Community Development Department
Current Planning Division
12725 SW Millikan Way / PO Box 4755
Beaverton, OR 97076
General Information: (503) 526-2222 V/TDD
www.BeavertonOregon.gov

STAFF REPORT

HEARING DATE:	November 5, 2014
TO:	Planning Commission
STAFF:	Leigh M Crabtree, Associate Planner LMC
PROPOSAL:	**SOUTH COOPER MOUNTAIN COMMUNITY PLAN CPA2014-0011, CPA2014-00012, and TA2014-0002**
SUMMARY:	The City of Beaverton proposes adoption of the South Cooper Mountain Community Plan for the South Cooper Mountain Annexation Area through amendments to the Comprehensive Plan for the City of Beaverton and the Development Code of the City of Beaverton. Development of the proposed community plan is the result of urbanization requirements as administered by Metro. Comprehensive Plan Amendments are anticipated within: Volume I, Chapters 3 (Land Use), 4 (Housing), 5 (Public Facilities and Services), 6 (Transportation), 7 (Natural, Cultural, Historic, Scenic, Energy and Groundwater, Resources), and 8 (Environmental Quality and Safety); Volume II - Background and Supporting Documents; Volume III - Statewide Planning Goal 5 Resource Inventory Documents; Volume IV - Transportation System Plan; and Volume V - Community Plans. Development Code Text Amendments are anticipated within: Chapter 20 (Land Use); Chapter 40 (Applications); Chapter 60 (Special Requirements); and Chapter 90 (Definitions).
LOCATION:	The South Cooper Mountain Annexation Area is comprised of twenty-one (21) properties, totaling approximately 543 acres, and is generally located along the north side of SW Scholls Ferry Road, west of SW Loon Drive, east of SW Tile Flat Road, and south of SW Cooper Mountain Lane/SW Horse Tale Drive. The properties are identified on Washington County Assessor's Map 1S1 31 as Tax Lots 01600, 01602, 01605; Washington County Assessor's Map 2S1 06 as Tax Lots 00103, 00200, 00301, 00302, 00400, 00402, 00403, 00404, 00500, 00600, 00700, 00800; and Washington County Assessor's Map 2S2 01 as Tax Lots 00100, 00101, 00200, 00201, 00400, and 00500.
APPLICANT:	City of Beaverton Attn: Planning Director 12725 SW Millikan Way Beaverton, OR 97005
DECISION CRITERIA:	Comprehensive Plan Section 1.5.1 *Criteria for Legislative and Quasi-judicial Comprehensive Plan Amendments*, and Development Code Section 40.85.15.1.C *Text Amendment*
RECOMMENDED ACTION:	**Planning Commission listen to report by Community Development Department staff, consultants, and public. After the public hearing, the Commission should provide feedback and direction on key issues and continue the hearing to December 3, 2014.**

