft)	Material	Public/Private	Assessor's Map	Tax Lot #	Property Owner(s)	Physical Address	Business Name	Use
F	South	30.20	816+78	23		Public	-	-	-	-	-	NE Alder St
41	South	30.24	818+79	112		Private	9S3E29CB	2900 & 2800	Saba LTD	218 NE Santiam Blvd	Vacant	Commercial - Restaurant
42	North	30.27	820+28	23		Private	9S3E29CB	900	Larry Urban	200 NE Santiam Blvd		Residential (SFR)
43	North	30.28	820+96	40		Private	9S3E29CB	1000	Godofredo & Tammara Quiroz	259 NE Santiam Blvd	High Performance Auto	Residential (SFR) & Commercial (Service)
44	South	30.29	821+57	24		Private	9S3E29CB	2600 & 2500	Helen Merrill	250 NE Santiam Blvd	Green Mountain Real Estate	Commercial - Professional
45	South	NE 3rd	-	78		Private	9S3E29CB	2500	Helen Merrill			
46	North	30.31	822+52	57		Private	9S3E29CB	1600	Joe Uffelman	285-289 NE Santiam Blvd	Uffelman Insurance Co.	Commercial - Professional
G	South	30.32	822+95	20		Public	-	-	-	-	-	NE 3rd Ave
47	South	NE 3rd	-	17		Private	9S3E29CB	2400	Carol & Anthony Thomas	307 NE Alder Street		Commercial - Service (Storage/Auto Repair)
48	South	30.35	824+85	104		Private	9S3E29CB	2300	Merritt Truax, Inc.	382 NE Santiam Blvd		Commercial - Gas Station (Vacant)
49	South	NE 4th	-	54		Private	9S3E29CB					
H	North	30.37	825+88	18		Public	-	-	-	-	-	NE 4th Ave
	South	30.37	825+74	19								
50	South	NE 4th	-	12		Private	9S3E29CD	100	Paul O. & Hallie Golden	405 NE Alder Street		Residential (SFR)
51	North	NE 4th	-	70		Private	9S3E29CA	1500 & 1501	William H. & Judith Downer	415 NE Santiam Blvd	Smokes "N" Spirits	Commercial
52	North	30.41	827+54	29		Private	9S3E29CA	1700	William H. & Judith Downer	475 NE Santiam Blvd	Canyon Crisis Center	Commercial
53	North	NE 5th	-	60		Private						
I	North	30.43	828+61	18		Public	-	-	-	-	-	NE 5th Ave
	South	30.42	828+57	19								
54	South	NE 5th	-	42		Private	9S3E29CD	900 & 1000	Gary & Nancy Swanson	285 NE 5th Avenue	Swanson's Stained Glass	Commercial - Retail
55	South	NE 5th	-	45		Private	9S3E29CD	800 & 1600	Josephine Reid Trust			Vacant
56	North	NE 5th	-	125		Private	9S3E29CA	1900	Courtney Jones	509 NE Santiam Blvd	Mill City Chevron	Commercial - Gas Station
57	North	30.44	829+24	41		Private						
58	North	30.46	830+19	45		Private						
59	South	30.46	830+25	51		Private	9S3E29CD	1700	Anthony & Whende Thomas	528 NE Santiam Blvd		Commercial - Retail (Vacant)
J	North	30.47	830+74	17		Public	-	-	-	-	-	NE 6th Ave
60	North	30.50	832+36	99		Private	9S3E29CA	2200 & 2300	Elizabeth Chattleain	647 NE Santiam Blvd	Rosie's Delicatessen	Commercial - Restaurant
61	North	NE 7th	-	41		Private	9S3E29CA	2300	Elizabeth Chattleain			
62	South	30.49	831+90	24		Private	9S3E29CD	700	Fred & Karen Crummey	612 NE Santiam Blvd	Ivy Court Apartments	Residential (Apartments)
63	South	NE 7th	-	23		Private						
K	North	30.51	833+11	16		Public	-	-	-	-	-	NE 7th Ave
	South	30.51	833+11	21								
64	South	NE 7th	-	20		Private	9S3E29CD	600 & 500 & 400	Pentacostal Church	280 NE 7th Avenue		Vacant
65	North	NE 7th	-	13		Private	9S3E29CA	700	Travis & Lanai Whisenhunt	355 NE 7th Avenue		Residential (SFR)
66	North	30.52	833+74	34		Private	9S3E29CA	2600	Cindy Chauran	721 NE Santiam Blvd		Commercial - Retail
67	North	30.54	834+58	50		Private	9S3E29CA					
68	North					Private	9S3E29CA	2700	Patrick & Kara Kelly	743 NE Santiam Blvd	Kelly Lumber Co.	Commercial - Retail
69	North					Private	9S3E29CA					
70	North	30.58	836+95	145		Private	9S3E29CA	2800	Patrick & Kara Kelly	757 NE Santiam Blvd	Kelly Lumber Co.	Commercial - Retail
71	South	30.59	837+44	14		Private	9S3E29CD	200	Thomas & Mary Smith	756 NE Santiam Blvd		Residential (SFR)
L	South					Public	-	-	-	-	-	NE 6th Ave
74	South	30.55	83+499	27		Private	9S3E29CD	400 & 300				
75	North	30.60	83+797	20		Private	9S3E29	2900				
76	North	29.29	76+869	26		Private	9S3E30C	200				
77	South	29.28	76+829	31		Private	9S3E30C	600				
78	South	29.35	77+198	51		Private	9S3E30CA	1400				
79	North	29.41	77+510	34		Private	9S3E30C	400				

OR 22 Existing Approach Inventory in Mill City

Approach No.	Side of Hwy	Approach Permits					Right-of-Way Research			
		Permit No.	Applicant	Hwy Milepoint	Eng. Station	Approved/ Completion Date	R/W File No.	Reservation Station	Reservation Width (ft)	Comments
A	South	-	-	-	-	-	-	-	-	NW Alder St (uncontrolled)
1	North	10564	M Warner / F Moore	29.49	778+90	7/1/1960				
2	North									
3	South									
4	North	35173	Jim Hoover	29.58	783+22	4/1/1994				
B	South	-	-	-	-	-	-	-	-	NW 9th Ave (uncontrolled)
5	South									
6	South									
7	South									
8	South									
9	South									
10	North	17950	Pat Herron	29.58	784+05	9/19/1969				
10	North	35045	Jim Hoover	29.59	784+49	4/1/1994				
11	North									
12	North									
13	South	12811	W Ficker	29.65	787+62	3/26/1963				
14	North	12910	E L Rada	29.68	789+26	5/7/1963				
14	North	35526	Fred Thielen	29.7	789+88	8/5/1998 & 12/31/1998				
15	South									
16	South									
C	North	-	-	-	-	-	-	-	-	NW 7th Ave (uncontrolled)
	South									
17	North									
18	South									
19	South									
20	North									
21	South									
22	North									
23	North	20823	Louise Verbeck	29.85	796+71	10/9/1973				
D	South	-	-	-	-	-	-	-	-	NW 5th Ave (uncontrolled)
24	South									
25	South	30717	J & D Van Agtmael	29.86	798+67	10/14/1988				
26	North	29912	C R Stewart	29.88	799+83					
27	South	30419	U. S. Bancorp	29.88	799+40	3/24/1988				
28	South	30420	U. S. Bancorp	29.90	800+70	3/24/1988				
29	North									
30	North	10607	Lester L Lamunyan	29.99	805+30	7/21/1960				
31	South	27880	Dale Kirsch	29.96	803+73					
		27881		29.97	804+48					
32	North	35027	Winn & Stewart	29.98	805+60	10/20/1990				
33	South									
34	South									
E	South	-	-	-	-	-	-	-	-	NW 2nd Ave (uncontrolled)
35	South									
36	North	24158	C M Stewart	30.05	808+80	4/10/1978				
37	North	723	L J Joaquin	30.10	181+68	6/30/1950				
38	North									
39	South									
40	South									

OR 22 Existing Approach Inventory in Mill City

Approach No.	Side of Hwy	Approach Permits					Right-of-Way Research			
		Permit No.	Applicant	Hwy Milepoint	Eng. Station	Approved/ Completion Date	R/W File No.	Reservation Station	Reservation Width (ft)	Comments
F	South	-	-	-	-	-	-	-	-	NE Alder St (uncontrolled)
41	South									
42	North									
43	North									
44	South	35302	Green Mountain Real Estate	30.28	820+95	8/18/1995				
45	South									
46	North									
G	South	-	-	-	-	-	-	-	-	NE 3rd Ave (uncontrolled)
47	South									
48	South									
49	South									
H	North	-	-	-	-	-	-	-	-	NE 4th Ave (uncontrolled)
	South									
50	South									
51	North									
52	North	35416	Whispering Hills	30.40	826+50	1/28/1997				
53	North									
I	North	-	-	-	-	-	-	-	-	NE 5th Ave (uncontrolled)
	South									
54	South									
55	South									
56	North									
57	North	18285	Standard Oil of California	30.38	34+30	4/29/1970				
58	North	18285	Standard Oil of California	30.40	35+27	4/29/1970				
59	South									
J	North	-	-	-	-	-	-	-	-	NE 6th Ave (uncontrolled)
60	North									
61	North									
62	South									
63	South									
K	North	-	-	-	-	-	-	-	-	NE 7th Ave (uncontrolled)
	South									
64	South									
65	North									
66	North									
67	North									
68	North									
69	North									
70	North									
71	South									
L	South	-	-	-	-	-	-	-	-	NE Alder St (uncontrolled)
74	South									
75	North									
76	North									
77	South									
78	South									
79	North									

APPENDIX C

OR 22/NW 2nd Avenue Traffic Analysis Study

Memorandum

DATE: February 24, 2004
TO: Steve Ward, Westech Engineering
FROM: Sean Kennedy, Carl Springer, P.E
SUBJECT: Mill City Traffic Analysis Study

P03100x000x000

The purpose of this study is to determine the long-term traffic control needs at the intersection of Highway 22 and 1st/2nd Street in Mill City, Oregon. Highway 22 is classified as a Statewide Highway and NHS Freight route¹ and is currently a 3-lane, permitted access road at the study intersection. This memorandum summarizes findings regarding intersection analysis at Highway 22 and 1st/2nd Street including signal warrants, 30th highest hour design volumes, seasonal factor, and growth rates for future year analysis.

Design Hour Volumes

Based on ODOT recommended guidelines for developing design hour volumes², the following section summarizes our assumptions for developing 30th highest hour volumes for the Highway 22 and 1st/2nd Street intersection.

ODOT maintains an Automatic Traffic Recorder (ATR) located on Highway 22 near the City of Gates. This location is a good representation of general traffic patterns associated with the study intersection since there are no north/south highways between these two locations. Detailed hourly traffic volumes³ provided by ODOT from this ATR were reviewed to determine that the 30th highest hour occurred Sunday August 25th, 2002 from 3:00 pm to 4:00 pm. The fact that the 30th highest hour is on a Sunday afternoon highlights the highly recreational aspect of this facility.

In addition to the ATR historical data, traffic counts⁴ were conducted on Sunday March 24th between the hours of 6am and 8pm by ODOT. Since this count was not conducted during the peak month, a seasonal factor was applied to develop the design volume at this intersection.

Seasonal Factor

A seasonal factor was developed using August and March traffic data obtained from ODOT⁵. The previous ten years of available data regarding the ATR percentage of daily traffic for the two study months were analyzed. Table 1 summarizes the percentage of annual average daily traffic for March and August. The highest and lowest monthly percentages are omitted consistent with TPAU guidelines.

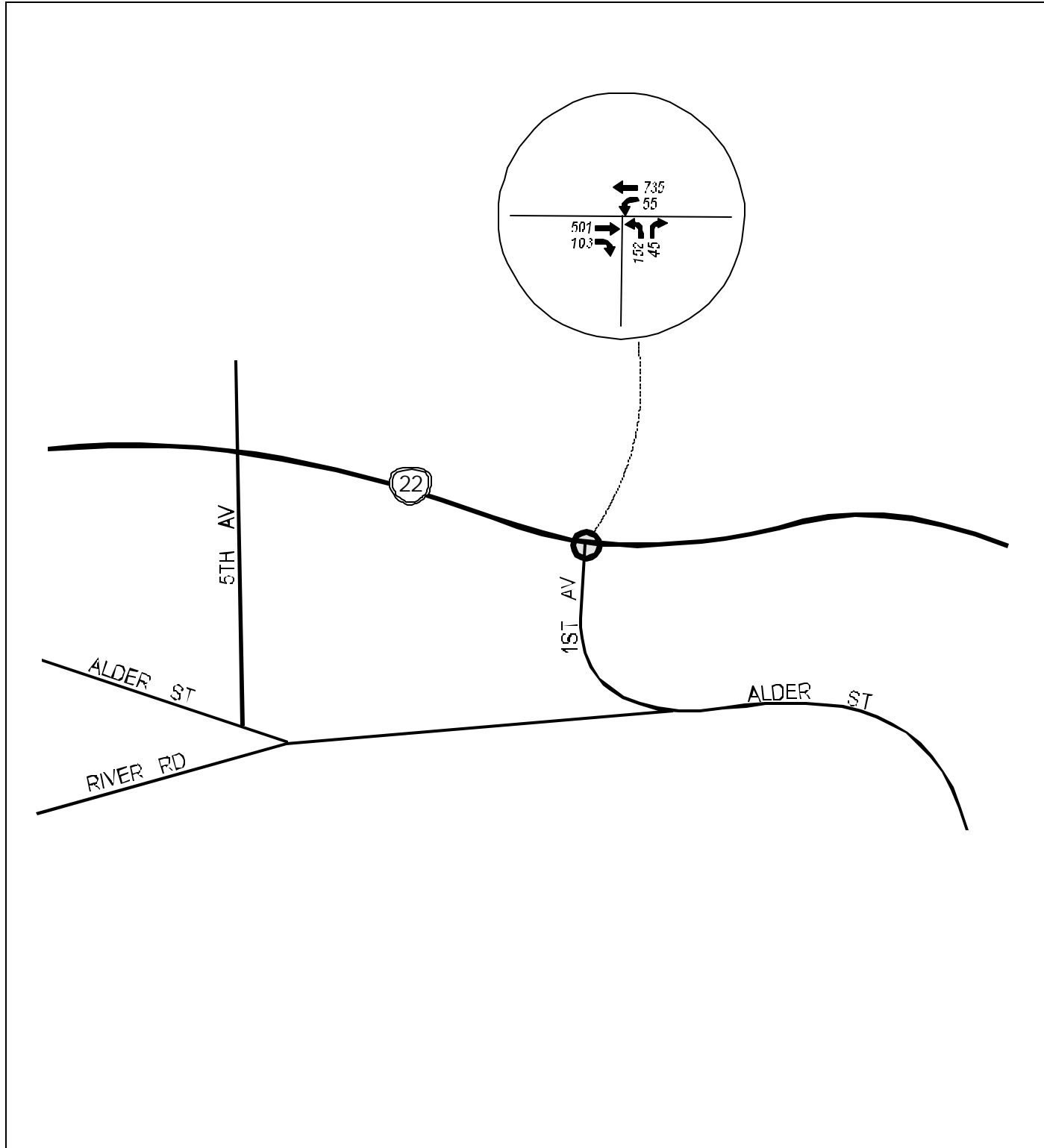
¹ 1999 Oregon Highway Plan, ODOT

² *Developing Design Hour Volumes*, ODOT Transportation Planning Analysis Unit, 7/27/01.

³ Detroit ATR 24-015, top 200 hourly volumes, ODOT, 2002.

⁴ Traffic Counts conducted by ODOT Transportation Data Unit, March 12, 14 and 24, 2002

⁵ ODOT Transportation Systems Monitoring ATR 24-013, 1990-2002.



LEGEND

○ - Study Intersection

Figure 1
EXISTING 2003
SEASONALLY ADJUSTED DESIGN HOUR
TRAFFIC VOLUMES

Table 1: Percent of Annual Average Daily Traffic for Count and Design Hour Months (1)

	Average (2)	2002	2001	1997	1996	1995	1994	1993	1992	1991	1990
March	78%	78%	81%	73%	84%	<u>85%</u>	<u>71%</u>	74%	84%	73%	75%
August	151%	155%	150%	155%	153%	146%	144%	152%	<u>138%</u>	<u>159%</u>	153%

Notes:

- (1) Traffic data reported at the Gates ATR 24-013.
- (2) Highest and lowest values (shown as underscored) not included in monthly average.

The ratio between the average March count (78%) and the average August count (151%) is the seasonal adjustment factor, which is equal to 1.94 (151/78). The seasonal adjustment was used to convert March traffic volumes to represent 30th highest hour traffic volumes that typically occur in August. This seasonal adjustment factor is higher than the 30% mentioned in the TPAU Traffic Forecasting Methods handbook, but it was applied in this case since it reflects the data sources associated with a seasonally volatile highway. Table 2 displays the March peak hour counts seasonally adjusted for Highway 22.

Table 2: Seasonally Adjusted 30th Highest Hour Volumes

	Highway 22
March 24, 2002 Manual Counts	715
Adjustment Factor	1.94
Adjusted Design Hour Volume	1,387

Intersection Capacity Analysis

Level of service, delay and volume-to-capacity ratio were calculated based on the *2000 Highway Capacity Manual* methodology for unsignalized intersections.

Existing Traffic Operations

Unsignalized intersection level of service (LOS) involves a separate calculation for each movement in an attempt to identify problems. The most common problem arises for left turning movements from the minor street, consequently the level of service analysis reported below is based on northbound left turn movements at the study intersection. The Oregon Highway Plan maximum standard for Highway 22 and similar facilities is a v/c ratio of 0.75 where the speed is less than 45 MPH.

Table 3: Intersection LOS – Existing (2002) Traffic Volumes

Study Intersection	Sunday March 24, 2003 Peak Hour			Projected 30 th Highest Hour		
	Delay	LOS	V/C	Delay	LOS	V/C
HWY 22/1 st Street	3	A/B	0.19	13	A/F	0.94
LOS Level of service Delay Vehicle delay in seconds for the worst-case approach reported. V/C Volume to capacity ratio, reported for the critical movement. A/A LOS of left turning traffic from major street and from minor street onto major street.						

Table 3 shows that in March there is minimal delay during the peak hour. However, the 30th highest hour volume condition indicates excessive delay and level of service for the cross street dropping from B to F. Additionally, the v/c ratio increases to a 0.94, which is above ODOT's 0.75 maximum.

Future Traffic Forecast

Based on historical counts taken from the Gates ATR⁶, a per year linear growth rate of 1.23% was calculated and used as the growth rate for the study intersection.

The following table depicts, by future year scenario, the eighth highest hour adjusted to the 30th highest volume⁷ using the linear growth rate described above. The eighth highest hour turn movement counts were then converted to ADT volumes by dividing the eighth highest hour volumes by .0565, as per TPAU Procedure Manual procedures⁸. The following table represents projected ADT for the main street volume at the site intersection.

Table 4: Average Daily Volumes on Highway 22 at Mill City

Year	Daily Volume
2002	14,565
2012	16,356
2022	18,147
2032	19,939

Traffic Signal Warrant Analysis

ODOT preliminary traffic signal warrant analysis⁹ was conducted to determine whether the Highway 22 and 1st/2nd Street intersection currently meet signal warrants and at what point in the future these warrants will be met. Daily traffic volumes were used from the same day as the 30th highest hour for this analysis.

⁶ ODOT Transportation Systems Monitoring ATR 24-013.

⁷ Turn movement counts were conducted during the month on March. However, the 30th highest hour occurred during August, so the March counts were adjusted for seasonally using the TPAU guidelines for state facilities.

⁸ TPAU Procedure Manual 5/14/01 page 1.

⁹ Preliminary Signal Warrants, ODOT TPAU, 5/14/01.

Table 5 identifies the current and projected ADT for the study intersection as well as the ODOT warrant thresholds. Since the study intersection is located within an isolated community with a population of less than 10,000 individuals, the reduced warrants were used. Thus, target volumes were reduced to 70 percent of the usual requirements.

Additionally, OAR 734-020-0460 (1) states that only the MUTCD Warrant 1 - Case A and Case B can be used in the projection of a future need for a traffic signal. In conducting this analysis, the geometric configurations for both approaches were assumed to be unchanged, as shown in Figure 1.

Table 5: Current and projected signal warrant 1 analysis*

	<i>ADT on Major Street</i>	<i>ADT on Minor Street**</i>	<i>Warrant Met</i>
Case A: Minimum Vehicular Traffic			
<i>Warrant Threshold</i>	6,200	1,850	
Current Volume	14,565	1,657	No
2012 Volume	16,356	1,657	No
2022 Volume	18,147	1,657	No
Case B: Interruption of Continuous Traffic			
<i>Warrant Threshold</i>	9,300	950	
Current Volume	14,565	1,657	Yes
2012 Volume	16,356	1,657	Yes
2022 Volume	18,147	1,657	Yes

* Meeting preliminary signal warrants does not guarantee that a signal will be installed. Before a signal can be installed a traffic investigation must be conducted or reviewed by the Region Traffic Manager. Traffic signal warrants must be met and the State Traffic Engineer's approval obtained before a traffic signal can be installed on a state highway.

** Current traffic volumes were use for minor street movement due to lack of historical data required to make an accurate forecast.

A signal is currently warranted based on Warrant 1 – Case B, interruption of continuous traffic, during the current 30th highest volume. Analyzing current traffic conditions as opposed to future volumes, traffic warrant 2, Four-Hour Vehicular Volume is not met. Crash data at the intersection was also analyzed. According to ODOT, there have been no crashes on Highway 22 and 1st/2nd Street between 1993-2001¹⁰. Consequently, this intersection does not meet Warrant 7, Crash Experience, standards under current conditions.

Future Traffic Operations

Future year conditions were reevaluated, and we found that side street delays will far exceed capacity if additional traffic controls are not installed.

As shown in Table 5, the minor street will operate at LOS “F” due to short gaps created by high through volumes on Highway 22. Vehicles turning left from 1st/2nd Street onto Highway 22 account for

¹⁰ Conversation with Alan Fox, ODOT Salem Project Manager

approximately 9 % of the total intersection volume during the 30th highest hour. The capacity of this northbound left turning movement cannot serve demand in the year 2022.

