ASHLAND RAILROAD PROPERTY
MASTER PLAN

A TRANSPORTATION / GROWTH MANAGEMENT PROJECT
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PART I: THE MASTERPLAN
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The historic railroad roundhouse was located on the property since the early 1900’s, but was demolished in the 1970’s.

The railroad played an important role in Ashland’s early development as a city.

INTRODUCTION

This project is a land use and transportation plan for what is commonly referred to in the City of Ashland (City) as the “Railroad Property”. Over half of the undeveloped commercially-zoned acreage in the plan area is owned by Union Pacific Railroad. Large portions of the property have recently come available for sale and commercially zoned land is in high demand. Portions of the Union Pacific property are contaminated, and are in the process of being cleaned-up according to a plan approved by the Oregon Department of Environmental Quality. The plan area is centrally located in the city limits, adjacent to Ashland’s Historic Railroad District, and within half of a mile of the downtown.

The four main goals of the project are:

- Identify opportunities to develop the Railroad Property as a traditional neighborhood designed to provide opportunities for walking, bicycling and using transit
- Determine the effect of the brownfield status of the Union Pacific Railroad property and cleanup plan on future development
- Properly design a new street network as part of Ashland’s transportation system
- Integrate the new development with the surrounding neighborhoods.

This report details what is intended to be an integrated land use and transportation plan for this new neighborhood development. The land use component develops a neighborhood plan for the area. To implement this plan, a set of design guidelines that address compatibility with adjoining neighborhoods were developed. The neighborhood plan focuses on developing an area that has an identity of its own, but at the same time links to the nearby Railroad District. The neighborhood plan is fashioned after Ashland’s North Mountain Neighborhood Zone with overlay subzones and site planning and design standards. The transportation component specifies future north/south and east/west through-connections as they relates to the overall transportation network. A local street network plan and street design for a new through-street integrates walking, biking, transit, driving, and delivery routes. Conceptual renderings depict streetscape improvements, commercial, civic and mixed-use areas as they relate to the overall neighborhood concept.

The Ashland Railroad Property Master Plan is funded by the Transportation / Growth Management (TGM) Program. The TGM Program advocates planning that uses “Smart Development” principles. Smart development principles (right) aim to create more cohesive, walkable, efficient development patterns. These principles were used in the development of the Ashland Railroad Property Master Plan.

FIVE PRINCIPLES OF SMART DEVELOPMENT

1. Efficient use of land and energy resources
2. Full utilization of urban services
3. Mix of uses
4. Transportation options
5. Detailed, human-scale design

PROJECT OBJECTIVES AND OUTCOMES

OBJECTIVES
The seven main design objectives of the Ashland Railroad Property Master Plan are to:

- Establish the layout of a new employment district for Ashland close to the city center.
- Incorporate a mixture of uses, including: residential, employment, retail, civic, recreation and open space.
- Encourage alternative modes of transportation, including: walking, cycling and transit use.
- Design new buildings to be compatible with and complementary to those in adjoining neighborhoods.
- Connect to the surrounding neighborhoods and integrate into the city fabric.
- Respond to and be inspired by the rich history of the site.
- Reinforce the natural amenities of the site.

OUTCOMES
The primary outcomes of the Ashland Railroad Property Master Plan are that:

- The design of the plan incorporates locations for industrial, residential, and commercial uses in close proximity to one another.
- The extensive network of streets throughout the new district allows many choices for traveling from one location to another, and for connecting to surrounding areas. In particular, the proposed crossing of the railroad at 4th Avenue will allow occupants of the new district easy access to the Historic Railroad District and to downtown Ashland.
- New buildings developed on the Railroad Property will be inspired by the vernacular industrial and historic architecture of the surrounding areas.
- At least one street connection on each edge of the property allows the new district to easily and seamlessly become part of Ashland’s city fabric.
- The memory of the origins of Ashland are preserved by reclaiming the foundations of the historic roundhouse building and turning it into a major civic building at the core of the development.
- Scenic views of the surrounding hills and a stream on the east side of the property are preserved as public amenities for the future residents of the area.
- In a separate process, The Department of Environmental Quality determined that all land in the Railroad Property be cleaned up to the highest possible residential standards, thus freeing the planning process from considering current polluted areas as design constraints.
THE SITE

STUDY AREA FACT SHEET

CURRENT USE
Much of the land is currently vacant. The lots fronting Hersey Street house primarily light industrial uses. Along Oak Street there are some retail shops. The east side of the property is used primarily for residential uses: long, rectangular lots to the south and smaller lots to the north.

AREA:
Total: 74 acres
Railroad property:

BOUNDARIES:
North - Hersey Street
South - Railroad Tracks and A street
West - Oak Street
East - North Mountain Avenue

TOPOGRAPHY
Mostly flat, slopes to the north with steeper grades towards the northeast near the intersection of North Mountain and Hersey Streets.

DISTANCE TO DOWNTOWN
1/4 mile to 1/2 mile.
CURRENT ZONING
The E-1 zone is an employment zone that allows a variety of commercial, residential, and light industrial uses. Much of the site is covered by a residential overlay zone that allows up to 35% residential use on the ground floor and unlimited residential above the ground floor.
OPEN SPACE NETWORK
A system of off-street pedestrian paths, greens, plazas, streams and wetlands provide ways through the new district in addition to sidewalks along all new and existing streets. A stream along the east edge of the RR property will be setback from top of bank at least 25 feet to any impervious surface. A bike path along the northern edge of the RR tracks connects this wetlands to a central plaza, and an existing wetlands in the western portion of the district.

NEW STREETS NETWORK
A system of new streets provide numerous choices of routes for drivers, pedestrians, cyclists and future transit. A primary east/west street extension to Clear Creek Drive provides a much needed parallel route to “A” Street connecting Oak Street and North Mountain Avenue. The exact alignment of this new road through the properties fronting North Mountain Avenue is flexible, and will require further negotiation between the City and those individual property owners. A new 4th Street crossing of the RR provides a crucial link to the existing Railroad District. A specific truck route is designated to provide adequate access to the area, yet keep trucks away from the central plaza.
THE CORE

The new Railroad District is focused on an area near the middle of the development near the railroad crossing. This core area is envisioned as the retail and civic center of the new district. Adjacent to the tracks, the core is made up of two sets of elements: streeetwall buildings that define a grand public space, and two “object-like” public buildings that are highlighted within that space. The round public building, inspired by the historic roundhouse turntable, is intended to house such uses as a light rail / transit center, a post office, or a community center. The second public building could be a mixed-use building incorporating various civic and commercial uses. As long as these are primarily civic or public, the exact use is flexible.

The core is connected to A Street and the Historic Railroad District across the tracks by a new crossing at 4th Street. This crossing may make possible a limited amount of retail development around the new public plaza. The plaza, enclosed on three sides by buildings, would present an open and inviting face to A Street and thus perhaps encourage the expansion of the retail vibrancy occurring in that area.
THE ROUNDHOUSE
Throughout history there have been many examples of important public buildings that are round (for example, the Thomas Jefferson-designed Rotunda of the University of Virginia library, the Tempietto and the Pantheon buildings in Italy, and the many round or partially-round courthouses and capitals throughout the United States). The shape ensures an “object-like” building that will be viewed from all sides. It also coincides with the historic foundations of the turntable used to reorient train engines into the roundhouse sheds. The circular shape provides a focal point for the entire district, and will take on symbolic importance as a civic building.

POTENTIAL TRAIN STATION
There has been much discussion and a recent feasibility study about the possibility of a commuter rail system connecting up the Rogue Valley. In the case that commuter rail is deemed feasible and funds are secured for its construction, the civic buildings next to the tracks are in a prime position to house the Ashland stop on the system.
THE EAST-WEST COLLECTOR

To provide access to the district and to relieve some city-wide transportation inefficiencies, an east-west connection through the site was deemed necessary. This connection was also specified in the Ashland’s TSP. Incorporating this connection into the new district’s core was seen as a way to make retail in the area more viable as well as provide easy access to and from the Historic Railroad District to the south of the study area.
RETAIL PLAZA AND 4TH STREET CROSSING

A retail plaza located directly across the tracks on 4th Streets connects to and builds on the vibrancy and retail activity along A Street. Crossing this plaza provides for an inviting entrance into the new district, with wide sidewalks, retail storefronts, office and housing uses on upper floors, and public space that could be used for public gatherings, markets, or recreation.

The 4th Street crossing allows easy access to the amenities on A Street and provides direct access to downtown Ashland. It also allows residents currently living in the historic Railroad District to access the future amenities in the new district.

The 4th Street crossing, designated in Ashland’s transportation plan, will create shorter trips for employees, residents, and visitors from the new district to other areas of Ashland. Without the 4th Street railroad track crossing, the future district would only be accessible at the east and west ends - at existing crossings that occur at North Mountain Avenue and Oak Street. These crossings are nearly 3/4 of a mile apart. This would pose a significant detour for those traveling between the historic Railroad District and the new district. In order to achieve this rail crossing, existing siding tracks currently used for railcar storage need to be removed. Rail Tech, the current operating company, has agreed to move their operators to Medford, allowing for the possibility of a crossing at 4th Street.
NE RAILROAD PROPERTY AREA

This part of the plan is seen as secondary to the core. It’s parameters are somewhat flexible. It has been designed to accommodate a variety of uses and building configurations. Design standards will be more accommodating for this area, and uses could vary considerably - from light industrial to office to affordable housing.

A line of buildings back up to the tracks with an alleyway in between buildings in the blocks north of the railroad can have shared mid-block parking courts. A shared parking arrangement could reduce overall parking need by eliminating redundant spaces between adjacent buildings.
WILLOW PARK

An existing drainage channel runs northward along the eastern edge of the Rail Road Property. The channel is surrounded by mature willow trees, offering an attractive natural habitat for which many citizens expressed great appreciation.

Preservation and enhancement of this important natural environment is proposed through the establishment of a dedicated public park. New public streets would edge the west and east sides of the park, with buildings facing across the street to the park.

