NORTH REDWOOD DEVELOPMENT CONCEPT PLAN

Final Development Concept Plan

Deliverable 7E

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ODOT Project Manager

Lidwien Rahman
ODOT Region 1

City of Canby Project Manager

Matilda Deas

Consultant Team

Walker Macy: Planning and Urban Design
- Ken Pirie, Project Manager
- Mike Zilis, Landscape Architect
- Saumya Kini, Urban Designer
- Thomas Fischer, Landscape Designer

DKS Associates: Transportation Planning
- Chris Maciejewski - Contract Project Manager
- Brad Coy, Transportation Engineer
- Steve Boice, Transportation Engineer

Angelo Planning Group: Land Use Planning
- Matt Hastie, Associate
- Serah Breakstone, Planner

Leland Consulting Group: Real Estate Strategy and Municipal Finance
- Brian Vanneman, Principal

OTAK: Civil Engineering
- Kevin Timmins, Principal
- Kristen Ballou, Civil Engineer
- Rose Horton, Civil Engineer

Cogan Owens Cogan: Public Engagement
- Steve Faust, Associate Principal

Project Purpose and Transportation Relationship and Benefit

The North Redwood Development Concept Plan (Project) will provide a plan for development of a 66-acre site with multiple property owners. The Project will develop conceptual infrastructure and financing options for achieving urban housing densities while protecting the site's natural resources. The Project will also determine a supportive transportation system, increase travel options, and identify optimal access locations for emergency service providers. The plan and any code amendments must be consistent with local and state policies, plans, and rules including the Transportation Planning Rule. The Project must meet the City of Canby's (City) Municipal Code requirement for an adopted Development Concept Plan (DCP) prior to post-annexation zone change requirements.

Contents

Figure 1: Study Area Context

Innovative land planning with diverse housing types

Integrated natural areas

A walkable, connected neighborhood

Overview

This report summarizes the Development Concept Plan (DCP) for the 66-acre Canby North Redwood Study Area. This concept includes a cohesive and coordinated circulation system, an efficient approach to meeting the new community's infrastructure needs, housing types matching the city's Comprehensive Plan, and natural resource protection integrated with public parks.

The concept is structured using innovative development parameters: specifically, clustering of density, the use of flexible blocks, and incorporating a significant open space into the community using city park acreage dedication requirements. Eventual development on individual properties will require earnest efforts to match key street and open space locations but will otherwise have an element of flexibility for the owners to develop new neighborhoods according to their individual intentions.

The following report provides a summary of the proposed DCP, as well as a summary of city code changes, Transportation System Plan updates and required infrastructure upgrades to serve the new community. A proposed funding approach is also included.

Concept Plan Criteria

The Development Concept Plan is guided by several criteria. To the extent possible, the plan seeks to foster development of a neighborhood that meets the following:

- Integrated with existing city fabric of Canby
- Walkable and cohesive
- A plan with all parcels integrated
- A plan with impacts distributed equitably to individual parcels
- Allowing for different owners' timing of development
- Reasonable costs of infrastructure and roads
- Connected with safe streets
- Transit-friendly
- Allows emergency access
- Connects trails to natural areas
- Protects Willow Creek
- Provides public, accessible parks
- Demonstrates innovative land planning

The DCP satisfies these criteria, as noted on page 11 of this report.

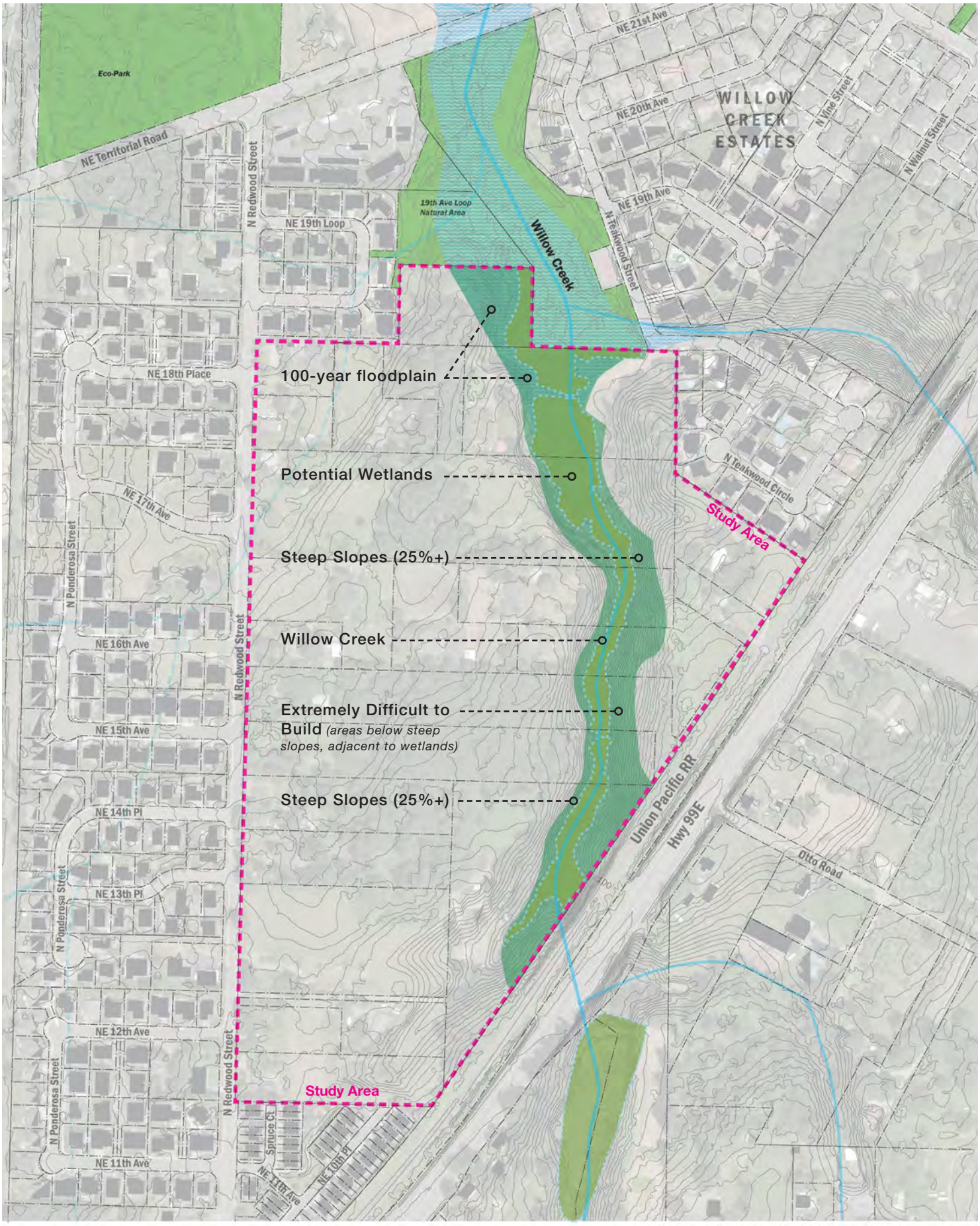


Figure 2: Willow Creek and associated environmental areas

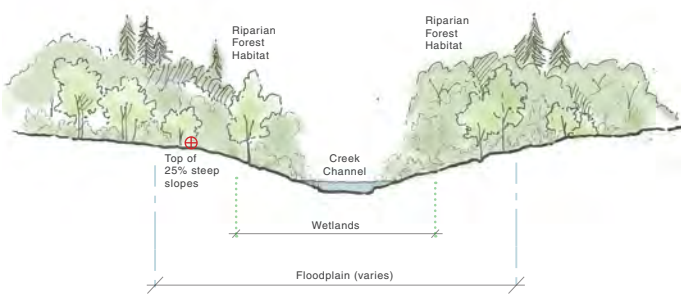


Figure 3: Cross-section at a typical location along Willow Creek showing associated environmental areas

Willow Creek existing condition, showing invasive species in the riparian area. Restoration of the creek's banks is recommended.

ODFW Recommendations

1) Work towards maximizing protection of the stream corridor, provide a suitable riparian vegetation buffer on both sides, and retain natural function of the stream;
2) Retain as much of a stream-side buffer as possible so wildlife can move in and out of the area post-development
3) Identify large legacy trees and snags in the tract, and try to design the development in a way that leaves these trees standing, as old mature trees provide unique habitat to certain species of wildlife survival
4) Provide suitable fish passage, consistent with ODFW standards and criteria, at all new stream crossings.

(Tom Murtagh, District Fish Biologist, 8/4/2015)

Natural Conditions

The Willow Creek corridor has the potential to become a natural, visual and recreational amenity for the future community. It also provides potential space for stormwater treatment and an important habitat corridor. The creek channel through the study area has relatively high water quality and well-vegetated slopes, but requires some restoration to remove invasive species and enhance fish habitat. The creek is considered by ODFW to be a trout stream, but is not used by ESA-listed species (see recommendations at bottom left.) The creek corridor is essentially unbuildable, given current regulations protecting wetlands and floodplains and the challenges of building in steep slopes. The City does not recognize Willow Creek as a protected Goal 5 resource, so new City setbacks would not be applied, although development regulations will still protect these sensitive areas to an extent.

A preliminary reconnaissance of properties adjacent to Willow Creek found the likely presence of about 3 acres of intermittent wetlands, whose approximate boundaries are mapped in Figure 2. More defined boundaries would be determined through a more detailed wetland delineation required at the time that individual parcels are developed.

A FEMA 100-year floodplain extends into two parcels in the northern portion of the study area. This mapped floodplain is a result of the 1996 flood that backed up along the Willow Creek corridor, inundating NE Territorial Road. There are roughly 1.3 acres of study area within the floodplain (nearby property owners in WIllow Creek Estates have petitioned FEMA for a flood map revision to remove the floodplain from their properties -- this may also be an option for study area owners.)

Finally, there are steep slopes on both the west and east banks of Willow Creek. Slopes over 25% are challenging to develop and should remain undisturbed when adjacent to wetlands and streams in order to avoid erosion. There are approximately 2.6 acres of these steep slopes included in the green area shown in Figure 2. Additional steep slopes can be included within large lots, behind homes and potentially protected within conservation easements.

The combination of these sensitive areas, along with adjacent land between wetlands and slopes, is shown on Figure 2. As described on page 12, this approximately 9.5-acre area can form the core of a future open space that satisfies City regulations for park dedication while transferring some severely-constrained land from private to public ownership.

Figure 4: Development Concept Plan

Element	Square Feet	Acres
Roadways * *(Alleys not included)*	664,414	15.25
Natural Area	412,809	9.47
Developed Park	42,906	0.98
Low-Density Residential Land	1,122,963	25.78
Medium-Density Residential Land	522,270	11.99
High-Density Residential Land	80,355	1.84
		65.31ac total *

* Study Area is 66 acres. Total acreage shown reflects deduction of 20' for additional North Redwood ROW

Table 1: Areas in Development Concept Plan

Development Concept Plan

The Development Concept Plan (DCP) provides a logical development concept for a new community with distinct character. It allows for phased, efficient development and can be adjusted according to individual landowner preferences.

The DCP creates clear connections to the existing city fabric and provides a coherent grid of streets within the study area that will serve to create a more cohesive community than if roads were built on a piecemeal basis. The road alignments strive to respect existing topography, and by doing so, may minimize future development costs from grading.

The DCP is based on the flexible block structure described on page 10, which maximizes options for landowners to develop their properties in future according to their individual development strategy and market research. Each block can be developed with or without rear alleyway access, depending on developer preferences. Future development proposals will be evaluated by the City according to how they adhere to the principles and general urban form of the DCP.

The acreages shown in Table 1 represent the areas in the DCP. These areas, using maximum densities suggested in the City's Comprehensive Plan zoning designations, would result in 289 new lots. Using the minimum densities, it would result in 213 lots. The expected city zoning categories will be R-1, R1.5 and R-2 for the Comp Plan zones of LDR, MDR and HDR, respectively.

Higher density options would result in lower shared costs per unit, as the community's infrastructure needs would be identical for either density.*

**Original projections for this study area in the 2010 TSP and Canby Comprehensive Plan envisioned up to 350 lots in the area, but this number did not account for the deduction of land for open space around Willow Creek environmental areas.*

Development Flexibility

The Development Concept Plan is structured using flexible block sizes to ensure that future development can provide a wide variety of lot sizes and housing types within the proposed zoning.

Studying best practices from other high-quality master-planned developments, a prototypical block size with a width of 280', measured from the center of one local street to the center of the next street, was used to guide the layout of the concept plan (Figure 5). A variety of lot sizes are possible within this prototypical block. **Due to allowance for topography and plan urban design, the blocks shown on the DCP are not exactly each 280'. An overall block length of more than 600 feet should be avoided. Bike and pedestrian connections should be provided at least every 330' according to the TSP.**

Also possible are blocks with or without rear 20-ft alleyways (Figures 6a and 6b). Although there are few new developments with rear alleys in Canby, this is an increasingly popular tool for regional developers who seek a more walkable, attractive streetscape and more curb appeal for new homes. Rear alleys also provide an efficient and less visually-intrusive place to locate utilities.

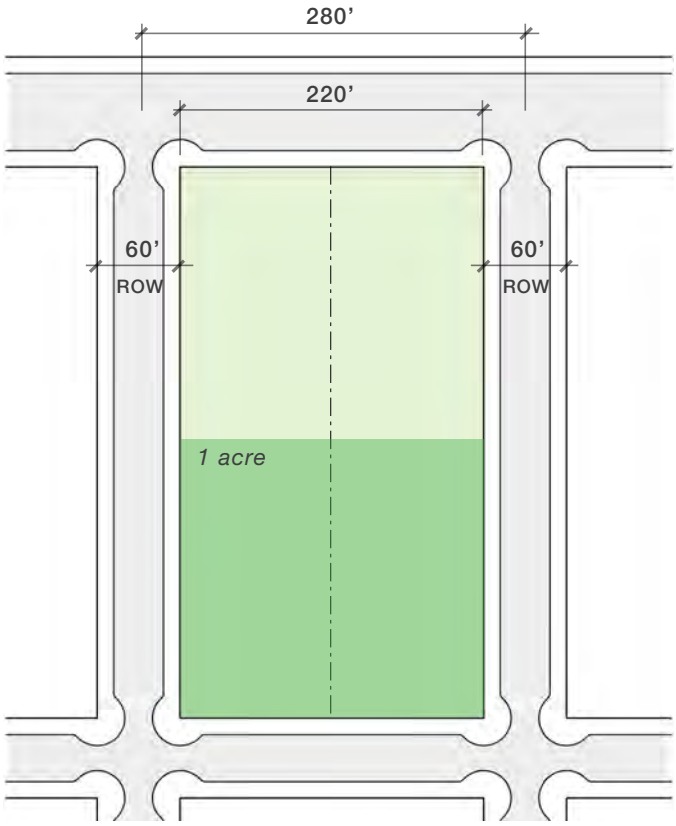


Figure 5: Prototypical Block

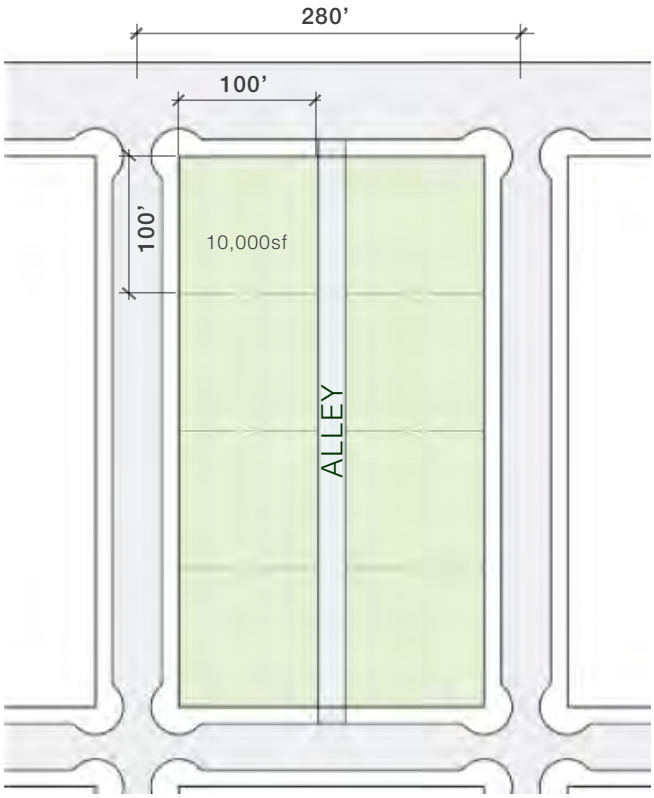


Figure 6a: Large Lots (LDR) with alley

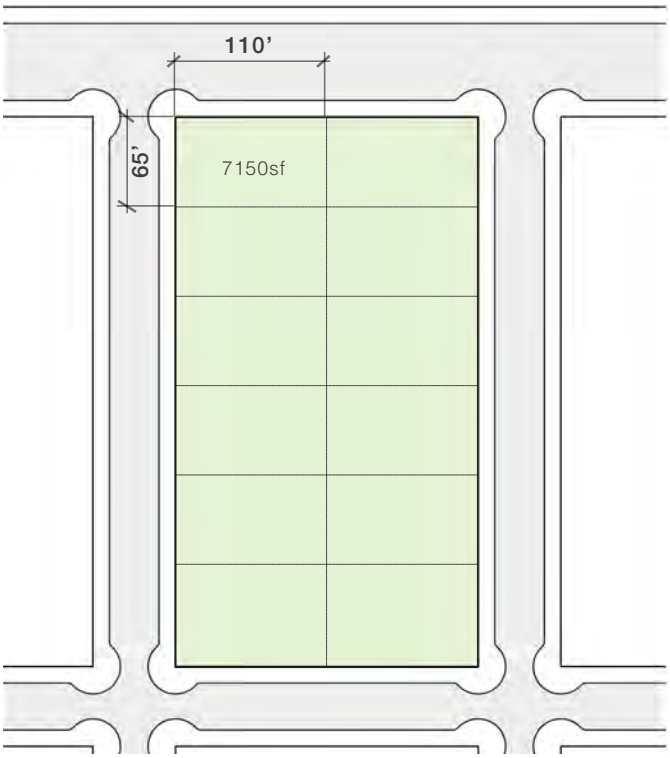
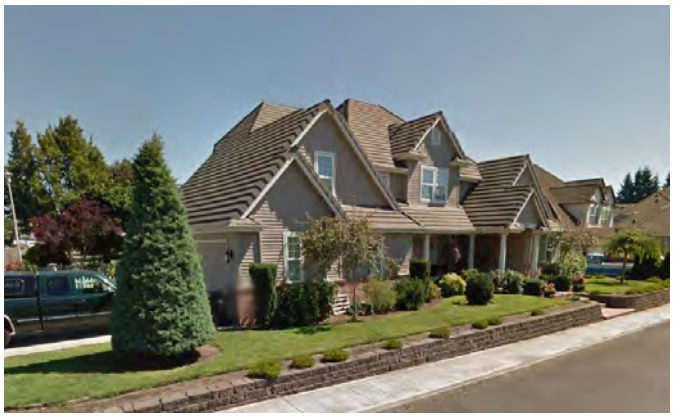