Table 6: Highway 22 at 1st/2nd Street Intersection Conditions – Forecasted Traffic Volumes

Study Intersection HWY 22/1 st Street	30 th Highest Hour		
	Delay	LOS	V/C
2012	26	A/F	1.35
2022	50	A/F	1.91
LOS Level of service Delay Vehicle delay in seconds for the worst-case approach reported. V/C Volume to capacity ratio, reported as the worst-case minor street movement. A/A LOS of left turning traffic from major street and minor street.			

In an effort to address these unacceptable conditions, two alternative intersection control and geometric conditions were evaluated for future performance:

- Constructing traffic signal controls with current geometric conditions
- Unsignalized control with merge divider reducing conflict between northbound left and westbound through movements. The merge divider will allow northbound turning vehicles to have a protected merge with westbound through traffic providing an acceleration lane for merging vehicles and a continuous flow lane for through vehicles.

Table 7: Signalized Intersection LOS – Forecasted Traffic Volumes

Study Intersection HWY 22/1 st Street	30 th Highest Hour		
	Delay	LOS	V/C
Current	12	B	.53
2012	12	B	.57
2022	13	B	.64
LOS Level of service Delay Vehicle delay in seconds for the worst-case approach reported. V/C Volume to capacity ratio, reported as the worst-case minor street movement. A/A LOS of left turning traffic from major street and minor street.			

As previously mentioned the Oregon Highway Plan provides a standard v/c ratio for state facilities with a speed of less than 45-mph of 0.75. Table 6 displays the v/c ratio with current geometric conditions and traffic volumes forecasted 20 years ahead for the design hour. As can be seen, the intersection will perform adequately with a signal and no geometric improvements such as an additional lane. Consequently, the five-lane analysis has not been reported as the three-lane cross section meets ODOT standards today and in the future.

Analysis has also been conducted using the forecasted volumes with a merge divider control at the intersection. The analysis is based on the critical movements on a per lane basis and compares the critical movements of the signalized intersection with that of a merge divider controlled intersection. The following chart depicts the associated critical volumes.

Table 8: Intersection Control Critical Volumes – Forecasted Traffic Volumes

Intersection Control	2012		2022	
	Critical Volume	V/C	Critical Volume	V/C
Signalized	997	0.57	1,106	0.64
Merge divider (non-signalized)	734	0.43	814	0.54

The merge divider has fewer conflicting movements resulting in less delay for west bound vehicles. This configuration should work well during non-peak periods, as overall delay will be kept low due to continual movement. However, side street vehicles could meet with significant delay during the peak causing a higher v/c ratio under this condition.

The lengths of the taper, storage and acceleration sections associated with this design were calculated utilizing the projected 2022 seasonally adjusted peak hour traffic volumes. Table 8 displays the required length of the turn lanes for the three movements associated with the merge divider scenario.

Table 9: Turn Lane Design Length - 2022

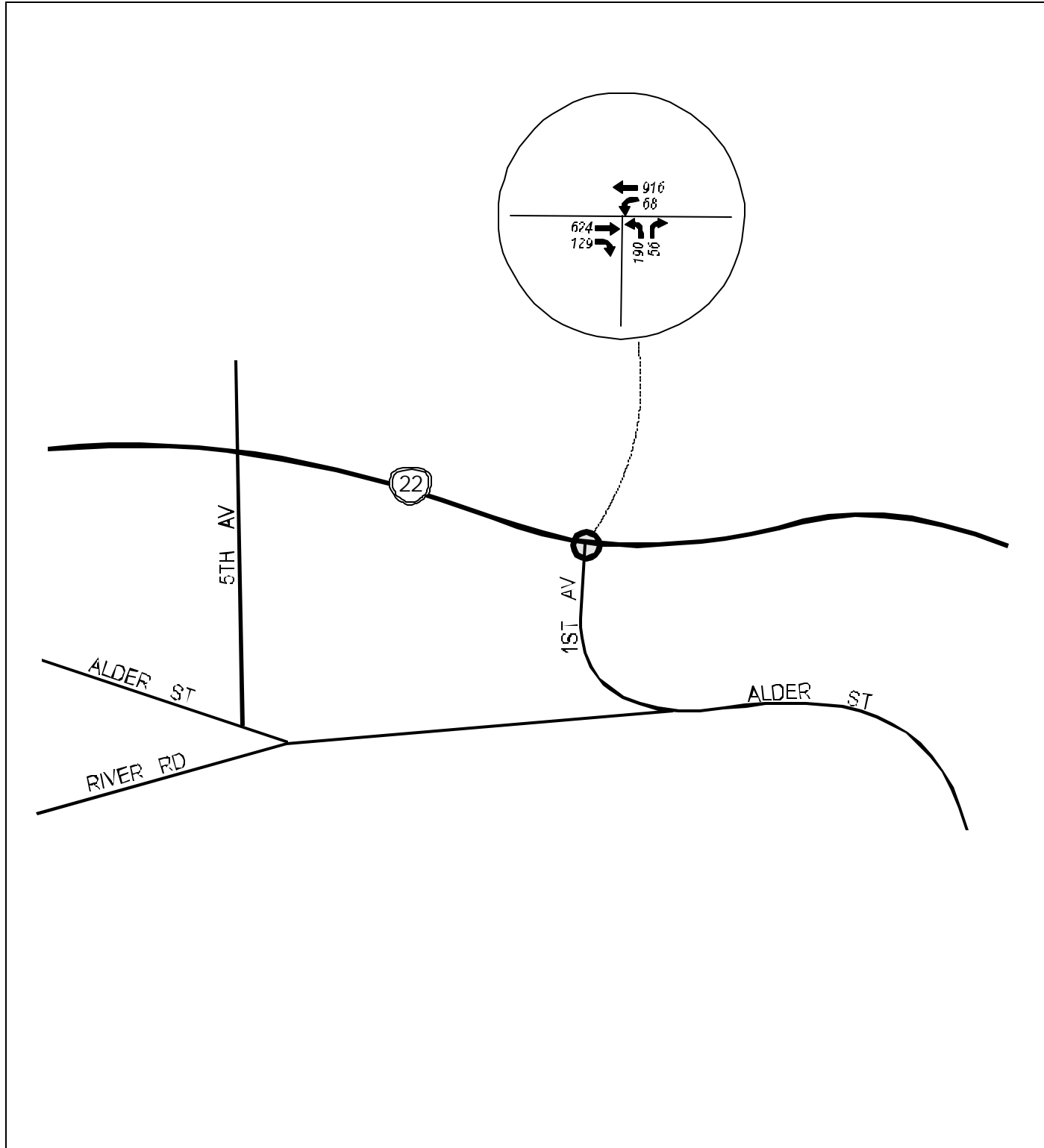
Intersection	Movement	Expected PM Peak Hour Queue*	Required Pocket Length (taper length)
HWY 22/1 st Street	Westbound, Left	3	205' (130')
HWY 22/1 st Street	Westbound acceleration lane	N/A	960' (300')
1 st Street/Hwy 22	Northbound, Right	5	125
1 st Street/Hwy 22	Northbound, Left	8	200

* 95 percentile queue expected in 2022

In addition to the turn lane storage lengths, an acceleration lane must also be provided to allow northbound left turns to accelerate before merging with the westbound through traffic. The length of this lane should be at least 660 feet¹¹ not including the taper. The taper should add an additional 300 feet¹², bringing the total length required for the acceleration lane to approximately 960 feet. This length will extend to the Hwy 22/5th Avenue intersection. To avoid safety concerns associated with the simultaneous merging of the through and acceleration lane with the left turn movement at 5th Avenue, the acceleration lane should be continued beyond the Hwy 22/5th Avenue intersection.

¹¹ American Association of State Highway and Transportation Officials (2001), A Policy on Geometric Design of Highways and Streets.

¹² American Association of State Highway and Transportation Officials (2001), A Policy on Geometric Design of Highways and Streets



LEGEND

○ - Study Intersection

Figure 2
FUTURE 2022
SEASONALLY ADJUSTED DESIGN HOUR
TRAFFIC VOLUMES

Findings

- Existing traffic operations at Highway 22 and 1st/2nd Street showed little delay in March (v/c of 0.19) and substantial delay in the peak month of August (v/c of 0.94).
- Using the Gates ATR (24-013) a 1.23% growth rate was computed using 10 years of historical data and applied to the 10 and 20 year future scenarios.
- Existing and design hour volumes meet the warrant 1- Case B traffic signal warrant. However, neither met warrant 1 – Case A, warrant 2 or warrant 7. The installation is not recommended however, because of safety and operational issues associated with an isolated rural traffic signal.
- The existing 3-lane section can adequately serve current and long-range traffic volumes with traffic signal controls. The maximum v/c ratio with a signalized intersection would be 0.64 in the year 2022. If traffic signal controls are not provided, and no alternative traffic control measures are developed, heavy delays are expected on the minor street approach during the summer months with a forecasted v/c ratio of 1.91 for side street approaches in the year 2022. It should be noted that need for system improvements are based on the Oregon Highway Plan v/c ratio of 0.75, construction projects must meet the Highway Design Manual standard of 0.70.
- The installation of a merge divider without traffic signals would reduce conflicting volumes under future conditions, and produce an acceptable v/c ratio per Oregon Highway Plan and Highway Design Manual standards. The acceleration lane should continue through the Hwy 22/5th Avenue intersection to avoid safety concerns.

Recommendations

- While quantitative evidence suggests that the design and construction of a traffic signal at this location is warranted using warrant 1 – Case B, the intersection does not meet warrant 1 – Case A. A merge divider would reduce conflicts as well as lower v/c ratios (0.43 in 2012 compared to a signalized intersection with a 0.57 in 2012). Additionally, an isolated signal in a rural setting can disrupt driver expectancy, increasing safety concerns rather than reducing them. Therefore, we suggest installing a merge divider at the study intersection.
- The merge divider acceleration lane for northbound left turners should be at least 660 feet, not including the taper length. The acceleration lane should continue past the Hwy 22/5th Avenue intersection in order to mitigate safety concerns. Additionally, the northbound left turn lane should be at least 200 feet in length to accommodate PM peak hour traffic in the year 2022. The remaining two turn movement lanes can be shorter as the queues are not expected to be as long.

APPENDIX D

Recommended Access Improvements

Table D1. Recommended Access Improvements

Approach No.	Improvement Timeframe			Recommended Access Improvements
	Short	Medium	Long	
A		M		Close approach. Access to OR 22 is available via NW 9 th Ave.
1	S			Maintain approach.
2	S			Close approach when property redevelops.
3			L	Relocate approach so that access can be shared between tax lots 93E30CA 1000 and 900.
4			L	Relocate approach so that it aligns with NW 9th Ave.
B	S			Maintain approach.
5	S			Close approach when property redevelops. Access is available from Approach 6.
6	S			Maintain approach.
7		M		Relocate approach so that it aligns with the new shared approach for Approaches 5 and 6.
8	S			Maintain approach.
9			L	Close approach. Access is available from Approach 8.
10	S			Close approach when property redevelops.
11	S			Close approach when property redevelops.
12			L	Combine Approaches 12 and 14 into one approach.
13			L	Relocate approach so that access can be shared between tax lots 93E30DB 3200 and 3100.
14			L	Combine Approaches 12 and 14 into one approach.
15	S			Close approach when property redevelops. Construct new shared approach to replace Approaches 15 and 16.
16				
C	S			Maintain approaches on both sides of OR 22.
17		M		Relocate approach to align with the new approach for Tax Lot 93E30DB 1400.
18		M		Relocate approach to south side of tax lot.
19			L	Combine Approaches 19 and 21 into one approach.
20	S			Close approach when property redevelops.
21			L	Combine Approaches 19 and 21 into one approach.
22			L	Close approach. Access is available from NW 7th Ave.
23	S			Close approach when property redevelops.
D	S			Maintain approach.
24		M		Relocate approach so that access can be shared between tax lots 93E30DB 2000 and 2100.
25		M		Relocate approach farther south from OR 22/NW 5th Ave intersection.
26	S			Close approach when property redevelops.
27	S			Maintain approach.
28	S			Close approach when property redevelops.
29			L	Combine Approaches 29 and 30 into one approach.
30				

Approach No.	Improvement Timeframe			Recommended Access Improvements
	Short	Medium	Long	
31			L	Relocate approach to east side of tax lot.
32	S			Maintain approach.
33			L	Combine Approaches 33 and 34 into one approach.
34				
E			L	Maintain approach. Add median dividers on OR 22 to channelize left turn movements.
35		M		Close approach.
36			L	Close approach.
37			L	Close approach.
38			L	Close approach.
39	S			Maintain approach.
40			L	Relocate approach to vacated NE Alder St.
F			L	Change approach from public to private. Relocate Approach 40 to this location.
41			L	Relocate approach.
42			L	Combine Approaches 42 and 43 into one approach.
43				
44	S			Maintain approach.
45	S			Maintain approach.
46			L	Close approach.
G			L	Maintain approach, but limit turn movements to eastbound and northbound right turns only.
47	S			Maintain approach.
48	S			Close approach when property redevelops.
49	S			Maintain approach.
H		M		Maintain approach on north side of OR 22. Close NE Birch St approach just north of OR 22 on NE 4th Ave.
	S			Maintain approach on south side of OR 22.
50	S			Maintain approach.
51	S			Maintain approach.
52	S			Maintain approach.
53	S			Maintain approach.
I	S			Maintain approaches on both sides of OR 22.
54	S			Maintain approach.
55	S			Maintain approach.
56	S			Maintain approach.
57	S			Close approach when property redevelops.
58	S			Close approach when property redevelops.
59	S			Close approach when property redevelops.
J			L	Change approach from public to private.
60	S			Close approach when property redevelops.
61	S			Maintain approach.

Approach No.	Improvement Timeframe			Recommended Access Improvements
	Short	Medium	Long	
62	S			Close approach when property redevelops.
63	S			Maintain approach.
K	S			Maintain approaches on both sides of OR 22.
64	S			Maintain approach.
65			L	Construct new approach on NE 7 th Ave when Approach 66 is closed.
66			L	Close approach. Construct new approach on NE 7th Ave.
67			L	Combine Approaches 67 and 68 into one approach.
68				
69	S			Close approach when property redevelops.
70	S			Maintain approach.
71	S			Maintain approach.
L				Close approach. Access to OR 22 is available via NE 7 th Ave.
72	S			Construct new approach on NW 7 th Ave when property redevelops and Approach 20 is closed.
73		M		Construct new approach that provides shared access between tax lots 93E30DA 2300 and 2200.
74	S			Maintain approach.
75	S			Maintain approach.
76	S			Maintain approach.
77			L	Combine Approaches 77 and 78 into one approach.
78				
79	S			Maintain approach.

APPENDIX E

Phasing Plan

APPENDIX F

Cost Estimates

NW 9th Avenue (Hwy 22 to NW Alder)

Cross Section: 32' Pavement Section w/ 5' sidewalk on east side

Prepared by Westech Engineering, Inc. & David W. Kinney, Community Development Consultant

May 21, 2007

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
STREET & STORM IMPROVEMENTS					
1.	Mobilization, Bonds, Permits and Insurance	225	L.F	\$15.00	\$3,375.00
2.	Clearing, Grubbing and Demolition	225	L.F	\$10.00	\$2,250.00
3.	Earthwork, Complete	225	L.F	\$20.00	\$4,500.00
4.	Aggregate Base 1"-0	225	L.F	\$60.00	\$13,500.00
5.	Concrete Work				
	a. PCC Curb & Gutter, Type A	450	L.F	\$10.00	\$4,500.00
	b. 5' PCC Sidewalk, 4-Inches Thick, Per Side	260	L.F	\$15.00	\$3,900.00
6.	AC Pavement	225	L.F	\$50.00	\$11,250.00
7.	Streetscape and Landscaping	225	L.F	\$20.00	\$4,500.00
8.	Street Lights:	225	L.F	\$30.00	\$6,750.00
9.	Signing and Striping	225	L.F	\$10.00	\$2,250.00
10.	Storm Drain Catch Basins	225	L.F	\$10.00	\$2,250.00
11.	Storm Drain Manholes	225	L.F	\$20.00	\$4,500.00
12.	Storm Drain Pipe, Complete	225	L.F	\$50.00	\$11,250.00
13.	Storm Drain Pipe, Complete (off-site NW 9th to Southwest)	150	L.F	\$50.00	\$7,500.00
14.	ROW Acquisition		SF	\$0.00	\$0.00
Total Street & Storm Construction Costs					\$82,275.00
1.	Plan Check and Permit Fees (±5%)	1	LS	5%	\$4,113.75
2.	Engineering Design Fees (±8%)	1	LS	8%	\$6,582.00
3.	Construction, Administration, and Inspection Fees (±8%)	1	LS	8%	\$6,582.00
4.	Legal and Administration Fees (±2%)	1	LS	2%	\$1,645.50
5.	Construction Contingency Allowance (±10%)	1	LS	10%	\$8,227.50
Total Engineering, Administration, and Contingency					\$27,150.75
TOTAL PROJECT COSTS					\$109,425.75

NW 7th Avenue (Hwy 22 to NW Alder)

Cross Section: 32' Pavement Section w/ 5' sidewalk on one side

Prepared by Westech Engineering, Inc. & David W. Kinney, Community Development Consultant

May 21, 2007

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
STREET & STORM IMPROVEMENTS					
1.	Mobilization, Bonds, Permits and Insurance	240	L.F	\$15.00	\$3,600.00
2.	Clearing, Grubbing and Demolition	240	L.F	\$10.00	\$2,400.00
3.	Earthwork, Complete	240	L.F	\$20.00	\$4,800.00
4.	Aggregate Base 1"-0	240	L.F	\$60.00	\$14,400.00
5.	Concrete Work				
	a. PCC Curb & Gutter, Type A, Both Sides	480	L.F	\$10.00	\$4,800.00
	b. 5' PCC Sidewalk, 4-Inches Thick, West side only	240	L.F	\$15.00	\$3,600.00
6.	AC Pavement	240	L.F	\$50.00	\$12,000.00
7.	Streetscape and Landscaping	240	L.F	\$20.00	\$4,800.00
8.	Street Lights	240	L.F	\$30.00	\$7,200.00
9.	Signing and Striping	240	L.F	\$10.00	\$2,400.00
10.	Storm Drain Catch Basins	240	L.F	\$10.00	\$2,400.00
11.	Storm Drain Manholes	240	L.F	\$20.00	\$4,800.00
12.	Storm Drain Pipe, Complete	240	L.F	\$50.00	\$12,000.00
Total Street & Storm Construction Costs					\$79,200.00
1.	Plan Check and Permit Fees (±5%)	1	LS	5%	\$3,960.00
2.	Engineering Design Fees (±8%)	1	LS	8%	\$6,336.00
3.	Construction, Administration, and Inspection Fees (±8%)	1	LS	8%	\$6,336.00
4.	Legal and Administration Fees (±2%)	1	LS	2%	\$1,584.00
5.	Construction Contingency Allowance (±10%)	1	LS	10%	\$7,920.00
Total Engineering, Administration, and Contingency					\$26,136.00
TOTAL PROJECT COSTS					\$105,336.00

NW 5th Avenue (Hwy 22 to NW Alder)

Cross Section: 32' Pavement Section w/ 5' sidewalk on both sides

Prepared by Westech Engineering, Inc. & David W. Kinney, Community Development Consultant

May 21, 2007

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
STREET & STORM IMPROVEMENTS					
1.	Mobilization, Bonds, Permits and Insurance	270	L.F	\$15.00	\$4,050.00
2.	Clearing, Grubbing and Demolition	270	L.F	\$10.00	\$2,700.00
3.	Earthwork, Complete	270	L.F	\$20.00	\$5,400.00
4.	Aggregate Base 1"-0	270	L.F	\$60.00	\$16,200.00
5.	Concrete Work				
	a. PCC Curb & Gutter, Type A, Both Sides	540	L.F	\$10.00	\$5,400.00
	b. 5' PCC Sidewalk, 4-Inches Thick, Per Side	300	L.F	\$15.00	\$4,500.00
6.	AC Pavement	270	L.F	\$50.00	\$13,500.00
7.	Streetscape and Landscaping	270	L.F	\$20.00	\$5,400.00
8.	Street Lights	270	L.F	\$30.00	\$8,100.00
9.	Signing and Striping	270	L.F	\$10.00	\$2,700.00
10.	Storm Drain Catch Basins	270	L.F	\$10.00	\$2,700.00
11.	Storm Drain Manholes	270	L.F	\$20.00	\$5,400.00
12.	Storm Drain Pipe, Complete	270	L.F	\$50.00	\$13,500.00
Total Street & Storm Construction Costs					\$89,550.00
1.	Plan Check and Permit Fees (±5%)	1	LS	5%	\$4,477.50
2.	Engineering Design Fees (±8%)	1	LS	8%	\$7,164.00
3.	Construction, Administration, and Inspection Fees (±8%)	1	LS	8%	\$7,164.00
4.	Legal and Administration Fees (±2%)	1	LS	2%	\$1,791.00
5.	Construction Contingency Allowance (±10%)	1	LS	10%	\$8,955.00
Total Engineering, Administration, and Contingency					\$29,551.50
TOTAL PROJECT COSTS					\$119,101.50

NW 2nd Avenue & N 1st Avenue (Hwy 22 to N. Santiam River Bridge)

Cross Section: 36' Pavement Section w/ 5' sidewalk on both sides

Prepared by Westech Engineering, Inc. & David W. Kinney, Community Development Consultant