One street crossing of the channel is proposed. This street is a critical element in the overall street circulation plan, and is called for in the City TSP. The bridging of the drainage should be accomplished in a manner that is sensitive to the natural characteristics of the channel. An additional pedestrian crossing is envisioned to allow residents living in the northeast corner of the site to easily access the core area.
RESIDENTIAL AREA AND STREET NEW CONNECTIONS

While the current large lot residential uses on the East side of the study may continue for some time, the plan envisions new street connections to North Mountain Avenue. Along these streets, new, higher-density residential development could be accommodated. In addition, the plan allows for a small amount of retail use on the corners of the main east-west connecting street where it joins North Mountain Avenue. This would allow a corner market or neighborhood service to locate here, providing an amenity in walking distance of nearby residences and businesses.
OAK STREET AND CLEAR CREEK DRIVE AREA

The further development of a storefront retail street on Oak Street between Hersey Street and the railroad tracks is proposed to serve the new and existing neighborhoods north of the tracks. While some retail development is likely in the center of the New RR District at the 4th Street crossing, the location on Oak Street will likely have a stronger potential due to the higher traffic volumes expected here. Oak Street has the best opportunity to provide frequent and convenient pass-by traffic needed for storefront retail needs. New developments currently in the design and approvals process along Clear Creek Drive will be built on previously subdivided railroad property. Clear Creek Drive is the gateway for the western edge of the new district, and retail would be a highly desirable use in such a location. Existing commercial uses, such as the lumber yard, are encouraged in this area.
STREET DESIGN

Careful study was undertaken to understand the transportation implications of new development on a regional and local scale. These lessons informed the suggested street network incorporated into the Master Plan, and helped mitigate any negative impacts of the existing development.

REGIONAL CONTEXT
The new east/west street designated in the TSP through the property will function as a new parallel route to Hersey, A, B, C, and East Main Streets, thus potentially relieving some traffic from those streets. While it is not intended to be a major street, it will provide east/west circulation for the future occupants of the new district. The 4th Street crossing of the rail tracks will also provide another way out of the existing RR District for large trucks and other vehicles heading north.

STREET CONNECTIVITY
This diagram shows the new street network connected into the existing street pattern of Ashland and the distance to the center of town at East Main Street and the Plaza. The spacing of streets and sizes of blocks are similar in scale to the pattern of historic street networks found in the RR District and the Downtown.
NETWORK OF STREETS
The proposed street system responds to the following stated goal

- To connect the new RR District into the surrounding neighborhoods and districts,
- To the City’s TSP designation of a direct through street from Oak Street to North Mountain Boulevard,
- Blocks sizes that are small enough to allow convenient pedestrian circulation,
- Block sizes that are large enough to accommodate the intended land uses.

Four street types have been used from the Ashland Street Standards. They are:

1. Residential Neighborhood Street – A limited application for the infill of new residential streets at the east end of the study area.
2. Commercial Neighborhood Collector – The primary east/west ‘spine’ connecting Oak Street through Clear Creek Drive to North Mountain is intended for a certain amount of commercial activity. However the central portion between the 4th street crossing and the proposed eastern park is designated as the Commercial Neighborhood Collector where there would be the greatest potential for storefront main street retail.
3. Avenue Truck Route – A specific truck route is designated through the new district that is intended to eliminate large truck movement in the central storefront area. Since this is primarily a light industrial and business district, truck delivery would be expected. But it was generally felt that there would be smaller deliver trucks, not large semi-trucks.
4. Alley – This is the smallest of the street types and is a public right of way.
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1. NEIGHBORHOOD COLLECTOR, COMMERCIAL
   (Parking Both Sides)

2. NEIGHBORHOOD COLLECTOR, COMMERCIAL
   (Parking Both Sides)
NEIGHBORHOOD STREET, RESIDENTIAL
(Parking Both Sides)

Multi-use path in railroad r.o.w.

PUBLIC R.O.W.

ALLEY
5. NEIGHBORHOOD COLLECTOR, COMMERCIAL  
(No Parking - Railroad Crossing)

6. NEIGHBORHOOD COLLECTOR, COMMERCIAL  
(Plaza - View from North)
RAILROAD CROSSING

The pavement markings include horizontal stripes and a railroad symbol on the pavement (RR symbol). These markings indicate to drivers that they are approaching a railroad crossing. These markings must begin at least 100’ from the crossing. A required warning sign is placed 100’ from the crossing to provide early warning. A required safety gate is placed approximately 12’ from the railroad tracks to protect vehicles.

The north segment of the road includes the delineation of the parking spaces. The parking spaces adjacent to the south travel lane are 8’ wide. No parking is indicated adjacent to the north-bound travel lane.

TRUCK ROUTE

A primary truck route facilitates access to large trucks within the district. The limited route is intended to eliminate the noise and safety concerns associated with large semi-trucks in pedestrian-oriented areas. This limited truck network connects to “A” Street, Oak Street, Hersey Street, and North Mountain, allowing access from all directions. Truck route signs will guide trucks away from the residential streets to the north east of the RR property and the streets surrounding the Roundhouse Plaza. This will help to maintain a very high quality pedestrian environment in the core of the district and in adjacent

The proposed railroad crossing at 4th Street shows the necessary pavement markings, signal equipment and road / sidewalk alignment.

A primary truck route provides limited access of large trucks within the district.
THE NEIGHBORHOOD AND ITS BUILDINGS

What kind of neighborhood will this be? It will look, feel and function differently than a typical commercial area or residential subdivision. Most residential uses will occupy the second and third levels of buildings above retail, office and light industrial uses on the ground floor. In limited areas, residential uses may occupy the lowest levels of buildings.

The new district will host both day and evening activities. Unlike many commercial districts, this neighborhood will not empty out at 5pm when employees leave work. For many employees, home will be upstairs, around the corner, or down the street. This unique district allows a range of land uses - from light industrial to residential to commercial - in close proximity to one another. This mix will create an exciting atmosphere for residents and a unique new district for Ashland.

The Ashland Railroad Property Plan provides for diversity of housing sizes and costs - including both for-sale and rental products. Less expensive housing will be interspersed with more expensive housing options. This new neighborhood is envisioned as a vibrant, mixed-income, mixed-age community where choices abound - choices about where to work, live, and how to move between the two.

Employment uses will take the form of:
• Retail, office or light industrial building with leasable ground floor space, and apartments or condominiums above.
• Home office or home occupation, where within a primary dwelling, a room or suite of rooms will accommodate an office or workshop. A similar option is an office or workshop housed in an accessory dwelling structure.
• Live/work units, a fee-simple structure such as a rowhouse, in which residents live upstairs from their street level office, workshop or storefront. The facades of these structures often have a storefront character.

Specific types of housing will include:
• Lofts and apartments above the ground floor commercial.
• Townhouses that accommodate offices, shops and retail in the ground level.
A UNIQUE CHARACTER

There is no predetermined style required for buildings in this district. Instead, it is expected that buildings will draw from the “industrial vernacular” of existing buildings in the Railroad District. These buildings tend to be made from spare, unadorned stone or concrete, often with metal roofs and siding. They take simple, functional shapes that relate to their use. It is hoped that new buildings in the district will also draw inspiration from the historic railroad structures that exist and have existed near the site.

However, style is less important in promoting district character and building compatibility than “building types.” Building types are defined by their basic geometry, size, and relationship to the street. The fundamental building types of the existing Railroad District have been summarized in the following pages. They form the basis of district guidelines for future buildings.

These building types are:
• Box Building
• Shed Building
• Street Wall Building
• Storefront Building
• Object Building

More than any stylistic requirement, regulations will require that buildings be built of high quality, lasting materials - allowing future adaptation and reuse. Buildings should be able to accommodate different uses over time as the economy and housing needs change.

There is a perception that the City’s design review and public process favors buildings with historicist elements—such as classical cornices and columns—even though they may be inappropriate or detailed with inexpensive materials that don’t weather well. In creating design regulations for this area, care has been taken to avoid such a tendency. Stylistic compatibility with existing, adjacent historical buildings is not an issue in this neighborhood. Instead basic regulations are the outcome of studying the elements essential to creating a good public realm.
 BOX BUILDING

- Zero feet setback from street right of way
- Two or more levels
- May or may not have a front facade parapet
- Uses: office and retail at ground level, residential above

The Box Building, often found in downtowns and mains streets, creates a strong street wall enclosure by aligning along the back of the sidewalk with little, or no-setback from the right-of-way. They are often attached to other adjacent buildings as in row houses. They often have flat roofs or parapets facing the street, which gives them their distinctly urban character. Their urban street-wall character is what make the box building so appropriate to the commercial uses in the center of this new district.

Examples of the “box building”
STREET WALL BUILDING

- Masonry, concrete or stone bearing wall (or veneer)
- Punched deep openings for windows and doors
- Street facing facade often higher than building behind
- Building behind is often a shed
- Appears to be multistory, even when it’s not

Also commonly know as the “Western storefront”, applying a Street Wall facade to a building is a relatively easy way to give a modest box, or shed building a greater sense of scale and importance to the public realm of the street. The street wall facade can be simple, or dressed up. Like the Box Building, it aligns with its neighbors along the right-of-way.
SHED BUILDING

- “Industrial vernacular”
- Use of metal roofs and siding
- Unusual roof shapes
- Unadorned stone
- Uses: warehouses, flexible employment/office space, loft housing
- Wood or steel frame construction, long open structural spans
- “Curtain wall” exterior sheathing.
- Is one story, but appears to be two

The Shed Building is typically a long span structure used for industrial or agricultural purposes. It is less “urban” than the typical retail building types, but can be easily made more inviting to pedestrians by incorporating sufficient doors and windows into the street facade. Its pure geometric roof shapes, such as vaults, gables, and sheds, give variety of building forms to a district. It is often unadorned, but gains it character from the ‘raw materials’ of unpainted metal, or wood.
STOREFRONT BUILDING
The storefront is a window and door unit set into a wood-, steel- or masonry-framed opening. Located at the ground level of buildings, storefronts are designed to invite customers into the retail establishment within, and for displaying goods. Historic storefronts have a typical bay structure of about 15 to 20 feet wide, clerestory windows (the row of windows over the main display window), and a floor-to-ceiling height of about 15 feet. The Storefront can be applied to any of the building types in these guideline to transform a ground floor space into a retail establishment.
OBJECT BUILDING
Adjacent to the tracks, the core is made up of two sets of elements: streetwall buildings that define a grand public space, and two object-like public buildings that “float” within it. The round public building, inspired by the historic roundhouse turn-table, is intended to house such uses as a light rail / transit center, a post office, or a community center. The second public building could be a mixed-use building incorporating various civic and commercial uses.