Figure 6b: Large Lots (LDR) no alley; garages in front of homes



Low Density Residential
7,000-10,000 square foot lots (4-6 du/acre)
Approximately 155 units in DCP (at 6du/ac)
(Approximately 103 units at 4du/ac)

Medium Density Residential
5,000-6,500 square foot lots (7-9 du/acre)
Approximately 108 units in DCP (at 9du/ac)
(Approximately 84 units at 7du/ac)

High-Density Residential
3,000 square foot lots (14 du/acre)
Approximately 26 units in DCP

Concept Plan Evaluation Criteria

The Development Concept Plan substantially meets all of the evaluation criteria, as described below. Meeting some of the criteria will be dependent on subsequent planning work and individual actions by developers and the City of Canby.

Criteria	*How DCP Meets Criteria*
Integrated with existing city fabric of Canby	Plan connects to North Redwood Street in 5 locations, matching existing intersections and extending the city grid
Walkable and cohesive	Streets, connected across parcels, will meet City standards, with generous sidewalks. Proposed walking trail traverses study area.
A plan with all parcels integrated	Plan strives to maximize development potential of all parcels, including those with natural features and access restrictions
Impacts distributed equitably	Funding plan will propose how to share costs and impacts of plan elements that benefit all owners.
Different owners' timing of development	Plan can proceed according to the priorities of a range of owners
Reasonable costs of infrastructure and roads	Most roads are narrower local streets. Total road area is 23% of study area, which is within comparable levels of other communities.
Connected with safe streets	Local streets have sidewalks. Certain North Redwood intersections should consider enhanced pedestrian crossings at key locations.
Transit-friendly	Neighborhood Routes in plan could accommodate a future transit route.
Allows emergency access	Plan proposes a new emergency access across UPRR to serve area east of Willow Creek.
Connects trails to natural areas	A new trail system is proposed on the west edge of the Willow Creek Natural Area.
Protects Willow Creek	Yes, within natural area
Provides public, accessible parks	One neighborhood park proposed. Willow Creek open space will be public.
Innovative land planning	Yes

Parks and Open Spaces

Future development in the North Redwood area will be required by city code to dedicate a certain amount of parks and open space (*Division XI: Parks, Open Space and Recreation Land, Chapter 16.120*). This is consistent with the criteria outlined on page 5 for the creation of a livable community.

The acreage required for dedication is calculated using the formula below, applied to new construction:

(Maximum units in a plat) x (persons/unit) x 0.01 = acreage to be dedicated

Potential park acreages can be calculated for each density in the DCP as follows:

LDR/R-1: 25.78 ac
25.78 ac / 7000 sf minimum lot size = 155 units
155 x 2.7 people per unit = 419
419 x 0.01 = 4.2 park acres.

MDR/ R1.5: 11.99 ac
11.99 ac / 5000 sf minimum lot size = 108 units
108 x 2.7 people per unit = 292
292 x 0.01 = 2.9 park acres.

HDR R-2: 1.84 ac
1.84 ac / 3000 sf minimum lot size = 26 lots
26 x 2.7 people per unit = 70
70 x 0.01 = 0.70 park acres.

TOTAL POTENTIAL PARK ACREAGE: 7.8 ACRES

This figure will obviously be subject to refinement as individual developers submit applications. The City of Canby does not typically accept unbuildable natural areas as dedicated park lands; however, the city has indicated a willingness to accept land dedicated along Willow Creek, which is a significant benefit to potential future developers. If park space were not largely accommodated in the creek area, it would need to be within one of the flatter, more "developable" areas to the west. This would have a negative economic impact on land owners and the City, since land owners would be forced to give up more flat, developable land rather than creek-side land. Moreover, property owners would be left with creek-side land that they would have to maintain.

The DCP shows the green corridor in Figure 2 incorporated into the plan (see Figure 7 on facing page). There are an additional 1.7 acres of natural area than required by code shown within this environmental area. Protection of this extra acreage can also be accomplished by potentially including it in lot sales, with conservation easements.

Neighborhood Park with play area and shelter

Multi-use trail through natural area

A boardwalk trail could be built near wetlands or along Willow Creek

A bicycle and pedestrian bridge can link the area's neighborhoods across Willow Creek

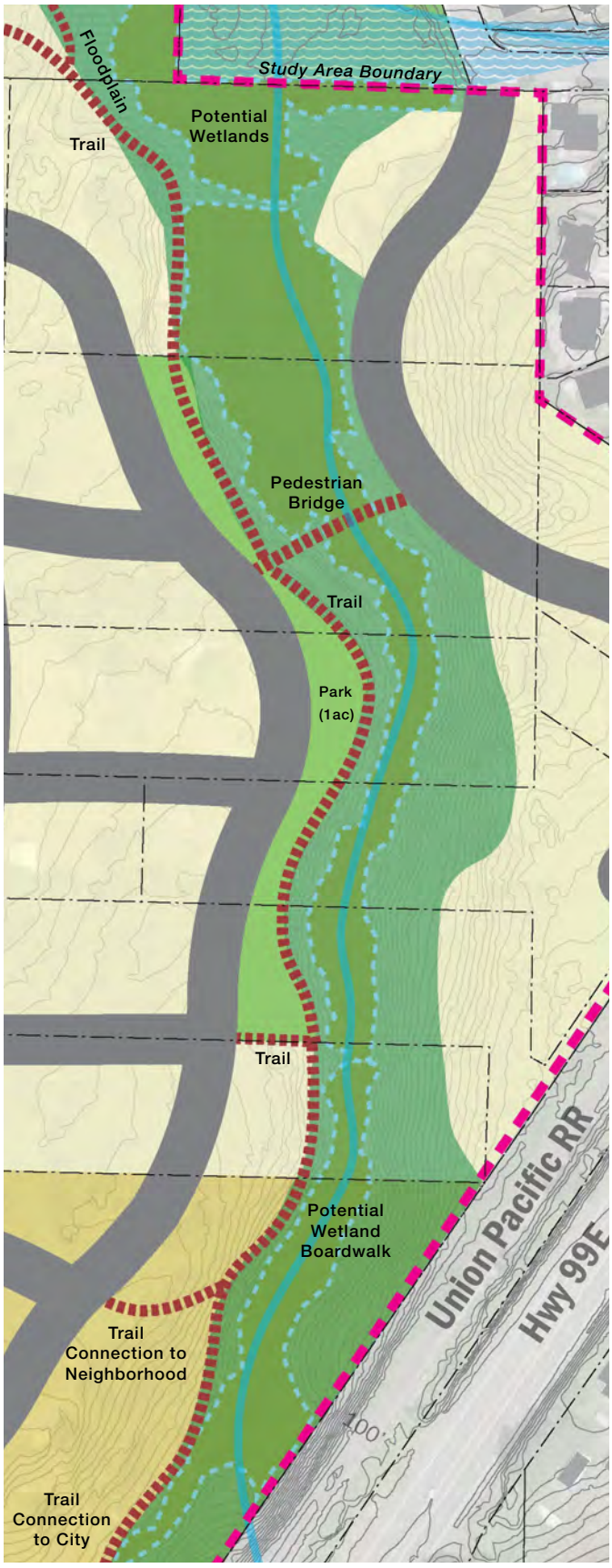


Figure 7: DCP -- Open Space detail

Parks and Open Spaces

The DCP illustrates a framework for a new 9.5-acre public natural area along Willow Creek, including the constrained and ecologically-sensitive lands described on Figure 2. This area is more acreage than the approximately 7.8 acres required for dedication by developers (see facing page); some of the sensitive land could be protected within conservation easements on private lots. A strategy to equitably divide this natural area dedication among property owners, including those not adjacent to Willow Creek, is included in this report.

(Given the shortfall in parks maintenance funding in Canby, an agreement could be arranged for a developer to fund a set number of years of maintenance, while the City works to secure more sustainable parks maintenance funding.)

Additional park land of approximately 1 acre, envisioned as a potential neighborhood pocket park, is included to provide some developed park space as a neighborhood amenity. In the DCP, this park is shown as a linear park at the top, west edge of the Willow Creek 'ravine', providing a more developed foreground to the wilder natural area. This park land could include neighborhood amenities such as a play area and picnic shelter. Alternatively, future plan refinements could consider locating such a park in a more central location, surrounded by housing.

A trail is proposed along the Willow Creek open space, through the neighborhood park and linking to existing and future natural areas like Willamette Wayside to the north, as well as to Fred Meyer and downtown Canby to the south. This trail can take a variety of forms according to context, with a boardwalk through wetland or flood prone areas, and a simple paved multi-use path (see Figure 8 below) in other areas such as the neighborhood park edge.

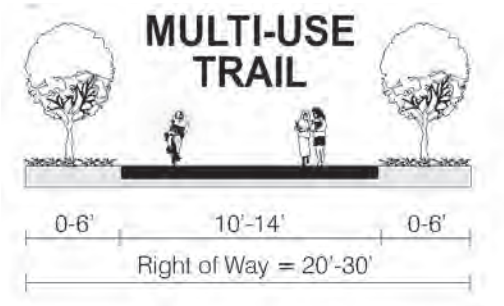


Figure 8: Canby TSP Multi-Use Trail Cross-Section

Plan Connectivity

The DCP provides several connections to Canby's existing city fabric, with extensions to existing streets on the west side of North Redwood in five locations (NE 18th Pl, NE 17th, NE 15th, NE 13th and NE 12th). This grid of streets will maximize circulation choices for future residents and provide safer, more walkable non-collector streets for residents, potentially reducing overall vehicle miles traveled.

North Redwood Street is currently only improved to City standards on its west half. When individual development proposals are submitted, the City will require half-street dedication from adjacent property owners along North Redwood of approximately 10' to 30' to allow the street to be improved to Collector standard as shown in the TSP (see cross-section on page 16). As a project with citywide importance, it will need to be funded through a combination of developer contributions and public capital improvement budgets, and the precise cross-section will be determined with City and neighborhood input. Adding sidewalks to the east edge of North Redwood will improve safety and allow pedestrian access to city parks north of Territorial, as well as the Fred Meyer (and Orange Line commuter bus service) to the south of Highway 99E.

An internal loop Neighborhood Route (Fig 9 at right) is a key 'wayfinding' and placemaking component, looping from NE 18th Place, along the edge of the Willow Creek open space, then continuing south to North Redwood between NE 13th and NE 12th. This route would be the most likely option for future transit access, although the existing Dial-A-Ride service in Canby could serve all of the streets in the DCP. Other internal streets shown are advisory and will be located according to future individual development plans.

Approximately 11-15 large lots on the east side of Willow Creek will be connected to Teakwood Street and Willow Creek Estates to the north. The 15 lots would generate approximately 110-150 daily trips (11 peak AM hour trips, and 15 peak PM hour trips.) The City's threshold for evaluating impacts to local neighborhood streets is 30 peak hour trips and 300 daily trips, so this would not reach that threshold. The local street serving these lots would require a stop sign where it meets N. Teakwood Street.

An emergency route, with a locked gate preventing pedestrian or bicycle access, would be desirable across the UP rail line to access Hwy 99E, closing the existing driveway (photo at right). Discussions about this crossing have been initiated with UPRR.

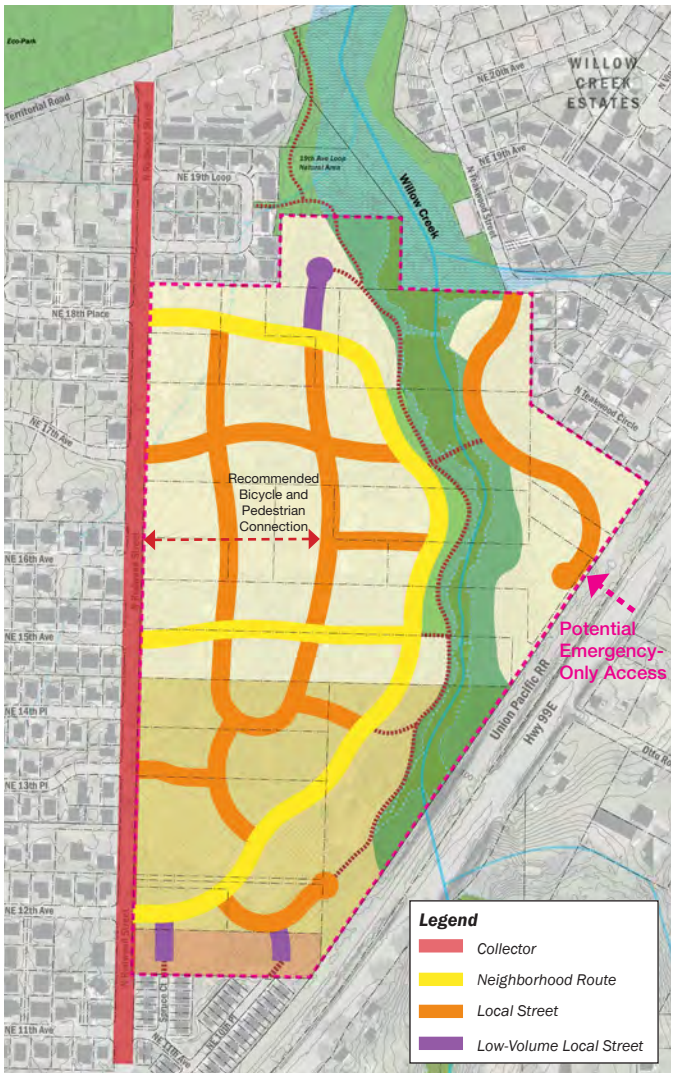
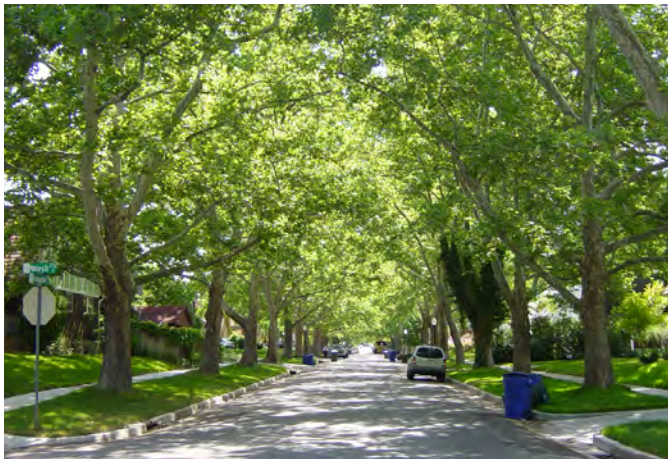


Figure 9: DCP Street Plan

Existing driveway across UP railroad, accessing three parcels

Figure 10: Typical Local Street Cross-Section

Typical local street in a new planned community, matching the Canby TSP local street standard on page 16



Typical local street with mature street trees

Street Design

Roadways in this plan will be neighborhood routes and local streets, with design standards described in the TSP and on the following page. These streets are intended to be relatively narrow in order to reduce speeds and promote neighborhood livability while also reducing development costs and city maintenance.

The three-dimensional street section at left (Fig. 10) is another way of illustrating the proposed street design, showing how on-street parking, while serving adjacent residents, also serves to slow traffic speed by narrowing the perceptual width of the street. Travel lanes of 10' in each direction allow a clear 20' zone for fire and emergency access. Neighborhood routes have slightly wider travel lanes to allow delivery truck and transit vehicle access.