May 21, 2007

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
STREET & STORM IMPROVEMENTS					
1.	Mobilization, Bonds, Permits and Insurance	800	L.F	\$15.00	\$12,000.00
2.	Clearing, Grubbing and Demolition	800	L.F	\$10.00	\$8,000.00
3.	Earthwork, Complete	800	L.F	\$20.00	\$16,000.00
4.	Aggregate Base 1"-0	800	L.F	\$60.00	\$48,000.00
5.	Concrete Work				
	a. PCC Curb & Gutter, Type A, Both Sides	800	L.F	\$10.00	\$8,000.00
	b. 5' PCC Sidewalk, 4-Inches Thick, New & Replace	800	L.F	\$15.00	\$12,000.00
6.	AC Pavement	800	L.F	\$50.00	\$40,000.00
	a. Xtra Paving @ Hammond Building	2,000	S. F.	\$4.00	\$8,000.00
7.	Streetscape and Landscaping				
	a. General, including street furnishings	800	L.F	\$20.00	\$16,000.00
	b. NW 2nd Entry Point to Mill City	1	LS	\$10,000.00	\$10,000.00
	c. NW 2nd Entry Sign	1	LS	\$5,000.00	\$5,000.00
	d. Art Wall	1	LS	\$7,500.00	\$7,500.00
	e. Pedestrian Overlook/Viewpoint	1	LS	\$20,000.00	\$20,000.00
8.	Street Lights: Decorative lighting	15	EA	\$4,000.00	\$60,000.00
9a.	Signing and Striping	800	L.F	\$10.00	\$8,000.00
9b.	Intersection Signing & Striping	800	L.F	\$20.00	\$16,000.00
9c.	Intersection/Crosswalk Stamped Concrete Work				
	a. NW 2nd @ Circle K	1	LS	\$3,000.00	\$3,000.00
	b. N First (@ RR Bridge)	1	LS	\$3,000.00	\$3,000.00
	c. NE Wall Street @ 1st	1	LS	\$3,000.00	\$3,000.00
10.	Storm Drain Catch Basins	400	L.F	\$10.00	\$4,000.00
11.	Storm Drain Manholes	400	L.F	\$20.00	\$8,000.00
12.	Storm Drain Pipe, Complete	400	L.F	\$50.00	\$20,000.00
13.	Traffic Control & Temporary Signage	1	LS	\$25,000.00	\$25,000.00
Total Street & Storm Construction Costs					\$360,500.00
1.	Plan Check and Permit Fees (±5%)	1	LS	5%	\$18,025.00
2.	Engineering Design Fees (±8%)	1	LS	8%	\$28,840.00
3.	Construction, Administration, and Inspection Fees (±8%)	1	LS	8%	\$28,840.00
4.	Legal and Administration Fees (±2%)	1	LS	2%	\$7,210.00
5.	Construction Contingency Allowance (±10%)	1	LS	10%	\$36,050.00
Total Engineering, Administration, and Contingency					\$118,965.00
TOTAL PROJECT COSTS					\$479,465.00

NE 4th Avenue (Hwy 22 to NE Alder)

Cross Section: 32' Pavement Section w/ 5' sidewalk on both sides

Prepared by Westech Engineering, Inc. & David W. Kinney, Community Development Consultant

May 21, 2007

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
STREET & STORM IMPROVEMENTS					
1.	Mobilization, Bonds, Permits and Insurance	220	L.F	\$15.00	\$3,300.00
2.	Clearing, Grubbing and Demolition	220	L.F	\$10.00	\$2,200.00
3.	Earthwork, Complete	220	L.F	\$20.00	\$4,400.00
4.	Aggregate Base 1"-0	220	L.F	\$60.00	\$13,200.00
5.	Concrete Work				
	a. PCC Curb & Gutter, Type A, Both Sides	440	L.F	\$10.00	\$4,400.00
	b. 6' PCC Sidewalk, 4-Inches Thick, Per Side	220	L.F	\$18.00	\$3,960.00
6.	AC Pavement	220	L.F	\$50.00	\$11,000.00
7.	Streetscape and Landscaping	220	L.F	\$20.00	\$4,400.00
8.	Street Lights	220	L.F	\$30.00	\$6,600.00
9.	Signing and Striping	220	L.F	\$10.00	\$2,200.00
10.	Storm Drain Catch Basins	220	L.F	\$10.00	\$2,200.00
11.	Storm Drain Manholes	220	L.F	\$20.00	\$4,400.00
12.	Storm Drain Pipe, Complete	220	L.F	\$50.00	\$11,000.00
13.	ROW Acquisition				
	a. West side		SF	\$4.00	\$0.00
	b. East side		SF	\$4.00	\$0.00
Total Street & Storm Construction Costs					\$73,260.00
1.	Plan Check and Permit Fees (±5%)	1	LS	5%	\$3,663.00
2.	Engineering Design Fees (±8%)	1	LS	8%	\$5,860.80
3.	Construction, Administration, and Inspection Fees (±8%)	1	LS	8%	\$5,860.80
4.	Legal and Administration Fees (±2%)	1	LS	2%	\$1,465.20
5.	Construction Contingency Allowance (±10%)	1	LS	10%	\$7,326.00
Total Engineering, Administration, and Contingency					\$24,175.80
TOTAL PROJECT COSTS					\$97,435.80

NE 5th Avenue (Hwy 22 to NE Alder)

Cross Section: 32' Pavement Section w/ 5' sidewalk on both sides

Prepared by Westech Engineering, Inc. & David W. Kinney, Community Development Consultant

May 21, 2007

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
STREET & STORM IMPROVEMENTS					
1.	Mobilization, Bonds, Permits and Insurance	220	L.F	\$15.00	\$3,300.00
2.	Clearing, Grubbing and Demolition	220	L.F	\$10.00	\$2,200.00
3.	Earthwork, Complete	220	L.F	\$20.00	\$4,400.00
4.	Aggregate Base 1"-0	220	L.F	\$60.00	\$13,200.00
5.	Concrete Work				
	a. PCC Curb & Gutter, Type A, Both Sides	440	L.F	\$10.00	\$4,400.00
	b. 6' PCC Sidewalk, 4-Inches Thick, Per Side	220	L.F	\$18.00	\$3,960.00
6.	AC Pavement	220	L.F	\$50.00	\$11,000.00
7.	Streetscape and Landscaping	220	L.F	\$20.00	\$4,400.00
8.	Street Lights	220	L.F	\$30.00	\$6,600.00
9.	Signing and Striping	220	L.F	\$10.00	\$2,200.00
10.	Storm Drain Catch Basins	220	L.F	\$10.00	\$2,200.00
11.	Storm Drain Manholes	220	L.F	\$20.00	\$4,400.00
12.	Storm Drain Pipe, Complete	220	L.F	\$50.00	\$11,000.00
13.	ROW Acquisition				
	a. West side		SF	\$4.00	\$0.00
	b. East side		SF	\$4.00	\$0.00
Total Street & Storm Construction Costs					\$73,260.00
1.	Plan Check and Permit Fees (±5%)	1	LS	5%	\$3,663.00
2.	Engineering Design Fees (±8%)	1	LS	8%	\$5,860.80
3.	Construction, Administration, and Inspection Fees (±8%)	1	LS	8%	\$5,860.80
4.	Legal and Administration Fees (±2%)	1	LS	2%	\$1,465.20
5.	Construction Contingency Allowance (±10%)	1	LS	10%	\$7,326.00
Total Engineering, Administration, and Contingency					\$24,175.80
TOTAL PROJECT COSTS					\$97,435.80

NE 7th Avenue (Hwy 22 to NE Alder)

Prepared by Westech Engineering, Inc. & David W. Kinney, Community Development Consultant

Cross Section: 32' Pavement Section w/ 5' sidewalk on both sides

May 21, 2007

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
STREET & STORM IMPROVEMENTS					
1.	Mobilization, Bonds, Permits and Insurance	270	L.F	\$15.00	\$4,050.00
2.	Clearing, Grubbing and Demolition	270	L.F	\$10.00	\$2,700.00
3.	Earthwork, Complete	270	L.F	\$20.00	\$5,400.00
4.	Aggregate Base 1"-0	270	L.F	\$60.00	\$16,200.00
5.	Concrete Work				
	a. PCC Curb & Gutter, Type A, Both Sides	540	L.F	\$10.00	\$5,400.00
	b. 6' PCC Sidewalk, 4-Inches Thick, Per Side	540	L.F	\$15.00	\$8,100.00
6.	AC Pavement	270	L.F	\$50.00	\$13,500.00
7.	Streetscape and Landscaping	270	L.F	\$20.00	\$5,400.00
8.	Street Lights	270	L.F	\$30.00	\$8,100.00
9.	Signing and Striping	270	L.F	\$10.00	\$2,700.00
10.	Storm Drain Catch Basins	270	L.F	\$10.00	\$2,700.00
11.	Storm Drain Manholes	270	L.F	\$20.00	\$5,400.00
12.	Storm Drain Pipe, Complete	270	L.F	\$50.00	\$13,500.00
Total Street & Storm Construction Costs					\$93,150.00
1.	Plan Check and Permit Fees (±5%)	1	LS	5%	\$4,657.50
2.	Engineering Design Fees (±8%)	1	LS	8%	\$7,452.00
3.	Construction, Administration, and Inspection Fees (±8%)	1	LS	8%	\$7,452.00
4.	Legal and Administration Fees (±2%)	1	LS	2%	\$1,863.00
5.	Construction Contingency Allowance (±10%)	1	LS	10%	\$9,315.00
Total Engineering, Administration, and Contingency					\$30,739.50
TOTAL PROJECT COSTS					\$123,889.50

NW Alder Street (NW 7th to NW 9th)

Cross Section: 30' Pavement Section w/ 7.5' sidewalk on north side

Prepared by Westech Engineering, Inc. & David W. Kinney, Community Development Consultant

May 21, 2007

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
STREET & STORM IMPROVEMENTS					
1.	Mobilization, Bonds, Permits and Insurance	860	L.F	\$15.00	\$12,900.00
2.	Clearing, Grubbing and Demolition	860	L.F	\$10.00	\$8,600.00
3.	Earthwork, Complete	860	L.F	\$20.00	\$17,200.00
4.	Aggregate Base 1"-0	860	L.F	\$60.00	\$51,600.00
5.	Concrete Work				
	a. PCC Curb & Gutter, Type A, Both Sides	1,720	L.F	\$10.00	\$17,200.00
	b. 7.5' PCC Sidewalk, 4-Inches Thick, Per Side	860	L.F	\$22.50	\$19,350.00
6.	AC Pavement	860	L.F	\$50.00	\$43,000.00
7.	Streetscape and Landscaping	860	L.F	\$20.00	\$17,200.00
8.	Street Lights	860	L.F	\$30.00	\$25,800.00
9.	Signing and Striping	860	L.F	\$10.00	\$8,600.00
10.	Storm Drain Catch Basins	860	L.F	\$10.00	\$8,600.00
11.	Storm Drain Manholes	860	L.F	\$20.00	\$17,200.00
12.	Storm Drain Pipe, Complete	860	L.F	\$50.00	\$43,000.00
Total Street & Storm Construction Costs					\$290,250.00
1.	Plan Check and Permit Fees (±5%)	1	LS	5%	\$14,512.50
2.	Engineering Design Fees (±8%)	1	LS	8%	\$23,220.00
3.	Construction, Administration, and Inspection Fees (±8%)	1	LS	8%	\$23,220.00
4.	Legal and Administration Fees (±2%)	1	LS	2%	\$5,805.00
5.	Construction Contingency Allowance (±10%)	1	LS	10%	\$29,025.00
Total Engineering, Administration, and Contingency					\$95,782.50
TOTAL PROJECT COSTS					\$386,032.50

NW Alder Street (NW 5th to NW 7th)

Cross Section: 30' Pavement Section w/ 7.5' sidewalk on north side

Prepared by Westech Engineering, Inc. & David W. Kinney, Community Development Consultant

May 21, 2007

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
STREET & STORM IMPROVEMENTS					
1.	Mobilization, Bonds, Permits and Insurance	400	L.F	\$15.00	\$6,000.00
2.	Clearing, Grubbing and Demolition	400	L.F	\$10.00	\$4,000.00
3.	Earthwork, Complete	400	L.F	\$20.00	\$8,000.00
4.	Aggregate Base 1"-0	400	L.F	\$60.00	\$24,000.00
5.	Concrete Work				
	a. PCC Curb & Gutter, Type A, Both Sides	800	L.F	\$10.00	\$8,000.00
	b. 7.5' PCC Sidewalk, 4-Inches Thick, Per Side	400	L.F	\$22.50	\$9,000.00
6.	AC Pavement	400	L.F	\$50.00	\$20,000.00
7.	Streetscape and Landscaping	400	L.F	\$20.00	\$8,000.00
8.	Street Lights	400	L.F	\$30.00	\$12,000.00
9.	Signing and Striping	400	L.F	\$10.00	\$4,000.00
10.	Storm Drain Catch Basins	400	L.F	\$10.00	\$4,000.00
11.	Storm Drain Manholes	400	L.F	\$20.00	\$8,000.00
12.	Storm Drain Pipe, Complete	400	L.F	\$50.00	\$20,000.00
Total Street & Storm Construction Costs					\$135,000.00
1.	Plan Check and Permit Fees (±5%)	1	LS	5%	\$6,750.00
2.	Engineering Design Fees (±8%)	1	LS	8%	\$10,800.00
3.	Construction, Administration, and Inspection Fees (±8%)	1	LS	8%	\$10,800.00
4.	Legal and Administration Fees (±2%)	1	LS	2%	\$2,700.00
5.	Construction Contingency Allowance (±10%)	1	LS	10%	\$13,500.00
Total Engineering, Administration, and Contingency					\$44,550.00
TOTAL PROJECT COSTS					\$179,550.00

NW Alder Street (for 300' east of NW 5th)

Cross Section: 32' Pavement Section w/ 5.5' sidewalk on north side

Prepared by Westech Engineering, Inc. & David W. Kinney, Community Development Consultant

May 21, 2007

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
STREET & STORM IMPROVEMENTS					
1.	Mobilization, Bonds, Permits and Insurance	300	L.F	\$15.00	\$4,500.00
2.	Clearing, Grubbing and Demolition	300	L.F	\$10.00	\$3,000.00
3.	Earthwork, Complete	300	L.F	\$20.00	\$6,000.00
4.	Aggregate Base 1"-0	300	L.F	\$60.00	\$18,000.00
5.	Concrete Work				
	a. PCC Curb & Gutter, Type A, Both Sides	600	L.F	\$10.00	\$6,000.00
	b. 5.5' PCC Sidewalk, 4-Inches Thick, Per Side	300	L.F	\$16.50	\$4,950.00
6.	AC Pavement	300	L.F	\$50.00	\$15,000.00
7.	Streetscape and Landscaping				
	a. General Streetscape & Landscaping	300	L.F	\$20.00	\$6,000.00
	b. Stamped Concrete Crosswalk	1	LS	\$4,000.00	\$4,000.00
	c. Overlook area at River Rd. & NW Alder intersection	1	LS	\$8,000.00	\$8,000.00
8.	Street Lights	300	L.F	\$30.00	\$9,000.00
9.	Signing and Striping	300	L.F	\$10.00	\$3,000.00
10.	Storm Drain Catch Basins	300	L.F	\$10.00	\$3,000.00
11.	Storm Drain Manholes	300	L.F	\$20.00	\$6,000.00
12.	Storm Drain Pipe, Complete	300	L.F	\$50.00	\$15,000.00
Total Street & Storm Construction Costs					\$111,450.00
1.	Plan Check and Permit Fees (±5%)	1	LS	5%	\$5,572.50
2.	Engineering Design Fees (±8%)	1	LS	8%	\$8,916.00
3.	Construction, Administration, and Inspection Fees (±8%)	1	LS	8%	\$8,916.00
4.	Legal and Administration Fees (±2%)	1	LS	2%	\$2,229.00
5.	Construction Contingency Allowance (±10%)	1	LS	10%	\$11,145.00
Total Engineering, Administration, and Contingency					\$36,778.50
TOTAL PROJECT COSTS					\$148,228.50

NW Alder Street (NW 2nd west 700' to existing NW River Rd.)

Cross Section: 30' Pavement Section w/ 5' sidewalk on both sides

Prepared by Westech Engineering, Inc. & David W. Kinney, Community Development Consultant

May 21, 2007

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
STREET & STORM IMPROVEMENTS					
1.	Mobilization, Bonds, Permits and Insurance	700	LS	\$15.00	\$10,500.00
2.	Clearing, Grubbing and Demolition	100	L.F	\$10.00	\$1,000.00
3.	Earthwork, Complete	0	L.F	\$20.00	\$0.00
4.	Aggregate Base 1"-0	0	L.F	\$60.00	\$0.00
5.	Concrete Work				
	a. Reconstruct 6 driveway approaches	6	L.F	\$3,000.00	\$18,000.00
	b. 5' PCC Sidewalk, 4-Inches Thick, Per Side	100	L.F	\$15.00	\$1,500.00
6.	AC Pavement -- 2" Overlay	700	L.F	\$25.00	\$17,500.00
7.	Streetscape and Landscaping	700	L.F	\$20.00	\$14,000.00
8.	Street Lights	700	L.F	\$30.00	\$21,000.00
9.	Signing and Striping	700	L.F	\$10.00	\$7,000.00
10.	Storm Drain Catch Basins	0	L.F	\$10.00	\$0.00
11.	Storm Drain Manholes	0	L.F	\$20.00	\$0.00
12.	Storm Drain Pipe, Complete	0	L.F	\$50.00	\$0.00
Total Street & Storm Construction Costs					\$90,500.00
1.	Plan Check and Permit Fees (±5%)	1	LS	5%	\$4,525.00
2.	Engineering Design Fees (±8%)	1	LS	8%	\$7,240.00
3.	Construction, Administration, and Inspection Fees (±8%)	1	LS	8%	\$7,240.00
4.	Legal and Administration Fees (±2%)	1	LS	2%	\$1,810.00
5.	Construction Contingency Allowance (±10%)	1	LS	10%	\$9,050.00
Total Engineering, Administration, and Contingency					\$29,865.00
TOTAL PROJECT COSTS					\$120,365.00

NE Wall Street (1st to NE Alder)

Cross Section: Use Existing Pavement Section w/ existing sidewalks on both sides where possible

Prepared by Westech Engineering, Inc. & David W. Kinney, Community Development Consultant

May 21, 2007

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
STREET & STORM IMPROVEMENTS					
1.	Mobilization, Bonds, Permits and Insurance	700	L.F	\$15.00	\$10,500.00
2.	Clearing, Grubbing and Demolition		L.F	\$10.00	\$0.00
3.	Earthwork, Complete		L.F	\$20.00	\$0.00
4.	Aggregate Base 1"-0		L.F	\$60.00	\$0.00
5.	Concrete Work				
	a. Replace/Widen PCC sidewalk north side (1st to Museum)	175	L.F	\$15.00	\$2,625.00
	b. Sidewalk transition to 8' walk at NE Alder Street	100	L.F	\$24.00	\$2,400.00
	c. Adjacent to old Wtr Plant site	100	L.F	\$24.00	\$2,400.00
6.	AC Pavement - 2" Overlay	700	L.F	\$25.00	\$17,500.00
7.	Streetscape and Landscaping	700	L.F	\$20.00	\$14,000.00
8.	Street Lights	13	Ea	\$4,000.00	\$52,000.00
9.	Signing and Striping	700	L.F	\$10.00	\$7,000.00
9c.	Intersection/Crosswalk Stamped Concrete Work				
	a. NE Wall @ Museum	0	L.F		\$0.00
10.	Storm Drain Catch Basins		L.F	\$10.00	\$0.00
11.	Storm Drain Manholes		L.F	\$20.00	\$0.00
12.	Storm Drain Pipe, Complete		L.F	\$50.00	\$0.00
Total Street & Storm Construction Costs					\$108,425.00
1.	Plan Check and Permit Fees (±5%)	1	LS	5%	\$5,421.25
2.	Engineering Design Fees (±8%)	1	LS	8%	\$8,674.00
3.	Construction, Administration, and Inspection Fees (±8%)	1	LS	8%	\$8,674.00
4.	Legal and Administration Fees (±2%)	1	LS	2%	\$2,168.50
5.	Construction Contingency Allowance (±10%)	1	LS	10%	\$10,842.50
Total Engineering, Administration, and Contingency					\$35,780.25
TOTAL PROJECT COSTS					\$144,205.25

NE Alder & NE 3rd Avenue (Poppa AI's to NE 3rd)

NE 3rd Avenue (Hwy 22 to NE Alder)

Cross Section: 30' Pavement Section w/ 5' sidewalk on north side

Prepared by Westech Engineering, Inc. & David W. Kinney, Community Development Consultant

May 21, 2007

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
STREET & STORM IMPROVEMENTS					
1.	Mobilization, Bonds, Permits and Insurance	540	L.F	\$15.00	\$8,100.00
2.	Clearing, Grubbing and Demolition	540	L.F	\$10.00	\$5,400.00
3.	Earthwork, Complete	540	L.F	\$20.00	\$10,800.00
4.	Aggregate Base 1"-0	540	L.F	\$60.00	\$32,400.00
5.	Concrete Work				
	a. PCC Curb & Gutter, Type A, Both Sides	1,080	L.F	\$10.00	\$10,800.00
	b. 5' PCC Sidewalk, 4-Inches Thick, Per Side	540	L.F	\$15.00	\$8,100.00
6.	AC Pavement	540	L.F	\$50.00	\$27,000.00
7.	Streetscape and Landscaping	540	L.F	\$20.00	\$10,800.00
8.	Street Lights	540	L.F	\$30.00	\$16,200.00
9.	Signing and Striping	540	L.F	\$10.00	\$5,400.00
10.	Storm Drain Catch Basins	540	L.F	\$10.00	\$5,400.00
11.	Storm Drain Manholes	540	L.F	\$20.00	\$10,800.00
12.	Storm Drain Pipe, Complete	540	L.F	\$50.00	\$27,000.00
Total Street & Storm Construction Costs					\$178,200.00
1.	Plan Check and Permit Fees (±5%)	1	LS	5%	\$8,910.00
2.	Engineering Design Fees (±8%)	1	LS	8%	\$14,256.00
3.	Construction, Administration, and Inspection Fees (±8%)	1	LS	8%	\$14,256.00
4.	Legal and Administration Fees (±2%)	1	LS	2%	\$3,564.00
5.	Construction Contingency Allowance (±10%)	1	LS	10%	\$17,820.00
Total Engineering, Administration, and Contingency					\$58,806.00
TOTAL PROJECT COSTS					\$237,006.00

NE Alder Street (NE 3rd to NE 7th) NE Alder Street (Turnaround at east end)

Cross Section: 30' Pavement Section w/ 5' sidewalk on north side

Prepared by Westech Engineering, Inc. & David W. Kinney, Community Development Consultant

May 21, 2007

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
STREET & STORM IMPROVEMENTS					
1.	Mobilization, Bonds, Permits and Insurance	1,000	L.F	\$15.00	\$15,000.00
2.	Clearing, Grubbing and Demolition	1,000	L.F	\$10.00	\$10,000.00
3.	Earthwork, Complete	1,000	L.F	\$20.00	\$20,000.00
4.	Aggregate Base 1"-0	1,000	L.F	\$60.00	\$60,000.00
5.	Concrete Work				
	a. PCC Curb & Gutter, Type A, North Side	1,000	L.F	\$10.00	\$10,000.00
	b. 5' PCC Sidewalk, 4-Inches Thick, Per Side	1,000	L.F	\$15.00	\$15,000.00
6.	AC Pavement	1,000	L.F	\$50.00	\$50,000.00
7.	Streetscape and Landscaping	1,000	L.F	\$20.00	\$20,000.00
8.	Street Lights	1,000	L.F	\$30.00	\$30,000.00
9.	Signing and Striping	1,000	L.F	\$10.00	\$10,000.00
10.	Storm Drain Catch Basins	1,000	L.F	\$10.00	\$10,000.00
11.	Storm Drain Manholes	1,000	L.F	\$20.00	\$20,000.00
12.	Storm Drain Pipe, Complete	1,000	L.F	\$50.00	\$50,000.00
13.	10" Water Main Complete (on NE Alder from NE 5th to NE 7th)	450	L.F	\$70.00	\$31,500.00
14.	10" Water Main Complete (on NE 7th from NE Alder to Hwy 22)	300	L.F	\$70.00	\$21,000.00
15.	NE Alder Closure & Turnaround	1	LS	\$20,000.00	\$20,000.00
Total Street & Storm Construction Costs					\$320,000.00
1.	Plan Check and Permit Fees (±5%)	1	LS	5%	\$16,000.00
2.	Engineering Design Fees (±8%)	1	LS	8%	\$25,600.00
3.	Construction, Administration, and Inspection Fees (±8%)	1	LS	8%	\$25,600.00
4.	Legal and Administration Fees (±2%)	1	LS	2%	\$6,400.00
5.	Construction Contingency Allowance (±10%)	1	LS	10%	\$32,000.00
Total Engineering, Administration, and Contingency					\$105,600.00
TOTAL PROJECT COSTS					\$425,600.00

APPENDIX G

Deviation Approval Memorandum



INTEROFFICE MEMO

TO: Mike Long, Region-2 Project Delivery Manager

FROM: Dave Warren, P.E., Region-2 Access Management Engineer

DATE: June 1, 2007

SUBJECT: Standards Deviations for the OR 22 Mill City Access Management Plan

I have reviewed the access management measures for OR 22 (North Santiam Highway, Highway No. 162) that are included in the OR 22 Mill City Access Management Plan (AMP). On the basis of this review, I am authorizing the deviations noted in the AMP, which are the result of an extensive public involvement process conducted by the City of Mill City and are intended to address problems with vehicles parking in the highway right-of-way, vehicles backing into the highway, and the need to modernize OR 22 in response to growing capacity, pedestrian, and bicycle needs.