OBJECT BUILDING CHARACTERISTICS
- Pavilion type structure, nondirectional—designed to be viewed or accessed from any side.
- Building forms round, square or a combination of the two.
- Use of decorative spatial and structural elements: columns, brackets and arcades, for example.
- Use of color encouraged.
- Unique roof forms, possibly domed or pyramidal shapes.
- Land uses: civic, institutional.
- Framed by streetwall buildings.
CODE PROPOSAL - REQUIRED EMPLOYMENT ZONE.
In these designated areas residential uses shall be prohibited at the ground level. Exceptions being considered are affordable housing and/or live-work units with defined employment uses and a storefront character at ground level. Increasing allowed residential density is among other issues to be explored further.

CODE PROPOSAL - REQUIRED STREETWALL
In these designated areas, there shall be a 0’ setback from the streetwall line and a 24’ minimum streetwall height. (40’ is the maximum building height as per E-1 zoning; up to 55’ allowed with conditional use).
CODE PROPOSAL - OBJECT BUILDING

Only permit Object Buildings in the ‘island’ between the rail road crossing and the Roundhouse. The Object Buildings are to be viewed from all sides, as opposed to other building types which have distinct formal fronts and service backs. This location is ideal for civic and community uses since they stand in contrast to the surrounding Street Wall Buildings.

CODE PROPOSAL - REQUIRED STOREFRONT CHARACTER

Establish storefront character in certain areas by expanding the application of the City’s Detail Site Review provision LL-C-2, (which requires that 20% of wall area face the street with display, areas, windows or doorways) to two Oak Street and North Mountain commercial areas, in addition to Roundhouse Square.
SUMMARY OF PROPOSAL

LAND USE
• Maintain existing zoning designations, with additional plan overlays and building design guidelines.
• Maintain existing Detail Site Review Standards.
• Establish an employment emphasis in certain areas. In these designated areas, residential uses shall be prohibited at the ground level. See Code Proposal, Required Employment Zone. Exceptions being considered are affordable housing and/or live-work units with defined employment uses and a storefront character at ground level.
• Increasing allowed residential density is among other issues to be explored further.

BUILDING DESIGN.
A goal of this code proposal is to create very little new building design regulation—only what is necessary to guide critical aspects of building and public realm design. Goals of such regulation include:
• Guide placement of buildings to ensure the enclosure and definition of the public realm in the areas shown on the Plan. Code Proposal for Required Streetwall. In these designated areas, there shall be a 0’ setback from streetwall line; and a 24’ minimum streetwall height (40’ is the maximum building height as per E-1 zoning; up to 55’ allowed with conditional use).
• Develop special conditions for allowing an increase to 55’ height limitation without a conditional use permit. Structured parking might be a condition that, if met, would allow greater height, for example.
• Establish storefront character in certain areas as shown on Plan. Code Proposal for Required Storefront Character. This might be accomplished by expanding the application of the City’s Detail Site Review provision LL-C-2, (which requires that 20% of wall area face the street with display, areas, windows or doorways) to two Oak Street and North Mountain commercial areas, in addition to Roundhouse Square.
• Ensure that high quality, durable materials are used.
PART II: THE SITE
SITE CONTEXT

The 74 acre study area is bounded by the railroad tracks to the south, Hersey Street to the north, Oak Street to the west, and North Mountain Avenue to the east.

Most of the study area is zoned for light industry and commercial development, and allows residential components as part of mixed-use developments. The northeast corner of the study area is zoned for single-family and multifamily residential development.

Data from the adopted Buildable Lands Inventory in September, 1999 show 49 acres of vacant/partially vacant land in the plan area. Union Pacific Railroad owns a 15 acre parcel along the railroad right-of-way at the core of the study area. Union Pacific is offering the property for sale, and has sold the northwest corner of the plan area to a private party. Portions of the property are contaminated, and Union Pacific has worked with the Department of Environmental Quality to develop a cleanup plan.

The study area is an important site within the greater Ashland context for several reasons. It is one of the largest tracts of vacant commercial land within the city limits. Because of the proximity to the railroad right-of-way, the land has been targeted for industrial development since the 1960s. This area is adjacent to Ashland’s Historic Railroad District, which recently obtained National Historic Register status. The Railroad District is one of the most pedestrian-friendly areas in town because it has a grid street network of pedestrian-scaled blocks; traditional streets with sidewalks, planting strips, and on-street parking; interesting architecture; and mixed-uses. A variety of retail, office, light industrial, and residential uses are located on Fourth, First, Pioneer, Oak and A Streets.

“A” Street is parallel to and south of the railroad right-of-way. “A” Street is nicknamed “Silicon Alley” because of the variety of computer software offices located on it. The City has launched a new high-speed fiber network and expects to see the demand for commercially-zoned land for computer-related businesses increase. Due to the area’s close proximity to the Historic Railroad District, general locale in the center of the city, and high demand for commercially zoned land that provides for a variety of uses (office, retail, light manufacturing), heavy industrial uses are not...
permitted here. As a result, the area was rezoned from industrial zoning to Employment (E-1) in July 1999.

The northwest corner of the plan area was recently sold by Union Pacific Railroad and partitioned. In working on the application, the need for a comprehensive land use and transportation plan for the area became clear.

The plan area is also an important location in terms of Ashland’s transportation system. A new street connection running east-west from North Mountain Avenue to Oak Street has long been shown on the Ashland’s Street Dedication Map. North Mountain Avenue, Hersey Street, and Oak Street are all major collectors which provide major north-south and east-west routes through Ashland. A new street through the plan area would especially benefit pedestrians and bicyclists by offering them a direct connection and a relatively flat route. In addition, a crossing of the railroad at 4th Avenue, also a part of the Ashland’s long-range transportation plan, is a major objective to help connect the new development with the existing historic Railroad District neighborhood.

Providing pedestrian accessibility to transit is an important part of the transportation strategy. Currently, the area is approximately one third of a mile from an existing bus route. Given the location between three major collectors (North Mountain Avenue, Hersey Street and Oak Street), there is potential for future transit routes. Linked opportunities between transit and commuter rail also exist.
Ashland’s Railroad Addition was developed in the early 1880s in anticipation of the arrival of the rails as they pushed south from Grants Pass. The first train pulled into the new Ashland station in April 1884 and three years later, following completion of the line north over the Siskiyou Mountains, California and the Pacific Northwest were joined by rail with the driving a golden spike in Ashland on December 17th, 1887. At that time the Railroad district, already a significant focus of Ashland’s economy, became the community’s “front door,” as every passenger and freight train entering or leaving Oregon stopped here to meet “helper engines,” pick up wood, water, and other supplies for the trek over the mountains. Exhausted travelers required a place to stretch and so a huge three-story “Depot Hotel,” rose gardens, and an exhibit building showcasing local products were built facing A Street. For its own use, the Southern Pacific built a huge brick roundhouse, turntable, water tanks and other train services north of tracks.

The Railroad District soon grew into a semiautonomous town-within-a-town in Ashland. Governed by “train time,” a small business district developed around the intersection of 4th and A streets, with taverns, restaurants, hotels, tailors and barbers all providing services to travelers. Soon markets and hardware stores, focused upon the large residential community south of A Street (peopled mostly by railroad employees), developed to serve the area’s residents. In 1908, after a disastrous fire, Ashland’s second fire station, Hose Company No. 2, was built on Fourth Street. Given the nature of the area, with bars and taverns as well as large numbers of well-paid, single, men, a police substation, complete with a “drunk tank,” was built into the structure.
The Railroad District was a working class community. Most of the buildings on 4th Street, as well as the houses built in the area, were modest vernacular structures, catering the area’s ‘no-nonsense’ residents. Brick and wood-frame storefronts, typically twenty-five or fifty wide, reflected the narrow underlying lot divisions of the densely developed area. Open glazed facades, with vertical windows in the upper stories and small cornice detailing, accentuated the narrow building scale. Simple, honest, use of materials such as corrugated metal, red brick, poured concrete, and board and batten siding, reflected a functional approach to design that was substantially different from the more elaborate and style-conscious buildings of Ashland’s downtown.

The Railroad District remained an active and vibrant focal point for Ashland’s economy for nearly four decades but by the mid-1920s the automobile, and the new Pacific Highway, provided increased competition for passengers while motor freight, aided by new and larger engines, cut into the profitability of the freight route over the steep Siskiyou Grade. In 1927 the Southern Pacific opened the Natron Cut-Off through Klamath County and literally overnight Ashland’s train traffic dropped three-fourths in volume. “Grass will grow in our streets,” lamented one district resident of the time and as the ensuing decades would prove, her comments weren’t that much of an overstatement. In 1936 Southern Pacific razed the once-grand Depot Hotel and converted its small kitchen wing into a combined passenger and freight station, able to handle the small commuter route that connected Ashland with the main line in Eugene. In 1955, even this proved uneconomical and all passenger service to Ashland ended. Without passengers as customers, most of the businesses on 4th street closed and the buildings were left with little use and less maintenance.

Throughout the 1960s and 1970s the railroad slowly shifted repair service out of Ashland and the roundhouse, turntable and other remains of Ashland’s railroad yards were demolished. By the 1980s, with freight on the decline, even the small freight depot was closed, its operations shifted to Medford.

Interest in the Ashland Railroad District’s history led to its recognition as a local historic district in the 1970s and, in 1999 the area south of the tracks was listed on the National Register of Historic Places, the city’s first nationally recognized historic district.
SITE ANALYSIS

The existing conditions of the Railroad Property and the surrounding study area provide opportunities and constraints for development as envisioned. Prior to producing a site plan, initial assumptions about the location of program elements were presented to the first public meeting using the concept diagram (lower left).

These assumptions were drawn from the following site analysis that addressed issues of site access, environmental resources, industrial contaminants, site history, views, and proximity to existing retail areas.

RAILROAD CROSSING AT 4TH AVENUE

At least one additional railroad crossing is proposed as a way to connect the new Railroad Property with the existing Railroad District to the south. The most logical location to cross the tracks is at 4th Street, for several reasons. Fourth Street was historically the commercial street in the area, leading from downtown to the Railroad Hotel and Station. It is designed with diagonal parking (which is conducive to retail) and is generally wider than surrounding streets. There are already established businesses on 4th Street; accommodating additional traffic will only strengthen the commerce in the area. The potential of retail developing on the north side of the tracks in the center of the site would be strengthened by connecting it to the existing commercial area on “A” Street and along 4th Street.
STREET CONNECTIONS
Currently, the Railroad property is very isolated, with only two connections to the surrounding streets. In order to promote a network of streets (which will allow each street to be smaller so that no one street bears the burden of all the new traffic), connections through existing properties are needed. There are several opportunities to get connections through the large industrial sites to the north, and possibly several connections through the large lot residences to the east.