Key to neighborhood livability is to separate sidewalks from roadways with a generous, 8'-wide planting strip, within which street trees should be planted. Stormwater treatment facilities can also be located in these strips, if needed (see photo at left). These planting strips enhance pedestrian comfort and safety, while the street trees will eventually provide a proven increase in property values by forming a shaded canopy over the street and adding to the curb appeal of homes.

The plan presents some single-sided streets along Willow Creek, which provide significant value to homes with a frontal view of the open space and help to create a distinct identity for the neighborhood. This arrangement also has public safety benefits, as the open space and associated trail can be monitored by street users and from nearby homes. In most cases, streets within the neighborhood will be double-sided to maximize development efficiency where no natural amenities are present.

Plan and Code Amendments

The following is an assessment of existing code provisions and code amendments that will support the North Redwood Development Concept Plan. Generally, as the North Redwood community develops, a certain amount of flexibility will be needed in order to protect the area's natural resources while also distributing development capacity across the area in a reasonable, equitable manner. The ability for developers to be creative in terms of lot size, shape and layout will be important to ensure that open spaces can be preserved as a community amenity while still maximizing allowable densities.

Overall, the Canby zoning code currently includes provisions that support this kind of flexibility to a significant degree; therefore, the revisions are relatively minimal. *For more detail, please refer to the Memo entitled Canby North Redwood Development Concept Plan – Comprehensive Plan and Zoning Code Amendments, (September 2, 2015) found in Appendix B of this report.*

Lot Size Averaging

Lot size averaging allows the city to permit lot sizes that do not meet the minimum and maximum lot size standards in the low and medium density residential zones. This provision allows some flexibility in lot sizes in order to protect natural resources; lots can be smaller or larger as appropriate to work around areas of wetlands, parks and other desired open spaces.

In the high density (R-2) zone, there are no minimum or maximum lot size standards. Instead, lot size is regulated through minimum density standards in combination with lot width and depth standards.

The lot size averaging provisions require that the overall average lot size still be consistent with the minimum and maximum lot size standard for that zone. It also includes a limit on how small a lot can be (no smaller than 6,000 s.f. in the R-1 zone and 4,000 in the R-1.5 zone). However, the alternative lot layout provisions discussed in the next section allow a further reduction of average lot size. Used in combination, the lot averaging and alternative lot layout provisions provide a high degree of flexibility and are sufficient to support innovative development in the North Redwood area.

The lot size averaging provision has been revised, to clarify the language in subsection 1(b) that states a lot smaller than 6,000 square feet may not be created. This resolves a conflict with the alternative lot layout standard that allows a 5,000 square foot reduction in the average lot size. The language has been revised (Section 16.16.030) to note that individual lots can be smaller if the alternative lot layout option in Section 16.64.040 is used. A similar revision has been made in the R-1.5 zone (Section 16.18.030).

Another revision relates to the language that defines what a "required" area is when determining what should be included in the average lot size calculations. The city has indicated a willingness to accept dedication of the natural resources area (creek, associated buffer and slopes) in lieu of its standard parkland dedication in the North Redwood area. Given that approach, the dedicated land should be included in the lot size averaging calculation in order to achieve the intended benefit. To allow this possibility, the language in Section 16.16.030 has been revised to clearly allow for public park dedications to be included in the lot size averaging calculation to achieve community plan goals for this area, including allowing protection of natural resources.

Alternative Lot Layouts

Chapter 16.64 Subdivisions contains provisions for alternative lot layouts that provide additional flexibility to preserve natural resources and contiguous open spaces. If the alternative lot layout option is used, the average minimum lot size may be reduced by 5,000 square feet after subtracting access tracts. Overall development densities must not exceed the maximum density standard for the zone.

As indicated previously, use of this provision would allow lots smaller than 6,000 square feet in the R-1 zone and would result in no minimum lot size in the R-1.5 zone, thus providing a developer the flexibility to cluster lots in order to protect natural resources. The alternative lot layout also allows deviation from the required setbacks and lot width and frontage standards. No revisions to the alternative lot layout provisions are recommended.

Plan District

A new Plan District has been added to the City of Canby's Development Code as Chapter 16.13, which is a new section of the Code. The Plan District includes the following types of provisions:

- **Purpose.** This section indicates that the purpose of the District is to implement the North Redwood DCP, ensuring that future land use, transportation and open space patterns are consistent with the DCP.
- **Applicability.** This indicates that the section is applicable to the DCP area, and that this section of code supersedes any other potentially conflicting sections.
- **Approval criteria.** This section establishes a number of essential elements of the DCP that would be considered as approval criteria for future developments in the area. These include key features of the land use pattern, transportation network and park and open space elements of the DCP. These essential elements are described in the Memo, *Canby North Redwood Development Concept Plan – Comprehensive Plan and Zoning Code Amendments, (September 2, 2015)* found in Appendix B of this report.
- **Lot area exceptions and lot size averaging.** These echo the provisions described earlier in this section.

The Plan District section of the Code also can be used in the future to establish and implement DCPs in other areas of the City.

Planned Unit Developments

Planned Unit Development (PUD) provisions could be used for a variety of purposes in the North Redwood area. They would allow for lot size averaging, alternative lot layouts, and protection of natural areas, with the development potential in those areas captured in the developable portion of a site. While use of the city's PUD process would provide opportunities for more development flexibility, such processes are most effective when applied to larger properties or developments. As a result, they would be most applicable on larger properties in the study area and/or in areas where property ownership can be consolidated. No revisions to the PUD provisions are proposed.

Annexation

The existing code contains provisions for annexation of new properties into the city boundary. For properties that are within a designated Development Concept Plan (DCP) area, a DCP must be adopted by the city before a zone change will be approved for a newly annexed property. While these provisions ensure that a DCP be adopted prior to a zone change, they do not specify that zone changes occurring after annexation must be consistent with the DCP. To address this, the standards and criteria (Section 16.84.040) have been revised, to require that proposed zoning in an area where a DCP has been prepared should be consistent with the zoning identified in the applicable DCP.

Comprehensive Plan changes

While the City requires Development Concept Planning prior to annexation, the City's Comprehensive Plan currently does not have a policy that indicates how the City identifies areas that must prepare Development Concept Plans (DCPs), such as the North Redwood area. A new policy has been added within the "Land Use Element" of the Comprehensive Plan, as follows:

POLICY NO. 7: CANBY SHALL STRIVE TO ENSURE THE EFFICIENT AND EFFECTIVE PROVISION OF INFRASTRUCTURE TO SERVE NEWLY ANNEXED AREAS.

IMPLEMENTATION MEASURES:

A) The City of Canby's annexation Development Map shall be used to identify properties required to adopt a Development Concept Plan (DCP) or Development Agreement (DA) prior to annexation.

Parks & Rec Master Plan (2002)

No changes will be made to the Parks & Rec Master Plan as a result of this DCP.

Changes to the 2010 TSP

This DCP has been prepared with careful consideration of the 2010 Canby TSP and meets the goals and standards outlined in that document. The primary change recommended to the 2010 TSP has been initiated by the City of Canby, with ODOT's assistance, and involves removing the proposed Otto Road collector connection. The TSP document itself will be updated with 5 new figures:

Fig 7-1: Functional Classification
Fig 7-2a: Truck Routes (Existing System)
Fig 7-2b: Truck Routes (Financially-Constrained System)
Fig 7-8: Local Street Connectivity (see below)
This figure has also been updated to reflect the North Redwood Street and North Teakwood Street connectivity proposed in this Draft DCP
Fig 7-9: Traffic Control Plan

Existing street cross-sections in the TSP (see Figure 12 below) are appropriate for the DCP. In all sections, street trees are indicated as optional. However, it is strongly recommended that an 8' planting strip be provided for street trees on all future streets in the study area.

For the half-street improvements required to bring North Redwood Street into compliance as a Collector as shown in the TSP, an additional 10'-30' of property will need to be dedicated from properties on the east edge of North Redwood Street. A center turn lane or median will not be required for the Collector, and no new stop signs are expected to be needed on North Redwood Street.

Figure 11: Transportation System Plan revised Fig 7-8 (detail)

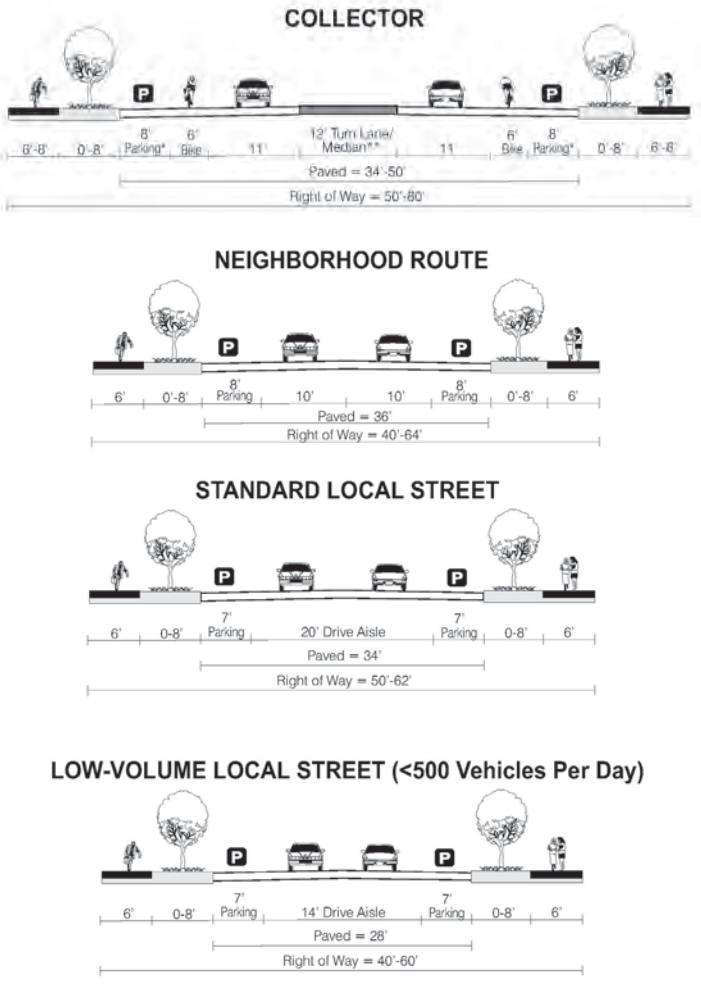


Figure 12: Canby Transportation System Plan street sections

Infrastructure
(Recommended Changes to City Facility Plans and Standards)

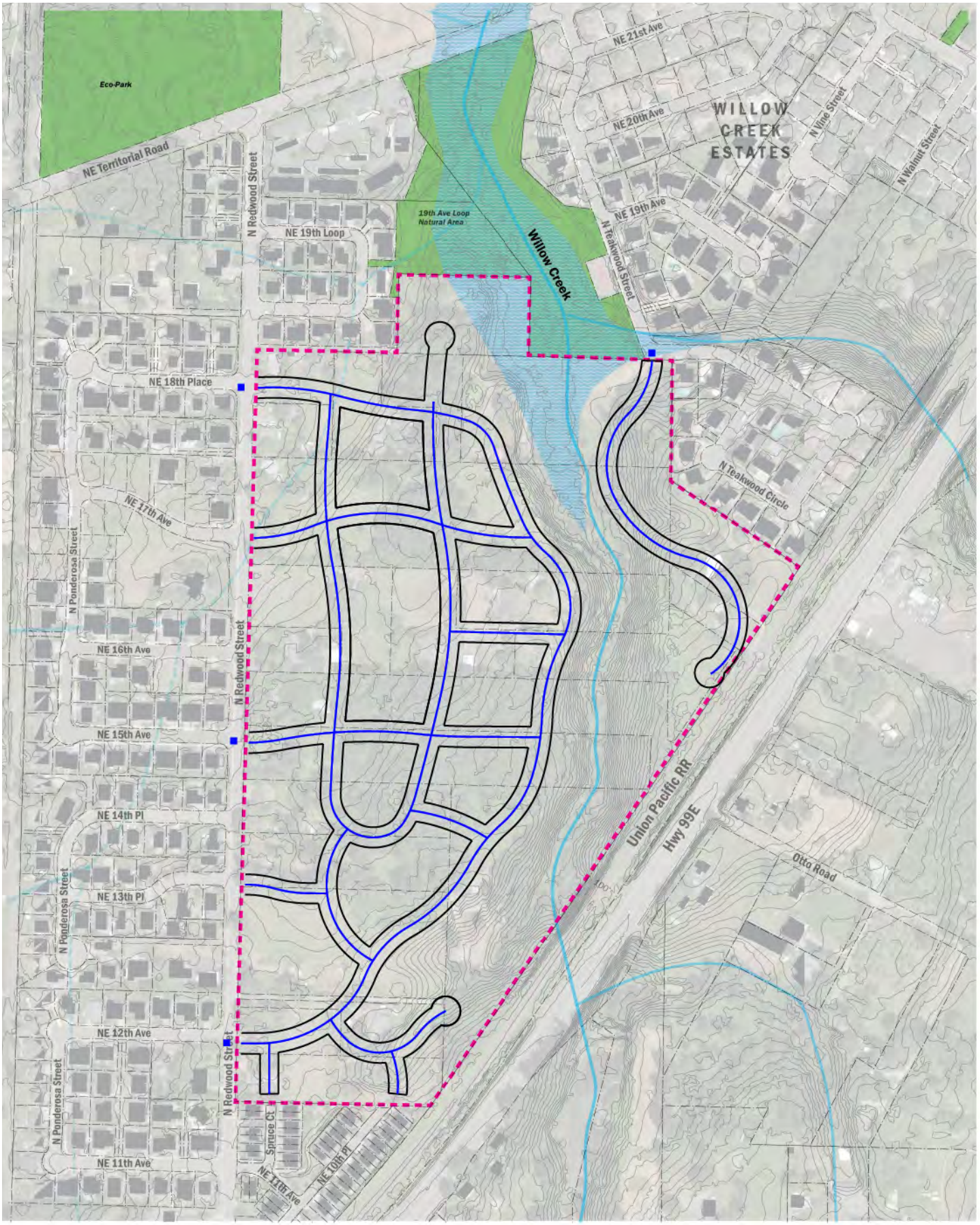


Figure 13: Water Map

Infrastructure: Water

Water within the City of Canby is provided by Canby Utility. Canby Utility completed a Water System Master Plan in 2010. The system analysis in the master plan included all areas within the Urban Growth Boundary, which includes the North Redwood site.

Waterlines adjacent to the project include an existing 12-inch waterline in N. Redwood Street and an 8-inch line in N. Teakwood Street. A 14-inch transmission line is located in NE Territorial Road to the North.

The North Redwood site can be served by Canby Utility via connections to the existing waterlines in N. Redwood Street and N. Teakwood Street. The project site is bisected by Willow Creek. Areas west and east of Willow Creek would be served via separate connections to the existing water system.

Proposed development west of Willow Creek can be served by connections to the existing 12-inch line in N. Redwood Street. A minimum of two connections to the N. Redwood Street waterline is recommended in order to provide a looped water system. The actual locations of the connections to the existing waterline may vary depending on the order in which properties develop. In addition, looping of waterlines within the proposed development is recommended.

Proposed development east of Willow Creek can be served by a connection to the existing water line in N. Teakwood Street. Based on the existing development adjacent to the North Redwood site, there will likely not be an opportunity to loop the water lines east of Willow Creek.

Figure 13 shows existing waterlines in the vicinity of the North Redwood site, proposed connections to serve the site, and a schematic layout of the water system within the preferred alternative.