On OR 22, the spacing between public and private approaches is below the standard at the specified locations shown below, which is largely the result of years of unregulated construction of approaches to the highway. The AMP proposes a phased approach to correcting poor approach spacing that acknowledges the constraints to relocating and consolidating property access, including limited parcel sizes, lack of reasonable alternate access, and existing development patterns and site circulation. While not all recommended approach locations will meet the spacing standards, the actions from this AMP will move in the direction of meeting the standards and will contribute to improved operations and safety on OR 22. Full compliance with access spacing standards would result in significantly more impacts to businesses and residences, and the potential for significantly increased costs.

Deviations are listed for both permanent and temporary approaches. Permanent approaches are those allowed along OR 22 as part of the long-term access management strategy. Temporary approaches are allowed along OR 22 to support existing land uses but must be closed when the adjacent property redevelops. The authorized deviations are listed herein:

**Authorized Deviations to Access Management Spacing Standards
for Permanent Approaches—
OR 22 Mill City Access Management Plan
Required Spacing Distance from Table 1 in OAR 734-051-0115
(Table 13 in Oregon Highway Plan)**

Approach Locations	Spacing Distance (feet)	
	Actual	Required
OR 22- North Side		
Private Approach #1 (MP 29.47)	470	990
Private Approach #4 (MP 29.58)	400	990
Private Approach #12/14 (MP 29.66)	520	990
NW 7 th Ave (Public Street, MP 29.75)	400	990
Private Approach #23 (MP 29.83)	600	990
Private Approach #29/30 (MP 29.94)	200	990
Private Approach #32 (MP 30.03)	N/A (1570)	990
Private Approach #42/43 (MP 30.27)	530	990
NE 4 th Ave (Public Street, MP 30.37)	170	990
Private Approach #52 (MP 30.41)	120	990
NE 5 th Ave (Public Street, MP 30.43)	220	990
Private Approach #J (MP 30.47) (formerly NE 6 th Ave)	240	990
NE 7 th Ave (Public Street, MP 30.51)	170	990
Private Approach #67/68 (MP 30.54)	250	990
Private Approach #70 (MP 30.58)		
OR 22- South Side		
Private Approach #3 (MP 29.53)	240	990
NW 9 th Ave (Public Street, MP 29.58)	110	990
Private Approach #8 (MP 29.60)	290	990
Private Approach #13 (MP 29.66)	230	990
Private Approach #15/16 (MP 29.70)	290	990
NW 7 th Ave (Public Street, MP 29.75)	270	990
Private Approach #19/21 (MP 29.78)	230	990

Approach Locations	Spacing Distance (feet)	
	Actual	Required
NW 5 th Ave (Public Street, MP 29.83)	250	990
Private Approach #27 (MP 29.88)	320	990
Private Approach #73 (MP 29.94)	180	990
Private Approach #31 (MP 29.97)	150	990
Private Approach #33/34 (MP 30.00)	140	990
NW 2 nd Ave (Public Street, MP 30.03)	720	990
Private Approach #39 (MP 30.16)	310	990
Private Approach #40 (MP 30.22)	170	990
Private Approach #41 (MP 30.25)	210	990
Private Approach #44 (MP 30.29)	130	990
NE 3 rd Ave (Public Street, MP 30.32)	280	990
NE 4 th Ave (Public Street, MP 30.37)	280	990
NE 5 th Ave (Public Street, MP 30.43)	360	990
NE 7 th Ave (Public Street, MP 30.51)	190	990
Private Approach #74 (MP 30.55)	230	990
Private Approach #71 (30.59)		

N/A = Not applicable

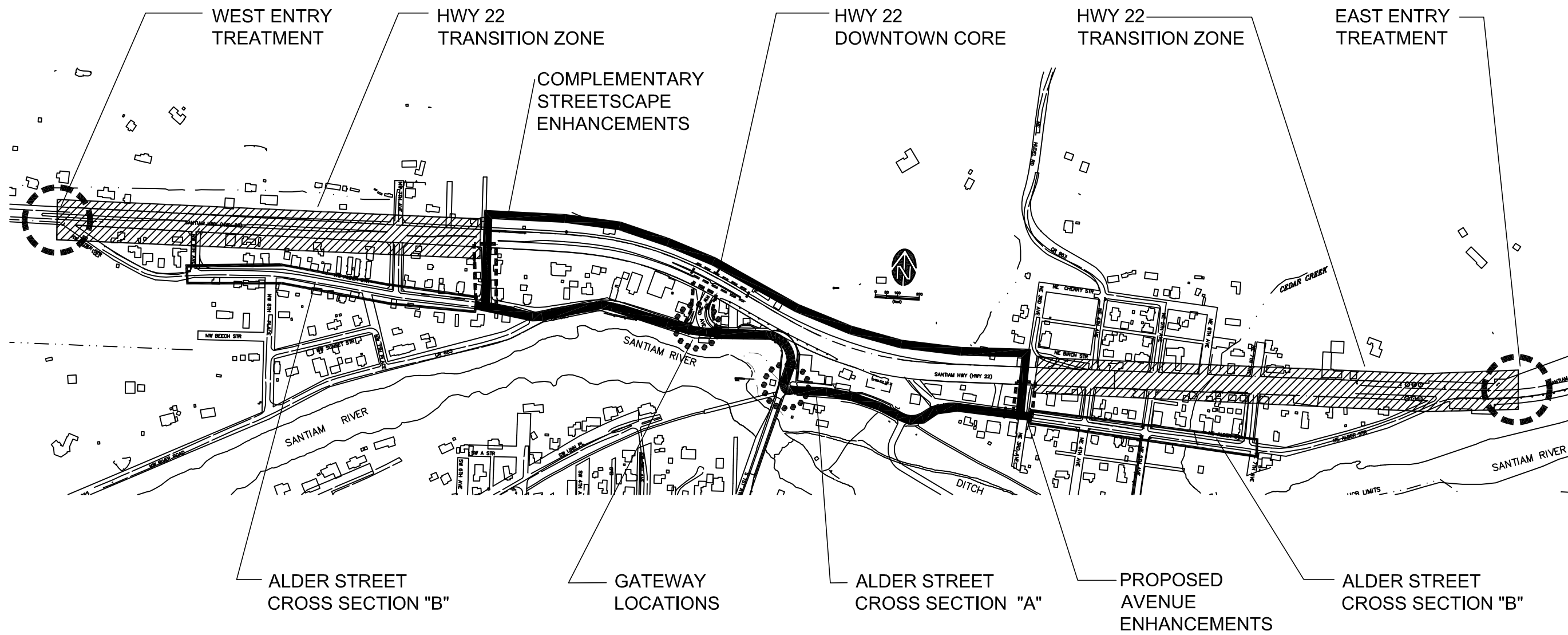
**Authorized Deviations to Access Management Spacing Standards
for Temporary Approaches–
OR 22 Mill City Access Management Plan
Required Spacing Distance from Table 1 in OAR 734-051-0115
(Table 13 in Oregon Highway Plan)**

Temporary Approach Location	Spacing Distance (feet)		
	Actual- Approach to West	Actual- Approach to East	Required
OR 22- North Side			
Private Approach #10 (MP 29.60)	Private Approach #4: 100	Private Approach #12/14: 300	990
Private Approach #20 (MP 29.77)	NW 7 th Ave: 120	Private Approach #23: 280	990
Private Approach #26 (MP 29.88)	Private Approach #23: 270	Private Approach #29/30: 330	990
Private Approach #60 (MP 30.50)	Private Approach #J: 160	NE 7 th Ave: 80	990
Private Approach #69 (MP 30.57)	Private Approach #67/68: 120	Private Approach #70: 130	990
OR 22- South Side			
Private Approach #15 (MP 29.69)	Private Approach #13: 180	Private Approach #15/16: 50	990
Private Approach #16 (MP 29.72)	Private Approach #15/16: 140	NW 7 th Ave: 160	990
Private Approach #28 (MP 29.90)	Private Approach #27: 140	Private Approach #73: 190	990
Private Approach #48 (MP 30.35)	NE 3 rd Ave: 140	NE 4 th Ave: 140	990
Private Approach #59 (MP 30.46)	NE 5 th Ave: 150	Private Approach #62: 180	990
Private Approach #62 (MP 30.49)	Private Approach #59: 180	NE 7 th Ave: 120	990

cc: Dan Fricke, ODOT District-3 Planner
 Jamie Hollenbeak, ODOT Region 2 AMPC
 Kelly Amador, ODOT Area-3 Project Leader

APPENDIX H

Streetscape Plans



NO.	DATE	DESCRIPTION	BY
1	JAN 2007	FINAL PLAN	

VERIFY SCALE
 0 1"
 IS NOT ONE INCH ON
 SCALES ACCORDINGLY

DSN. TL
 DRN. MD
 CKD. TL
 DATE: 04/08

700 Washington Street, Suite #401
 Vancouver, WA 98660
 Phone: (360) 737-8600
 FAX: (360) 737-8601

otak

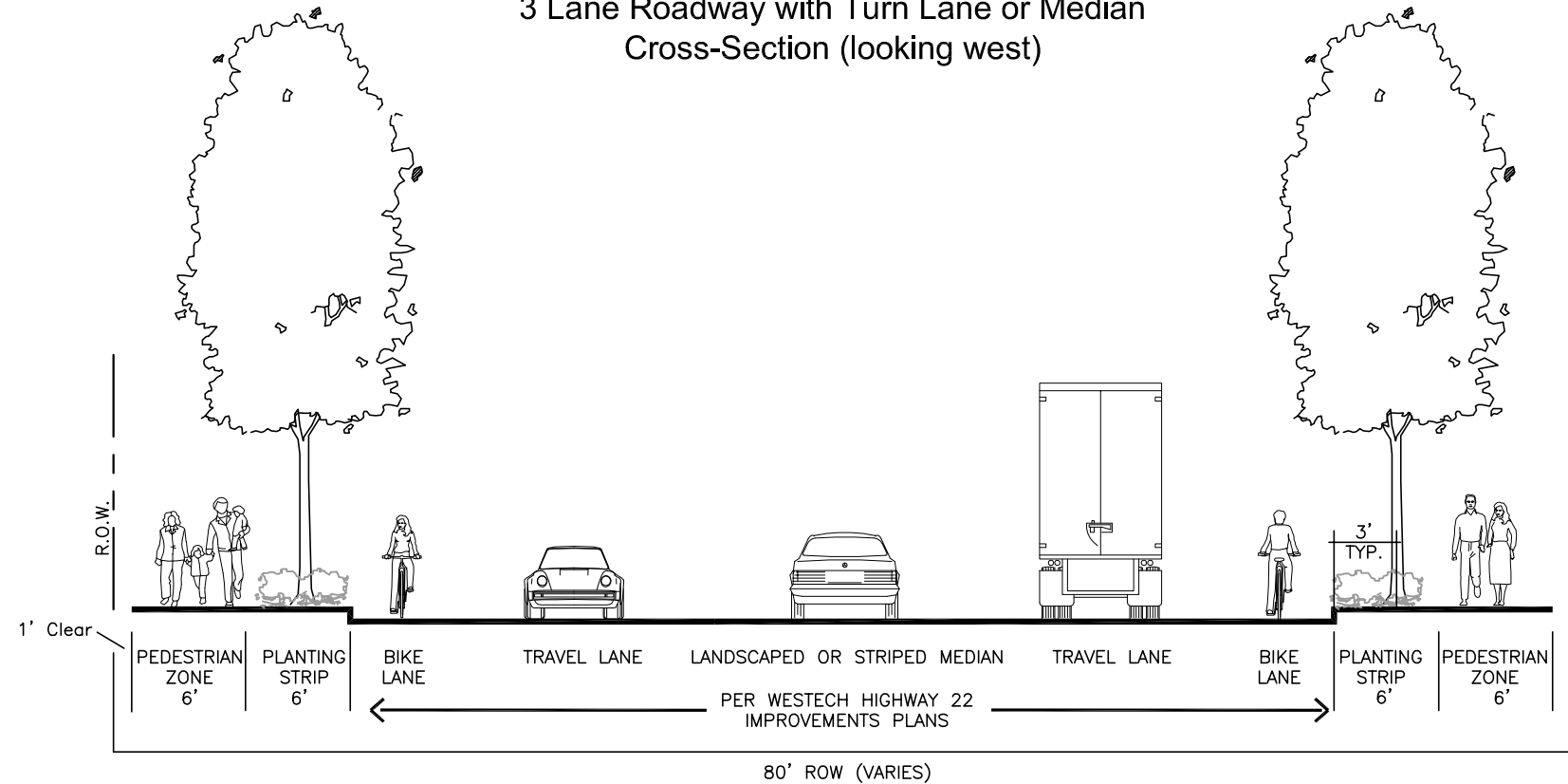
WE
 WESTTECH ENGINEERING, INC.
 CONSULTING ENGINEERS AND PLANNERS

3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
 Phone: (503) 585-2474 Fax: (503) 585-3986
 E-mail: westtech@westtech-eng.com

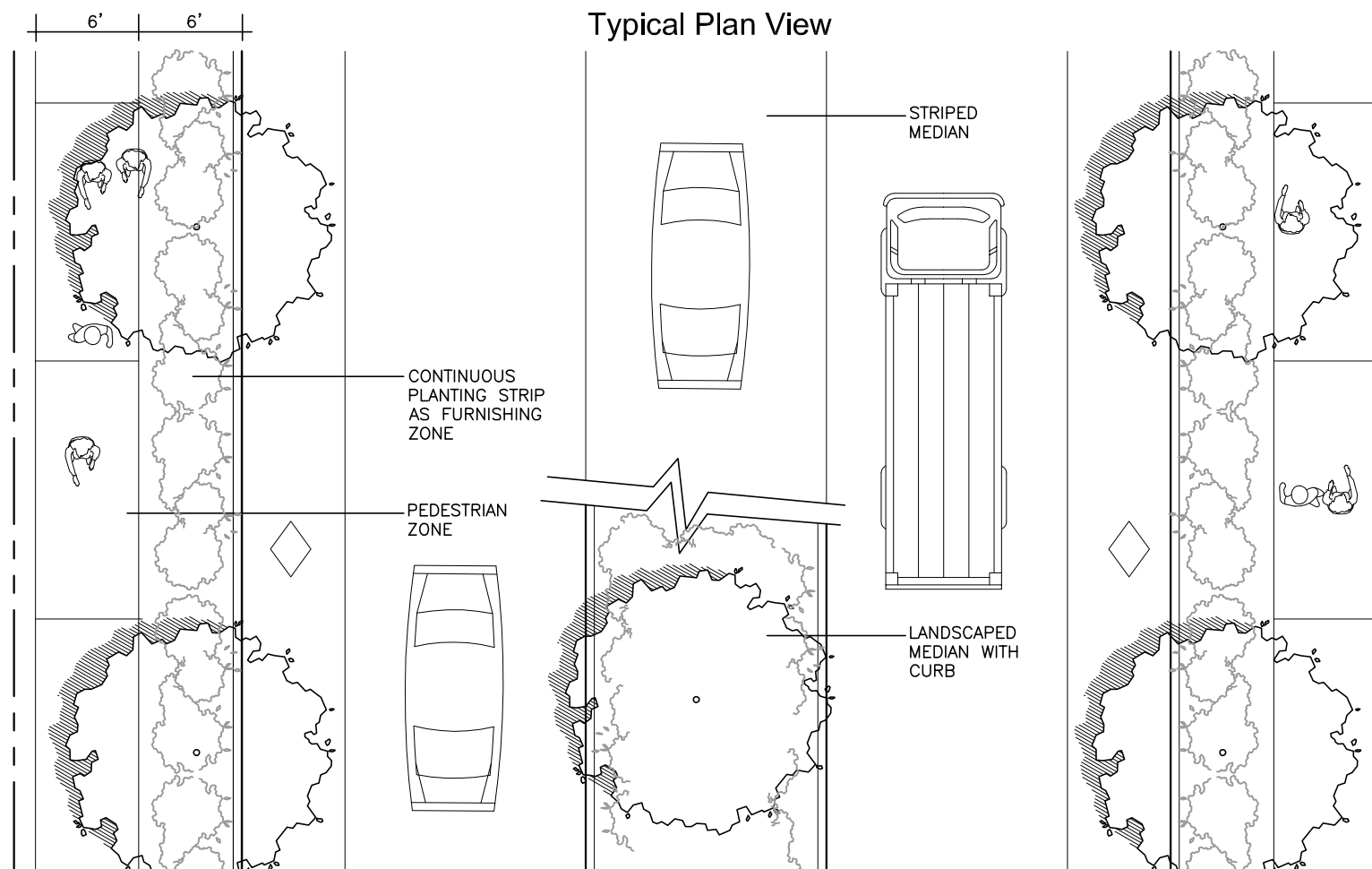
City of Mill City, Oregon/Oregon TCM Program
 Mill City Highway 22 Access Plan
Key Map
Final Streetscape Plan (III)

SHEET
 OF
 JOB NUMBER

Highway Transition Zone
3 Lane Roadway with Turn Lane or Median
Cross-Section (looking west)



Typical Plan View



DESIGN GUIDELINES

Street Cross Section

The Highway Transition Zone is intended to alert motorists to the built environment of Mill City rather than the more rural environment of the highway. The presence of medians, street trees and continuous sidewalks can be expected to help reduce vehicle speeds. The proposed cross-sections generally follows Westech's proposed street improvements plan. Potential differences occur in the sidewalk area and the addition of landscape planting recommendations.

Landscaping

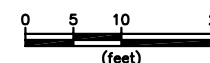
Key design elements are:

- Continuous planting strip with street trees 30' to 35' on center
- Landscape median with street trees 30' to 35' on center
- Understory shrubs or groundcovers up to 30 inches in height. Drought tolerant species are encouraged. Consult with ODOT landscape coordinator regarding maintance.

Trees with open vase, pyramidal, or upright arching vase shapes are good choices for avoiding truck damage or blocking visibility for business signs. Examples include:

- American Linden, *Tilia americana*
- Ash, *Fraxinus pennsylvanica*
- Hornbeam, *Carpinus betulus*
- Red Maple, *Acer rubrum*
- Callery Pear, *Pyrus calleryana*
- Japanese Zelkova, *Zelkova serrata*
- Sargent Cherry, *Prunus sargentii*

Coordinate final tree selection with ODOT landscape maintenance staff (503-986-2639).



NO.	DATE	DESCRIPTION	BY
1	Jan. 2007	FINAL PLAN	

otak
700 Washington Street, Suite #401
Vancouver, WA 98660
Phone: (360) 737-9613
FAX: (360) 737-9651

DKS Associates
TRANSPORTATION SOLUTIONS

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CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585-2474 Fax: (503) 585-3986
E-mail: westech@westech-eng.com

This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), local government, and State of Oregon Funds.