RETAIL AREA EAST OF THE SITE ON OAK STREET
Several factors indicate that Oak Street might be a good location for a retail main street. First, Oak Street bears fairly high traffic volumes and moderate speeds. This would help any retail locating there to flourish. An encouraging sign of the viability of this location is that new retail businesses have recently located on the corner of Oak and Hersey. Second, this area is within walking (or short commuting) distance of many residential areas to the north, east, and south. Neighborhood-serving retail on this small section of Oak Road would benefit the surrounding communities as well as the new district. Finally, Clear Creek Drive is the gateway for the western edge of the new district, and retail would be a highly desirable use in such a location. Existing commercial uses, such as the lumber yard, are encouraged in this area.

HISTORIC ROUND HOUSE:
Several compelling photos of the historic roundhouse inspired participants to incorporate its memory into the plan. Concrete and brick foundations from the building still exist on the site, which raises the possibility of transforming them into a plaza or possibly constructing a new building in that shape.

SOIL CONTAMINATION
While soil contamination was initially a constraint for the site design, the City has been assured by the Department of Environmental Quality that the site will be cleaned up to the highest residential standards possible. Thus, the holding ponds on the west side of the property will be drained and cleaned, and will not be a constraint in the planning process. All contaminated soil will be removed from the site.

DRAINAGE CHANNEL TO EAST OF THE SITE
Currently a drainage runs from the Railroad District downhill to the north, forming the border between the Railroad property and the large lot residences bordering North Mountain Avenue. Many residents expressed a desire to see the drainage turned into an amenity, as now it is used for strolls and dog-walking. It could form an important buffer between the existing and possibly future residences on the large lots, and the more dense, commercial uses toward the interior of the site.
PUBLIC SPACE
Many residents from the surrounding area felt it was important that the district have a distinct center, a place that people could recognize and use for public and recreational uses. The logical location for such a public space is just across the tracks from 4th Street. This will allow the square to “borrow” some of the commercial energy from A Street and 4th Street, and to build on what’s there now. It was also felt that such a space should be accessible from the Railroad District to the south.
TRANSPORTATION ANALYSIS

This project will implement components of the Transportation Element of the Ashland Comprehensive Plan, and the Transportation System Plan (TSP) for reducing exclusive vehicular orientation and creating greater accommodation for pedestrians, bicyclists, and transit in the historic Railroad District plan area. The integrated land use and transportation plan will specifically site a new through-street that will provide for access and accommodation for pedestrians, bicyclists, motorists, and transit. The project will seek to implement policies of the City’s long-range transportation plans while integrating compact, mixed-uses with multimodal transportation facilities and solutions. As a whole, the project will enhance mobility while reducing the reliance on the automobile in the Railroad District area.

Fehr and Peers reviewed multiple data sources while preparing the existing conditions analysis regarding the transportation system. These data sources include the City of Ashland Comprehensive Plan, Transportation System Plan, historical count data collected by the City of Ashland, as well as a site visit. These data sources create a comprehensive picture of the area’s transportation system.

AREA DESCRIPTION
The Ashland Railroad Property lies near the center of Ashland. Roadways such as East Main Street, Oak Street, and Mountain Avenue are near the district. The land uses in the area are a mixture of residential, light industrial, commercial, and retail. Major land uses in the surrounding area include a grocery store, an animal feed store, as well as various shops, restaurants, apartments, and single-family homes.

ROADWAY NETWORK
The major roadways in the area include East Main Street, Oak Street, North Mountain Avenue, and Hersey Street. Interstate 5 is located a couple of miles to the north of the Railroad Property. The historic neighborhood south of the railroad tracks has an extensive roadway grid with east-west roadways such as A Street, B Street, and C Street. Major north-south roadways in this grid system are First, Second, and Fourth Street. This grid network provides the residents and other roadway users with good connectivity to the adjacent street network. All of the area roadways are 2 lane roads with pavement widths of 30’-40’. The following table details the pavement width and bicycle/pedestrian facilities present on each roadway in the area.
RAILROAD FACILITIES
The railroad line holds a prominent place in the history of the Ashland. The railroad district was the site of a very active passenger terminal during the heyday of the railroad between 1884 and 1927. Currently, multiple tracks pass through the Railroad Property. The Railroad Property contains several main lines of tracks, multiple spur sections, and switching equipment. Central Oregon Pacific Railroad (CORP), a subsidiary of Rail America, currently operates freight service along this line with two trains per day. There are at-grade crossings of the railroad at Oak Street and North Mountain Ave.

TRAFFIC COUNTS
The City of Ashland has extensive traffic count information available for many of the roadways in the study area. The following table lists the latest traffic counts for each of the major roadways in the area.

Existing daily traffic counts on streets surrounding the Railroad Property.
Successful implementation of the recommended alternative would eliminate any contaminant-related constraints associated with redeveloping the Ashland rail yard. Potential opportunities associated with the recommended cleanup alternative include incorporating some of the older Rail Yard former structure foundations in the site redevelopment and taking opportunity of the earth work required to complete the remedial action of the Yard. There are no constraints related to site contamination if the recommend cleanup action is successfully completed. However, there is a naturally occurring pond located adjacent to the central northern property boundary that reportedly is a designated wetlands capable of supporting aquatic life. Redevelopment plans will need to address this wetlands designation of the pond.

SITE BACKGROUND
The Ashland rail yard (the Yard) served as a locomotive maintenance, service, and railcar repair facility between 1887 and 1986. During this span of time steam powered locomotives were replaced by diesel locomotives. Development of the Yard reached its peak in the early 1900s with some additional operations buildings added during the 1920s.
Locomotive maintenance and car repair functions occurred during the 1900s to early 1970s. Most locomotive fueling and maintenance facilities were decommissioned before 1960.

In the mid-1980s, a locomotive refueling and maintenance drip slab was constructed at the site. During installation of the drip slab, ballast and soil impacted by former fueling operations were removed to the top of a perched groundwater zone, which was encountered at 3.5 feet below ground surface (bgs). The removed ballast and impacted soil was placed into Yard turntable pit. Three holding ponds (referred to as Pond C) were located in the northeast corner of the Yard and used between 1938 and 1978 for retention of wastewater. During closure of the Pond C area, excavated soil from the Pond C area was also placed into the former turntable pit. Following installation of the drip slab, nine passive product recovery wells were installed just north of the drip slab to remove floating product from a perched groundwater zone. An oil/water separator was used to remove oil from the wastewater resulting from locomotive fueling and service operations in the drip slab area and to treat water recovered from the product recovery wells. The treated water was then discharged to the larger of the two ponds (Pond A). A second pond B) was used for containment of overflow from Pond A.

ENVIRONMENTAL INVESTIGATIONS
The Yard has been the focus of environmental investigations since the early 1990s. Environmental site assessments were completed in 1991 and 1992 by the Southern Pacific Transportation Company (SPTC), the previous owner of the property. In 1993, SPTC entered into a voluntary cleanup agreement with the DEQ. UPRR became the owner of the property in 1996 and continued the cleanup investigation. The Remedial Investigation of the Yard, consisting of two phases, was completed in 1999.

Based on the findings of the RI, a human health risk assessment was completed. The exposure assessment identified inhalation, ingestion, and skin contact of affected soils as the exposure pathways of concern. An ecological risk assessment was also completed as an element of the RI. The results of the ecological risk assessment indicated that the Yard is not known to serve as a habitat for any rare, threatened, or endangered species.
CONSTRAINTS & OPPORTUNITIES
In order to move forward in the cleanup effort, an analysis of viable options will be undertaken. This analysis will be based on the following identified constraints and opportunities.

CONSTRAINTS:
• Removal of all soils, sediments, and debris that contain contaminants of concern that exceed the established residential cleanup goals would remove all environmental constraints associated with the Yard. If successfully implemented, no deed restrictions would encumber the property nor would any long-term remedial action maintenance be required.

• The natural pond located adjacent to the central north property boundary is not identified as requiring remedial action. However, the FS report indicates that the natural pond is designated as wetlands with beneficial uses that include the capacity to maintain aquatic life. This designation will need to be considered in redevelopment the property.

• The debris landfill located in the northeastern area of the Yard is not specifically identified as an area requiring remedial action. The identified Bunker C removal area appears to be located adjacent to the northern side of the debris landfill. Debris materials in the landfill may not be suitable for redevelopment and require removal.

• The FS report indicates that impacted materials were placed in the existing turntable pit. Removal of this material is not identified in the FS report. However, the DEQ is aware that this material is present and will require that it be removed as part of the site cleanup action.

OPPORTUNITIES:
• The removal of all impacted soils and materials that contain contaminants of concern that exceed the site residential-based cleanup goals will allow for a wide range of redevelopment options to be considered without being encumbered by contamination issues both in the short and long-term.

• Redevelopment of the site could consider incorporating the existing foundations of the locomotive roundhouse and the turntable. These two structures were reportedly constructed in 1896 and represent the first two major rail yard operations.
structures. Assuming that during rail yard operations the foundations of these two structures remained intact and were not compromised, the soils under these foundations should not be impacted. Therefore, it should be possible to retain these historic foundations as an element of the Yard redevelopment. The exposed portions of the foundations would potentially need to receive some surface cleaning.

- Implementation of the remedial action will involve some substantial soil removal particularly in the eastern portion of the site. Earthwork associated with the remedial action could take in consideration site redevelopment plans. Such consideration could allow for regrading of portions of the site to fit site redevelopment plans and may reduce remedial action costs by reducing the amount of clean soil required to backfill the excavations.

CONCLUSION
While soil and water contamination are certainly a concern, the DEQ will require full cleanup prior to development of the site. Many methods of cleanup are available. The particular method of cleanup and where the funding for the cleanup will come from are questions that will be addressed after the completion of the master planning process. The plan assumes that any existing environmental barriers to development will be mitigated before building begins. Accordingly, any existing environmental constraints will not be considered as obstacles in the design of the new Railroad District master plan.
ZONING ANALYSIS

EXISTING ZONING
for the study area consists of four different Comprehensive Plan/zone designations and overlays:

- Employment/E-1, with a Residential Overlay. Applies to the area just north of the railroad tracks, from Oak Street at the west to the back of long lots fronting on Mountain Avenue at the east.
- Detail Site Review Zone. Applies to the same area described above, as well as tax lot 1900.
- R-1-5. Applies to the area just west of Mountain Avenue.
- R-2
- R-1-3.5
ZONING HISTORY
The 1999 zoning ordinance amended the Comprehensive Plan Map, the Zoning Map, and the Detail Site Review Zone Map for the property north of the Railroad tracks between Oak Street and North Mountain Avenue. Specifically, it changed a portion of the study area, just north of the railroad tracks, from Comprehensive Plan designation Industrial and zoning designation M-1, to Comprehensive Plan designation Employment and zoning designation E-1, with a residential overlay. In addition, it added the same portion of the property to the Detail Site Review Zone.