EXHIBIT 1

VICINITY MAP
SOUTH COOPER MOUNTAIN COMMUNITY PLAN AREA

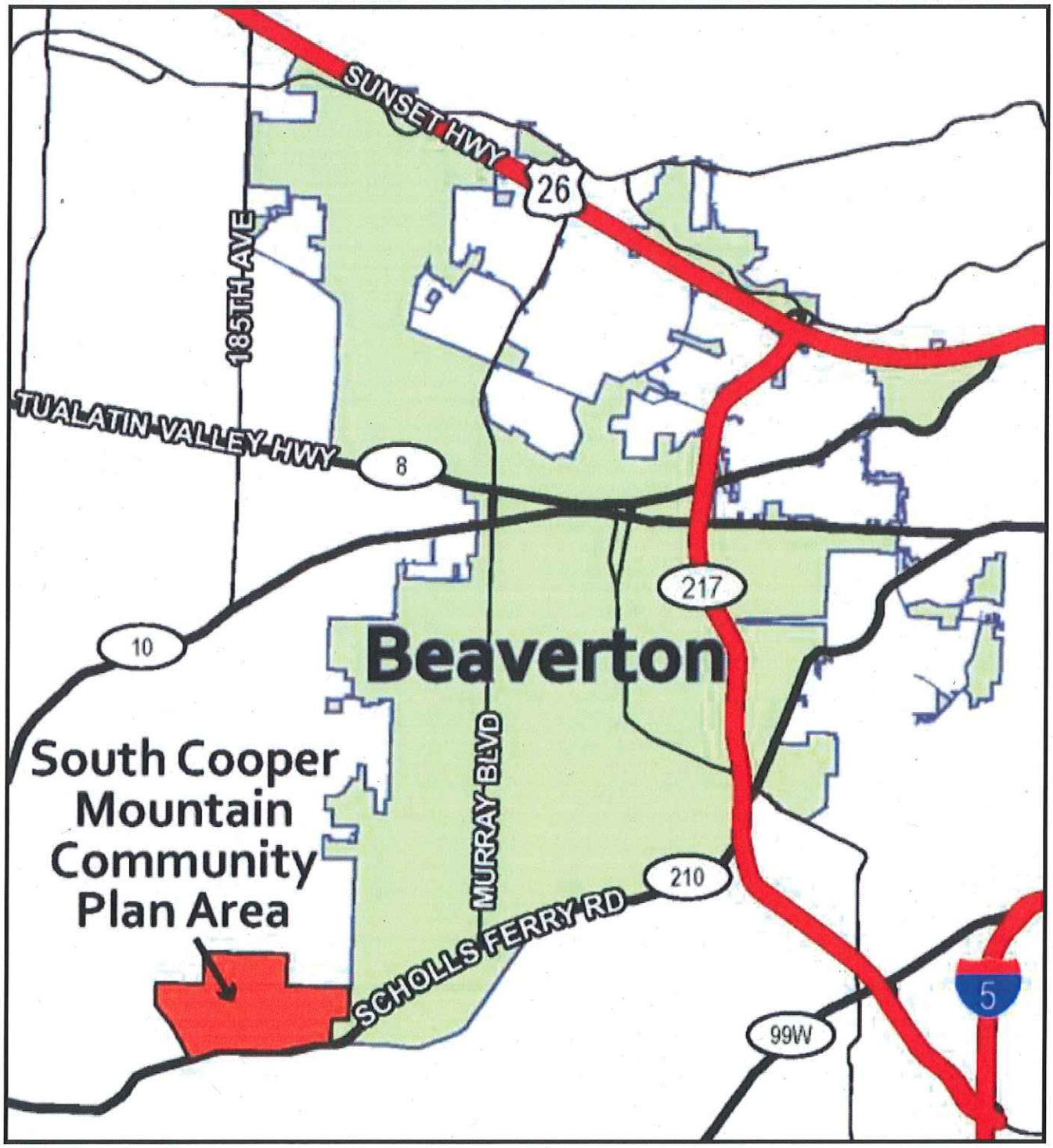


EXHIBIT 2