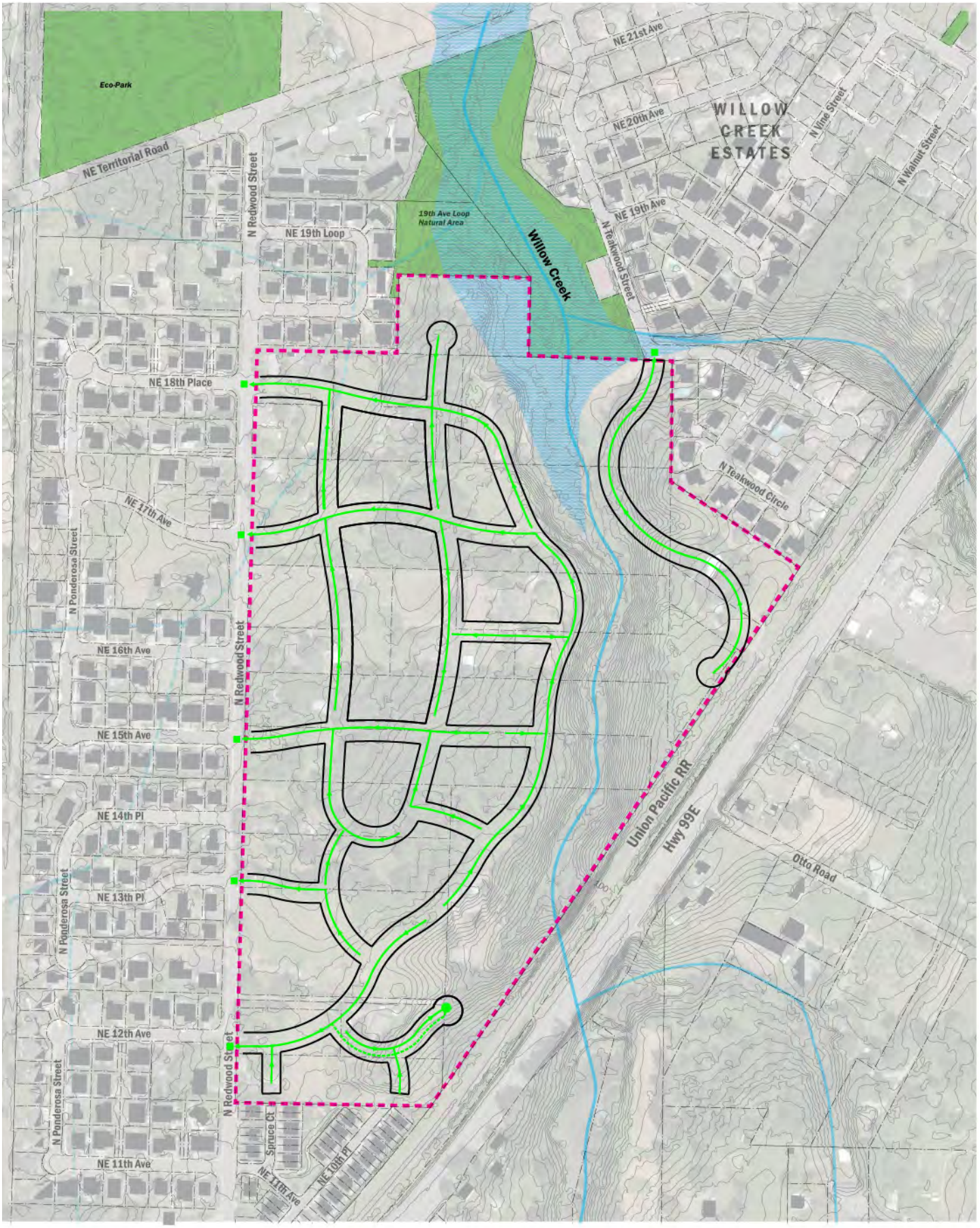


Figure 14: Sanitary Sewer Map

Infrastructure: Sanitary Sewer

Sanitary sewer service is provided by the City of Canby. Systems are required to be approved by and to comply with the requirements of Oregon Department of Environmental Quality.

The North Redwood Site can be delineated into two sanitary sewer basins:

- Basin 1: West of Willow Creek
- Basin 2: East of Willow Creek

Figure 14 shows each of the sanitary basins, potential sanitary sewer routes based on the preferred alternatives, and a potential pump station location.

Basin 1

Basin 1 contains the area east of North Redwood Street and west of Willow Creek. An existing 15-inch sanitary sewer line located N. Redwood Street will serve this basin. According to as-built records, the existing sewer line is approximately 8-feet deep. Any areas uphill of N Redwood Street can feed into this line via gravity. Based on GIS contour information, the ground within the project site generally slopes from the ridge above Willow Creek to North Redwood Street at approximately 1.5 percent. There is a sizeable area within Basin 1 that has a 2 to 4 foot depression, which would need to be filled in order to provide gravity sewer service to the area. Developable areas immediately adjacent to Willow Creek would likely require a pressure sewer and a small lift station in order to provide service to the area.

Multiple connections to the existing sewer line are proposed for the preferred alternative. Planning for multiple connections will allow for increased flexibility in the order in which individual properties can develop. Depending on the order in which properties develop, there may be more or less connections to the existing system that shown in Figure 14.

Project Memo #5 describes the possibility of providing a sewer connection for the northernmost parcel in the project site via a gravity connection to an existing sewer line in NE 19th Loop. However, further analysis of the preferred alternative shows that a gravity connection cannot be made to NE 19th Loop. It does appear that with some fill in this area, a gravity connection could be made within Basin 1 for this area. An alternative to filling this development area would be a pressure sewer system that connects to Basin 1.

Capacity of the existing line in N. Redwood Street should be verified prior to development.

Basin 2

Basin 2 contains the area within the North Redwood project site that lies east of Willow Creek. This area will be served via a connection to an existing sanitary sewer line in N Teakwood Street. Flow from the Teakwood Street sewer line flows to the existing Willow Creek Pump Station located at NE Territorial Road at Willow Creek.

The elevation and capacity of the existing sewer lines should be verified prior to development. In addition, the existing Willow Creek Pump Station should be evaluated to determine if it has capacity for the additional flow.

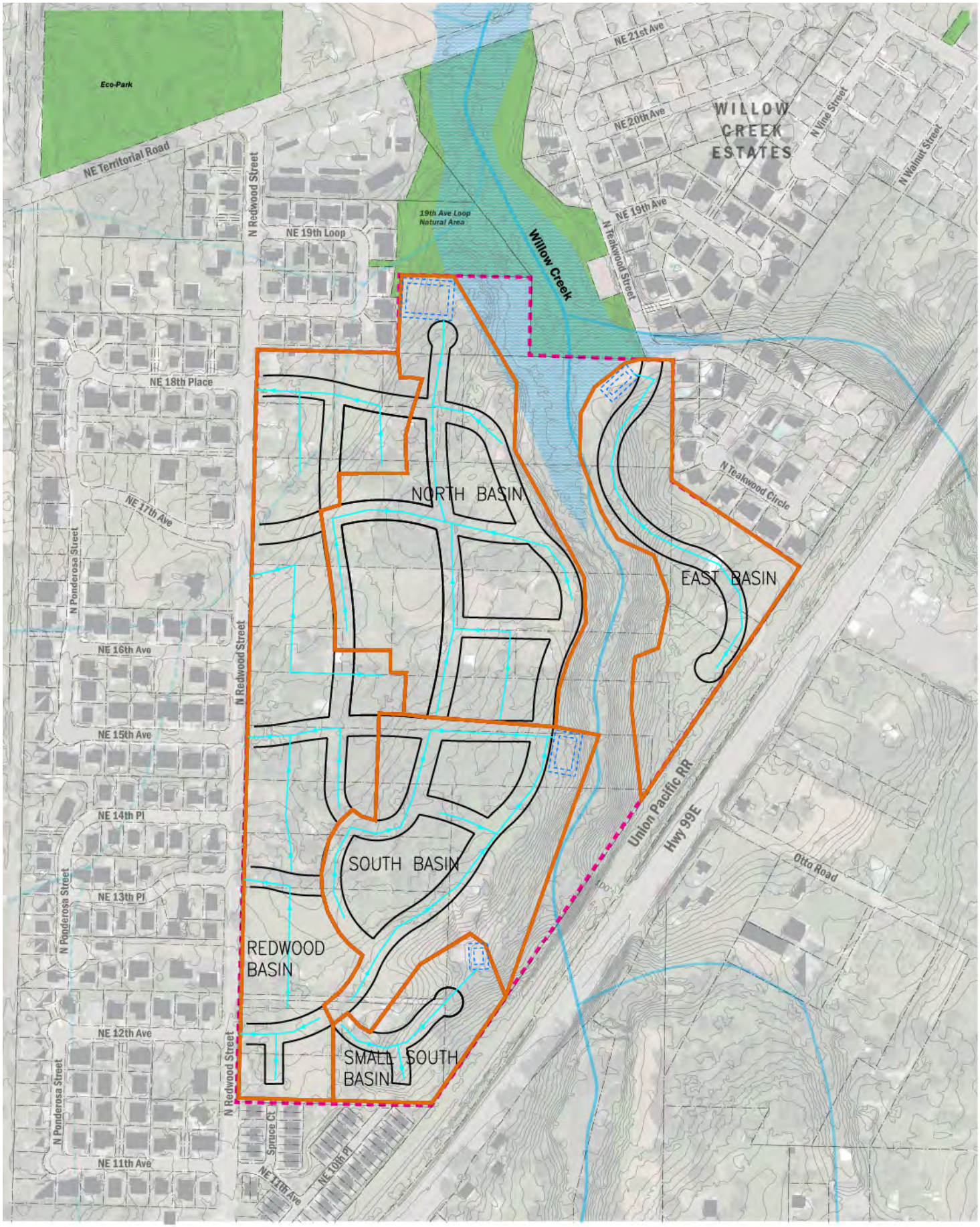
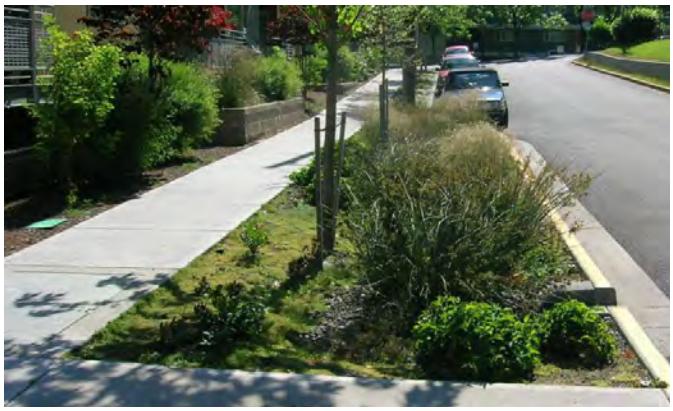


Figure 15: Stormwater Map

Note: Alleys recommended where possible for stormwater conveyance.



Typical LIDA facilities: Swale

Typical LIDA facilities: Water Quality Pond

Typical LIDA facilities: Residential rain garden

Infrastructure: Stormwater

The City of Canby Public Works Design Standards (*Sections 4.109, 4.309, and 4.310*) provide criteria for the design of water quality treatment facilities for storm water runoff. Acceptable methods of treatment include vegetated swales, extended dry ponds, constructed wetlands, Low Impact Development Approaches (LIDA), or proprietary treatment devices. Although all of these methods are acceptable forms of treatment, the City encourages the use of LIDA facilities for water quality treatment of stormwater.

In addition, stormwater quantity management will be required for all runoff from all development within the North Redwood Development Concept Plan area unless it can be demonstrated that there are no adverse downstream impacts. Prior to development, a downstream analysis should be performed to determine if water quantity management is required, per the City of Canby Public Works Design Standards, Section 4.205. If deemed necessary, the volume to be detained will be the volume necessary to limit the post-developed site peak discharge rate to pre-developed runoff rates for all storm events with a recurrence interval less than or equal to 25 years (2, 5, 10, and 25-year storm events). Detention and retention facilities are both acceptable methods of water quantity management. In accordance with City of Canby Standards, facilities shall be designed per CWS Design and Construction Standards, Chapter 4.

Storm sewer conveyance facilities shall be designed for the 10-year design storm event. According to the City of Canby Design Standards (*Section 4.206*), peak design flows for conveyance can be calculated using the rational method, the SCS Curve Number method, or the Santa Barbara Urban Hydrograph method.

Other Potential Design Standards

When development projects result in impacts to jurisdictional wetlands or waterways, they trigger a State and Federal permitting process with the Oregon Department of State Lands and U.S Army Corps of Engineers, respectively, through a Joint Permit Application.

The federal wetland permitting process for impacts to jurisdictional wetlands or waterways (i.e. Willow Creek) in the North Redwood Concept Plan area will likely require Endangered Species Act (ESA) consultation as part of the permitting process.

Through the ESA Consultation process, the National Marine Fisheries Service (NMFS) will require a higher level of stormwater management than would be required by the City of Canby and by the Clean Water Services Design & Construction Standards. Design for stormwater management would follow the more stringent standards set by the US Army Corps' "Standard Local Operating Procedures for Endangered Species (SLOPES) for Stormwater, Transportation, and Utilities". Based upon current information from NMFS, they would expect:

1) Stormwater quality facilities are sized to treat a volume equal to 50% of the cumulative rainfall from the 2-year, 24-hour precipitation falling on all contributing impervious areas from the development.

2) Stormwater quantity facilities are designed to maintain the frequency and duration of flows generated by storms falling between the lower discharge endpoint (42% of 2-year event) and the upper discharge endpoint (10-year event).

Existing Topography and Soils

West of Willow Creek, the site topography generally slopes from the ridge above Willow Creek west to N Redwood Street. In addition, the site generally slopes from south to north. East of Willow Creek, the site generally slopes from east to west, toward Willow Creek, and also from south to north.

According to the NRCS Soil Survey, the majority of the site is Latourell Loam soils, which is in Hydrologic Soils Group B. Group B soils are generally well draining and are suitable for infiltration. Smaller portions of the site are Amity Silt Loam (Hydrologic Group C/D) and McBee Silty Clay Loam (Hydrologic Group C). Hydrologic Group C and D soils are moderately to poorly drained soils and are generally unsuitable for infiltration. Information from the NRCS Soil Survey can be found in Memo #2, page 8.

Although the NRCS data shows that the majority of the site is well draining, staff at the City have received reports from neighboring property owners noting that the soils in this area do not drain well. Before infiltration is chosen as an option for this site, a geotechnical investigation and infiltration testing should be conducted.

Existing Facilities

There is an existing storm drain pipe in N Redwood Street which has excess capacity equivalent to approximately 11.8 acres of impervious surface. This storm drain was constructed as part of an advanced financing district for the neighborhood east of N Redwood Street. Utilization of this storm drain by the North Redwood project site may require that developers contribute to the cost that was incurred by the neighboring property owners for the construction of this line.

The N Redwood storm drain discharges to the Fish Eddy site. According the City's stormwater master plan, a treatment wetland will be constructed as part of the restoration of the Fish Eddy property. The treatment wetland will provide water quality treatment and detention for runoff that utilizes the N Redwood storm drain line and future Willow Creek Drainage.

Existing pipes in N Redwood Street should be surveyed to determine the elevation of the existing storm sewer in order to evaluate the extent to which the North Redwood Concept Plan area can drain to the existing N Redwood Street storm sewer conveyance system.

Willow Creek bisects the site approximately 1,000 feet east of N Redwood Street. Willow Creek flows north through the 19th Avenue Natural Area and discharges through a weir structure to two 36-inch diameter culverts under NE Territorial Road. North of Territorial Road, Willow Creek enters the Fish Eddy site on its way to the Willamette River. In accordance with City standards, stormwater treatment is required prior to discharging runoff into Willow Creek.

Hydrology

The hydrologic computations focus on the quality and quantity control system design storms, which use the 2-year, 10-year, and 25-year frequency, 24-hour duration design storm events and the Santa Barbara Urban Hydrograph (SBUH) method. Rainfall depths for the storm events of interest, obtained from the ODOT 24-hour isopluval maps and listed in Table 2, were applied to the NRCS Type 1A rainfall distribution.

Recurrence Interval	Precipitation Depth (in)
2-Year	2.40
10-Year	3.40
25-Year	3.80

Table 2: Precipitation Depths for 24-Hour Duration Storm Events

Category	Cover Type	Hydrologic Soil Group	Curve Number
Impervious Area	Pavement, roofs, sidewalks	C, B	98
Pre-development Pervious Area	Woods/ grass Comb, Fair	B	65
Pre-development Pervious Area	Woods/ grass Comb, Fair	C	76
Pre-development Pervious Area	Woods/ grass Comb, Fair	D	82
Post-development Pervious Area	50-75% Grass Cover, Fair	B	69
Post-development Pervious Area	50-75% Grass Cover, Fair	C	79
Post-development Pervious Area	50-75% Grass Cover, Fair	D	84

Table 3: Runoff Curve Numbers

Runoff Curve Numbers (CN), listed in Table 3 for impervious and pervious surfaces, were selected using the TR-55 runoff curve number table.

In accordance with City of Canby Standards, water quality facilities shall be designed per CWS Design and Construction Standards, Chapter 4. Stormwater facilities shall be designed for a dry weather storm event totaling 0.36 inches of precipitation falling in four hours with an average storm return period of 96 hours.

Stormwater Basins and Management

The basin east of Willow Creek is approximately 7.6 acres. Stormwater runoff will be conveyed north and receive treatment and quantity control in a stormwater facility before being discharged into Willow Creek.

The existing storm drain in N Redwood Street should be utilized for areas of the site that, for topographic reasons, cannot be conveyed to Willow Creek. A maximum of 11.8 acres of impervious area or street right-of-way can be conveyed to N Redwood Street. If the drainage area directed to N Redwood Street contained both right-of-way and lot runoff, then an equivalent area of approximately 18 acres (assuming 60% impervious) could be conveyed to N Redwood Street. The basin that is expected to drain to N Redwood Street is 17.8 acres. It is assumed that connections to the existing system in N Redwood Street can be made at a depth of five feet. Treatment of this runoff would occur at the Fish Eddy site, as part of the treatment wetland capital improvement project.

A small 3.7 acre basin at the south end of the site and west of Willow Creek is in a low area that cannot be drained northward. Stormwater runoff will be conveyed east and receive treatment and quantity control in a stormwater facility before being discharged into Willow Creek.

An 11.7-acre basin is south of the main East-West Neighborhood route. Stormwater runoff will be conveyed north and east to receive treatment and quantity control in a stormwater facility before being discharged into Willow Creek.

The basin north of the main East-West Neighborhood route is 15.7 acres. Stormwater runoff will be conveyed north and east to receive treatment and quantity control in a stormwater facility before being discharged into Willow Creek. Portions of this basin will need to be filled to maintain positive flow to the north.