ABOUT EMPLOYMENT / E-1 ZONING DESIGNATION
Employment/E-1 is a relatively new land use classification developed in the 1981 Comprehensive Plan update. It was created to allow for a combination of uses ranging from commercial uses to those uses regularly seen in industrial zones, and intended to provide maximum flexibility so that future development could respond to the changing economy (changing from the historic timber-based economy). Uses that are encouraged in the Employment E-1 zone include light manufacturing firms, knowledge intensive manufacturing such as computer software and medical specialty businesses, educational facilities and professional service offices. With the addition of the residential overlay, the Railroad property allows residential land use into the mix, creating the most mixed-use, flexible zone in the city.

Below is a summary of Chapter 18.40 of the Ashland Municipal Code, E-1 Employment District:
- Purpose of the district. To provide for a variety of uses such as office, retail, or manufacturing in an aesthetic environment and having a minimal impact on surrounding uses.
- Permitted uses range from professional offices to stores and shops (retail uses are limited to no greater than 20,000 SF gross leasable floor space per lot); restaurants, light manufacturing, research establishments, broadcasting studios, mortuaries, building material sales yards, kennels and bakeries.
- A number of uses are allowed subject to special requirements, the most notable being residential uses. Below is a summary of the special requirements for residential uses within the E-1 zone:
  - At least 65% of the ground floor area, or 50% of the lot area, if there are multiple buildings, shall be designated for permitted commercial uses.
  - Residential densities shall not exceed 15 dwelling units per acre.
  - Residential uses shall only be located in areas indicated by the R-Overlay, within the E-1 district.
  - If the number of residential units exceeds 10, then at least 10% of the residential units shall be affordable for moderate-income persons.
Area, height and width requirements for the E-1 zone are summarized below:
- No area or width requirements except as required by conditional uses.
• No yard requirement except when a lot adjoins a residential district.
• Structures are limited in height to 40’
• There shall be no manufacturing, retailing or other activity which is not entirely conducted within a building, except as specifically permitted in a subchapter of the E-1 Employment District chapter (18.40.040).

DESIRED DEVELOPMENT PATTERN
Below is an excerpted list of policies and findings that help describe the development pattern desired within the Railroad Property:
• The way “A” Street and the Railroad District has developed may provide a template for the future of economic development in Ashland—mixed use development. (from Railroad Property Zone Change, Council Communication, July 20, 1999)
• Compatible mixed-use zoning would provide services in residential areas and offer housing in commercial areas. These mixed uses would reduce both the number and length of trips for goods and services. (From the Transportation Element of Ashland Comprehensive Plan).
• To ensure that the local economy increases the health, and diversifies in the number, type, and size of businesses consistent with the local social needs, public service capabilities and the retention of a high quality environment. (From the Economic Element of Ashland Comprehensive Plan).

ISSUES FOR FURTHER STUDY
• The desired district-wide mix of residential and employment uses, recognizing that the primary purpose of this area is for employment generating uses
• The need maintain an adequate supply of land for employment/light manufacturing uses
• Urban form issues, especially balancing the industrial scale and character and materials of desired development with residential uses. This issue is often loosely referred to as “compatibility”.
• Architectural design issues, especially to encourage industrial character scale and materials in new and retrofitted buildings.
• Lessons learned from recent development in the Railroad District and “A” Street.
• This district presents an opportunity to provide flexible regulation that allows a number of development patterns to take place over time and in response to the economic and housing needs of the City of Ashland.
• Affordable housing in the district with respect to other uses.
PART III: THE CHARRETTE
PROJECT OBJECTIVES

The six main design objectives of the Ashland Railroad Property Master Plan are to:

- Establish a new employment district for Ashland close to the city center.
- Incorporate a mixture of uses, including: live, work, shop.
- Encourage alternative modes of transportation, including walking, bicycle riding, and transit use.
- Design new buildings to be compatible with and complementary to adjoining neighborhoods.
- Connect to the surrounding neighborhoods and be part of the city fabric.
- Respond to and be inspired by the rich history of the site.
- Compliment views to hillsides around the city.
- Reinforce the natural amenities of the site.

As the last large piece of undeveloped land close to downtown Ashland, this property plays an important role in implementing the Ashland Comprehensive Plan by providing much of the projected land needed for industrial and commercial growth during the next twenty years. For this reason, participants felt it was important to maintain the E-1 zoning on the site and build upon the employment uses already in the area.

Single use zoning, however, exacerbates many land use problems. Compared to mixed-use developments, it requires more people to drive, fails to deter crime (as people are only in the area during certain times of the day), consumes more infrastructure, and uses up more undeveloped land (sprawl). In an effort to make this district a mixed-use area that promotes a mixture of employment, retail, and residential uses close to one another, a residential overlay zone covers much of the site. This allows for a variety of uses within the same area while maintaining employment as the primary use. Further design standards will be incorporated to guide the architectural character of all the new buildings in the study area to reflect the industrial emphasis.

Integral to the notion of mixing uses together is reducing dependence on the automobile. Providing opportunities for people to live near their workplace and walk to the grocery store and café begins to alleviate the need for commuting by automobile. Also, mixing uses, when guided by principles of good urbanism, provides a lively and interesting streetscape, which encourages people to walk. Good planning that links local paths to regional bicycle trails and that provides for a bicycle safe environment can also help to promote bicycles as an alternative to the automobile. Finally, mixing uses, often at higher densities than found in single use zones, can
help to support transit services by concentrating the number of potential riders into a smaller area. This allows for a higher frequency of service, and a transit system of which more people are likely to take advantage.

The new district should create a distinct character that identifies it as unique within the city while at the same time respecting character of the surrounding neighborhoods, drawing from the historical and industrial precedents of the past and those currently in the surrounding area. Zoning standards will ensure compatibility around the edges of the study area that respond to existing residential and industrial building forms. In this way, the new district will be distinct while blending seamlessly into the city fabric of Ashland.

The site is currently difficult to access. To become a vibrant district, it should have as many connections to the surrounding neighborhoods as possible. The design team worked with surrounding property owners, city staff, and the railroad to negotiate as many local street connections as possible. Local street connections allow a full range of transportation options, including walking, bicycle, bus, and automobile. A network of local streets is the most equitable and efficient way to disperse negative traffic impacts on any one street and to encourage alternative modes of transportation.

Finally, the master plan is influenced and inspired by the rich history of the railroad buildings as well as the symbolic and functional importance that the train depot area played in the development of Ashland as a town. Of particular interest are the foundations of a curving railroad roundhouse once used for repairing engines, and the turnstile on which it is centered. Incorporating elements like these into the master plan allows a shadow of the vibrant history of the area to be maintained and enjoyed by future generations and old-timers alike.
PROJECT OUTCOMES

The primary outcomes of the Ashland Railroad Property Master Plan are that:

• In a previous process, the Department of Environmental Quality required that all land in the Railroad Property be cleaned up to the highest possible residential standards, thus freeing this planning process from considering current polluted areas as design constraints.
• The design of the plan incorporates locations for industrial, residential, and commercial uses in close proximity to one another.
• The extensive network of streets throughout the new district allows many choices for traveling from one location to another, and for connecting to surrounding areas. In particular, the proposed crossing of the railroad at 4th Avenue will allow residents of the new district easy access to the Historic Railroad District and to downtown Ashland.
• New buildings developed on the Railroad Property will be inspired by the vernacular industrial and historic architecture of the surrounding areas.
• At least one street connection on each edge of the property allows the new district to easily and seamlessly become part of Ashland’s city fabric.
• The memory of the origins of Ashland are preserved by reclaiming the foundations of the historic roundhouse building and turning it into a major civic building at the core of the development.
• Scenic views of the surrounding hills and a stream on the east side of the property are preserved as public amenities for the future residents of the area.
ENVIRONMENTAL CLEANUP

The original Union Pacific Railroad property was subdivided into seven parcels. The western six parcels have been sold. The Department of Environmental Quality has certified that parcels one through five require no further environmental cleanup and are suitable for development at residential levels. Parcel six has received a preliminary no further action letter, and a final letter is expected soon which will clear it for development. Parcel seven, however, contains much of the most serious contamination left over from when the property was used for train engine storage and repair. Comments by DEQ on the initial feasibility analysis submitted by Union Pacific’s consultant ERM indicated that the site needed to be cleaned up to residential development standards. The planning efforts in the charrette assumed that the entire site would be cleaned up to this level, which allowed the location of any land use throughout the master plan.

USES

According to Ashland’s Buildable Lands Inventory, the E-1 zone is expected to bear the largest proportion of the anticipated commercial development in Ashland during the next 20 years. The City estimates this demand at 76 acres, using up most of the 86 acres of existing vacant buildable E-1 zoned land in the city. The project study area encompasses almost 50 acres of E-1 zoned land, 30 of which are vacant or partially vacant. Maintaining this area primarily for employment uses is critical to achieving the goals set forth in Ashland’s Comprehensive Plan.

Much of the study area is zoned E-1, which is primarily a commercial employment zone. This allows light manufacturing, office, and retail uses. In addition, a large portion of the undeveloped part of the study area is covered by a residential overlay zone. This overlay zone allows up to 35% of the ground floor of a new building to be residential, and any amount of upper floors to have residential uses. For detached buildings, up to 50% of the total ground floor square footage on one lot may be used for residences.

For planning purposes, it was assumed that the study area would maintain its current base zoning. However, it is recommended that the residential overlay zone be amended to further limit ground floor residential uses in order to encourage commercial businesses to locate in the area. Residences would be encouraged on upper floors of buildings. Allowing residents to live, work and shop within the same district reduces the overall dependence on cars, provides round-the-clock surveillance which discourages crime, and allows many opportunities for chance meetings between neighbors, promoting the feeling of a tight-knit community.
ARCHITECTURAL CHARACTER
From the outset, this district was envisioned as a distinct and unique area of Ashland. Rich in local history and surrounded by old and new industrial buildings, the Railroad Property has captured the imagination of citizens, local designers, and Ashland city staff. Opinions about what its character should be ranged from large lot homes to open space to industrial warehouses to a European-feeling medieval village. There was a desire to see this area develop as an identifiable center for the surrounding neighborhoods, a place for the “real” Ashland residents to shop and recreate. Many residents complained that the downtown plaza catered mostly to tourists and that the “locals” needed some place to call their own.