AERIAL - SOUTH COOPER MOUNTAIN COMMUNITY PLAN BOUNDARY

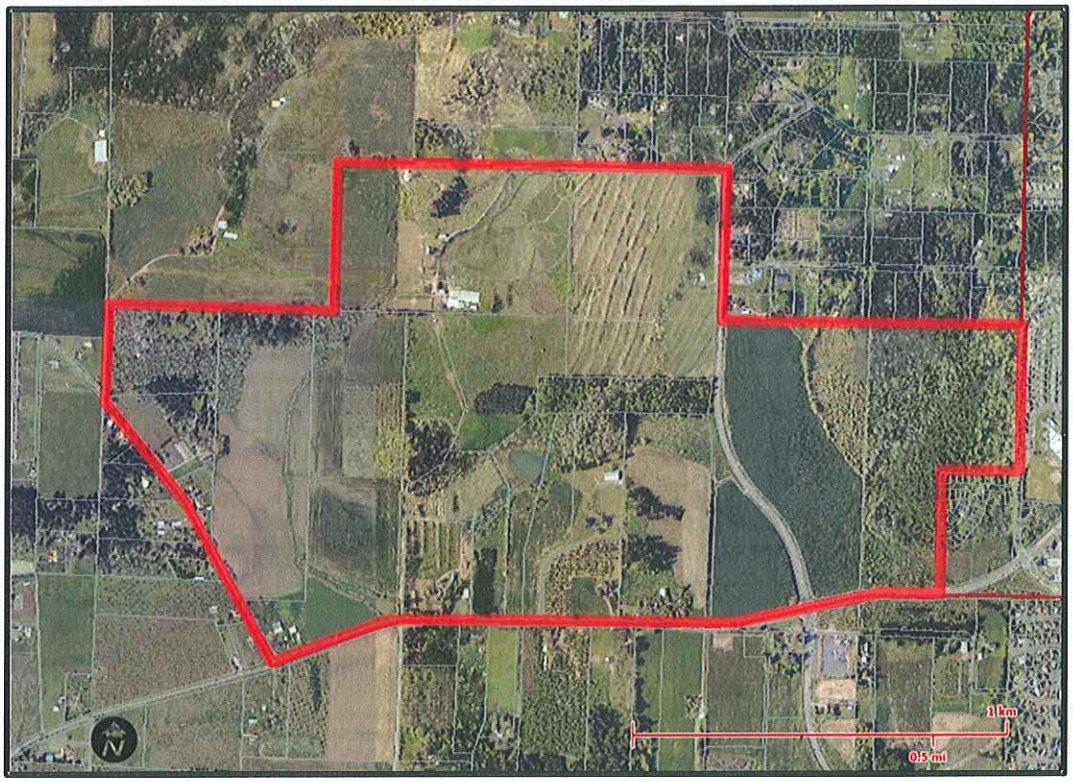
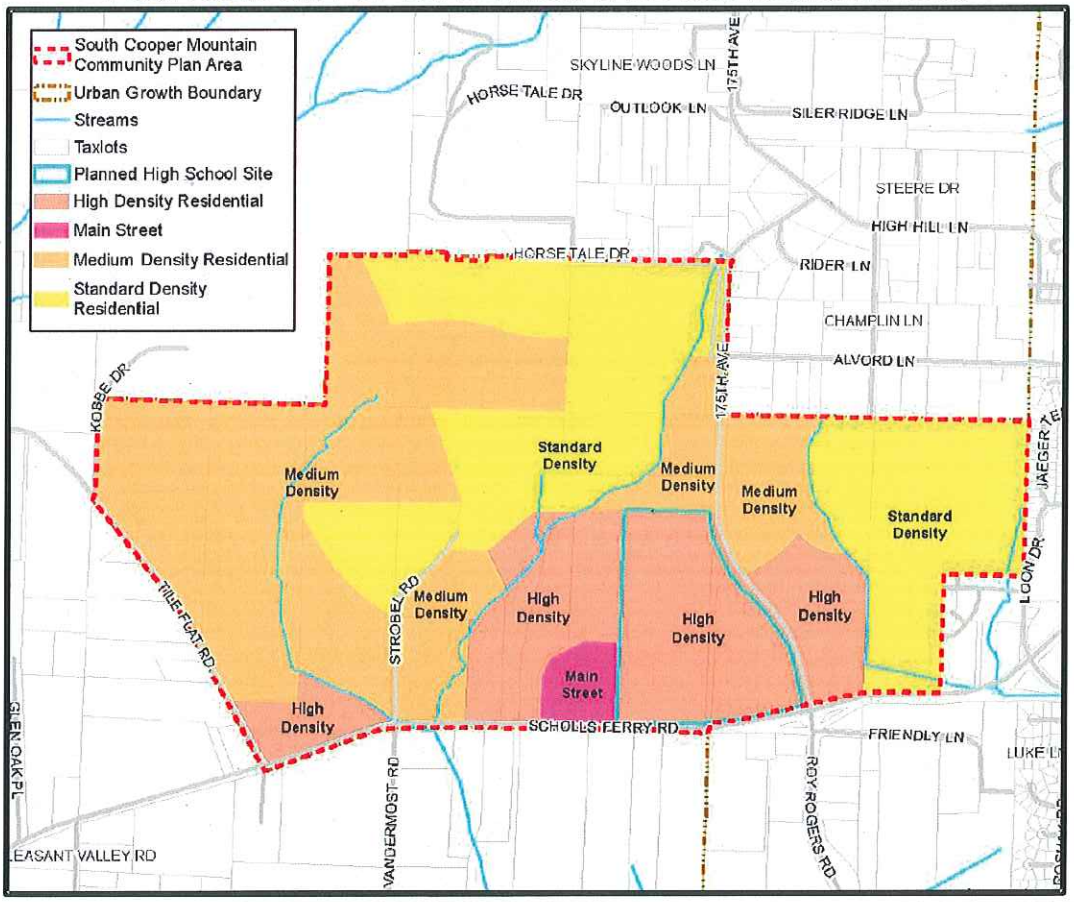