Existing and proposed condition peak runoff rates were calculated using HydroCAD v10.0 software. Table 4 summarizes peak runoff rates, and calculations are included in Appendix D.

The detention facilities with a water quality swale in the bottom have four feet of detention depth and one foot of freeboard with side slopes of 3H:1V. Table 5 summarizes the pond areas and volumes.

Catchment/ Facility ID	Top Surface Area (sf)	Pond Volume (cf)
Basin East	4,960	11,700
Basin Small South	3,740	10,100
Basin South	9,670	30,100
Basin North	17,680	57,400

Table 5: Detention Basin Volumes

Catchment/ Facility ID	Peak Flow Rate (cfs)						
	2-year		10-year		25-year		
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Proposed (Detained)
Basin Redwood	0.39	1.36	1.17	8.75	1.8	10.45	NA
Basin East	0.15	1.29	0.43	2.46	0.72	2.99	0.62
Basin Small South	0.07	1.15	0.24	1.85	0.41	2.15	0.38
Basin South	0.23	3.11	0.70	5.12	1.18	6.00	1.15
Basin North	0.32	3.96	0.83	6.66	1.22	7.84	1.08

Table 4: Facility Flow Control Summary

Infiltration

If a geotechnical analysis concludes that infiltration is appropriate for this site, it can be used as a method of storm water retention and disposal. Individual lot drainage can be disposed of on site. Right-of-way runoff could be infiltrated through a combination of LIDA facilities and drywells or retention ponds. If the geotechnical analysis concludes that infiltration is not appropriate for this site, stormwater would need to be conveyed to Willow Creek for disposal. The use of infiltration drywells to dispose of stormwater will trigger a different permitting process. Stormwater infiltration drywells are considered an underground injection control (UIC) and are regulated by the Safe Drinking Water Act. DEQ administers a permitting process for UICs.

Planning Level Infrastructure Costs

Table 6 below shows conceptual level unit costs for many of the elements that will be required for the development of this site.

Item	Unit Cost	Assumptions
Streets	$490/LF	This cost includes base rock, AC pavement, curb and gutter, and sidewalks as well as grading of both streets and lots. The cost does not include street trees, landscaping, or retaining walls. Cost is based on dollars per linear foot of street.
Storm Drain Conveyance	$150/LF	This cost includes pipe, inlets, and manholes. The cost does not include water quality or quantity management facilities. Unit cost is based on total street length.
Stormwater Management Facilities	$15,000/acre	This cost is based on dollars per acre of overall development. It includes water quality and water quantity facilities.
Sanitary Sewer Conveyance	$130/LF	This cost includes pipe, manholes, and laterals for gravity and pressure sewer conveyance. The cost does not include pump stations. Unit cost is based on total street length.
Sanitary Sewer Pump Station	$150,000/each	This cost includes a small sanitary sewer pump station. Unit cost is based on total street length.
Waterline	$100/LF	This cost includes pipe, fittings, and fire hydrants. The cost does not include water services and meters. Unit cost is based on total street length.
Franchise Utilities and Street Lights	$130/LF	This costs includes conduit for franchise utilities, vaults and street lights. Unit cost is based on total street length.
Vehicular Bridge over Willow Creek	$1,000,000 - $1,200,000/each	Cost is for a 44 ft wide single span bridge. Costs vary with length of structure. The low end is for a 110' long bridge; high end is for a 150' long structure.
Pedestrian Bridge over Willow Creek	$65,000 – $265,000/ each	Cost is for a 10 ft wide weathering steel truss type bridge with a concrete deck. Costs vary with length of structure, which depends on where the pedestrian bridge will be located. The low end is for a 40' long structure; high end is for a 120' long structure.

Table 6: Conceptual Unit costs for North Redwood development

Table 7, below, shows the above unit prices applied to the DCP plan to arrive at a total estimated cost of development.

Item	Quantity	Unit	Unit Cost*	Total Cost
Streets	11,450	LF	$490	$5,610,500
Storm Drain	11,450	LF	$150	$1,717,500
Sanitary Sewer	11,450	LF	$130	$1,488,500
Waterline	11,450	LF	$100	$1,145000
Franchise Utilities	11,450	LF	$130	$1,488,500
Stormwater Management Facilities	56.8	Acre	$15,000	$852,000
Sanitary Sewer Pump Station	1	*Each*	$150,000	$150,000
Pedestrian Bridge	1	*Each*	$265,000	$265,000
Total Cost				***$12,717,000***

Table 7. DCP Planning Level Infrastructure Costs

**Typical subdivision costs were developed from construction costs of a recent 16.3 acre single family subdivision in Washington County. Bridge costs were developed from costs of structures of similar size and type. All costs assume dry weather construction and rock excavation is not included. Costs include 30% contingency. Costs are construction costs and do not include soft costs such as engineering and permit fees.*

Implementation and Funding

Infrastructure Funding Strategy

This section summarizes the proposed infrastructure funding strategy for the North Redwood Area. Roadway, water, sanitary sewer, and stormwater infrastructure is relatively evenly distributed throughout the area and will be built and paid for by property owners or developers who develop individual properties. By contrast, the parks planned for North Redwood are concentrated on a limited number of properties along Willow Creek. Therefore, the focus of this section is on a "district" funding strategy for the parks in North Redwood, whereby the cost of parks can be evenly distributed between all property owners. Additional analysis will likely be required following the adoption of this DCP in order to refine this funding plan, and would likely include additional park design, cost estimation, and financial analysis.

Local, Developer-Built infrastructure

Most infrastructure within the North Redwood (NR) area can be considered "local infrastructure" and is expected to be built and paid for by individual developers. This includes most of the roads, sanitary sewer, water, and stormwater infrastructure shown in the concept plans. Local infrastructure is required as a condition of development in order for homes to be built on that property, is approximately the same size and cost as the infrastructure on other properties, and largely benefits an individual's property. For example, a road on an individual's property, since that road would be required in order for development to occur.

By contrast, the focus of this funding strategy is on "district infrastructure"—infrastructure that will benefit property owners throughout the NR area but tends to be concentrated on certain properties in the area. The main district infrastructure funding concern in NR is parks. Some cost-sharing measures for local infrastructure are also discussed at the end of this section.

Parks Infrastructure

The neighborhood parks in the NR planning area can be thought of as "district infrastructure" since the parks will benefit the entire NR "district" as well as other parts of the City. However, if not addressed through a funding strategy, it is possible that the cost of providing parks could be borne by a small number of property owners along Willow Creek, while the benefits would be enjoyed by all. Therefore the project team recommends this strategy in order to more equitably spread the costs.

The North Redwood area will include the following parks:

- Willow Creek Park: This park will encompass Willow Creek and the surrounding wetlands, sloped area, and other "natural areas"—generally as defined by the Development Concept Plan (DCP), though the precise boundaries can be modified by future wetland delineations. It is likely to include a trail and a pedestrian path over the creek, and be about 8 to 9 acres in size. It is important to note that the future Willow Creek Park will be comprised almost entirely of natural or undevelopable land—i.e. land that could not be developed as housing. The value of undevelopable land is less than developable land.
- Neighborhood (or Mini) Park: This will be an "improved" or "developed" neighborhood park. While the specific improvements have yet to be designed, they may include a field, play structure, etc. The Neighborhood Park is expected to be approximately one acre in size and the precise location is flexible. The Neighborhood Park will be comprised almost entirely of developable land—i.e. land that could be developed as housing.

City Policy for Developers' Contribution to Parks

The City's established development policy is that developers are required to contribute to the City's parks system either by paying a Parks Systems Development Charge (SDC) or by dedicating parks land or improvements that are equal to the value of the SDCs owed. The City determines how the contribution will be met. SDCs are fees paid at the time of development (typically building permit application) and are currently $5,265.06 per single family unit.

The City does not always accept unbuildable or wetlands area dedications in lieu of SDC fees; however, in the case of Willow Creek Park the City's preliminary determination is that this is reasonable given the quality and importance of the wetland, and the creek's role in encouraging responsible development of the NR area.

Consistent with this policy, NR area developers shall contribute either SDC fees, park land, or improvements, as determined by the City. If the amount generated by SDCs is not adequate to build out this park or other parks, the City may want to reconsider some of its city-wide policies, or conduct another Parks SDC rate study to make sure that SDCs are adequate.

Parks Infrastructure – Basic Strategy

The basic strategy recommended here is that Parks SDC fees paid by property owners who are not dedicating land be collected into a "NR Parks SDC Account" or similar, and that these funds be used to compensate property owners who dedicate land. In order for this mechanism to work, the value of property owners' land contributions need to be established, and this process is explained below.

Density Transfer

This plan recommends that a "density transfer" mechanism be used in NR in order to compensate property owners for the value of developable land that they are dedicating to the City. This transfer can be summarized as follows and is described further in subsequent sections:

- The City will make a calculation of the amount of developable land that each property owner is required to dedicate to the City and the number of homes (rounding down) that could be built on that land given existing zoning and comprehensive plan designations.
- Property owners can then transfer and build this number of additional units onto another part of their property, or on another contiguous property in NR that they own. If property owners disagree with the City's calculation of developable land, they can propose an alternative calculation via the delineation and appraisal process described immediately below.

Note that this calculation applies to developable land only, since property owners who will be compensated for the value of undevelopable land separately (see below) are not forgoing the opportunity to develop housing by dedicating undevelopable land.

Parks Compensation Process

The following process is recommended to establish the value of individual property owners' contributions to the NR district parks:

- Property owner obtains a wetlands delineation
- Property owner obtains an appraisal of the land to be dedicated to the City for the neighborhood parks. The appraisal should document both the area and value of natural or undevelopable land to be dedicated (including wetlands and steep slopes), and the area of developable land to be dedicated.

Parks Compensation Formula

The following formula should be used in order to calculate individual property owners' net contribution to NR parks, and whether they owe additional SDCs after dedicating land, or are owed funds in the event that they have contributed more than their fair share:

Calculation

	Appraised value of natural park area
+	Appraised value of developable park area
-	Value of residential transfer from developable area
=	Value of NR Parks land dedication
-	SDCs owed
=	Net NR Parks contribution

If the Net NR Parks contribution is positive—the property owner has contributed more in park land that he or she would owe in SDCs—then the property should be compensated for this surplus contribution. If this figure is negative, the property owner still owes some or all of the typical SDCs owned.

Note that two values—the appraised value of the developable park and the value of residential transfer from the developable area—are assumed to approximately offset each other since the property owner is essentially being allowed to transfer housing development rights from one part of the property to another. The first value is a contribution by the property owner to the district, and the second is a contribution by the City to the property owner. In the event that a property owner believes that these values do not offset each other, his or her appraisal should document that.

Questions raised regarding the Parks Infrastructure Funding Process

- Differences in appraised value: In the event that appraisals obtained by the City and property owners differ in value, one option is for a third appraisal firm to resolve the difference. This is an established process in the valuation industry. Typically the third appraiser is selected and agreed upon by both parties, and the fee is paid equally by both parties.
- Will early-phase developers always be able to collect SDC funds they are owed? It is possible that "first-in" or early-phase developers could make significant land dedications before a significant amount of SDCs have been received. In this case, the early-phase developers would need to wait to be compensated for their land dedication.
- Additional Parks Funds required. It is possible that the total cost of parks will exceed the amount of compensation (SDCs and/or land dedication) owed by property owners (approximately $1.55 million or 295 units times $5,265 per unit). If this is the case, the City is expected to secure additional funds via a variety of grants (ODFW, restoration grants, SOLV, Willamette River Initiative and others), by leveraging volunteer restoration efforts, or by using additional CIP funds. The City has been successful securing such assistance in the past.
- Park maintenance. Determining a source of ongoing park maintenance funding for the parks in NR is a city-wide issue and therefore beyond the scope of this plan. However, identifying sources of ongoing, city-wide parks maintenance is high on the City's priority list, and will be important in order to ensure that the NR parks remain attractive and safe neighborhood amenities following construction.

Infrastructure Funding: Other Issues

Infrastructure Located on Property Lines

Our recommendation has been that, wherever possible, road, sewer, and water infrastructure be located entirely within one property owners' property, or straddling a property line. Where possible, infrastructure that "weaves" between different properties should be avoided; however, due to slopes and other features in the NR area, this is not always possible.

Where road, sewer, and water infrastructure straddle a property line, the cost of that infrastructure should be shared, and this sharing can be addressed in several ways:

- Property ownership consolidation may occur (e.g., developers may buy multiple properties), which eliminates the need for cost sharing.
- Infrastructure routes can be adjusted slightly to move off of property lines, as long as the routes continue to meet the intent and goals of the DCP. Methods of evaluating whether altered infrastructure routes meet the intent of the plan are being developed as part of the DCP and will be adopted as part of the City's municipal code.

- The first-in property owner/developer may build a half road. This typically includes a sidewalk and a prescribed roadway width. The second-in developer then builds the remaining roadway and sidewalk.
- Property owners have the option of forming a Reimbursement District (RD) which is described below. In Canby, the term Advance Finance Districts (AFD) has been used rather than Reimbursement District; however, in our experience the terms Reimbursement District or Assessment District are more common.

Note that in most of the cases described above, the City does not need to be highly involved or manage the cost sharing, however, this information is covered here nonetheless.

Reimbursement District

A Reimbursement District is formed when one or more capital improvements are identified by a developer or City, which will benefit development on multiple properties. A district or area boundary is defined within which properties benefit from the improvement. All benefitted property owners are assessed a pro rata fee that corresponds to the benefits they will enjoy from the improvement(s), typically on a per unit or square foot basis. These "latecomer" reimbursement fees are paid by later developers to the party that initiated the district at the time of project permitting. Districts can be initiated by either developers or the City, and must be approved by the City.

In this way, a structure can be devised whereby both first-in and later-phase developers pay the same amount. The first-in developer pays directly by building and paying for the infrastructure, and later-phase developers reimburse the initial builder.

One drawback to developer-initiated reimbursement districts is that they typically close or "sunset" after 10 to 15 years, after which no further fees can be received, and therefore the entities that pay for the capital improvement cannot be certain that they will be paid back in full; repayment depends on how fast the district develops. However, the City Council can typically extend reimbursement districts beyond this time frame.

More information and municipal code describing Reimbursement Districts can be found here:

City of Wilsonville, Section 3.116:
http://www. ci.wilsonville.or.us/DocumentCenter/View/34

Clackamas County, Sewer Assessment Districts:
http://www.clackamas.us/wes/faq.html#37

City of Grants Pass:
https://www.grantspassoregon.gov/482 Reimbursement-Districts

Pump Station

At least one wastewater pump station may be required as the project builds out. This determination is subject to variations in the specific land development patterns, site grading, and further engineering to be conducted during property development.

In the event that a pump station is required, it is likely to be a shared local infrastructure facility similar to the road, water, and sewer lines previously described. This is because the pump station would handle the wastewater from multiple properties in the district, but would be located on a specific property owners' site and potentially be paid for by a specific property owner.

If a pump station is required, a Reimbursement District or other agreement between several different property owners would be appropriate mechanisms to share costs.

Stormwater

Finally, per the DCP, property owners will likely have the option to either manage stormwater runoff via detention ponds or swales on their property, or through shared facilities that would handle runoff from multiple properties.

From a financial point of view, it will likely be simpler for developers to build their own stormwater facilities. However, property owners could create reimbursement districts or inter-property owner agreements as described above, such that later-in property owners reimburse first-in property owners for an appropriate share of the cost of stormwater detention facilities.

Appendices

Appendix B: Phasing

There are many different ways in which this DCP could proceed. **Development of the community will depend primarily on how property owners in the area proceed based on their willingness to develop, market readiness and availability of financing.**

Some owners towards the center and east of the study area may not be able to develop until other parcels closer to North Redwood Street proceed. Such timing issues can potentially be resolved through a Development Agreement between different parties, which would presumably incorporate agreements on shared funding of major streets and infrastructure.

The following pages demonstrate how the study area could theoretically develop in three broad phases, beginning along North Redwood and proceeding eastward. The figures show new streets for each phase in purple. Larger investments in parks, open spaces and trails would wait until development reached those areas and more units have paid into a fund to finance public improvements.

Another approach would suggest that properties along Willow Creek are the most valuable and could develop first. This would require extension of roadways deep into the study area, potentially without adjacent development. The value of the larger lots along the Creek may outweigh this disadvantage. Development of the area east of Willow Creek could proceed independently of the timing of changes on the west bank. The key triggers to development east of the creek will be agreement with UPRR on an emergency crossing and finalizing the connection to Teakwood Road.