Borrowing from historical and industrial building forms, the master plan combines a variety of building sizes and types along a network of local streets that weave the district into the city fabric. Anchoring the plan is a location for a round public building or plaza built upon the foundations of the historic train roundhouse and turntable, used at the turn-of-the-century for repairing train engines. Narrow, pedestrian-friendly streets, mixed-use buildings inspired by industrial forms, and many small public open spaces that open to the surrounding mountain views help to give the Railroad Property master plan a special and unique character.

To implement this vision, a second overlay zone is added that will contain additional design guidelines. These guidelines will specify, for example, the locations of roads, the basic massing of buildings, the percentage of glass along a pedestrian street, among other things, and will direct the future development in the area toward the vision that has emerged.

TRANSPORTATION
One of the largest challenges of the project was connecting it to the surrounding neighborhoods. The parcel, currently isolated between the railroad tracks and the large industrial sites along Hersey Street, needs additional street connections to Hersey, North Mountain, and to A Street via a railroad crossing at 4th Street. A large part of the Charrette was working with property owners to determine appropriate locations for possible local street connections. The current status of the suggested local connections varies; some are likely, others mere possibilities. However, the dominant idea is that many more connections are necessary for this district to feel connected to the surrounding area.

Another transportation need was brought up at the first public meeting. In order to meet regional transportation goals and to take pressure off of A and B streets as bypasses for traffic with off-site destinations, a parallel collector running the length of the site from North Mountain all the way to Clear Creek Drive was placed into the plan. This street becomes the major

Projected daily traffic count at buildout of Comprehensive Plan (without development on Railroad Property).
spine of the new district, and will hopefully generate enough traffic to allow a mix of uses, including retail, to be viable at the center of the project. Concerns about excessive traffic speed in the area will hopefully be allayed by speed calming design features such as deflected alignments and the narrow width of the new street.

As connecting to the surrounding neighborhoods became a high priority, finding an appropriate location for a future railroad crossing became important. Fourth Street seemed to provide the most suitable location from a land use perspective as this street had historically been the commercial street in the area leading to the historic train station. Also, the street has many existing retail businesses, is wider than other surrounding streets, and has diagonal parking (which is particularly helpful in encouraging retail businesses). During the Charrette, several meetings were held to assess the likelihood of getting a crossing at that location. While generally State and Federal agencies are very reluctant to issue permits for new crossings, the essential nature of this crossing to the viability of this entire district is a strong case for an exception. Officials from the rail-operator, Rail-America, checked into the feasibility of relocating their sidings to another location so that train storage on site would no longer be necessary. During the months following the Charrette, Rail-America officials returned with a positive response. They have preliminarily agreed to move their operations to Medford, providing that funding for the move can be secured. This removed the primary obstacle to obtaining a railroad crossing at 4th Avenue.

Many neighbors expressed a concern that additional development would generate excessive traffic that would be funneled past their homes. We are seeking as many connecting streets as possible to ensure a broad distribution of traffic patterns so that no particular location is significantly impacted. In addition, the streets built on the site will be generally narrow and circuitous, allowing local access but discouraging high speeds and high volumes of traffic. Initial analysis indicates that even when fully developed, surrounding streets can accommodate the projected traffic while maintaining their existing character.

**TRANSIT OPTIONS**
While creating a pedestrian-friendly environment is an over-arching goal in the new district, other alternative modes of transportation are also encouraged. Many suggestions from participants in the Charrette mentioned that they would like frequent bus access in the area, and that shuttles could be set up to help residents commute between Medford and the district. Also, a shuttle connecting downtown Ashland and this new district was suggested to allow people too young or too old to drive (as well as tourists) to easily visit the area.

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*Ashland Railroad Property Master Plan  •  Ashland, Oregon*
Making bicycle commuting easier is another goal of the project. A regional bicycle loop passes through the project and connects with major elements of the plan. The narrow, pleasant street network throughout the project will allow bicyclists to easily and safely traverse the site.

The proximity to the rail line always leaves rail as a transit option for the region. Maintaining a site for a possible light rail / commuter rail station is a priority for the future.

OPEN SPACE
Many participants of the Charrette emphasized the importance of public open space in the form of parks or plazas, as well as some public institutional presence near the heart of the site. The plan locates at least one public plaza as a focal point. Also identified during the process as an amenity is the drainage to the East of the site. The plan proposes to run a path along the drainage to make it accessible to all passersby. Ideas for public institutions in the area include: a train museum, a library, a public market, a train station for a future commuter rail system, a post office, and/or a bus station.

MAINTAINING VIEWS
Another important theme that came out of the Charrette was the desire to maintain views of the surrounding foothills and peaks to the North and East. By strategically placing openings in buildings and aligning streets we were able to maintain many dramatic views. Because the property is lower in elevation than A Street, residents and business owners in the Railroad District need not fear losing their views. Because of the relative scale and change in elevation, the buildings in the new district will create an interesting frame for the dramatic natural scenery that surrounds Ashland.
PUBLIC PROCESS

THE CHARRETTE
A Charrette presents perhaps the most efficient and effective method in deriving a solution through mutual consensus, without compromising the quality in design. A Charrette is a three to seven day period of intense design work involving numerous participants including, designers, local citizens, as well as agencies and officials, all of whom will contribute to the development a detailed and finished design. This shared achievement gives a project the momentum to survive the political and economic tests.

ASHLAND RAILROAD PROPERTY DESIGN CHARRETTE
The project began with a pre-charrette kickoff meeting and site visit in late November, 2000. This allowed the design team headed by LCA to gather information in the form of base documents and oral information as well as to begin the public education process. Meetings were held with adjacent property owners as well as city staff, and the information gained allowed us to begin designing the site.

This project called for a two-part charrette. The first part of the charrette was a three day event held in downtown Ashland from Dec. 11-13, 2000. Public meetings were held on the first and last evenings, with opportunities for public input throughout the three days. On the second day, many technical meetings were held to discuss issues relating to regional traffic, the railroad crossing, environmental cleanup, and zoning regulations. Much of the third day was spent designing and drawing alternatives and final concepts for the new draft master plan.

The second part of the charrette consisted of a two-day workshop in March, 2001. LCA presented refinements to the previous work and again opened the process to public comment. LCA adapted the design to incorporate new information, and presented the revised design to the Planning Commission/City Council in a joint worksession.
EARLY CHARRETTE ALTERNATIVES

ALTERNATIVE ONE
This alternative attempts to link up the district with many road connections. It also divides parcels into small, pedestrian oriented blocks. The roundhouse is used as inspiration for a circular plaza in the center of the district.

ALTERNATIVE TWO
This alternative illustrates the kind of street pattern that might occur without a railroad crossing or any additional road connections to North Mountain or Hersey. It would not be conducive to mixed-use, pedestrian oriented development.

ALTERNATIVE THREE
This alternative is similar to alternative one but features a semicircular plaza and several additional street connections. In addition, the east-west connector street is linked with North Mountain further south and provides a more direct route through the new district.
CHARRETTE MASTER PLAN

Working with citizens and public planners, a refined concept was developed out of a three day intensive public process that incorporated a range of interests and concerns. A network of streets connects the new development with surrounding neighborhoods. Mixed-use development adds vibrancy to the area and reduces reliance on the automobile. Public buildings and spaces provide civic identity and reference the history of Ashland.
Core Area

An early concept was the idea of referencing the historic railroad roundhouse, the foundations of which are still on the site. In the Charrette plan, the location and shape of the roundhouse were preserved in the form of a civic plaza around which the new district emanates. Potential uses around the plaza included retail, civic, and office development.
CHARRETTE ILLUSTRATIONS

View looking West into the Roundhouse Plaza

Foundation drawing showing the location of the historic roundhouse and related outbuildings

Ground level view looking north across the Railroad tracks at 4th Avenue

Location of illustrations in the plan
POST-CHARRETTE REVISIONS

During the discussions after the Charrette, concerns surfaced that the roundhouse plaza was too far from the 4th Street crossing to connect with the activity occurring on A Street. In response, a new concept emerged that locates a retail-oriented plaza adjacent to the crossing and envisions a round civic building standing in the location occupied by the turntable associated with the roundhouse foundations. This allows for more viable retail frontage and a separate civic center - though both are connected and part of the core of the new district. Possible civic uses could include a light rail / commuter rail train station, a post office, a community theater, a community center, or other appropriate civic institution.
PART IV: APPENDICES
PUBLIC COMMENTS

PUBLIC KICK-OFF MEETING - NOV. 28TH, 2000

TRANSPORTATION

-Could passenger trains be viable again in the future? If so, we should leave open space for a depot to accommodate this possibility.
-Area should have a transit center, some place where people could be picked up and dropped of by bus, train. This could also be combined with a park-n-ride.
-Maintain existing pedestrian connections through the site and across the railroad.
-Project should help to link up the regional bike network that exists already.
-An at-grade crossing over the railroad tracks at 4th street is vital (both pedestrian and vehicular) to making the railroad property a vibrant district.
-If an at-grade crossing cannot be negotiated, what are the possibilities of an underground crossing?
-Consider the traffic impacts on neighbors in the Railroad district if 4th street is connected across the railroad.
-How can traffic impacts of more people in the area be mitigated? (Connectivity)
-Planning should keep in mind the need to get 18-wheel delivery trucks through the area.
-A grid system will help to alleviate too much traffic on any one street. Many outlets to Hersey and Mountain should be encouraged.
-Doesn’t think that truck traffic in Railroad District neighborhood is appropriate.
-Being able to easily connect to the downtown core is important for this project, especially for residential developments.
-Pedestrian and bike connections throughout the site are important.
-Encourage people to walk to local services.
-We should think about how we will move around in the future, not just plan for current modes and ways of life.
-Deemphasize cars.
-Look at the previous transportation plan as a jumping off point.
-Is it possible to share the railroad right-of-way with the railroad for other uses (East-West)?
-Area should contain a carpark/shuttle to other districts and to Medford.
-Area could become a commuter point for Ashland and the surrounding areas to relieve the freeways through rail-transit.