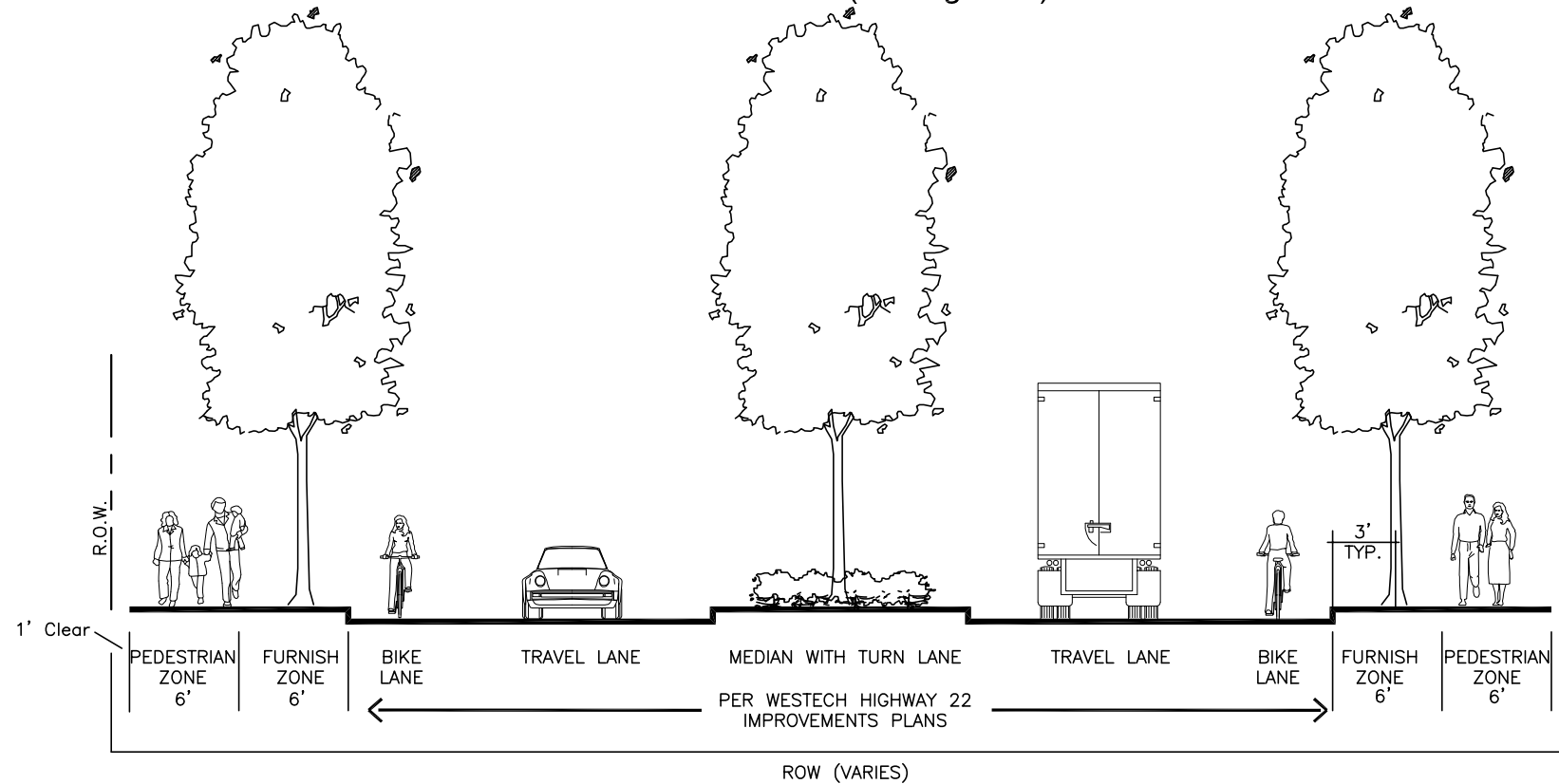
TGM
TRANSPORTATION AND GROWTH MANAGEMENT

MILL CITY
HIGHWAY 22
STREETSCAPE PLAN

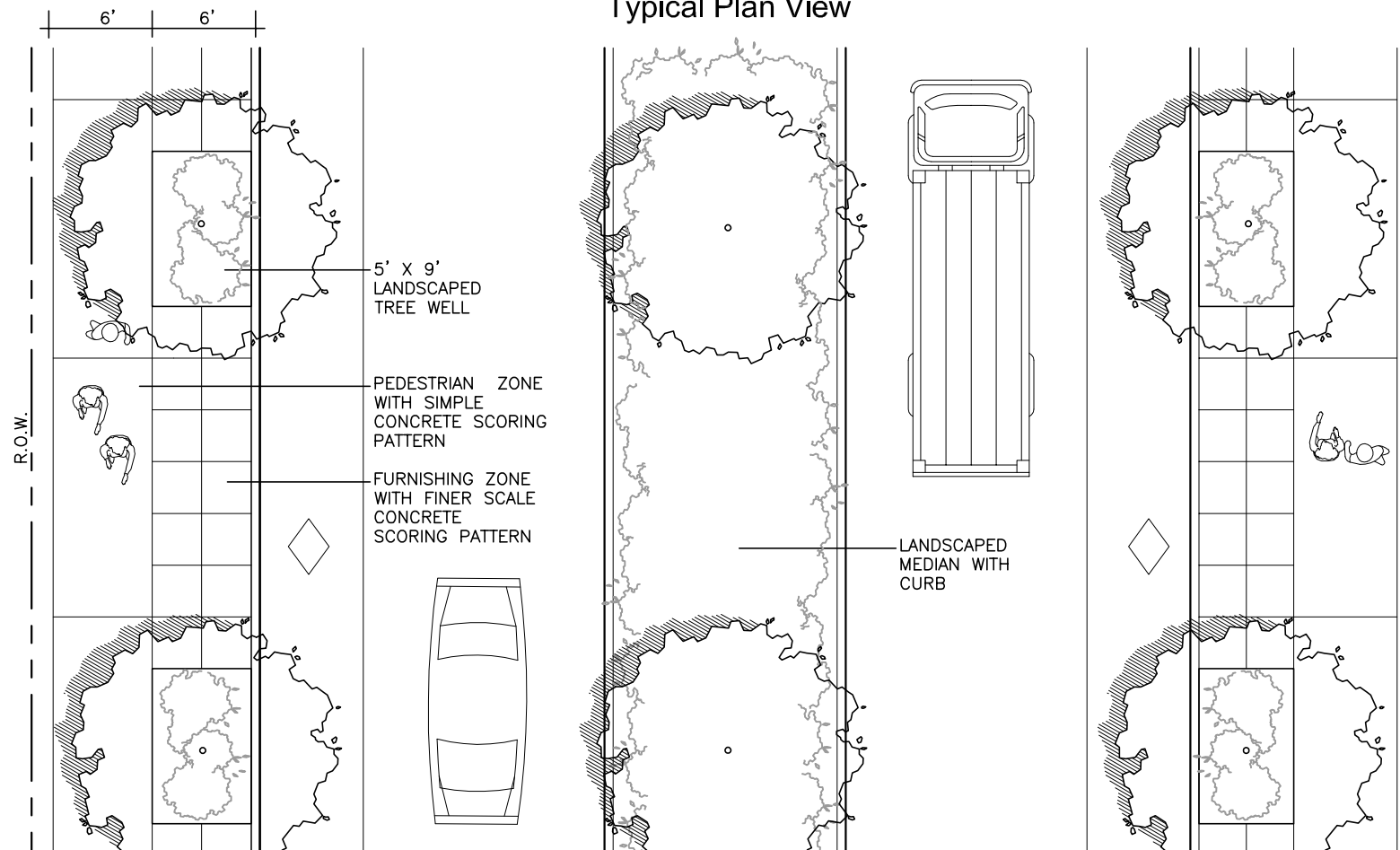
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SHEET
1 of 6

Downtown Core
3-Lane Roadway with Median
Cross-Section (looking west)



Typical Plan View



DESIGN GUIDELINES

Street Cross Section

The Downtown Core Zone represents a change in sidewalk design character from the Highway Transition Zone. It is intended to:

- Alert motorists to the downtown core for Mill City (including future redevelopment)
- Provide a sense of visual connection to the north-south avenues
- Provide additional traffic calming

The most significant change is a fully paved sidewalk furnishing zone. Street trees will be in landscaped tree wells. Other elements of the cross-sections generally follow Westech's proposed street improvements plan.

Landscaping

Key design elements are:

- Regularly spaced sidewalk tree wells with street trees 30' to 35' on center
- Fully paved sidewalk area with a visually distinct furnishing zone.
- Landscape median with street trees 30' to 35' on center
- Understory shrubs or groundcovers up to 30 inches in height. Drought tolerant species are encouraged. Consult with ODOT landscape coordinator regarding maintenance.

Trees with open vase, pyramidal, or upright arching vase shapes are good choices for avoiding truck damage or blocking visibility for business signs.

Examples include:

- American Linden, *Tilia americana*
- Ash, *Fraxinus pennsylvanica*
- Hornbeam, *Carpinus betulus*
- Red Maple, *Acer rubrum*
- Callery Pear, *Pyrus calleryana*
- Japanese Zelkova, *Zelkova serrata*
- Sargent Cherry, *Prunus sargentii*

Coordinate final tree selection with ODOT landscape maintenance staff (503-986-2639)



NO.	DATE	DESCRIPTION	BY
1	Jan. 2007	FINAL PLAN	

otak
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Phone: (360) 737-9613
FAX: (360) 737-9651

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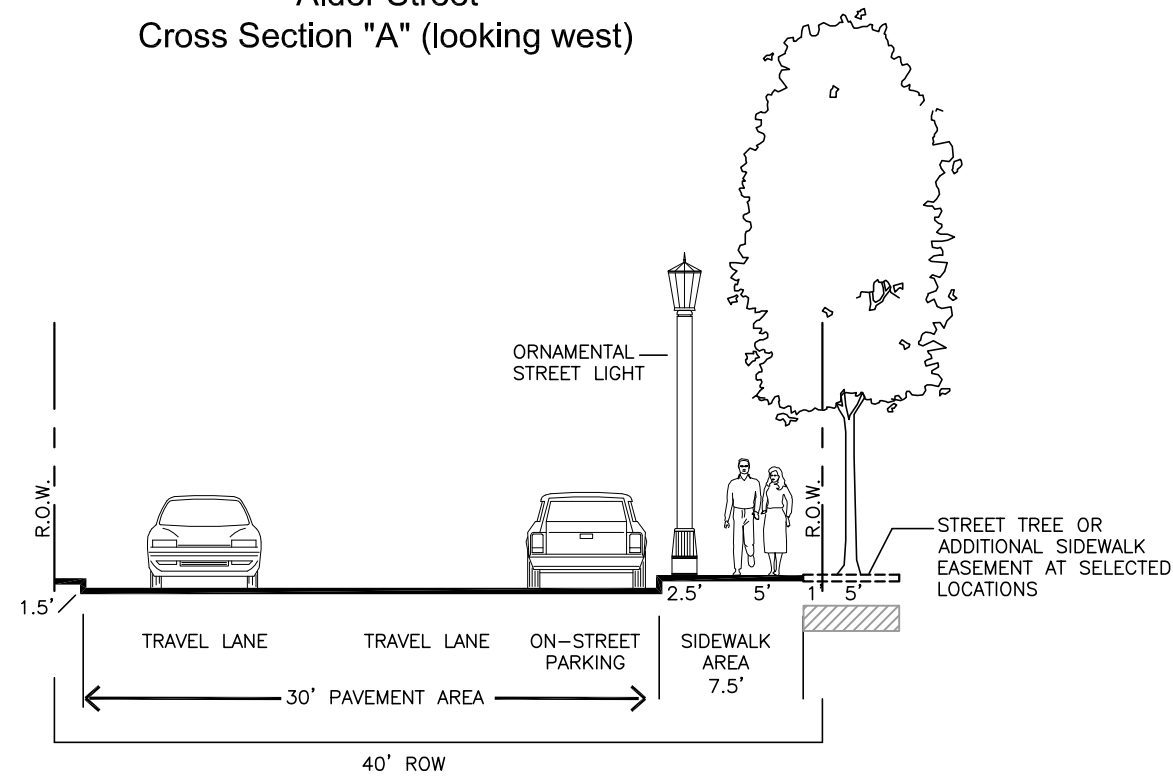
MILL CITY
HIGHWAY 22
STREETSCAPE PLAN

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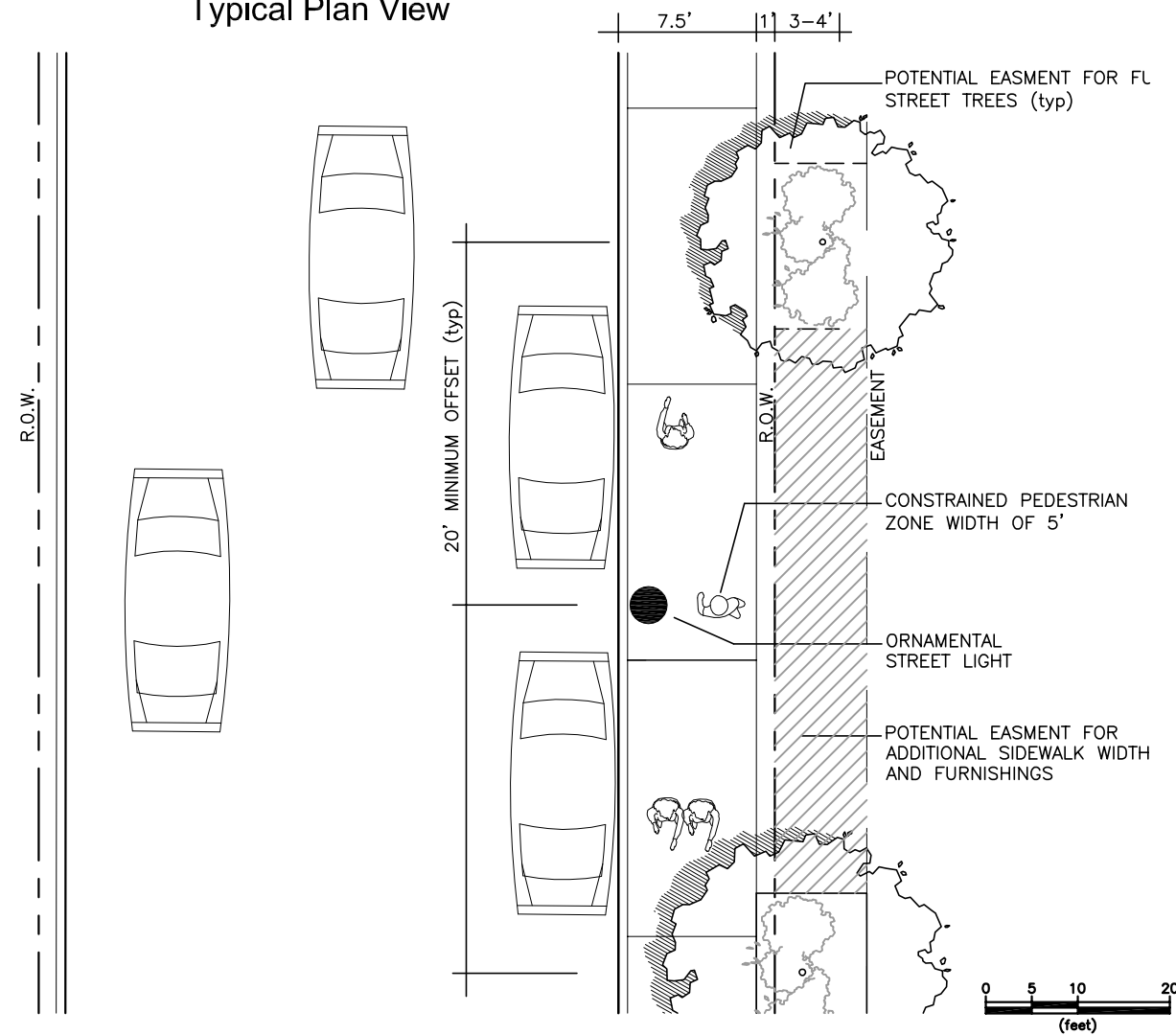
SHEET
2 of 6

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Alder Street
Cross Section "A" (looking west)



Typical Plan View



DESIGN GUIDELINES

Street Cross Section "A"

Proposed enhancements parallel the Downtown Core streetscape improvements (NW 5th Ave to NE 3rd Ave). The design concept maintains the 40' ROW. Key design differences from the current street standards:

- Narrower pavement area
- Wider sidewalk area

The wider sidewalk will allow a minimal furnishing zone for ornamental street lights. Street trees and additional street furnishings can be added at selected locations by acquiring easements from private properties. Easements can be acquired and developed over time. With a more fully developed sidewalk area, the design character will complement enhancements to the north-south avenues and the Downtown Core Zone of Highway 22.

Street Lighting

Single-acorn ornamental street light recommended to provide a pedestrian scale and unique streetscape character. Pending detailed photometric analysis, key design criteria:

- Fluted cast-aluminum light pole, painted black (banner arms optional)
- Pole spacing of 75'-100'
- Pole height of 14'-16'
- Metal halide fixture of 150 watts

Typical design light levels for this type of street are:

- Average Maintained Illuminance: 0.7 - 0.8
- Illuminance Uniformity Ratio (max.): 6:1
- Veiling Luminance Ratio (max.): 0.4:1

Landscaping

- Street trees in tree easements
- Understory shrubs or groundcovers up to 30 inches with drought tolerant species encouraged

As with Highway 22, trees with open vase or upright arching vase shapes are good choices. Examples include:

- Ash, *Fraxinus pennsylvanica*
- Hornbeam, *Carpinus betulus*
- Callery Pear, *Pyrus calleryana*
- Japanese Zelkova, *Zelkova serrata*

NO.	DATE	DESCRIPTION	BY
1	Jan. 2007	FINAL PLAN	

otak
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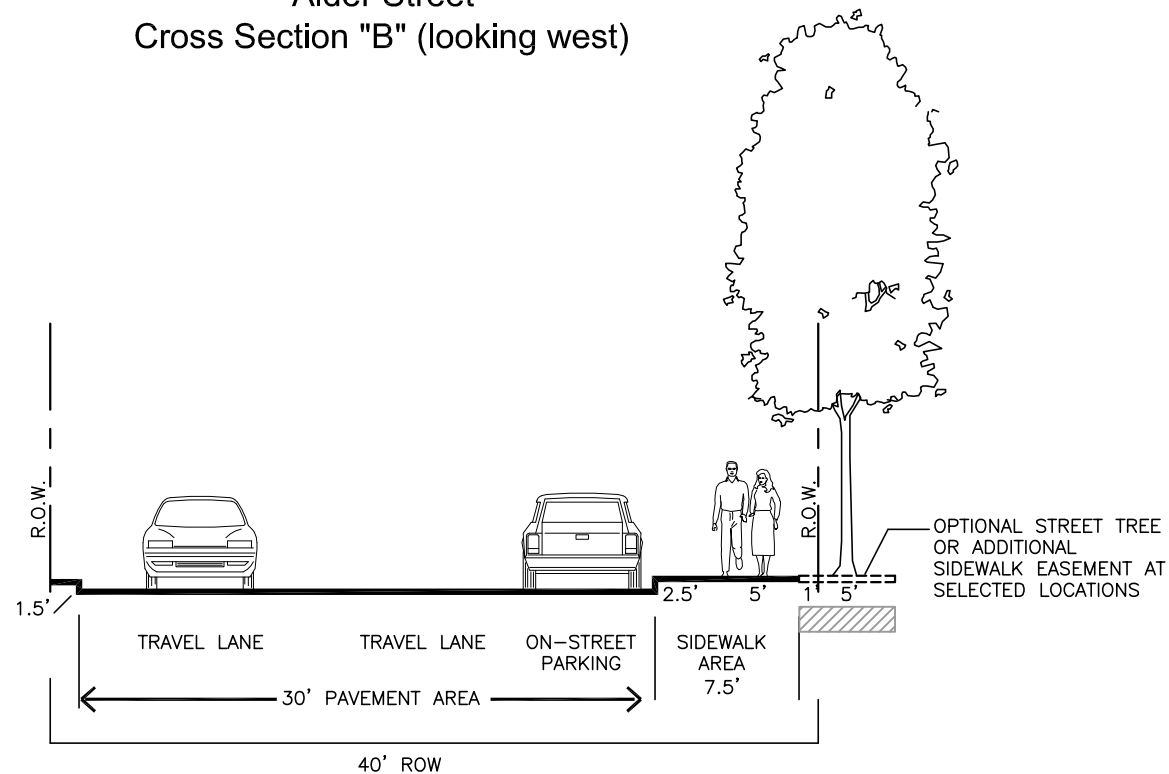
**MILL CITY
HIGHWAY 22
STREETSCAPE PLAN**

**JOB NUMBER
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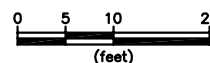
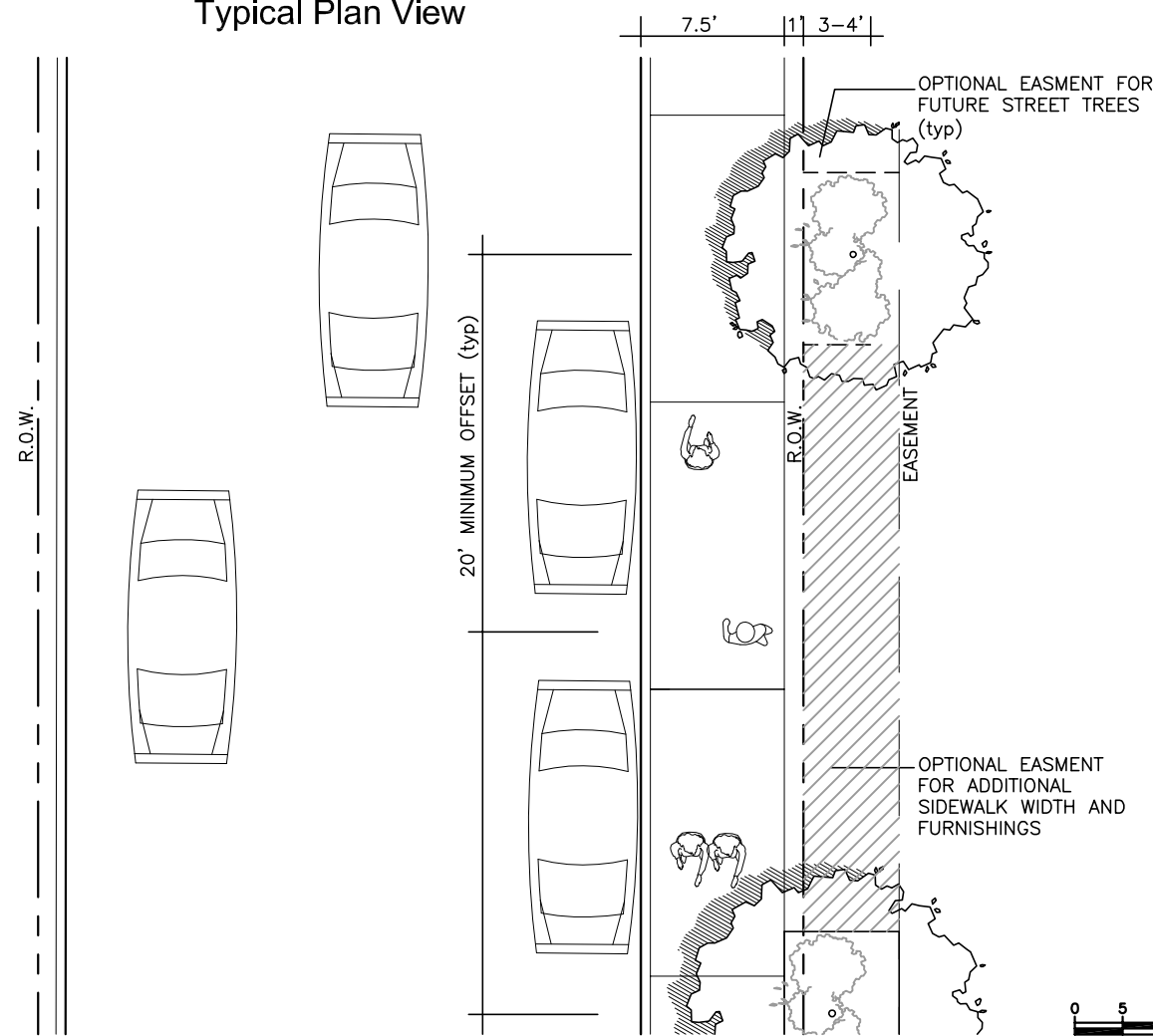
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3 of 6**

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Alder Street
Cross Section "B" (looking west)



Typical Plan View



DESIGN GUIDELINES

Street Cross Section "B"

This section applies to the two segments of Alder Street between NW 9th and NW 5th and between NE 3rd and NE 7th. It maintains the 40' ROW and pavement and sidewalk widths established in cross-section "A."