Regardless of what phasing approach is pursued by property owners, there are a number of actions that should be pursued prior to development. These include:

1. **Property owner agreement on pursuing annexation**
2. **Annexation vote**
3. **Finalize funding plan and developer agreement between majority of property owners**
4. **Refinement of DCP, updated as property owners refine individual plans**
5. **Initial utility design and mass grading plan**
6. **Access planning and design for UPRR crossing, Teakwood access and new intersections on North Redwood**
7. **Restoration plan for Willow Creek**
8. **Design and land acquisition for North Redwood widening, to collector standard**

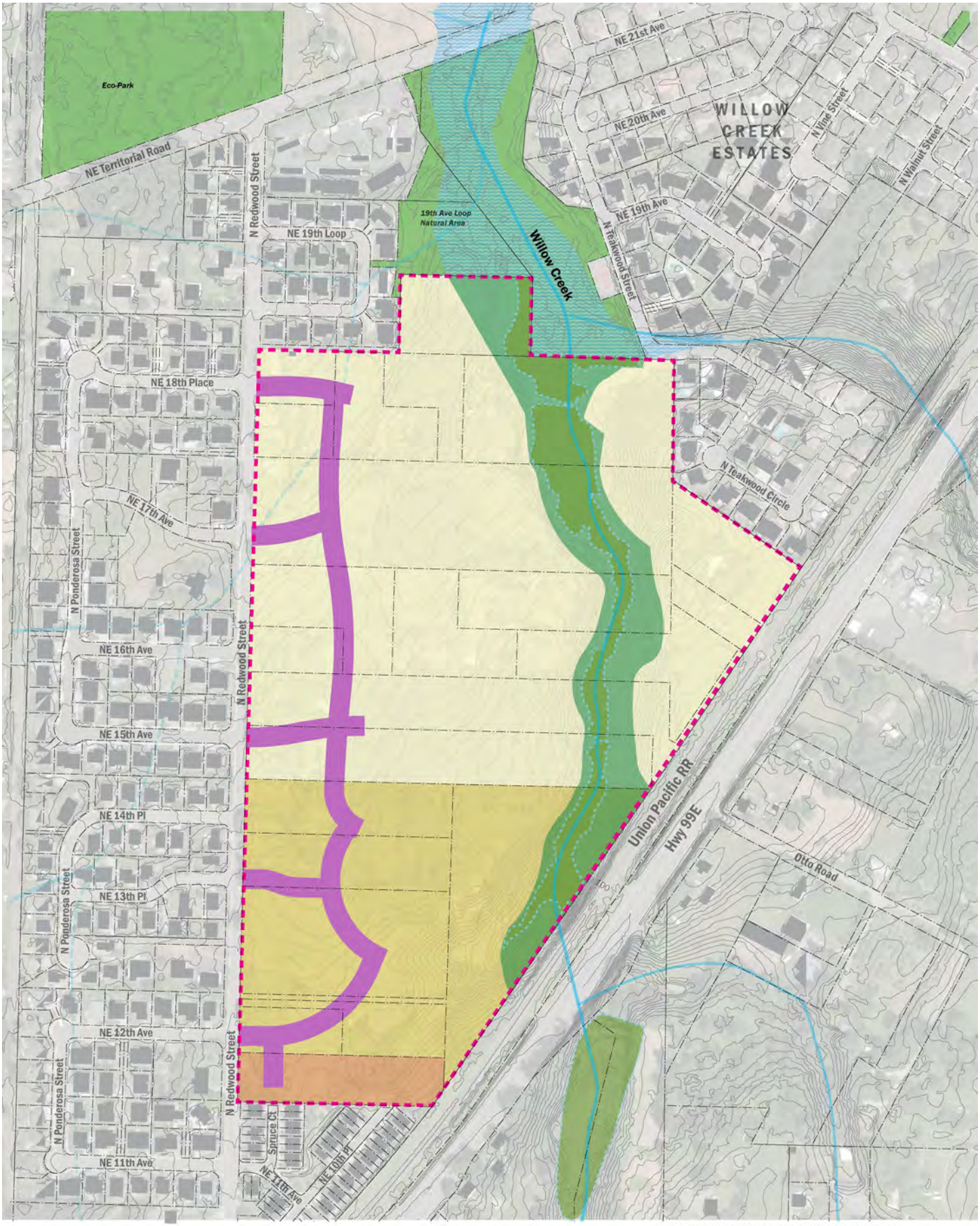


Figure A-1: DCP Conceptual Phase 1

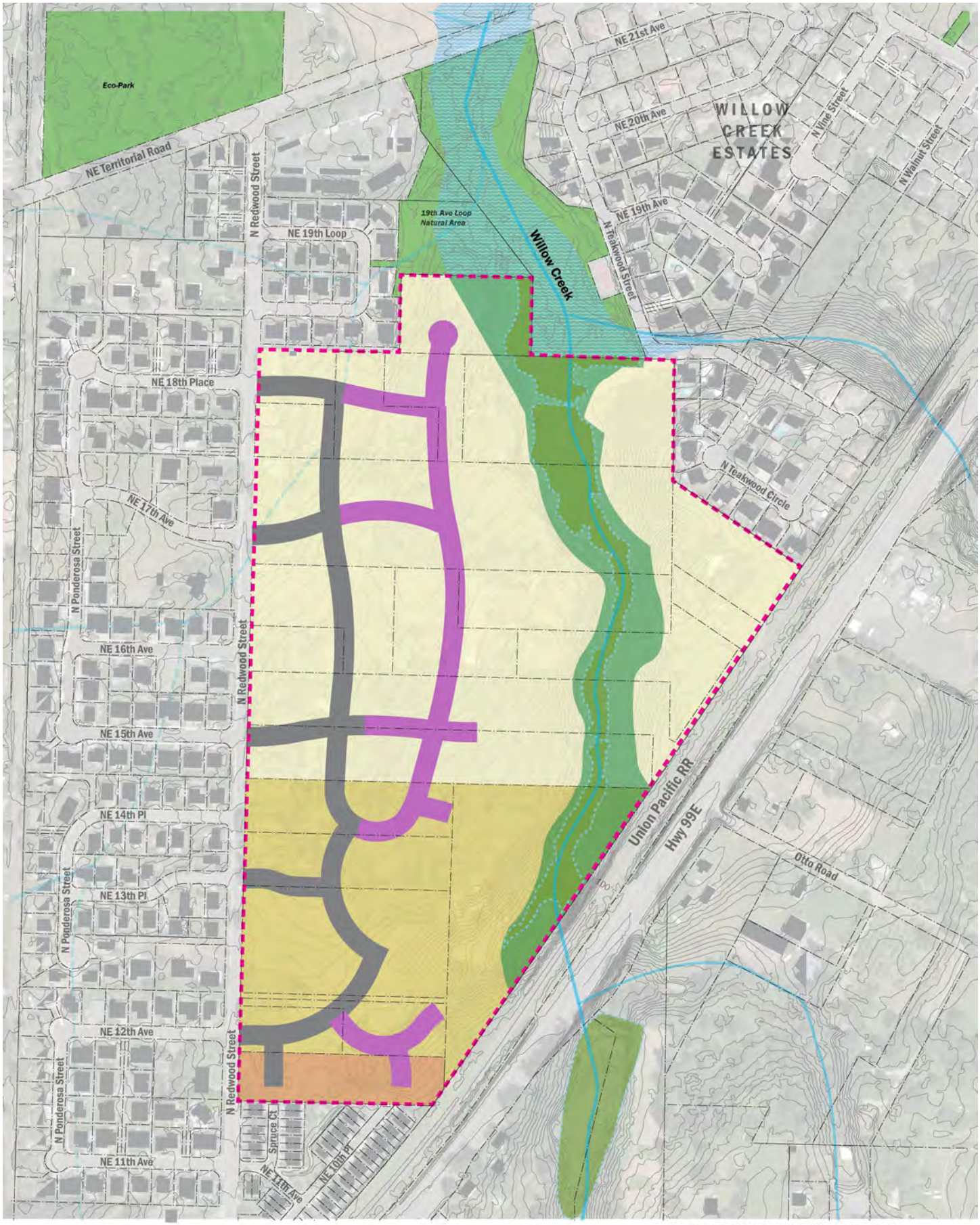


Figure A-2: DCP Conceptual Phase 2

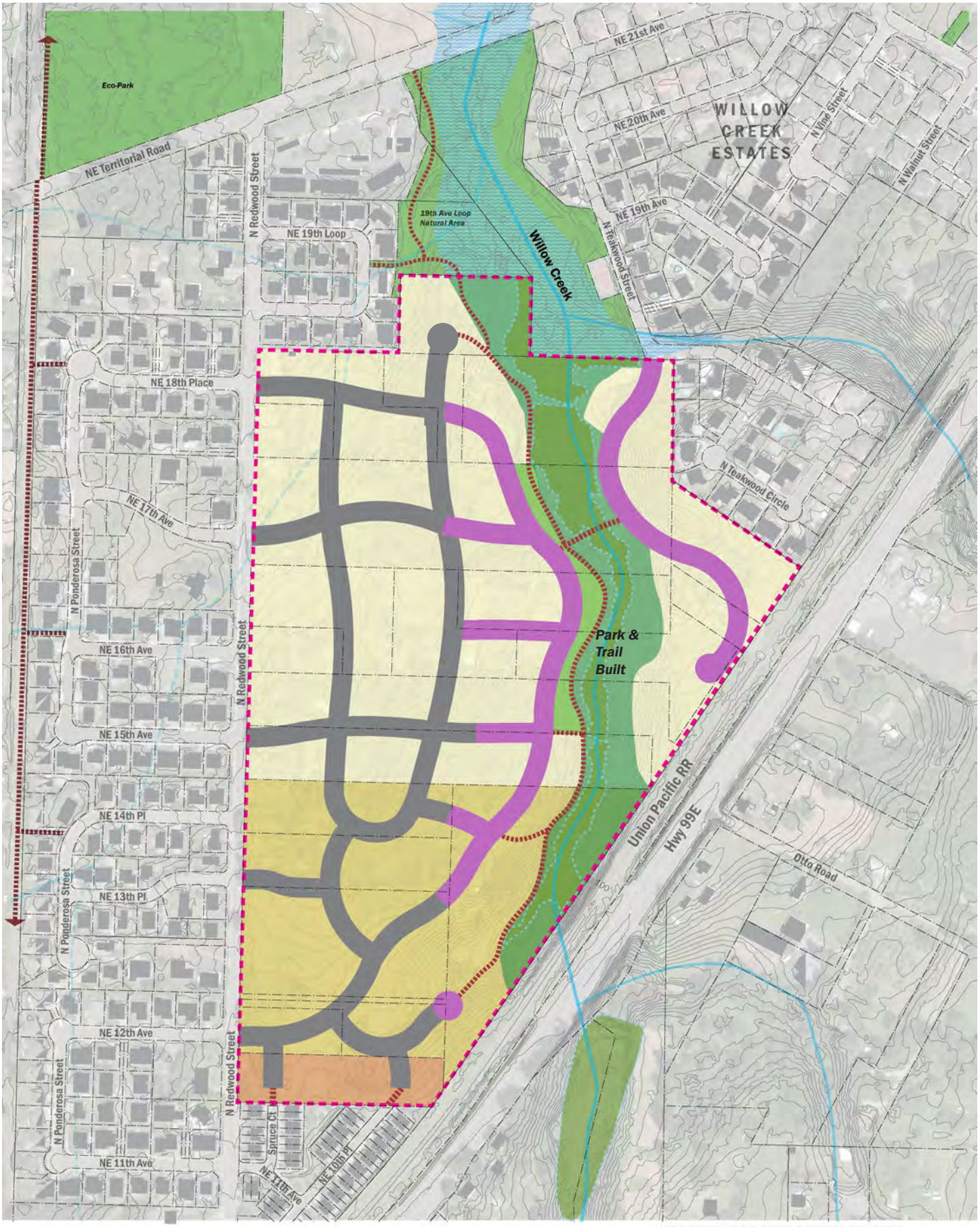


Figure A-3: DCP Conceptual Phase 3 (Final)

Appendix B: Meeting Notes & Memos

There are a number of supporting memos and meeting minutes that can be consulted as background information for this DCP. These files are included as a combined Appendix B in un-numbered pages as part of a PDF available at the CIty of Canby.

Project Memos:

Memo #1: Project Planning and Implementation

Memo #2: Existing Conditions

Memo #3: Development Rights and Best Development Practices

Memo #4: Evaluation Criteria

Memo #5: Alternative DCPs

Project Website Input (Deliverable 1D)

Comprehensive Plan and Zoning Amendments Memo

Funding Evaluation

Meeting Notes:

Stakeholder Interview Summary (Deliverable 2D)

Project Management Team (PMT) #1

Project Management Team (PMT) #2

Project Management Team (PMT) #3

Project Management Team (PMT) #4

Committee Meeting Notes:

Technical Advisory Committee (TAC) #1
Stakeholder Advisory Committee (SAC) #1

TAC/SAC Presentation and Notes

Technical Advisory Committee (TAC) #2
Stakeholder Advisory Committee (SAC) #2

TAC/SAC Presentation and Notes

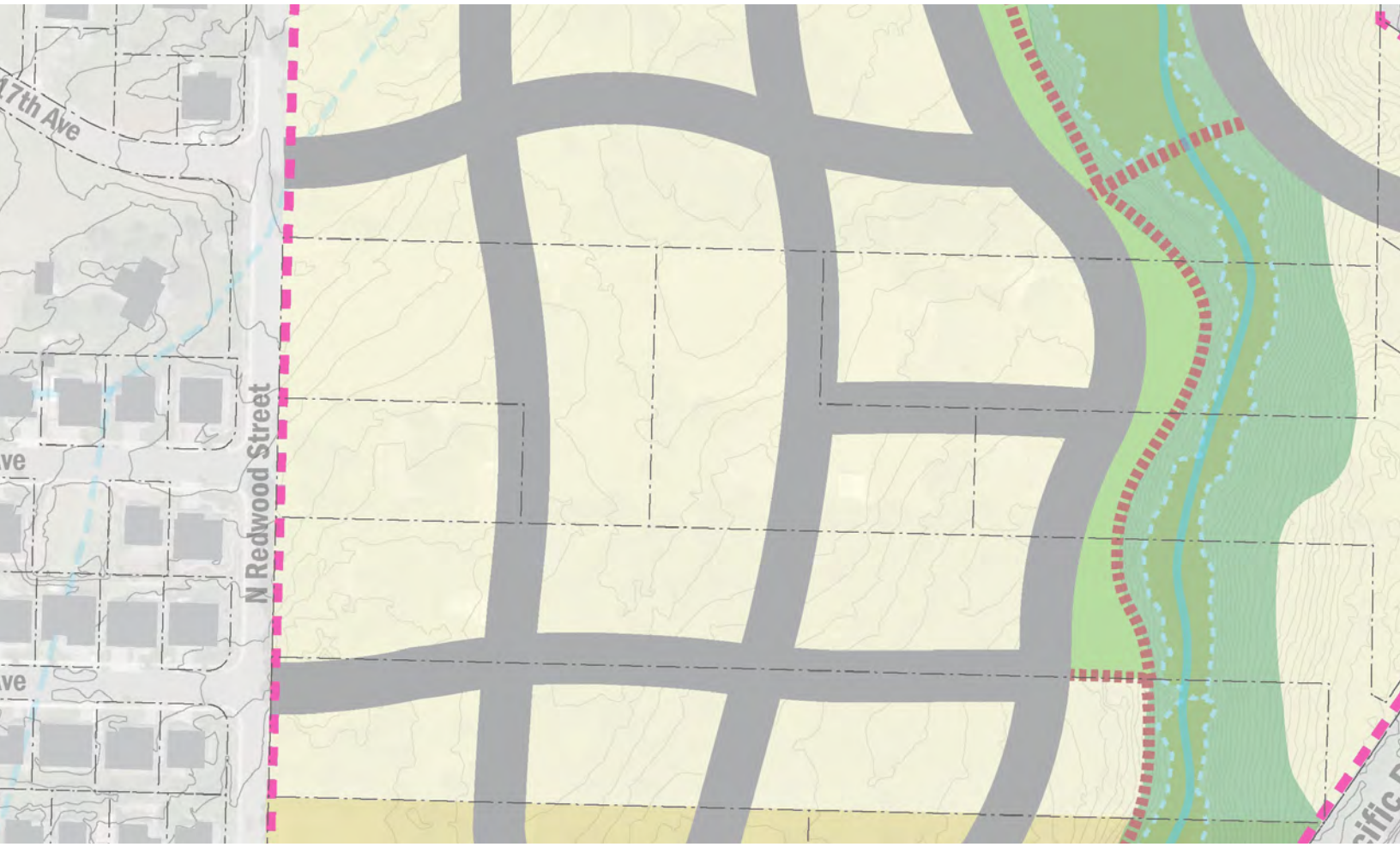
Stakeholder Advisory Committee (SAC) #3
Technical Advisory Committee (TAC) #3

Combined TAC/SAC Presentation and Notes

Public Event Summaries/Materials:

Public Event #1

Public Event #2


17th Ave
N Redwood Street

January 15, 2021

CURRAN-McLEOD, INC.
CONSULTING ENGINEERS
6655 S.W. HAMPTON STREET, SUITE 210
PORTLAND, OREGON 97223

MEMORANDUM

TO: Public Comments
City of Canby

FROM: Hassan Ibrahim, P.E.
Curran-McLeod, Inc.

RE: **CITY OF CANBY**
REDWOOD LANDING SUBDIVISION PHASE 3

We have reviewed the submitted preliminary plans on the above noted project and have the following comments:

1. N Redwood Street is under Clackamas County jurisdiction and classified in the City Transportation System Plan and the County as a collector road, the total half right-of-way (ROW) width shall be 30 feet. The half street improvements along the entire site frontage shall meet County Standards with half street paved width surface of 18–foot measured from the centerline ROW. The improvements shall also include curb and gutter, 5-foot planter strip, 6 feet wide concrete sidewalks, dual ADA ramps, streetlights, utilities as required. Clackamas County approval will be needed for those improvements. A minimum of 8 feet wide public utility easement or width as required by Canby Utility abutting the right-of-way will also be required.