CHARACTER / USE

-Maintain the small town character.
-Likes to hear the sound of the frogs (currently).
-Any commercial development should be pedestrian-oriented, possibly a pedestrian mall?
-Development should be made up of quality buildings similar to “A” street.
-Explore live/work opportunities where people live and work in the same building.
-Suggests that property should have less E-1 zoning on it, that it should be more like the mix of uses currently seen in the Railroad District to accommodate the high demand for residential land.
-How will this project effect the quality of life of adjacent neighbors? They would like for the neighborhood to maintain its current character.
-Mixing residential into the new development is very important.
-Development should be based on new paradigm: healing and sustainability
-Development should have its own vital center that can be a compliment to the downtown.
-Create a plaza - a place for people to congregate.
-Broadband Internet access may change the way the E-1 zone is used.
-“Identity” of the area needs to be strong and unique.
-Incorporate historical architectural styles.
- Area could become a complex for “clean” industry like high-tech that does not need large delivery trucks and provides well paying jobs.

PUBLIC AMENITIES
- There is a need for public land in the development, for open space such as parks or plazas, or even a public building
- Any parks should try to accommodate dogs, as all city parks exclude dogs and they have no place to play
- Possible public buildings on site could include a library (with trees) or a fire station.
- City needs to be involved in purchasing some land on the North side of the railroad tracks.
- At 8th and “A” street, ditch is Rocca Creek that has been daylighted.
- Would like to see an arboretum.

HOUSING
- There is a need in Ashland for affordable and rental units. Possibility of using a land trust model?
- Desires large lot homes that have enough space for gardening or community gardens incorporated into development

OTHER
- Important to keep abreast of current projects and plans already underway in the area so we can plan appropriately.
- Bring in good examples of other places (Europe, for example) that are doing interesting work in this area to use as inspiration.
- Ashland has an unbalanced economy and is too dependent on tourism.

PUBLIC MEETING #1 - DECEMBER 11TH, 2000

TRANSPORTATION
- What about increased traffic on A street?
- Is the crossing likely or viable?
- Can we look at areas that don’t allow 18-wheelers?
- Could large trucks offload onto smaller trucks or onto trains and in this way bring freight in from out of the area?
- Can 5th street be a possible crossing location?
- Thinks 4th is not the best alternative because of congestion at 4th and East Main. Suggests studying that intersection.
- Peripheral parking with shuttle busses?
- Thinks there are already enough connections to the plan area from Hersey, North Mountain, and Oak.
- Wants East-West arterial road from North Mountain to Oak.
- Connect bike path to Oak Street to get bikes off of A street.

PROS AND CONS OF A RAILROAD CROSSING AT 4TH STREET
Advantages:
- Connectivity
- Outlet for trucks (takes congestion off of A street)
- Already commercial
- Traffic impact equity
- Safety, as people are already crossing there
- Short walk, bike trip, or drive to local jobs
- Mixing of uses would cater to local residents
- Without x-ing, no relationship between north and south of the railroad tracks
Disadvantages:
- Noise because of blowing whistle
- Creates new arterial through neighborhood
- Congestion at 4th and East Main
- Neighborhood impacts of increased traffic
- Additional railroad crossing

CHARACTER / USES
- What are the permitted uses in the E-1 zone?
- Height limit is 40' average (3 stories)
- What will the impact of tourism be?
- Is there an allowance for retail in the center of the site?
- What are good examples in Ashland of retail/office/residential mixture?
- Adaptable buildings / uses that could change over time as well as a phasing plan is needed.
- Concerned about the maintaining the character of the residential neighborhood in Railroad District
- How many of the users will actually live/work in the area?
- Should turn into more of a high tech. area that don’t need big truck access

PUBLIC AMENITIES
- Open space in the study area to preserve views.
- Walks through area for recreation - wants to see more open space and buildings that maintain views.
- Public art should be incorporated somehow.
- Save the weeping willows on the stream.
- Are you designing local streetscape improvements for people?
- What about the city owning part of the property?

COMMENTS RECEIVED OUTSIDE OF PUBLIC MEETINGS - DEC. 11TH-13TH, 2000

- Please plan now for several types of open space.
- Possibility of passenger train service in the future (Rogue Valley and/or West Coast service)? Don’t create a situation that prohibits that - allows for the option. This relates to the 4th street crossing question especially. Look ahead 5-10 years in these areas.
- Without affordable housing the impact of this planning on transportation and parking issues will be negated.
- The potential for passenger train service should be a part of any plan (even if its just convertible open space) and simple, attractive access to downtown. 4th street crossing seems like a good access and x-ing site. Also, I like the plaza idea!
- R.R. commuter line from Ashland to Medford.
- Mini-bus service from residential concentrations to downtown, especially for the elderly and retired people.
- Peripheral parking lots, served by mini-bus service to downtown.
- Regarding the RR crossing - phase in with pedestrian and bikes first. No cars unless necessary - 5-15 years. No trucks ever on 4th! Weight limit.
- 4th street is 2/3 residential and 17/19 residential between B and E. Main. Please preserve the RR District’s peace and safety!
- Opportunity for the City to acquire land for Ashland Land Trust.
PUBLIC MEETING #2 - DECEMBER 13TH, 2000

TRANSPORTATION
- Is there space for station and parking?
- Has bicycle traffic been allowed for on the streets?

CHARACTER / USE
- Can the street move around the other side of the turntable?
- Concern if too much retail goes in here (competition with downtown).
- Arbor would be a good location for a RR station.
- What about wrapping the road to the South of the round “turn-table”?
- Too much retail could take away from downtown.
- Moving plaza to 4th street would terminate vista.
- Consider the connection between potential retail and retail currently on A street.
- According to Christopher Alexander’s pattern language, focused views are more dramatic than wide open views.
- How many people could live here? (answer: about 400 appts. @ 1.8 person/appt.)

PUBLIC AMENITIES
- Can the triangle plaza shift over to open views?
- What about views to Grizzly Peak?
- Will utilities be underground?

HOUSING
- How can affordable housing be implemented?
- Why no residential on the ground floor in the Eastern area?
- How to maintain affordable housing?

OTHER
- Are new regulations more explicit and restrictive than previously?
- How much of this area is already planned by current owners? Are there any “deal-breakers”?
- What’s fixed? What’s flexible? NE residential; SW road; industrial along Hersey?
- Egress on the East side: if a landowner has property the city wants, could it be condemned?

JOINT CITY COUNCIL / PLANNING COMMISSION WORKSHOP - APRIL 23-24, 2001

DROP IN COMMENTS
- Looks great as long as there is ample greenway along the creek!
- While excavating for the pollution cleanup why not use the space for underground parking instead of filling for surface lots? Make use of the grade change across the site to hide parking.
- Great idea about the trees along the railroad tracks. Be sure to follow through on that.
- Like the walkability being built in with trees and sidewalks.
- I’m happy that the willows along the creek will be saved.
EVENING WORKSHOP - APRIL 24TH, 2001

- Encourage scattered low income housing (especially for students).
- Make sure that the center area can accommodate a transit hub.
- Don’t encourage “industrial” type development.
- Tie in Greyhound, shuttles, lockers, etc. into transit hub.
- Encourage wider open space.
- Concern about security and lighting on industrial buildings close to residences.
- Comment times were not convenient for working people.
- Riparian area not large enough - don’t like the idea of a road crossing the creek.
- Truck route is very important (especially on the south side of the railroad tracks).
- Where will low-wage people live?
- Mountain creek is the name of the waterway running through the east side of the property.
- Make sure any bridge that goes over Mountain Creek allows for wildlife to pass under it.
This memorandum presents an examination of the environmental issues associated with the Ashland Rail Yard site (the Yard) located in Ashland, Oregon. A Remedial Investigation (RI) of the Yard was completed and based on its findings a Feasibility Study (FS) was then conducted to evaluate cleanup alternatives for the Yard. The recommended cleanup alternative presented in the FS is to excavate all soils that contain contaminants of concern exceeding commercial/residential cleanup goals and disposing those soils off-site.

Successful implementation of the recommended alternative would eliminate any contaminant-related constraints associated with redeveloping the Yard. Potential opportunities associated with the recommended cleanup alternative include incorporating some of the older Rail Yard former structure foundations in the site redevelopment and taking opportunity of the earth work required to complete the remedial action of the Yard. There are no constraints related to site contamination if the recommend cleanup action is successfully completed. However, there is a naturally occurring pond located adjacent to the central northern property boundary that reportedly is a designated wetlands capable of supporting aquatic life. Redevelopment plans will need to address this wetlands designation of the pond.

This memorandum is organized in the following manner. Site historical usage is first summarized along with specific activities that need to be considered in cleaning up the Yard. Environmental investigation findings completed at the Yard are then summarized. The areas of the Yard requiring cleanup, cleanup requirements, methodologies, and alternatives considered in the FS are then discussed. The final section of this memorandum then examines site redevelopment opportunities and constraints associated with successful implementation of the proposed cleanup alternative. Attached is a copy of Figure 2-3 from the revised draft FS report showing the areas exceeding industrial and residential cleanup goals. Figure 2-3 also shows existing features. Several relevant historical features have been added to the figure.

Information presented in this memorandum is based primarily on a review of the revised draft Feasibility Study (FS) Report for the Ashland Rail Yard, dated November 14, 2000. Further understanding of site issues and status is based on communications with the Oregon Department of Environmental Quality (DEQ) site project manager.

The area being considered by the City of Ashland Railroad Property Land Use and Transportation Plan (the Plan) is a 74-acre landmass. Approximately 49 acres of this area currently exists as vacant or partially vacant land owned or previously owned by the Union Pacific Railroad (UPRR). In May 2000, the UPRR land was partitioned into seven sales parcels following rezoning of the Plan area to E-1 with residential overlay. Parcels 1 through 5 have received no
further action approvals from the DEQ indicating that environmental issues, if present, have been addressed in a manner acceptable to the DEQ. The remaining two parcels, Parcels 6 and 7, consist of approximately 2 and 20 acre areas, respectively. Environmental activities leading to a no further action approval have recently been completed on Parcel 6 located adjacent to the west side of Parcel 7. The remaining parcel, Parcel 7 operated as a locomotive maintenance and refueling station along with railcar repairs and is referred to as the rail yard. As a condition of the property partitioning, the City of Ashland restricted further development or land division of Parcel 7 until the property has been cleaned to residential standards, with written compliance provided by the DEQ. The FS report addresses the remediation of Parcel 7.

SITE BACKGROUND
The Ashland rail yard (the Yard) served as a locomotive maintenance, service, and railcar repair facility between 1887 and 1986. During this span of time steam powered locomotives were replaced by diesel locomotives. Development of the Yard reached its peak in the early 1900s with some additional operations buildings added during the 1920s. Locomotive maintenance and car repair functions occurred during the 1900s to early 1970s. Most locomotive fueling and maintenance facilities were decommissioned before 1960. Maintenance, fueling, and repair operations appear to have been performed in the same areas over time. Reportedly, no railroad maintenance activities were performed west of the car repair shed or east of the drip slab.