The wider sidewalk will allow a minimal furnishing zone if desired. Ornamental street lights are not proposed for these segments. Acquiring easements from private properties for additional street trees or furnishing is optional only.

Street Lighting (optional)

- Located in sidewalk furnishing zone
- Lighting to be determined

Landscaping (optional)

- Street trees in tree easements
- Understory shrubs or groundcovers up to 30 inches with drought tolerant species encouraged

As with Highway 22, trees with open vase or upright arching vase shapes are good choices. Examples include:

- Ash, *Fraxinus pennsylvanica*
- Hornbeam, *Carpinus betulus*
- Callery Pear, *Pyrus calleryana*
- Japanese Zelkova, *Zelkova serrata*

NO.	DATE	DESCRIPTION	BY
1	Jan. 2007	FINAL PLAN	



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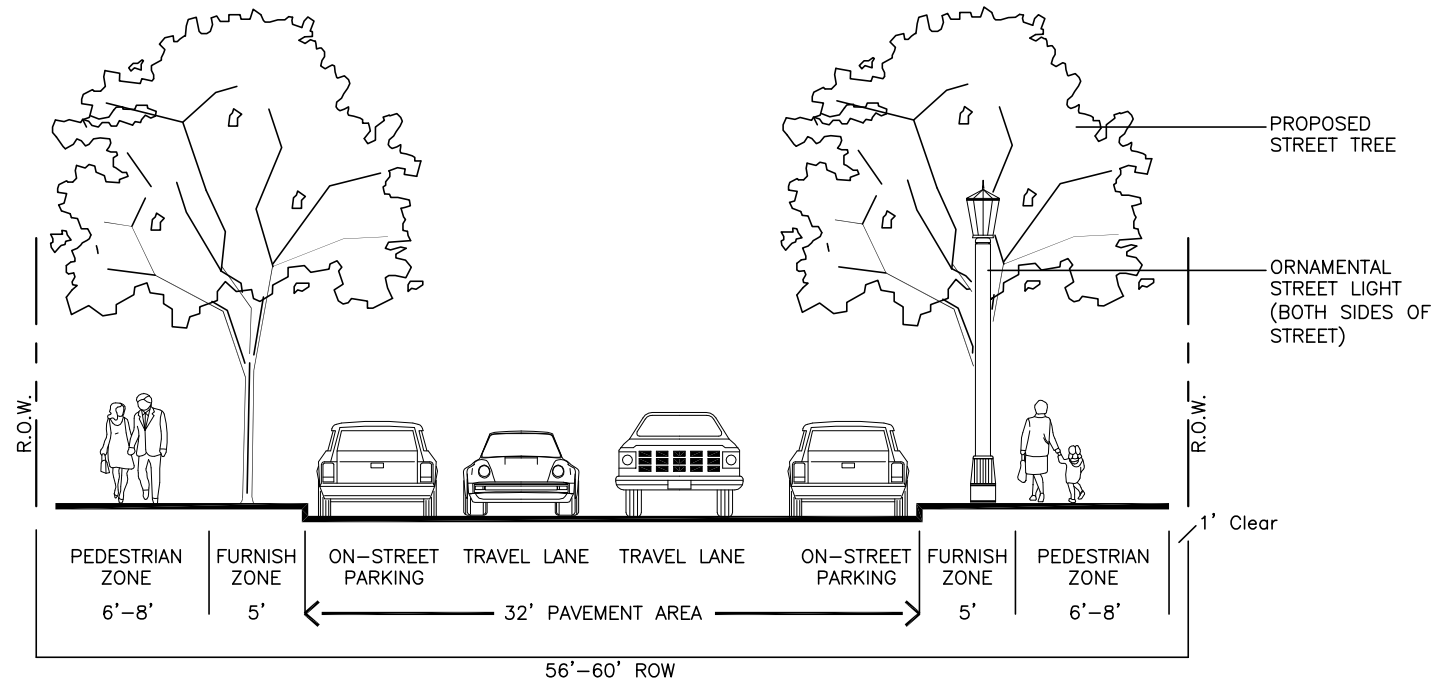


MILL CITY
HIGHWAY 22
STREETSCAPE PLAN

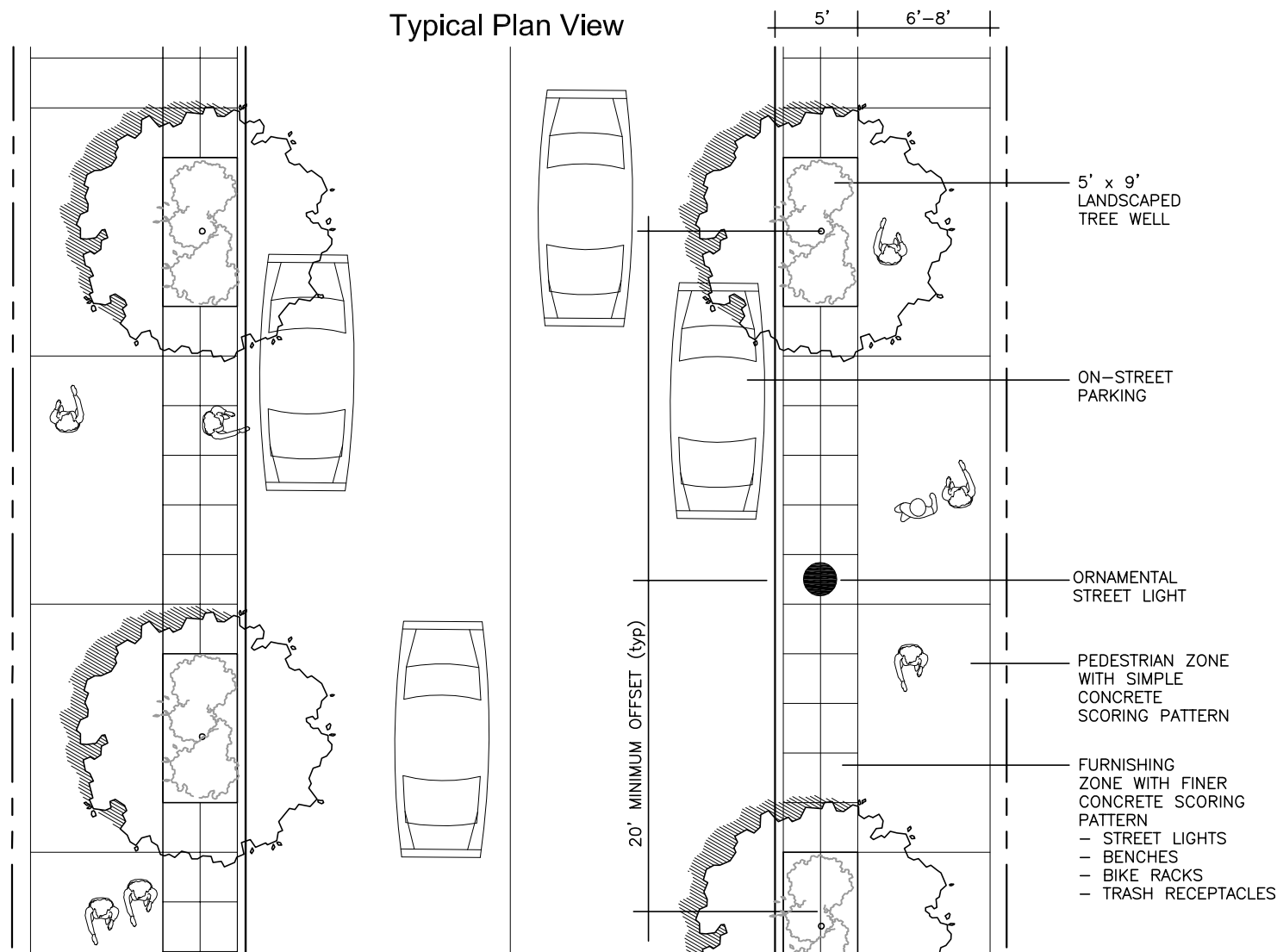
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SHEET
4 of 6

North-South Avenues Typical Cross-Section



Typical Plan View



DESIGN GUIDELINES

Street Cross Section

This suggested street design is intended to:

- Provide overall streetscape consistency within the downtown core area
- Provide on-street parking for businesses within the downtown core (current or future)
- Emphazsize sidewalk development over roadway width

The suggested cross-section departs from Westech's current design plans but maintains the 56'-60' ROW. Key differences are:

- Narrower pavement area
- Wider sidewalk area

The benefits of wider sidewalk are a fully developed furnishing zone for ornamental street lights, street trees and additional street furnishings at selected locations.

Street Lighting

Single-acorn ornamental street lighting identical to Alder Street is recommended. Unlike Alder Street lighting could occur on both sides of the street. Pending detailed photometric analysis, typical pole and fixture criteria are similar to Alder Street (sheet 4).

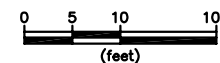
Lighting would be both sides of the street, probably in assymetrical spacing o 75' -100'.

Landscaping

- Street trees in tree wells 30' to 35' on center
- Understory shrubs or groundcovers up to 30 inches high with drought tolerant species encouraged

Trees with open vase, pyramidal, or upright arching vase shapes are good choices. Examples include:

- American Linden, *Tilia americana*
- Ash, *Fraxinus pennsylvanica*
- Hornbeam, *Carpinus betulus*
- Red Maple, *Acer rubrum*
- Callery Pear, *Pyrus calleryana*
- Japanese Zelkova, *Zelkova serrata*
- Sargent Cherry, *Prunus sargentii*



NO.	DATE	DESCRIPTION	BY
1	Jan. 2007	FINAL PLAN	

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 TRANSPORTATION SOLUTIONS

WE WESTECH ENGINEERING, INC.
 CONSULTING ENGINEERS AND PLANNERS
 3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
 Phone: (503) 585-2474 Fax: (503) 585-3986
 E-mail: westech@westech-eng.com

This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), local government, and State of Oregon Funds.

TGM
 TRANSPORTATION AND GROWTH MANAGEMENT

**MILL CITY
 HIGHWAY 22
 STREETSCAPE PLAN**

**JOB NUMBER
 0000.0000.0**

**SHEET
 5 of 6**

PHOTOGRAPHIC EXAMPLES

FULLY PAVED FURNISHING ZONE
(DOWNTOWN CORE AREA)



Tree wells and distinctive concrete pavers at selected locations



Distinctive scoring and tree wells

FURNISHING ZONE AS PLANTING STRIP
HIGHWAY TRANSITION AREA



Continuous Landscape Strip

FURNISHINGS

Ornamental Street Lights



Cobra Style with Pedestrian Style Added



Post-Top Acorn



Tear Drop

Bike Racks
(Classic and Ribbon Style)



Trash Receptacles
(Classical Style)



All Metal



Metal with Concrete Insert

Benches
(Classic Style)



All Metal



Metal and Wood

NO.	DATE	DESCRIPTION	BY
1	Jan. 2007	FINAL PLAN	

otak
 700 Washington Street, Suite #401
 Vancouver, WA 98660
 Phone: (360) 737-9613
 FAX: (360) 737-9651

DKS Associates
 TRANSPORTATION SOLUTIONS

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**MILL CITY
 HIGHWAY 22
 STREETSCAPE PLAN**

**JOB NUMBER
 0000.0000.0**

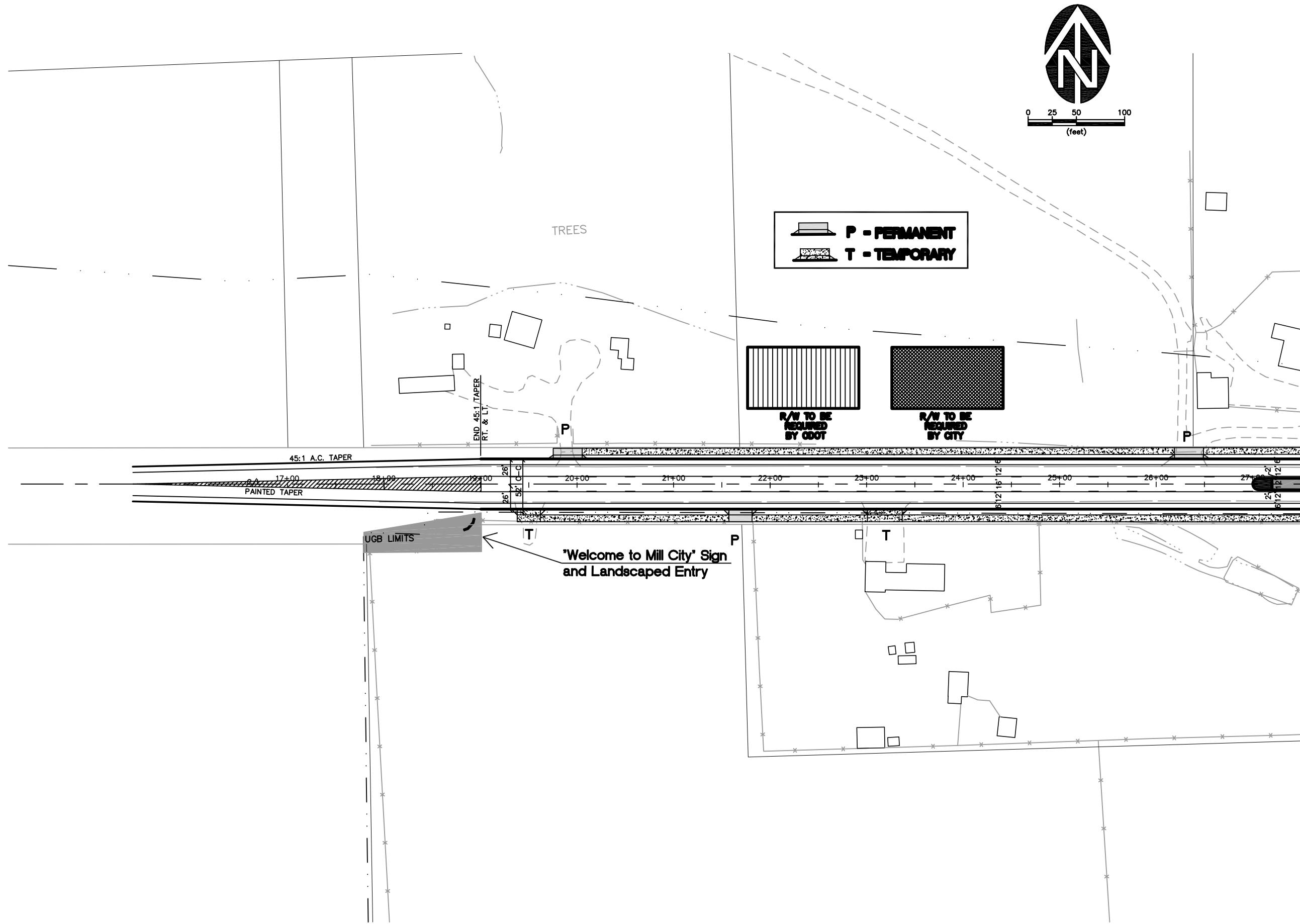
**SHEET
 6 of 6**

C:\Users\j\Documents\Plan\1848-FinalPlan.dwg (Photo Examples tab)

APPENDIX I

Preliminary Civil Engineering Design and ROW Acquisitions

Jun 21, 2007 - 10:49am
 R:\Dwg\Mill City\Highway 22 1780.105.0\CONCEPTUAL\MIL-RCE-06-14-07.dwg (11x17-01 Tab)



NO.	DATE	DESCRIPTION	BY
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Revised
 June 20, 2007

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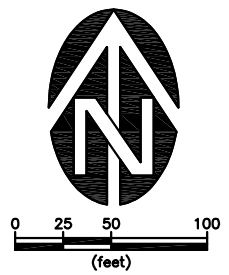
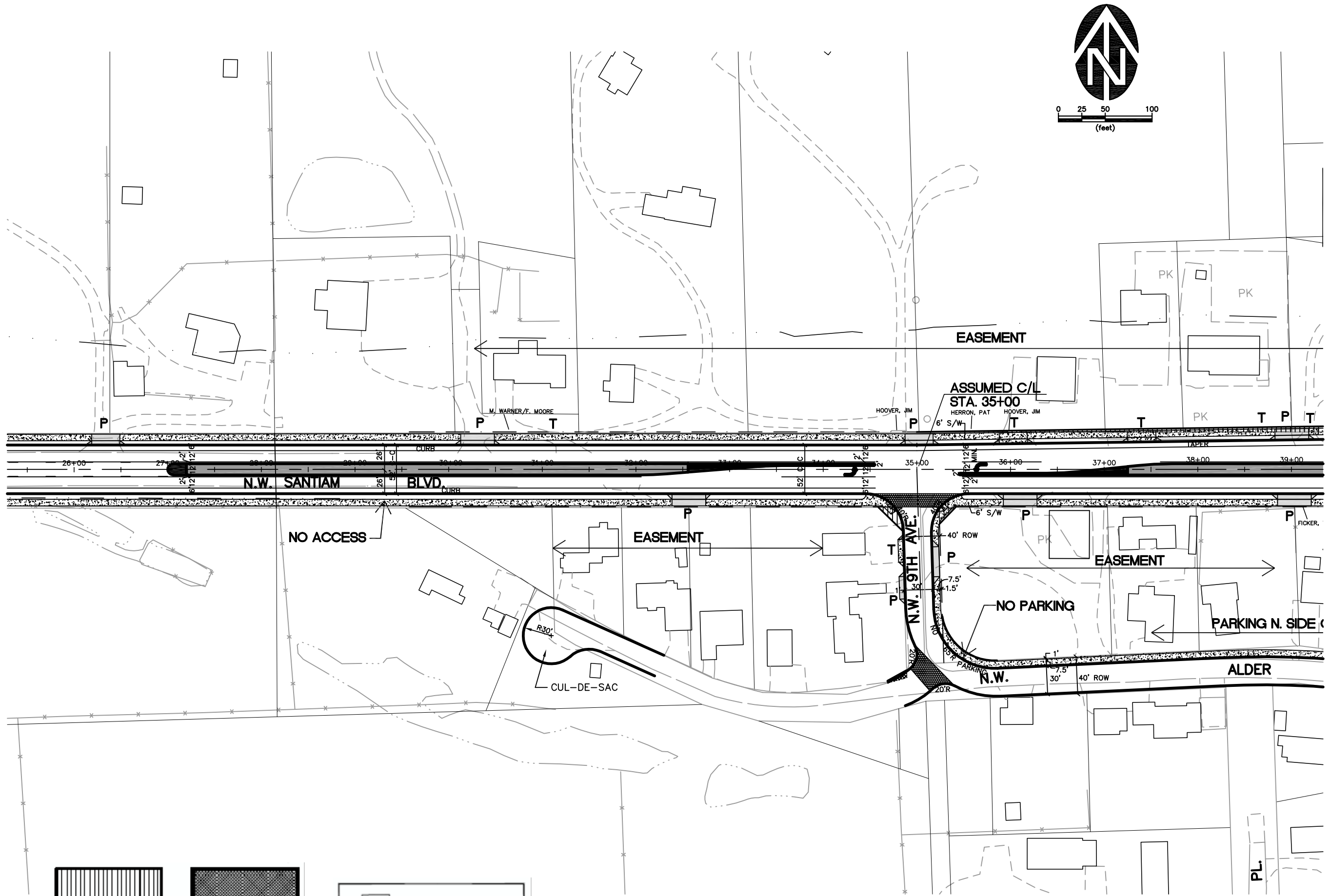
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CITY OF MILL CITY, OREGON
 HIGHWAY 22 IMPROVEMENTS

PLAN
 (1 OF 6)

FIGURE
 1
 JOB NUMBER
 1780.1050.0


Jun 21, 2007 - 10:50am
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 BY: [Signature]
 DATE: [Signature]
 DESIGNED: [Signature]
 DRAWN: MDP
 CHECKED: SAW
 DATE: JAN. 05

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CITY OF MILL CITY, OREGON
 HIGHWAY 22 IMPROVEMENTS
 PLAN
 (2 OF 6)