2. NE Sycamores Street shall be designed to City local street standards with 34-foot paved width, curb and gutter, 4.5' planters, 6' sidewalks, streetlights, 12 feet wide public utility easement and utilities in conformance with Chapter 2 of the City of Canby Public Works Design Standards, dated June 2012.

3. Commercial driveway approaches shall be constructed at the private entrances abutting NE Sycamores Street in conformance with City standard detail 104 and shall meet current PROWAG guidelines.

4. Sight distance by a registered professional engineer shall be verified at all intersections during the final design process.

5. The three private streets (Tracts A, B & C) shall be constructed and approved by Canby Fire Department meeting their standard requirements.

6. Street trees shall be selected from the City approved tree list. The street tree ordinance requires the developer to pay the City $250 per tree for installation and two (2) year period maintenance, the property owners will take over all of the responsibilities after that date.

7. The developer's design engineer will be required to submit as part of the construction plans a signing and striping plan. All street names and traffic signs shall be installed by the developer at his expense and as part of this development. The City may supply the required traffic and street name signs based on a mutually agreed cost.

8. A demolition permit will be required from Clackamas County prior to demoing the existing structures on-site.

9. An erosion control permit will be required from the City of Canby prior to any on-site disturbance.

10. Any existing domestic or irrigation wells shall be abandoned in conformance with OAR 690-220-0030. A copy of WRD abandonment shall be submitted to the City.

11. Any existing on-site sewage disposal system shall be abandoned in conformance with Clackamas County WES regulations. A copy of the septic tank removal certificate shall be submitted to the City.

12. All private storm located within the private tracts A, B & C and outside NE Sycamores Street will require a separate plumbing permit from Clackamas County.

13. All private storm drainage runoff generated from the lots shall be discharged on-site as per Chapter 4-4.113 of the City of Canby Public Works Design Standards dated June 2012. All private UIC facilities shall be Rule Authorized by Department of Environmental Quality (DEQ).

14. Storm drainage analysis were not submitted as part of this application. The developer's engineer will be required to demonstrate how the storm runoff generated from the new impervious surfaces will be disposed using field measured infiltration rates. If drywells (UIC) are used as a means to discharge storm runoff from the private streets, they must meet the following criteria: The UIC structures location shall meet at least one of the two conditions: (1) the vertical separation distance between the UIC and seasonal high groundwater is more than 2.5 feet or (2) the horizontal separation distance between the UIC and any water well is a minimum of 267 feet in accordance of the City of Canby Stormwater Master Plan, Appendix "C", Groundwater Protectiveness Demonstration and Risk Prioritization for Underground Injection Control (UIC) Devices. The storm drainage report shall be in conformance with the requirements as stated in Chapter 4 of the City of Canby Public Works Design Standards dated June 2012.

15. The sanitary sewer mains in the private tracts A, B & C can be public lines but the service laterals will be entirely private between the main line and each residence. A blanket access and maintenance easement dedicated to the City of Canby will be required.

Should you have any questions or need additional information, please let me know.

CLACKAMAS COUNTY

DAN JOHNSON
DIRECTOR

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DEVELOPMENT SERVICES BUILDING
150 BEAVERCREEK ROAD OREGON CITY, OR 97045

MEMORANDUM

TO: City of Canby Planning Department

FROM: Jonny Gish Private Development Engineering

DATE: 1/21/2021

RE: Redwood Landing III
31E34B 00300, 301, 302

Clackamas County Development Engineering staff has visited the site and reviewed this application with the attached site plan. We have the following comments:

Facts and Findings:

The applicant has proposed a 44-lot subdivision, along N Redwood St which is under the jurisdiction of Clackamas County. N Redwood St is classified as an Urban Collector, and has been constructed to City standards with previous developments to the north.

The applicant is proposing a local City Street intersection with N Redwood St directly across from NE 12th Ave. Clackamas County *Roadway Standards* requires a minimum of 150 access spacing for Collectors with in the Urban Growth Boundary measured from centerline-to-centerline.

In accordance with Clackamas County *Roadway Standards* single-family driveways shall take access from the local roadways where feasible and should not directly access collector or arterial roadways unless there is no reasonable alternative. A plat note will be required restricting all lots fronting N Redwood St from vehicular access without jurisdictional approval.

The applicant will be required to dedicate sufficient right-of-way for a minimum 30-foot half-street right-of-way along N Redwood St in addition to an 8-foot public utility and sidewalk easement. All existing and proposed easement shall be shown on the approved plat.

The applicant will be required to design and construct half-street improvements along the entire frontage of N Redwood St. These improvements shall include a minimum of 18-feet of asphalt pavement, standard curb or curb and gutter (when less than 1% running slope), 5-foot planter strip with street trees, 5-foot sidewalk. Additional grind and inlay maybe required for utility trenches outside the limits of the proposed development.

The applicant will be required to design and construct stromwater drainage facilities consistent with Clackamas Water Environment Services and Clackamas County *Roadway Standards*

Chapter 4 requirements. Clackamas County only allows water quality within the planter strip without local jurisdictional maintenance agreements and no detention within the County right-of-way is permitted.

All utility connections and upgrades within County right-of-way will be required to be shown on the approved plans. Plans submittals will be required to be consistent with section 140 of the *Roadway Standards*. Pavement restoration for utility trenches outside of the frontage improvements will be required to meet Chapter 7 of the Roadway Standards.

The proposed new city street providing access to the proposed 44-lot subdivision will be required to provide a minimum intersection sight distance based on the travel speed of the roadway. N Redwood St has a posted speed limt of 25 miles per hour. Therefore, the proposed City Street requires a minimum of 280 feet of intersection sight distance north and south bound along N Redwood St.

The proposed City Street will be required to have an intersecting angle of not less than 80 percent and not more than 100 degrees and have a radius of 20 feet at the intersection with N Redwood St.

The applicant will be required to provide an independent primary inspector consistent with Clackamas County *Roadway Standards* Section 180. The applicant will also be required to enter into a Developer/Engineer Agreement prior to Development Permit issuance for primary inspection services and provide a Certificate of Compliance and Completion prior to final inspection and electronic submittal of as-built plans.

Section 190 of the Clackamas County *Roadway Standards* require developments to meet Substantial Completion requirements prior to final plat approval. The applicant will be required to complete all frontage improvements and provide a maintenance and warranty bond for work completed and performed within existing county right-of-way.

Conclusion:

The preface language in the three paragraphs which follow this paragraph shall not be interpreted as a condition of approval or included by Planning staff as a condition of approval.

If the City of Canby approves the request, the following conditions of approval are recommended. If the applicant is advised to or chooses to modify the proposal in terms of access location and or design following the preparation of these comments the County requests an opportunity to review and comment on such changes prior to decision being made.

The following items are project requirements from the Department of Transportation and Development's Development Engineering Division. These conditions of approval are no intended to include every engineering requirement necessary for the successful completion of this project, but are provided to illustrate to the applicant specific details regarding the required improvements that my prove helpful in determining the cost and scope of the project. These conditions are based on upon the requirements detailed in the Clackamas County Roadway Standards. Additional requirements beyond those stated in the conditions of approval may be required. The applicant may discuss the requirements of the project with County staff at any time.

The requirements detailed in these conditions of approval, derived from the Development Standards, are based upon nationally accepted standards and engineering judgement and may be modified pursuant to Section 170 of the roadway Standards. The applicant is required to provide sufficient justification to staff in the request. Staff shall determine if a modification is warranted.

Recommended Conditions of Approval:

1. **Prior to site improvements:** a Development Permit is required from the Engineering Department for review and approval of frontage improvements, erosion control Best Management Practices implemented, sight distances and City Street access. The permit shall be obtained prior to commencement of site work. To obtain the permit, the applicant shall submit construction plans prepared and stamped by an Engineer registered in the State of Oregon, provide a performance guarantee equal to 125% of the estimated cost of the construction within existing County right-of-way and pay a plan review and inspection fee. The fee will be calculated as a percentage of the construction costs if it exceeds the minimum permit fee. The minimum fee and the percentage will be determined by the current fee structure at the time of the Development Permit Application.

2. **Prior to Substantial Completion and approval of final plat:** all required improvements for N Redwood St shall be designed, constructed, inspected and approved pursuant to Clackamas County *Roadway Standards*

3. **Prior to Final Plat approval:** The plat shall provide a note that lots 1, 41, 42, 43 and 44 shall not have vehicular access to N Redwood St without jurisdictional approval.

4. **Prior to Final Plat approval:** The applicant shall establish centerline and dedicate sufficient right-of-way to ensure a minimum of 30-foot half-street along the entire frontage of N Redwood St. The right-of-way and width shall be verified by a professional surveyor to the satisfaction of DTD Engineering and County Survey Departments

5. **Prior to Development Permit issuance:** The applicant shall submit approvable plans prepared by an Engineer registered in the State of Oregon for improvements along N Redwood St showing:
    a. 18 feet of asphalt (structural section to meet C100)
    b. .5 feet Curb or curb and gutter
    c. 5 foot landscape strip with street trees
    d. 5 foot unobstructed ADA compliant sidewalk
    e. Curb return at City Street with minimum 20 foot radius
    f. Off-site asphaltic tapers shall be provided in accordance with *Roadway Standards* Section 250.6.4

6. **Prior to Development Permit issuance:** Obtain utility permits from local utilities for water supply, sanitary and storm sewer, gas and telecommunication. Show upgrades on submitted plans and how new utilities are compatible with current and future development. Where

mailboxes, fire hydrant, utility poles, etc must be located within the limits of the sidewalk, an eyebrow shall be constructed so the full unobstructed width of the sidewalk is provided. Additional easements shall be granted to provide for any sidewalk eyebrows.

7. **Prior to Development Permit issuance:** The applicant shall design and construct ADA compliant ramps at the NE and SE corner of N Redwood St and proposed City Street. The applicant shall also provide an ADA compliant ramp where the sidewalk does not connect to an existing sidewalk on adjacent property.

8. **Prior to Final Inspection:** the applicant shall provide and maintain minimum intersection sight distances at the proposed shared private road intersection with City Street. Intersection sight distance shall restrict plantings at maturity, retaining wall, embankments, trees, fences or any other objects that obstruct vehicular sight distance. Minimum required intersection sight distance is 280 feet to the north and south along N Redwood St.

Laney Fouse

From: Matt English <menglish@canbyfire.org>
Sent: Saturday, January 16, 2021 10:07 AM
To: Erik Forsell
Cc: CSnuffin@co.clackamas.or.us; engineering@directlink.coop; derkson@canbyutility.org; hai@curran-mcleod.com; Jerry Nelzen; Laney Fouse; Jim Davis
Subject: Re: [External] SUB 20-04 - Redwood Landing III / Request for Comments

Hello Eric,

Hydrants:
One at each tract entrance.
Blue reflector at centerline of street to denote hydrant location.
Red curb painting to extend 10 feet minimum beyond hydrant on frontage street To ensure that we don't have any vehicles parked too close for Fire Operations and visibility.

Each private drive track will need to be a fire lane.
The 26 feet is the bare minimum for us to set up a truck for fire Operations.
Red curb on each side of the street with no parking fire lane painted in white and signage.
* Appendix D Oregon fire code.

Please reach out to me specifically anytime we have these narrower streets for planning.
For Fire Department access-
These narrow streets make it very difficult for Canby Fire's response to Fire Operations.

Thank you-
Matt English
DC / Paramedic
Canby Fire District

503 878 0187
Station number 503 266 5851
Fax 503 266 1320

> On Jan 8, 2021, at 1:40 PM, Erik Forsell <ForsellE@canbyoregon.gov> wrote:
>
> [City of Canby]
> [Blue Seal copy]
> [Development Services Department]

1-20-2021

Comments from DirectLink for Redwood Landing III:

- DirectLink services will be available through the development. We do not charge a development fee.

- The Developer/Owner is responsible for providing DirectLink a copy of the power design with adequate time for DirectLink to put together a design. DirectLink will follow the power design as much as possible to minimize trenching; however, additional trenches may be required for communication facilities. We will notify you if any extra trenches are needed after we review a copy of the power trenches.

- The Developer/Owner is required to provide 4" Schedule 40 PVC sleeves for all road crossing. DirectLink requires (2) 4" Schedule 40 PVC sleeves per road crossing. Developer is responsible for placement and material for the 4" Schedule 40 PVC sleeves.

- The Developer/Owner is required to provide open trenches for all underground communication facilities from an existing connection point and throughout the development. DirectLink will place and provide all materials for the open trenches.

- Please call 503-266-8242 as soon as you have the utility trenching schedule to be open. DirectLink requires at least a week prior notice before placing material into an open trench.

- If temporary service is required for the construction site, please contact our Customer Care Center to place an order. All temporary service work is bill on a time and material bases.

Contact Information:

Engineering Manager	Eric Kehler	503-266-8223
Construction Inspector	Matt Downs	503-266-8252
DirectLink Engineering	engineering@directlink.coop	
Customer care center		503-266-8111
Open trench hotline		**503-266-8242**

BEFORE THE PLANNING COMMISSION
OF THE CITY OF CANBY

A REQUEST FOR SUBDIVISION	**)**	**FINDINGS, CONCLUSION & FINAL ORDER**
	)	**SUB 20-04**
		REDWOOD LANDING 3
	)	
	)	

NATURE OF THE APPLICATION

The applicant requests approval to subdivide three parcels described as Tax Lots 300, 301 and 302 in Clackamas County Assessor's map 31E34B comprising approximately ±4.59-acres into 44 separate legal lots. The lots are proposed to contain a mixture of single family attached and detached structures. The subject properties are zoned R-1.5 and R-2, Medium Density Residential and High Density Residential respectively, consistent with the Canby Municipal Code.

HEARINGS

The Planning Commission considered application **SUB 20-04** after the duly noticed hearing on February 8, 2021 during which the Planning Commission approved **Redwood Landing 3 (City File SUB 20-04** by a vote of __/__. These Findings are entered to document the approval.

CRITERIA AND STANDARDS

In judging whether or not the aforementioned application shall be approved, the Planning Commission determines whether criteria from the City of Canby Land Development and Planning Ordinance are met, or can be met by observance of conditions. Applicable code criteria and standards were reviewed in the Staff Report dated January 27, 2021 and presented at the February 8, 2020 meeting of the Canby Planning Commission.

FINDINGS AND REASONS

The Staff Report was presented, and written and oral testimony was received at the public hearing. Staff recommended approval of the Subdivision application and applied Conditions of Approval in order to ensure that the proposed project will meet all required City of Canby Land Development and Planning Ordinance approval criteria.

CONCLUSION

In summary, the Planning Commission adopted the findings contained in the Staff Report, concluding at the public hearing and noted herein, that the application met all applicable approval criteria, and

recommending that **Redwood Landing 3 (City File SUB 20-04)** be approved with the Conditions of Approval reflected in the written Order below.

ORDER

The Planning Commission concludes that, with the following conditions, the application meets the requirements for Site and Design Review approval. Therefore, IT IS ORDERED BY THE PLANNING COMMISSION of the City of Canby that **Redwood Landing 3 (City File SUB 20-04)** is approved, subject to the following conditions:

CONDITIONS OF APPROVAL

A. General Process / Informational

1. The Planning Commission can impose conditions that are not stated in this staff report as outright conditions of approval. (Canby Planning – EF)
    a. Solar Easements. Subdividers shall be encouraged to establish solar easements and utilize appropriate solar design in their development proposals. Solar easements shall be shown on the final plat and in the deed restrictions of the subdivision. The Planning Commission may require the recordation of special easements or other documents intended to protect solar access. (Ord. 740 section 10.4.40(C)(3), 1984; Ord. 1043 section 3, 2000; Ord 1237, 2007; Ord. 1338, 2010; Ord. 1340, 2011)
    b. Future Extension of Streets. Where a subdivision adjoins unplatted acreage, streets which in the opinion of the commission should be continued in the event of the subdivision of the acreage, will be required to be provided through to the boundary lines of the tract. Reserve strips, street plugs and temporary turnaround areas may be required to preserve the objectives of street extensions. Reserve strips and street plugs shall be deeded to the city prior to final plat approval. The Planning Commission may require that the costs of title insurance and recordation fees, if any, for such areas be borne by the subdivider. If, in the opinion of the city engineer, a traffic pedestrian, or safety hazard temporarily exists by the construction of a dead-end street, he may direct that a barricade of adequate design be installed at the developer's expense as one of the required improvement items for the subdivision.
2. If any alternative permeable surfaces be proposed to address lot coverage or otherwise provide LID Stormwater benefits, that they shall meet the approval of the Public Works Department.