In the mid-1980s, a locomotive refueling and maintenance drip slab was constructed at the site. During installation of the drip slab, ballast and soil impacted by former fueling operations were removed to the top of a perched groundwater zone, which was encountered at 3.5 feet below ground surface (bgs). The removed ballast and impacted soil was placed into the rail yard turntable pit. Three holding ponds (referred to as Pond C) were located in the northeast corner of the Yard and used between 1938 and 1978 for retention of wastewater. During closure of the Pond C area, excavated soil from the Pond C area was also placed into the former turntable pit. Following installation of the drip slab, nine passive product recovery wells were installed just north of the drip slab to remove floating product from a perched groundwater zone. An oil/water separator was used to remove oil from the wastewater resulting from locomotive fueling and service operations in the drip slab area and to treat water recovered from the product recovery wells. The treated water was then discharged to the larger of the two ponds (Pond A). A second pond (Pond B) was used for containment of overflow from Pond A.

ENVIRONMENTAL INVESTIGATION FINDINGS
The Yard has been the focus of environmental investigations since the early 1990s. Environmental site assessments were completed in 1991 and 1992 by the Southern Pacific Transportation Company (SPTC), the previous owner of the property. In 1993, SPTC entered into a voluntary cleanup agreement with the DEQ. UPRR purchased the property in 1996 and continued the cleanup investigation. The Remedial Investigation of the Yard, consisting of two phases, was completed in 1999.

The Remedial Investigation (RI) identified the following sources of environmental impacts at the Yard:
- Locomotive fueling and fuel storage (Bunker C and diesel).
- Locomotive maintenance and car repair (paints and solvents).
- Waste disposal (landfill – debris pile).
- Wastewater retention at Ponds A, B, and C (petroleum).
- Possible application of lead arsenate pesticides.
Identified contaminants of concern (COCs) at the site are:

- Lead and arsenic - soil.
- Long chain petroleum hydrocarbons (Bunker C) – soil and limited groundwater.
- Polynuclear Aromatic Hydrocarbons (PAHs) – soil.

The geology beneath the Yard has been characterized down to approximately 35 feet bgs. Based on site borehole data, four lithologic units were identified. The predominant unit is described as a silty/clay unit that is generally encountered between 3 to 25 feet bgs. A discontinuous sand unit has been encountered within the silty/clay unit and is typically saturated. A partially cemented dense sandy silt was found to underlie the silty/clay unit. A surface soil unit consisting of either native sandy clay or an imported fill material overlies the silty/clay unit.

The contaminants of concern identified at the Yard can be characterized as having low mobility. The geologic conditions identified at the site, predominantly characterized as fine-grained material with low permeability, would further serve to limit contaminant migration.

Based on the findings of the RI, a human health risk assessment was completed. The exposure assessment identified inhalation, ingestion, and skin contact of affected soils as the exposure pathways of concern. Based on the human health risk assessment, risk-based cleanup goals for constituents of concern in soil were established for the site for two usage scenarios. These two scenarios are 1) the industrial worker or commercial/industrial land use scenario and 2) the resident or commercial/residential land use scenario. Risk based concentrations were not developed for groundwater because impacts to groundwater are considered negligible and not considered to be of concern. Detected contaminants of concern in groundwater are below drinking water standards and have been decreasing over time. Shallow groundwater is not being beneficially used nor is there evidence that off-site migration is occurring. The RI indicates that there appears to be an off-site source (gasoline?) that is migrating on to the Yard site.

An ecological risk assessment was also completed as an element of the RI. The results of the ecological risk assessment indicated that the Yard is not known to serve as a habitat for any rare, threatened, or endangered species. Ecological screening of the three ponds found that no exceedances were identified for a naturally established pond located adjacent to the central north site property boundary. The natural pond is designated as wetlands with beneficial uses that include the capacity to maintain aquatic life. Ponds A and B have petroleum concentrations greater than the criterion established by the DEQ. Single detections of lead and selenium in the pond water exceeded federal ambient water quality criteria. The average sediment sample concentration in the natural pond is below ecological screening criteria. Two PAHs in Pond A and B sediments were above the screening criteria.

**FEASIBILITY STUDY FINDINGS**

As a condition of partitioning the UPRR property, the City of Ashland restricted further development or land division of Parcel 7 or the Yard until the property has been cleaned to residential standards, with written compliance provided by the DEQ. Therefore, the risk-based cleanup standards developed for the site based on the resident or commercial/residential land use scenario were applied in the revised draft Feasibility Study (FS) Report. Based on this cleanup standard, approximately 5,600 cubic yards of soil were identified as containing contaminants of concern with concentrations that exceeded residential cleanup goals. The presence of hot spots was not identified as being present at the Yard. A hot spot is as an area where contamination is highly concentrated, highly mobile or cannot be reliably contained.
The FS identified five areas that require remedial action. These areas are:
• Locomotive maintenance and service area.
• Former car repair shed area.
• Former drip slab area.
• Ponds A and B.
• Former Pond C area.

In addition to the above five remedial action areas, the FS identified five features associated with the Yard operations that require removal and/or remedial action:
• The oil/water separator, underlying affected soil, and the associated tank saddles.
• Backfilling Ponds A and B.
• The Bunker C area within the former landfill area.
• Ballast and residual petroleum near the former drip slab foundation.
• All oil collection culverts and recovery wells, piezometers, free product observation probes, and monitoring wells.

The FS report initially reviewed three general remedial response actions along with the no action response. Remedial technologies associated with each general response action were briefly evaluated and screened with respect to remedial action objectives for the site.

The three remedial response actions considered and technologies considered with these actions are the following:
• Engineering and/or institutional controls: asphalt or concrete cap, soil or gravel cap, land use restriction.
• Treatment: in situ bioremediation, in situ phytoremediation, phytoextraction, rhizosphere biodegradation, in situ soil flushing, pneumatic fracturing, excavation and ex situ treatment, above-ground treatment cell bioremediation, thermal treatment, ex situ soil washing, stabilization/solidification, asphalt incorporation.
• Excavation and off-site disposal without treatment: excavation and off-site disposal, and excavation and on-site encapsulation.

Several of these technologies were retained and used to develop five remedial action alternatives. The five alternatives are:
• No Action – This action alternative is used to establish a baseline against which the degree of remediation and associated costs of the other alternative can be prepared.
• Engineered Soil Cap – This action would involve placement of a two-foot thick soil cap over those areas exceeding cleanup goals.
• Excavation and Off-Site Disposal – Soils exceeding cleanup goals would be excavated and transported off site for treatment or disposal.
• Excavation with Asphalt Incorporation and On-Site Reuse – Soils exceeding cleanup goals would be excavated then incorporated into asphalt, which could be used on site in roadways and parking lots during redevelopment.
• Excavation with Off-Site Disposal and On-Site Encapsulation – Petroleum-impacted soils and soils exceeding industrial goals would be excavated and transported off site for disposal. Soils exceeding residential cleanup goals for PAHs and metals would be excavated then either buried on site beneath asphalt or concrete, or transported off site for disposal.
Alternatives 2, 3, 4, and 5 have common tasks that address surface features associated with former Yard operations. These tasks include the following:

- Remove the oil/water separator, including affected soils and the tank saddles near the separator.
- Abandon the oil collection culverts and recovery wells, free-product observation probes, piezometers, and monitoring wells.
- Backfill Ponds A and B.
- Excavate and off-site dispose soils in the Bunker C area.
- Remove the ballast and residual petroleum associated with the former drip slab area.
- Prepare a site-specific health and safety plan.

Each of the above remedial alternatives was evaluated in a manner consistent with DEQ requirements. The results of the evaluation found that Alternative 3, excavation and off-site disposal, best satisfied the protectiveness criteria, the remedy selection-balancing factors and is cost effective. The DEQ has indicated that they support this proposed remedy selection.

Implementation of Alternative 3 would consist of excavating and stockpiling impacted soil, collecting and analyzing soil from the base and sidewalls of the excavations to verify that remaining soils are below the cleanup goals, transporting the stockpiled impacted soil to an approved off-site treatment of disposal facility, and backfilling the excavations with clean imported soil.

SELECTED REMEDY CONSTRAINTS AND OPPORTUNITIES

Based on selection of Alternative 3 as the recommended remedial action for the Yard the following constraints and opportunities are identified with respect to future development of the site as a mixed commercial and residential use.

CONSTRAINTS

Removal of all soils, sediments, and debris that contain contaminants of concern that exceed the established residential cleanup goals would remove all environmental constraints associated with the Yard. If successfully implemented, no deed restrictions would encumber the property nor would any long-term remedial action maintenance be required.

The natural pond located adjacent to the central north property boundary is not identified as requiring remedial action. However, the FS report indicates that the natural pond is designated as wetlands with beneficial uses that include the capacity to maintain aquatic life. This designation will need to be considered in redeveloping the property.

The debris landfill located in the northeastern area of the Yard does not specifically identified as an area requiring remedial action. The identified Bunker C removal area appears to be located adjacent to the northern side of the debris landfill. Debris materials in the landfill may not be suitable for redevelopment and require removal.

The FS report indicates that impacted materials were placed in the existing turntable pit. Removal of this material is not identified in the FS report. However, the DEQ is aware that this material is present and will require that it be removed as part of the site cleanup action.
OPPORTUNITIES
The removal of all impacted soils and materials that contain contaminants of concern that exceed the site residential-based cleanup goals will allow for a wide range of redevelopment options to be considered without being encumbered by contamination issues both in the short and long-term.

Redevelopment of the site could consider incorporating the existing foundations of the locomotive roundhouse and the turntable. These two structures were reportedly constructed in 1896 and represent the first two major rail yard operations structures. Assuming that during rail yard operations the foundations of these two structures remained intact and were not compromised, the soils under these foundations should not be impacted. Therefore, it should be possible to retain these historic foundations as an element of the Yard redevelopment. The exposed portions of the foundations would potentially need to receive some surface cleaning.

Implementation of the remedial action will involve some substantial soil removal particularly in the eastern portion of the site. Earthwork associated with the remedial action could take in consideration site redevelopment plans. Such consideration could allow for regrading of portions of the site to fit site redevelopment plans and may reduce remedial action costs by reducing the amount of clean soil required to backfill the excavations.