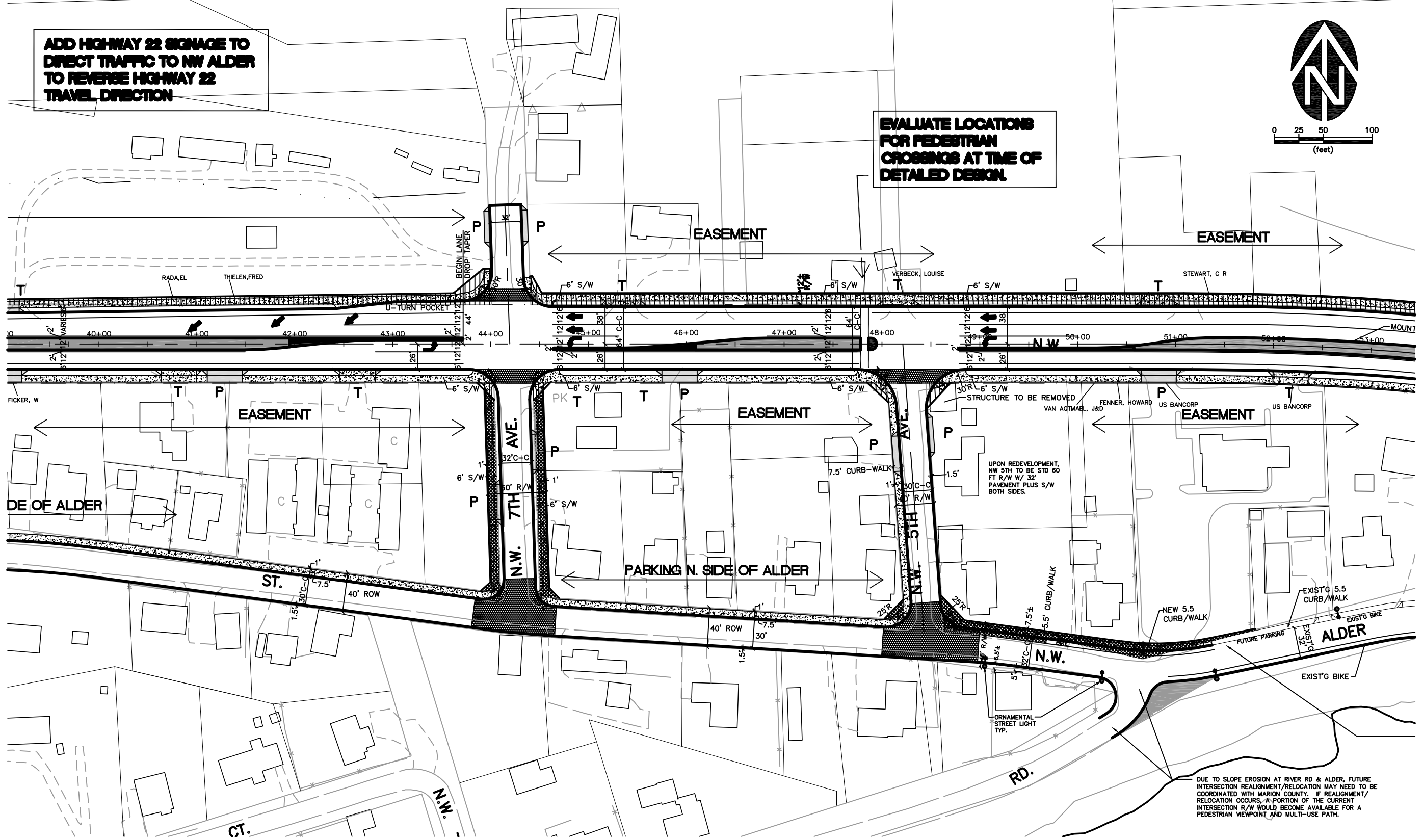
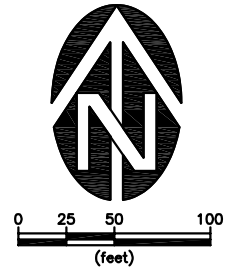
FIGURE
 2
 JOB NUMBER
 1780.105.0



P - PERMANENT
T - TEMPORARY

ADD HIGHWAY 22 SIGNAGE TO DIRECT TRAFFIC TO NW ALDER TO REVERSE HIGHWAY 22 TRAVEL DIRECTION

EVALUATE LOCATIONS FOR PEDESTRIAN CROSSINGS AT TIME OF DETAILED DESIGN.



NO.	DATE	DESCRIPTION	BY
1	JAN. 05		

VERIFY SCALE BY MEASURING DISTANCE ON DRAWING
 DRAWN BY: SAJ
 CHECKED BY: MDP
 DATE: JAN. 05

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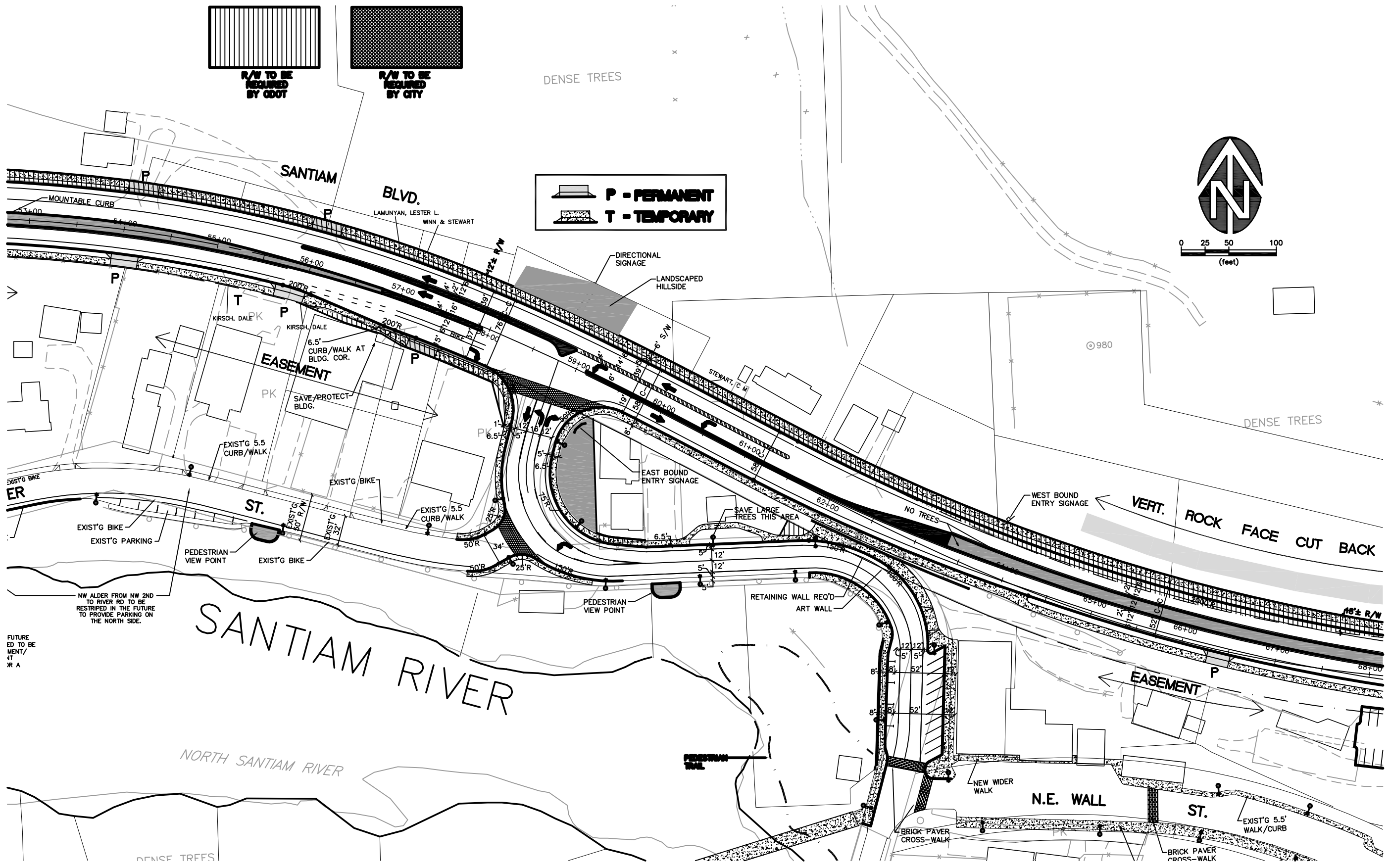
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
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CITY OF MILL CITY, OREGON
 HIGHWAY 22 IMPROVEMENTS
 PLAN
 (3 OF 6)

FIGURE
3
JOB NUMBER
 1780.1050.0

Jun 21, 2007 - 10:50am
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CITY OF MILL CITY, OREGON
 HIGHWAY 22 IMPROVEMENTS
 PLAN
 (4 OF 6)

FIGURE
 4
JOB NUMBER
 1780.105.0



R/W TO BE REQUIRED BY GOVT



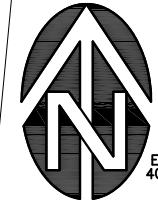
R/W TO BE REQUIRED BY CITY



P - PERMANENT

T - TEMPORARY

ADD HIGHWAY 22 SIGNAGE TO DIRECT TRAFFIC TO NE ALDER TO REVERSE HIGHWAY 22 TRAVEL DIRECTION



ACK

± R/W

N.E. 68+00 69+00 70+00 71+00 72+00 73+00 74+00 75+00 76+00 77+00 78+00 79+00 80+00 81+00

N.E. SANTIAM BLVD.

EASEMENT

WALK TRANS. FROM 5.5' TO 7.5'

NEW WALK/CURB

N.E.

ALDER ST.

ST.

N.E.

WHEN RECONSTRUCTED NE ALDER FROM 200 BLOCK TO NE 7TH TO PROVIDE PARKING ON THE NORTH SIDE.

WHEN RECONSTRUCTED NE ALDER FROM 200 BLOCK TO NE 7TH TO PROVIDE PARKING ON THE NORTH SIDE.

Jun 21, 2007 - 10:50am R:\Dwg\Mill City\Highway 22 1780.105.0\CONCEPTUAL\MILL-RCE-06-14-07.dwg (11x17-05 tab)

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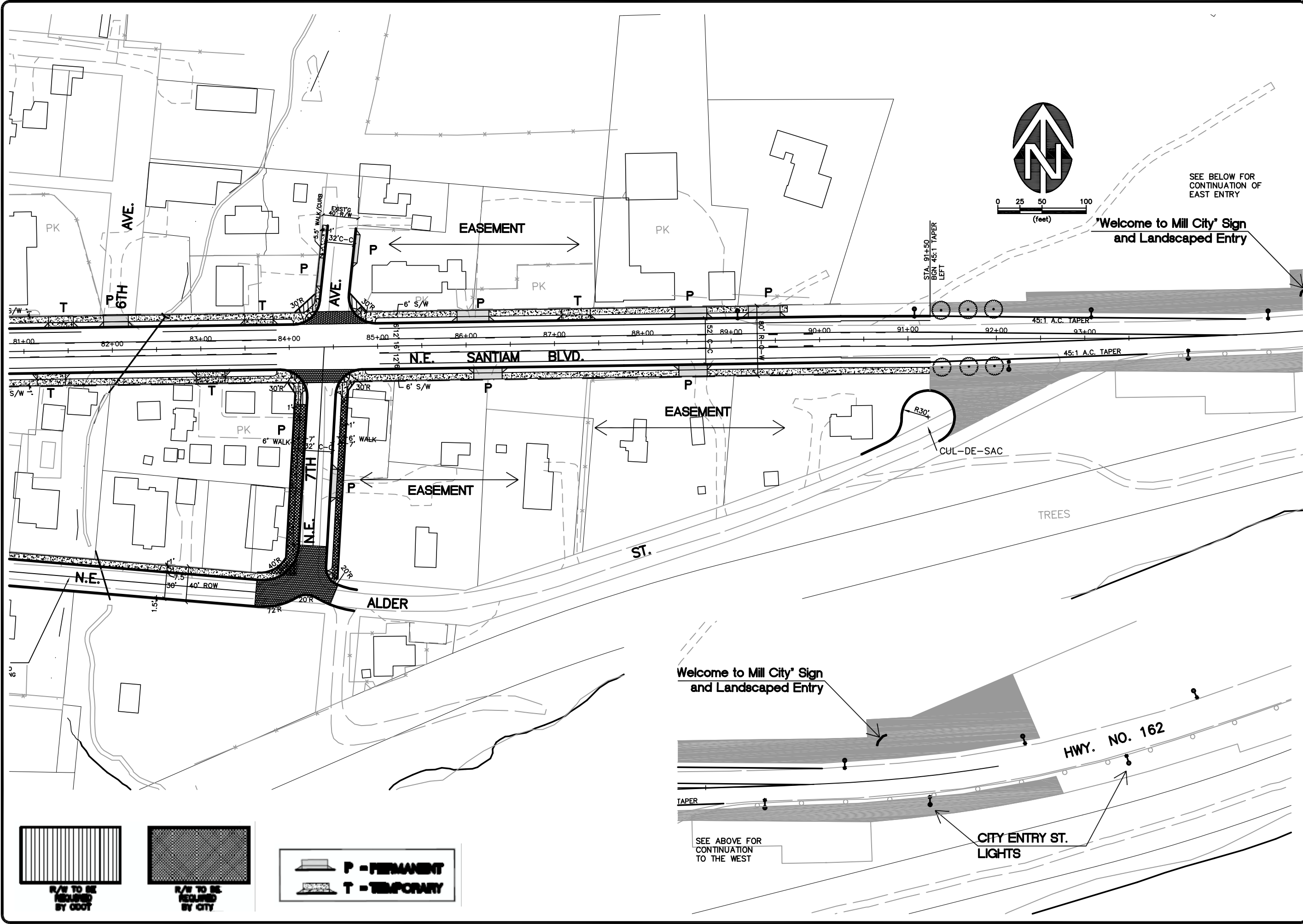
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CITY OF MILL CITY, OREGON
HIGHWAY 22 IMPROVEMENTS
PLAN
(5 OF 6)

FIGURE
5
JOB NUMBER
1780.1050.0

Jun 21, 2007 - 10:52am
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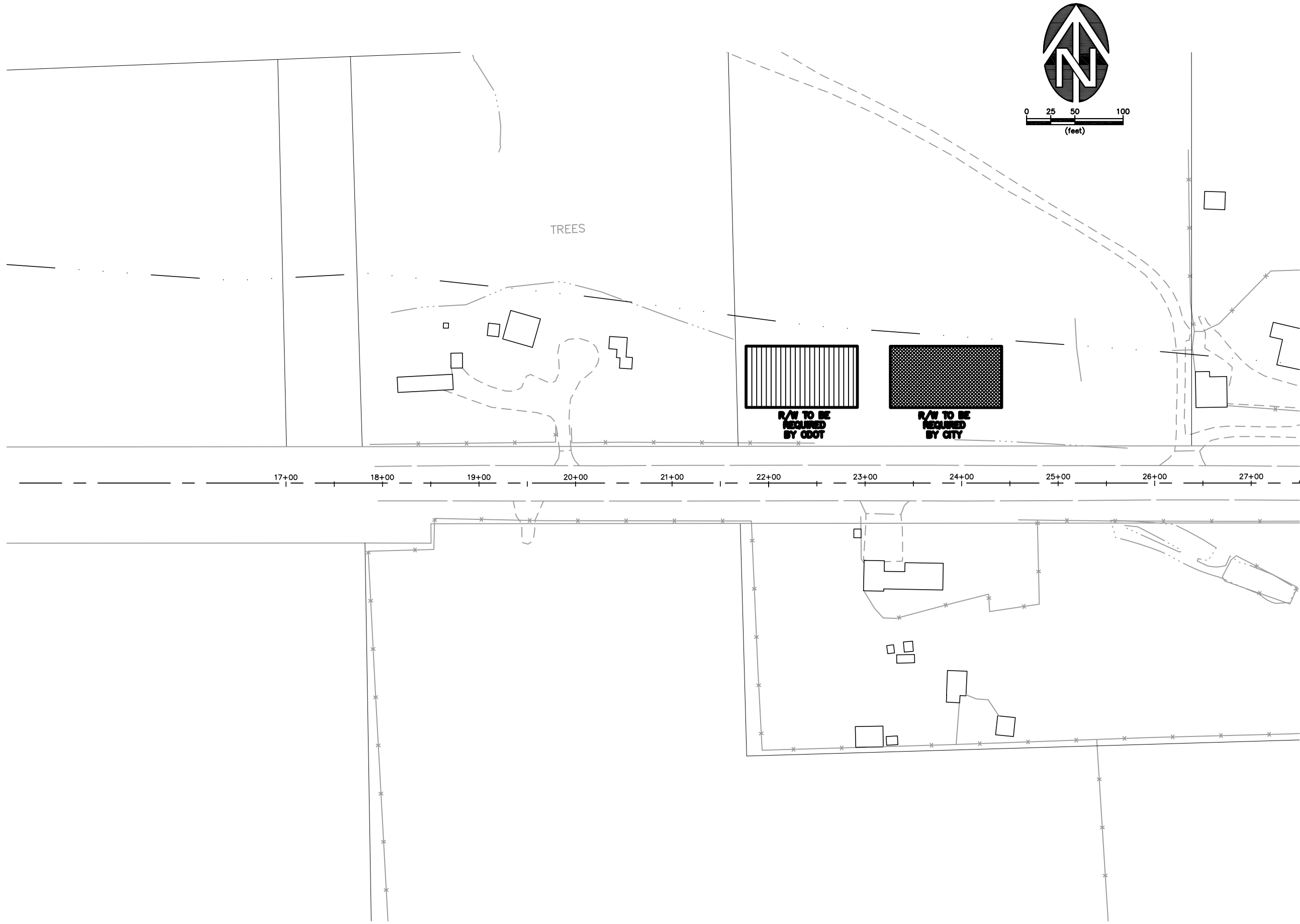
NO.	DATE	DESCRIPTION	BY
1	JAN. 05		

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CITY OF MILL CITY, OREGON
 HIGHWAY 22 IMPROVEMENTS
 PLAN
 (6 OF 6)

FIGURE 6
 JOB NUMBER
 1780.1050.0



NO.	DATE	DESCRIPTION	BY
1	JAN. 05		

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 June 20, 2007

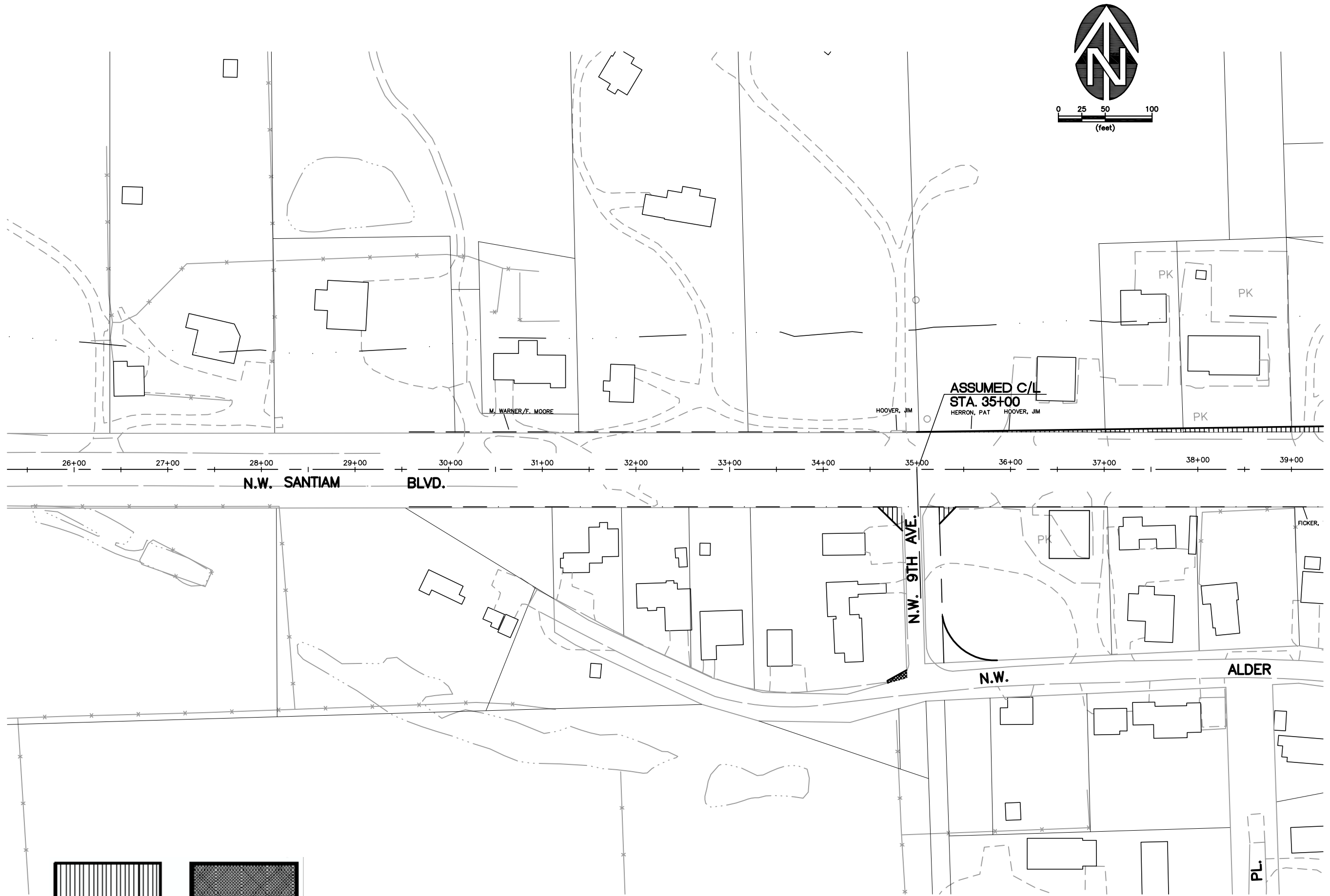
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CITY OF MILL CITY, OREGON
 HIGHWAY 22 IMPROVEMENTS
 PLAN (R-O-W ONLY)
 (1 OF 6)