B. Public Improvements

3. Prior to the start of any public improvements work, the applicant shall schedule a pre-construction conference with the City Of Canby and obtain construction plans sign-off from all applicable reviewing agencies. (Canby Planning – EF)
4. All site development shall comply with all applicable City of Canby Public Works Design Standards. (City Engineer – HI/Public Works – JN)

Fees/Assurances**:**

5. All public improvements are typically installed prior to the recordation of the final plat. If the applicant wishes to forgo construction of any portion of the public improvements until after the recordation of the final plat, then the applicant shall provide the City with appropriate performance security (subdivision performance bond or cash escrow) in the amount of 125% of the cost of the remaining public improvements to be installed. (City Engineer – HI/Public Works – JN/Canby Planning - EF)
6. If the applicant chooses to provide a subdivision performance bond for some or all of the required public improvements, the applicant shall obtain a certificate from the city engineer that states:
    a. The applicant has complied with the requirements for bonding or otherwise assured completion of required public improvements.
    b. The total cost or estimate of the total cost for the development of the subdivision is to accompany a final bid estimate of the subdivider's contractor if a contractor has been engaged to perform the work. The certificate of the total cost estimate shall be approved by the city engineer. (City Engineer – HI)
7. The applicant shall guarantee or warranty all public improvement work with a one (1) year Subdivision Maintenance Bond following written notice of acceptance by the city to the developer in accordance with Section 16.64.070(P) of the *Ordinance.* (Public Works – JN/Canby Planning – EF)
8. The applicant shall pay the city of Canby Master Fee authorized engineering plan review fee equal to 2% of public improvement costs prior to the construction of public improvements (approval of construction plans). (Canby Planning – EF)

C. Streets, Easements, Signage & Striping:

9. Prior to site improvements a development permit is required from the Clackamas County Engineering Department for review and approval of N. Redwood frontage improvements, erosion control Best Management Practices, sight distances and City street access. The permit shall be obtained prior to the commencement of site work. To obtain the permit, the applicant shall submit construction plans prepared and stamped by an Engineer registered in the State of Oregon, provide a performance guarantee equal to 125% of the estimated cost of the construction within existing County right-of-way and pay a plan review and inspection fee. The fee will be calculated as a percentage of the construction costs if it exceed the minimum permit fee. The minimum fee and the percentage will be determined by the current fee structure as the time of the Development Permit Application. (Clackamas County Engineering – JG)
10. The applicant shall establish centerline and dedicate sufficient right-of-way to ensure a minimum of 30-foot half street along the entire frontage of N. Redwood Street. The right-of-way width shall be verified by a professional surveyor to the satisfaction of DTD engineering and County Surveyor. (Clackamas County Engineering – JG)
11. The applicant shall construct / dedicate the entire half right-of-way of N Redwood Street with half street improvements along the entire street frontage. These improvements shall meet County and City standards for:
    a. Half street paved width surface of 18 feet measured from centerline (structural section to meet C100)

b. The improvements shall include .5 feet curb and gutter
c. 5-foot planter strip with street trees
d. 6-foot wide concreted sidewalks
e. Dual ADA ramps
f. Streetlights, and utilities as required
g. An asphaltic taper of 10:1 shall be constructed to match existing surface. *Roadway Standards* section 250.6.6
h. A minimum of 8-foot wide public utility easement or width as required by Canby Utility abutting the right-of-way is also required.
i. Curb return at City Street with minimum 20 foot radius (Clackamas County Engineering – JG / City Engineer – HI)

12. NE Sycamore shall be designed to City local street standards with 34-foot paved width, formed concrete curbs and gutters, 4.5-foot wide planter strip with street trees, 6-foot wide concrete sidewalks, street lights and utilities in conformance with Chapter 2 of the City of Canby Public Works Design Standards, dated February 2020. The City Engineer shall determine compliance with this condition. (City Engineer – HI)

13. Commercial driveway approaches shall be constructed at the private entrances abutting NE Sycamore Street in conformance with City standard detail 104 and shall meet PROWAG guidelines.

14. The three private streets (Tracts A, B, and C) shall be constructed and approved by Canby Fire Department meeting their standard requirements.

15. All interior street corners shall have ADA ramps and at least one ADA ramp across the street to facilitate pedestrian crossings and shall be constructed as part of this development in conformance with PROWAG guidelines. (City Engineer – HI)

16. All interior street names and traffic signs shall be installed by the developer as part of this development. The developer's design engineer will be required to submit as part of the construction plans, a signing and striping plan. The City may supply the required traffic and street name signs based on a mutually agreed cost. (City Engineer – HI)

17. Sight distance by a registered professional engineer shall be verified at all access points and documented as per the Transportation Impact Analysis, dated May 2020 and prepared by DKS Associates. (City Engineer – HI)

18. Temporary fire truck turnarounds shall be constructed at the terminus of NE Sycamore The geometric turnaround and location shall meet the City of Canby Fire department requirements. The City Engineer, in conjunction with Canby Fire District, shall determine compliance with this condition. (City Engineer – HI / Canby Fire District – ME)

19. The applicant shall provide, and have approved, a truck haul route, with flaggers if deemed necessary, for all construction activity at said development site. The haul route shall be approved at the time of the pre-construction meeting by the Public Works Department. (County Transportation – JG/Public Works – JN)

D. Grading and Erosion Control/Demolition:

20. The applicant shall obtain an Erosion Control permit from the City of Canby prior to any on-site disturbance. (City Engineer/Canby Public Works – HI)

21. The applicant shall obtain a demolition permit from Clackamas County, (with a release for permit from Canby Planning) prior to demolition of on-site existing structures. (City Engineer – HI/Canby Public Works/Canby Planning – EF)

22. The applicant shall obtain a grading permit from Clackamas County prior to any on-site disturbance and provide the City proof of permit. (Clackamas County/Coordination with City Public Works – JN)

E. Street Trees:

23. The applicant shall be responsible for selecting street trees from the City approved tree list. The developer shall pay the City $250 per street tree installation typically prior to home occupancy with (2) years of city maintenance, prior to final plat recordation. Property owners shall take over all responsibility of said street trees after the two (2) year period lapses. Canby Public Works in conjunction with Canby Planning, shall determine compliance with this condition. (Public Works - JN / Canby Planning - EF)

F. Sewer and Storm Drainage:

24. All private storm drainage discharge shall be disposed on-site, design methodology shall be in conformance with the City of Canby Public Works Design Standards, February 2019 All private UIC facilities shall be Rule Authorized by the Department of Environmental Quality. The City Engineer and Public Works shall determine compliance with this condition. (City Engineer – HI/Public Works - JN)

25. The applicant shall be required to submit a Storm Drainage Report that provides detailed analysis as part of the storm report. The developer's engineer shall demonstrate how the storm runoff generated from the new impervious surfaces will be disposed of. If drywells (UIC) are used as a means to discharge storm runoff from the private streets, they must meet the following criteria:

    a. The UIC structures location shall meet at least one of two conditions:

        i. The vertical separation distance between the UIC and seasonal high groundwater is more than 2.5 feet or;

        ii. The horizontal separation distance between the UIC and any water well is a minimum of 267 feet in accordance with the City of Canby Stormwater master Plan, Appendix "C", Groundwater Protectiveness Demonstration and Risk Prioritization of Underground Injection Control (UIC) Devices.

    The storm drainage report shall be in conformance with the requirements as stated in Chapter 4 of the City of Canby Public Works Design Standards, dated February, 2019. The City Engineer and Public Works shall determine compliance with this condition. (City Engineer – HI/Public Works JN)

26. The applicant shall be responsible for the abandonment of any existing on-site domestic or irrigation wells in conformance with OAR 690—220-0030. A copy of the Oregon Water Rights Department (OWRD) Certificate shall be submitted to the City with the final plat application. The City Engineer and Public Works shall determine compliance with this condition (City Engineer – HI/Public Works - JN)

27. The applicant shall be responsible for the abandonment of any existing on-site sewage disposal system, in conformance with DEQ and Clackamas County Water Environmental Services (WES) regulations. A copy of the septic tank removal certificate shall be submitted to the City. The City Engineer and Public Works shall determine compliance with this condition. A copy of the SDS decommissioning shall be supplied with the final plat application. (City Engineer – HI/Public Works - JN)
28. The sanitary sewer mains in tracts A, B and C may be pubic lines but the service laterals will be entirely private between the main line and each residence. A blanket access and maintenance easement dedicated to the City of Canby is required.

G. Water & Electric Utility Services

29. Water services shall be constructed in conformance with Canby Utility's standards and specifications. Canby Utility, in conjunction with the City Engineer shall determine compliance with this condition. (City Engineer – HI/Canby Utility-JS)
30. The applicant shall submit drawings for all project water lines to Canby Utility for review and approval. Submittal shall meet the requirements of Canby Utility as well as the State of Oregon's requirements. Canby Utility shall determine compliance with this condition. (Canby Utility – JS)
31. Canby Utility, in coordination with the applicant will determine the electrical system layout to serve the subdivision. This shall include required streetlight placement which shall be represented on a utility service page of the construction plans for the subdivision by the applicant. Canby Utility shall determine compliance with this condition. (Canby Utility – JS)
32. The applicant shall schedule all water and electric utility construction and inspections at least 15-days in advance. Contact Canby Utility Operations Field Supervisor at 503-263-4331.
33. The applicant shall be required to provide 4-inch Schedule 40 PVC sleeves for all road crossings for DirectLink services where applicable. The applicant shall work with DirectLink for coordination of all sleeves and required open trenching scheduling for said communication facilities. DirectLink shall determine compliance with this condition. (Contact DirectLink at 503-266-8242)

H. Fire Protection

34. All fire protection apparatus's such as fire hydrants placement and location shall be placed in accordance with the requirements of the Canby Fire District codes and regulations (Oregon Fire Code 2019, Chapter 33). The fire hydrants are not to be spaced further than 300 feet of travel distance. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)
35. The applicant shall contact the Canby Fire District for review and inspection of placement of all fire hydrants, and placement of any and all flammable construction materials on-site, prior to placement of said materials. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)
36. Building Address shall be marked at the beginning of construction with a lot marker if needed for each lot under construction. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)
37. All fire hydrants shall all have Storz quick adapter couplings on the steamer port as required by Canby Utility. A Blue reflector will be in the center of the road to indicate the

hydrant is in the vicinity. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)

38. Landscaping shall be low growing vegetation so as not to block visibility of hydrants, or addressing. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)

39. The applicant shall provide a PDF of approved prints for the Canby Fire District Pre-Fire Plan program of the development. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)

40. Fire access shall always be part of the construction plan for the development. Canby Fire District shall determine compliance with all fire regulations. (Canby Fire District – ME)

41. The private drives within Tracts A, B and C shall be designated as fire lanes.

    a. Each shall have one fire hydrant at tract entrance with a blue reflector in the pavement denoting the location of the hydrant.

    b. Red curb painting to extend 10 feet minimum beyond hydrant on frontage street To ensure that we don't have any vehicles parked too close for Fire Operations and visibility.

    c. The paved surface shall be a minimum of 26 feet for fire Operations per Appendix D, Oregon Fire Code.

    d. Red curb on each side of the street with no parking fire lane painted in white and signage.

I. Post Office (mailbox locations)

42. The applicant shall designate on the civil construction plans placement of a community cluster mail box in one location similar to Redwood Landing Phase I. The Postmaster shall determine compliance with this condition. (Canby Postmaster Sheila L. Laney, 503-266-3353)

J. Final Plat:

43. **The applicant is responsible for providing all required information to verify conditions of approval**. **The applicant shall supply a narrative along with accompanying documentation addressing each numbered condition of approval as stated.** This will largely take place during the Final Plat process. The narrative shall indicate if the condition is satisfied or if it is not, when and how the condition will be addressed. Failure to provide a sufficient narrative and accompanying documentation will delay the final plat approval process. (Canby Planning – EF)

44. The applicant shall apply for final plat approval at the City and pay any applicable city fees associated with final plat review. Prior to the recordation of the final plat at Clackamas County, the plat must be approved by the City. If deemed necessary, the City will distribute the final plat to other applicable local service providers for comment prior to signing off on the final plat. Canby Planning shall determine compliance with this condition. (Canby Planning – EF)

45. The submission and recordation of the final plat must be within the timelines stated in ORS 92 and CMC 16.18.020 (Canby Planning – EF). Timeline extensions must be provided in a timely manner to be approved.
46. All public improvements or submittal of necessary performance security assurances shall be made prior to the signing and release of the final plat for filing of record. Canby Planning shall determine compliance with this condition. (Canby Planning – EF)
47. The final plat shall conform to the necessary information and requirements of CMC 16.68.030, 16.68.040(B), and 16.68.050. The City Engineer or County Surveyor shall verify that these standards are met prior to the recordation of the subdivision plat. (Canby Planning – EF/City Engineer - HI)
48. Prior to substantial completion and approval of the final plat all required improvements for N. Redwood Street shall be designed, constructed, inspected and approved pursuant to Clackamas Cou*nty Roadway Standards.* (Clackamas County)
49. All "as-built plans" of City public improvements installed shall be filed with Canby Public Works within sixty (60) days of completion and acceptance of the improvements. (City Engineer – HI/Public Works - JN)
50. Clackamas County Surveying reviews pending subdivision plat documents for Oregon Revised Statutes and county requirements. A subdivision final plat prepared in substantial conformance with the approved tentative plat must be submitted to the City for approval within two years of approval of the tentative plat, or formally request an extension of up to 6-months with a finding of good cause. Canby Planning shall determine compliance with this condition. (Canby Planning – EF)
51. The applicant shall record the final plat at Clackamas County within 6-months of the date of the signature of the Planning Director. Canby Planning shall determine compliance with this condition. (Canby Planning – EF)
52. The applicant shall assure that the City is provided with a copy of the final plat in a timely manner after it is recorded at Clackamas County, including any CC&Rs recorded in conjunction with the final plat. Canby Planning shall determine compliance with this condition. (Canby Planning – EF)
53. The City shall assign addresses for each newly created subdivision lot and distribute those addresses to the developer, and other applicable agencies accordingly prior to home permitting. Canby Planning shall determine compliance with this condition. (Canby Planning – EF)
54. A note on a copy of the final plat shall state that all fencing is required to meet the City of Canby's current municipal code. (Canby Planning - EF)
55. A note on a copy of the final plat shall state that lots 1, 41, 42, 43, and 44 shall not have legal vehicle access onto North Redwood unless approved by the Clackamas County and the City of Canby. (Canby Planning – EF / Clackamas County)
56. A note on a copy of the final plat shall indicate the special setback standards for attached single family homes. (Canby Planning – EF)

K. Easements

57. All public utility easements traversing the newly created residential lots related to water, sewer, electric, and gas service shall be noted on the final plat. Canby Planning in

conjunction with the City Engineer shall determine compliance with this condition. (Canby Planning – EF / City Engineer – HI)

L. Residential Building Permit(s):

58. Construction of all required public improvements and the recordation of the Final Plat shall be completed prior to the issuance of building permits and comply with all applicable City Public Works Design Standards. The City Engineer and Public Works shall determine compliance with this condition. (City Engineer – HI / Public Works – JN/Canby Planning – EF)
59. The homebuilder shall apply for and submit a City of Canby Site Plan Permit application and Clackamas County Building permit for each home, and satisfy the residential design standards of CMC 16.21. Canby Planning shall determine compliance with this condition. (Canby Planning – EF)
60. All residential construction shall be in accordance with applicable Public Works Design Standards. Public Works shall determine compliance with this condition. (Public Works – JN)
61. Clackamas County Building Codes division will provide structural, electrical, plumbing, and mechanical plan review and inspection services for all new home construction. The applicable county building permits are required prior to the construction of a new single-family residence. (Canby Planning – EF)
62. Per the Canby Public Works Design Standards, minimum residential driveway widths at the inside edge of the sidewalk shall be 12-feet and the maximum width shall be 24 feet, with an allowed exception of 28 feet for a home with 3 or more garages. Canby Planning shall determine compliance with this condition. (Canby Planning – EF)
63. All usual System Development Charges (SDC) shall be collected with each new home permit within this development. Canby Planning shall determine compliance with this condition. (Canby Planning – EF)

M. Fencing

64. Placement of residential fences along any front or street-adjacent side yard property line are permitted to be a maximum of 3-feet, 6-inches in height, and must not exceed 30-inches in height when within the 30-foot Vision Clearance Triangle for all corner lots, and Vision Clearance Area of ten (10) feet from driveways to the street. Perimeter and rear yard fencing is not to exceed six (6) feet in maximum height. Please reference Section 16.08.110 of the Canby Land Development and Planning Ordinance, Chapter 16, of the Municipal Code. (Canby Planning

**** END OF CONDITIONS ****

I CERTIFY THAT THIS ORDER approving **SUB 20-04 REDWOOD LANDING III SUBDIVISION**, was presented to and **APPROVED** by the Planning Commission of the City of Canby.
DATED this 8th day of February, 2021.

_____
John Savory
Planning Commission Chair

_____
Don Hardy
Planning Director

_____
Laney Fouse Lawrence, Attest
Recording Secretary

ORAL DECISION: February 8, 2021

Name	***Aye***	***No***	***Abstain***	***Absent***
John Savory				
Larry Boatright				
Jennifer Trundy				
Jeff Mills				
Jason Taylor				
Michael Hutchinson				
Vacant				

WRITTEN DECISION: February 8, 2021

Name	***Aye***	***No***	***Abstain***	***Absent***
John Savory				
Larry Boatright				
Jennifer Trundy				
Jeff Mills				
Jason Taylor				
Michael Hutchinson				
Vacant				