FIGURE
 1
 JOB NUMBER
 1780.1050.0

Jun 21, 2007 - 10:59am
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R/W TO BE
 REQUIRED
 BY GOVT



R/W TO BE
 REQUIRED
 BY CITY

NO.	DATE	DESCRIPTION	BY
1 <td>JAN. 05 <td></td> <td></td> </td>	JAN. 05 <td></td> <td></td>		

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DESIGNED BY: SAW
 DRAWN BY: MDP
 CHECKED BY: SAW
 DATE: JAN. 05

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 June 20, 2007

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CITY OF MILL CITY, OREGON
 HIGHWAY 22 IMPROVEMENTS
 PLAN (R-O-W ONLY)
 (2 OF 6)

FIGURE
 2
 JOB NUMBER
 1780.1050.0

Jun 21, 2007 - 11:00am
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NO.	DATE	DESCRIPTION	BY
1	JAN. 05		

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 June 20, 2007

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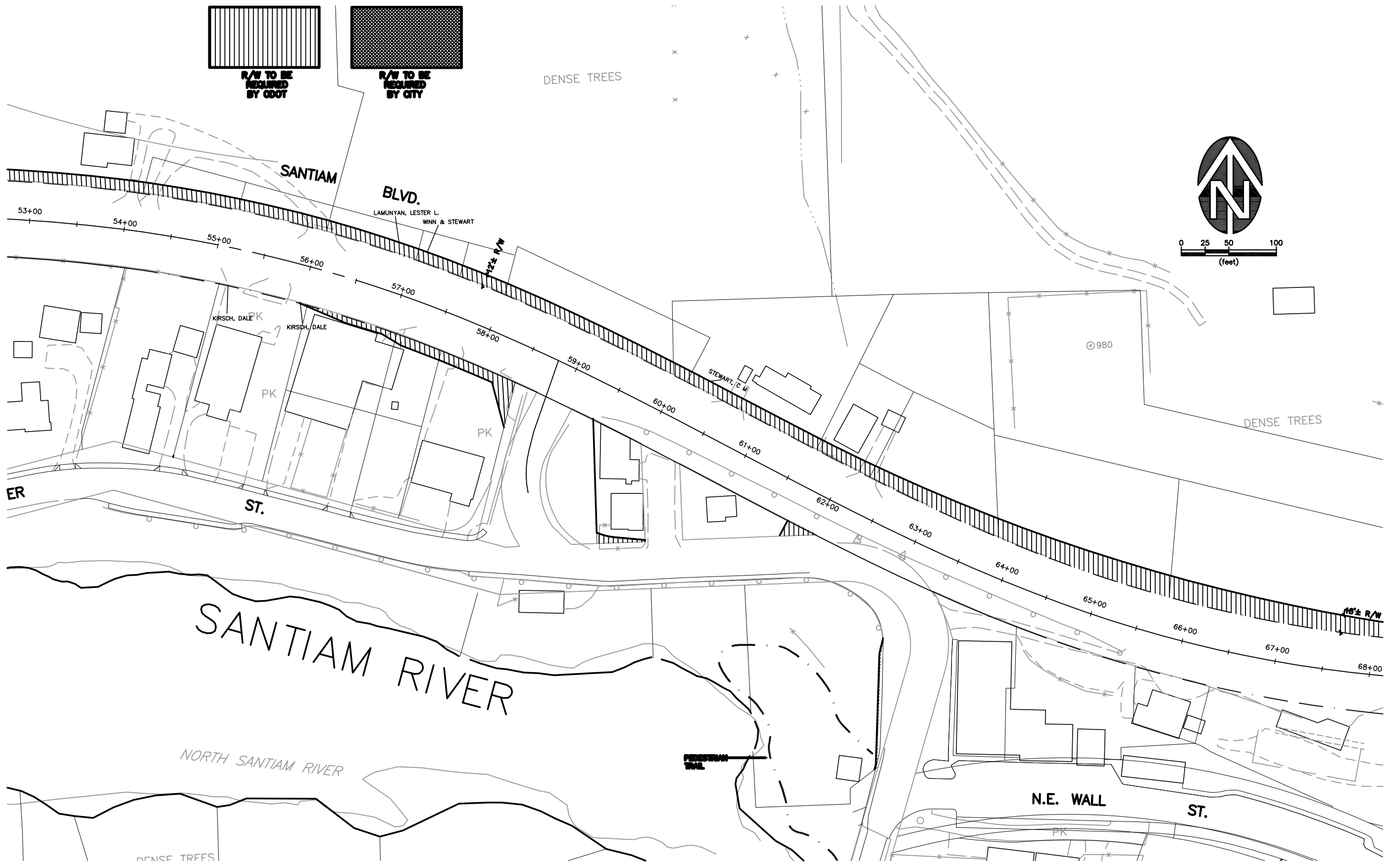
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CITY OF MILL CITY, OREGON
 HIGHWAY 22 IMPROVEMENTS
 PLAN (R-O-W ONLY)
 (3 OF 6)

FIGURE
 3

JOB NUMBER
 1780.1050.0

Jun 21, 2007 - 11:01am
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 June 20, 2007

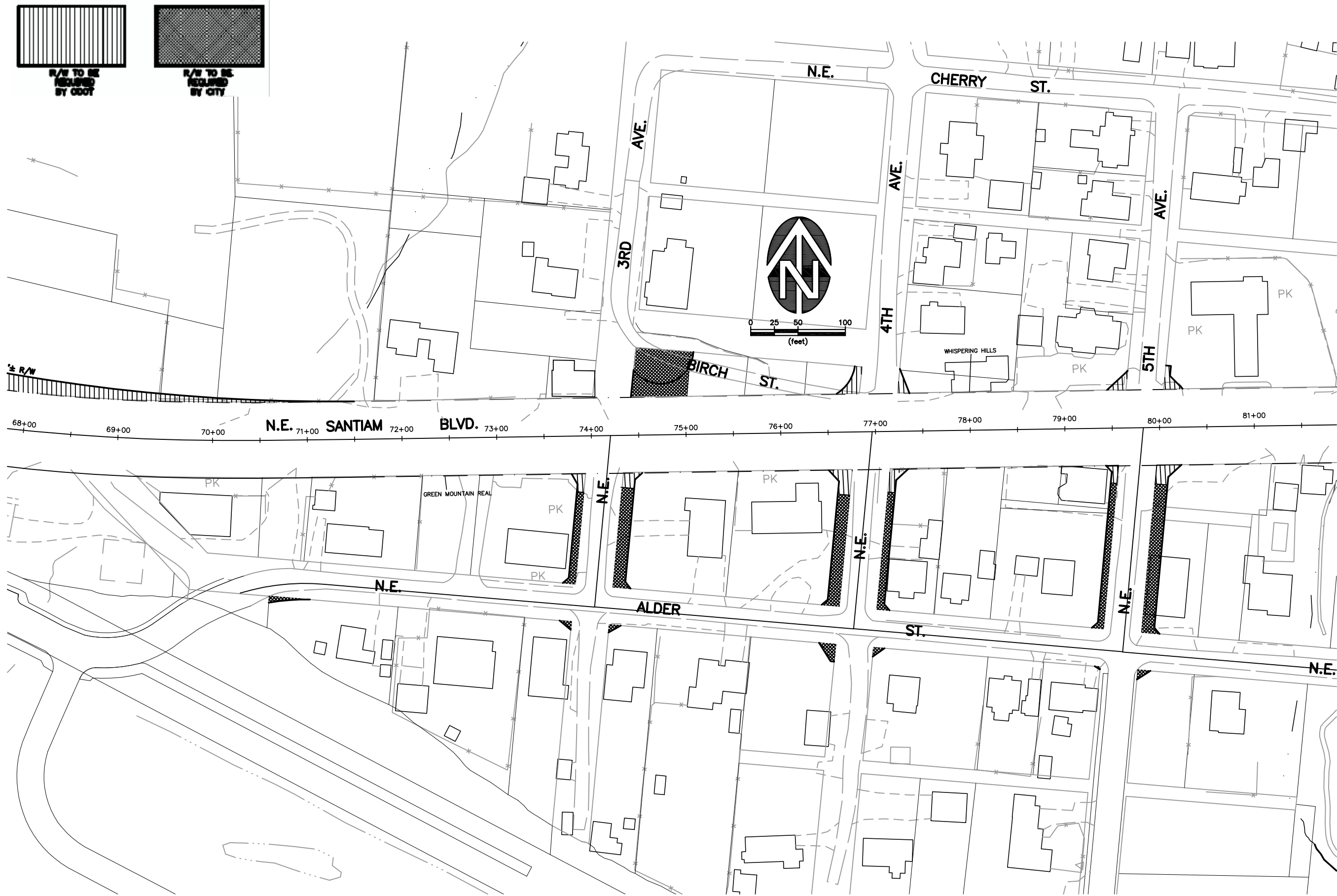
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CITY OF MILL CITY, OREGON
 HIGHWAY 22 IMPROVEMENTS
 PLAN (R-O-W ONLY)
 (4 OF 6)

FIGURE
 4
JOB NUMBER
 1780.105.0

Jun 21, 2007 - 11:01am
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NO.	DATE	DESCRIPTION	BY
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 (feet)
 DSN. SAW
 DRN. MDP
 CDD. SAW
 DATE: JAN. 05

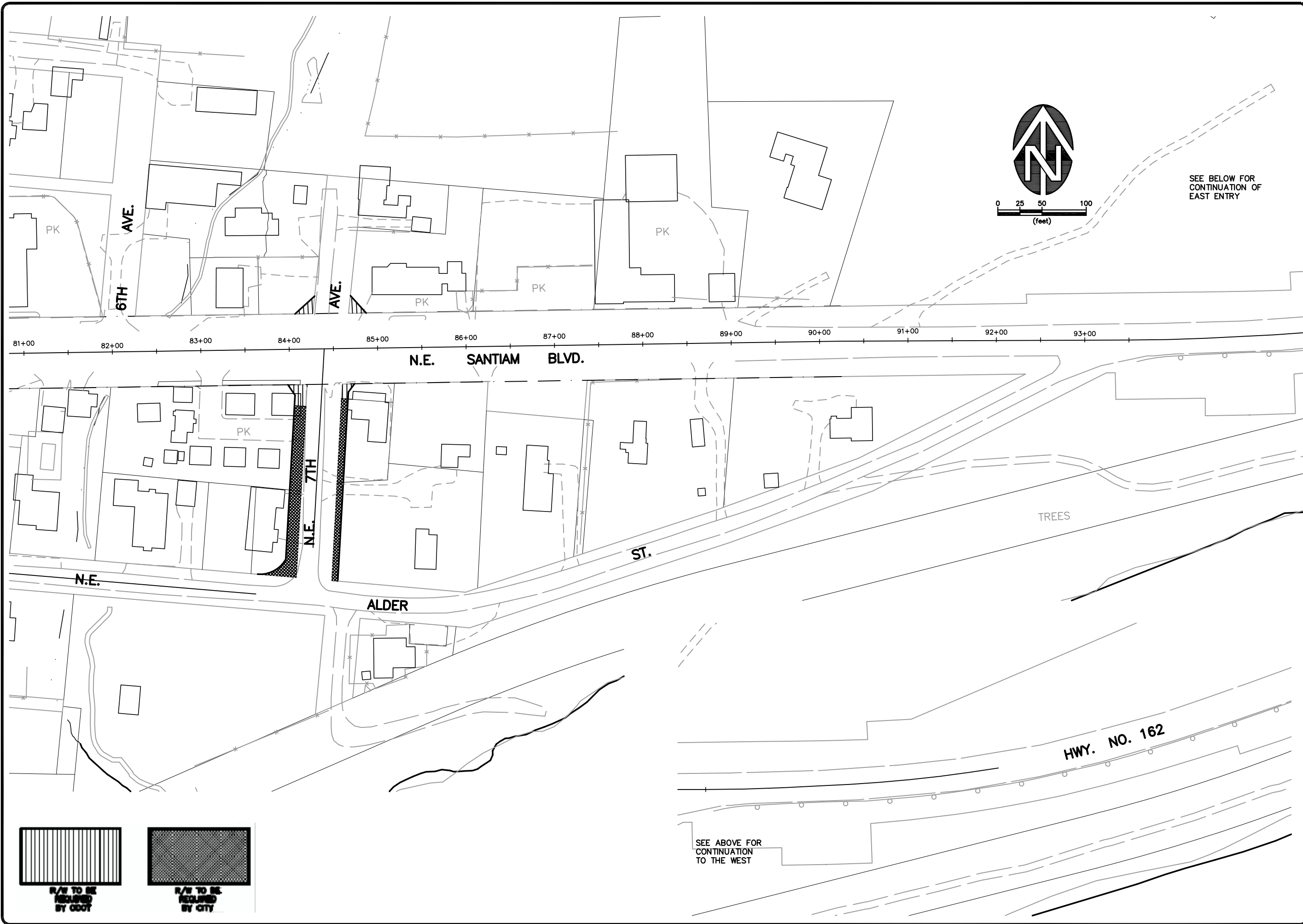
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CITY OF MILL CITY, OREGON
 HIGHWAY 22 IMPROVEMENTS
 PLAN (R-O-W ONLY)
 (5 OF 6)

FIGURE
5
JOB NUMBER
 1780.105.0

Jun 21, 2007 - 11:02am
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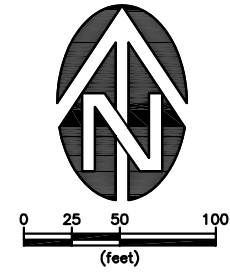
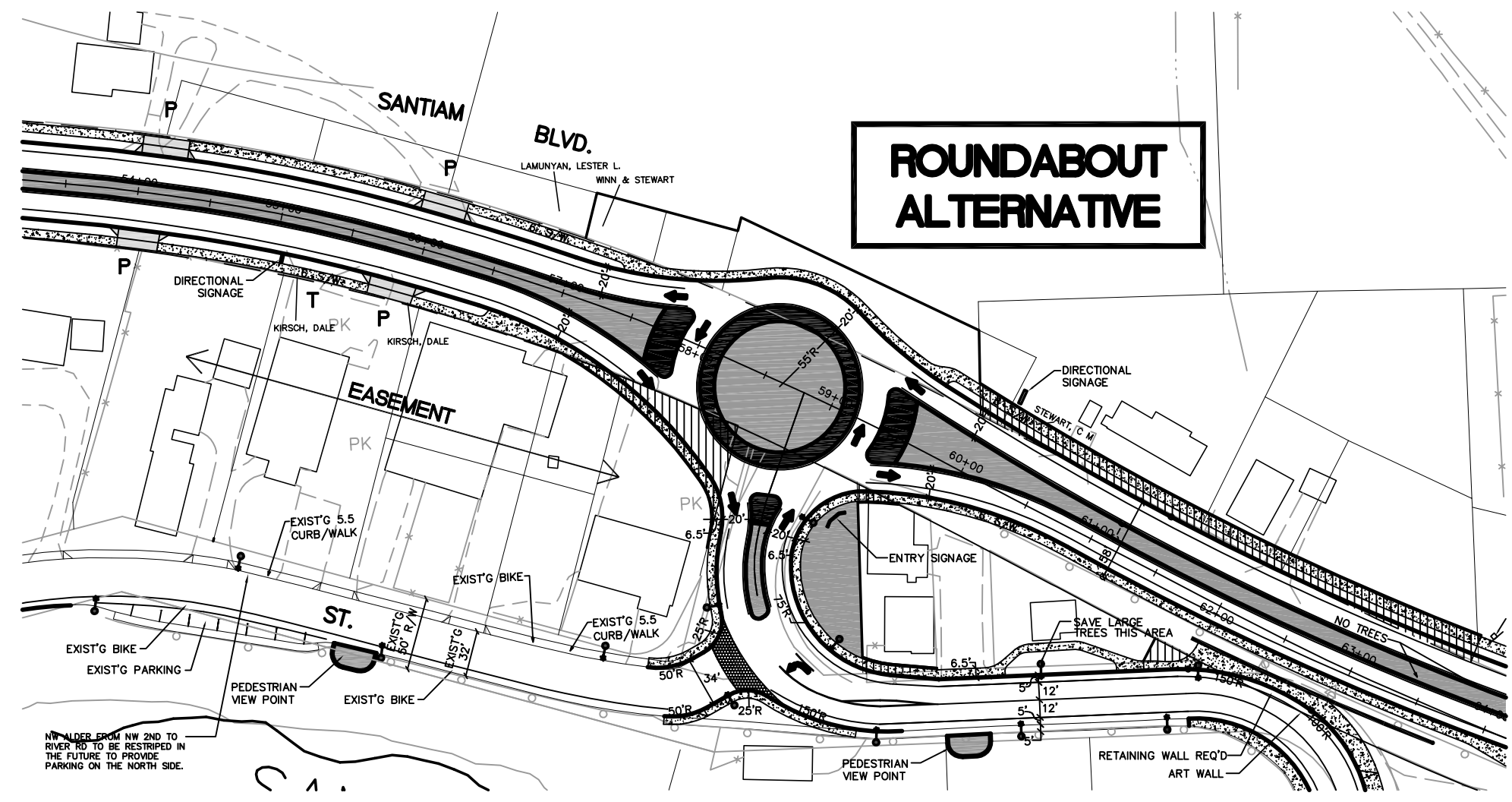
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CITY OF MILL CITY, OREGON
 HIGHWAY 22 IMPROVEMENTS
 PLAN (R-O-W ONLY)
 (6 OF 6)

FIGURE
 6

JOB NUMBER
 1780.105.0

Jun 21, 2007 - 10:57am
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ROUNABOUT ALTERNATIVE

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CITY OF MILL CITY, OREGON
 HIGHWAY 22 IMPROVEMENTS
 PLAN
 (ROUNABOUT ALTERNATIVE)
 (1 of 1)

FIGURE
 1
 JOB NUMBER
 1780.105.0

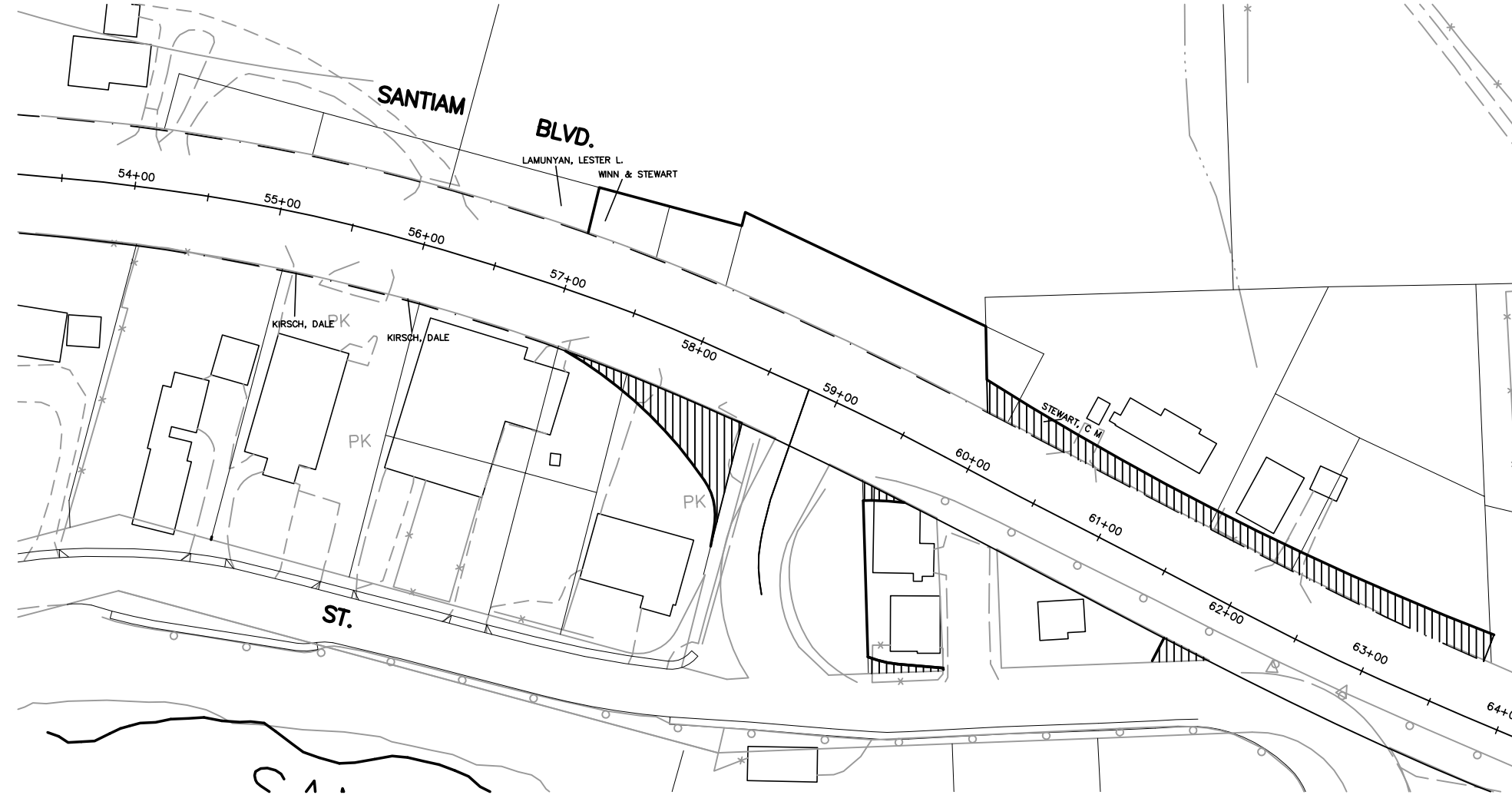
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R/W TO BE
 REQUIRED
 BY CDDT




R/W TO BE
 REQUIRED
 BY CITY



NO.	DATE	DESCRIPTION	BY
1 <td>JAN. 05 <td></td> <td></td> </td>	JAN. 05 <td></td> <td></td>		

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CITY OF MILL CITY, OREGON
 HIGHWAY 22 IMPROVEMENTS
 PLAN
 (ROUNDAUT ALTERNATIVE)
 (1 of 1)

FIGURE
 1
 JOB NUMBER
 1780.105.0