EXHIBIT 3

PROPOSED CITY OF BEAVERTON LAND USE DESIGNATIONS



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CPA2014-0011 and CPA2014-0012 South Cooper Mountain Community Plan Comprehensive Plan Text Amendment and Land Use Map Amendment

TA2014-0002 South Cooper Mountain Community Plan Text Amendment

URBAN GROWTH BOUNDARY AMENDMENT

Per State Statute, the Metro region is required to have a 20-year supply of land for future residential development inside the Urban Growth Boundary (UGB). The last review of the regional 2-year land supply was initiated by Metro in 2007 and resulted in Metro's publication of the *2009 – 2030 Urban Growth Report* on employment and residential needs for the Portland metropolitan area in January of 2010. As a result of this report and the analysis and actions that followed, the Urban Growth Boundary (UGB) was adjusted through the *2011 Growth Management Decision* in which Metro Council added 1,985 acres to help address the anticipated 20-year need for new housing and jobs. The South Cooper Mountain Annexation Area (a portion of Urban Reserve Area 6b) was added to the UGB in 2011.

Metro's Ordinance No. 11-1264B, "For the purpose of expanding the Urban Growth Boundary to provide capacity for Housing and Employment to the year 2030 and amending the Metro Code to Conform", was adopted by the Metro Council on October 20, 2011. Attached as exhibits to the Ordinance were Exhibit A, "2011 UGB Expansion Areas" map, and Exhibit B, "Conditions on Land Added to UGB". Exhibit A identifies the South Cooper Mountain Annexation Area as Area 3. Within Exhibit B, the conditions identified under "Planning for New Urban Areas", below, are specific to the South Cooper Mountain Annexation Area.

South Cooper Mountain, shown on Exhibit A as Area 3:

1. *The city of Beaverton, in coordination with Washington County and Metro, shall adopt comprehensive plan provisions and land use regulations for Area 3 to authorize urbanization, pursuant to Metro Code section 3.07.1120. To implement Principle 1 of Exhibit B to the Reserves IGA between Metro and Washington County, the city shall undertake and complete this planning for the whole of Urban Reserve Area 6B in order to provide appropriate protection and enhancement to the public lands and natural features, and protect and enhance the integrity of Titles 3 and 13 resources in the area. Planning for trails and pedestrian and bicycle travel shall be coordinated with Metro and the county to ensure appropriate access to Cooper Mountain Nature Park.*
2. *The city shall apply the Main Street and Neighborhood designations to Area 3, in conformance with Exhibit A and as described in the Regional Framework Plan, Summary of the 2040 Growth Concept.*
3. *Land use regulations adopted pursuant to Metro Code section 3.07.1120 shall provide zoned capacity for a minimum of 4,651 dwelling units in Area 3.*
4. *Land use regulations shall include provisions – such as setbacks, buffers and designated lanes for movement of slow-moving machinery – to enhance compatibility between urban uses in Area 3 and agricultural and forest practices on adjacent land outside the UGB that is zoned for farm or forest use pursuant to statewide planning Goal 3 or 4.*

ANNEXATION

Annexation of the South Cooper Mountain Annexation Area was effective in January 2013 through City of Beaverton Ordinance Number 4594: *An ordinance annexing twenty-one (21) parcels located generally north of SE Scholls Ferry Road, east of SW Tile Flat Road, west of SW 175th Avenue, and south of SW Horse Tale Drive to the City of Beaverton, adding the properties to the Neighbors Southwest Neighborhood Association Committee: South Cooper Mountain Annexation 2012-0005.*

PLANNING FOR NEW URBAN AREAS

Title 11 of Metro's Urban Growth Management Functional Plan, Section 3.07.1105 Purpose and Intent, states, "The Regional Framework Plan calls for long-range planning to ensure that areas brought into the UGB are urbanized efficiently and become or contribute to mixed-use, walkable, transit-friendly communities. It is the purpose of Title 11 to guide such long-range planning for urban reserves and areas added to the UGB. It is also the purpose of Title 11 to provide interim protection for areas added to the UGB until city or county amendments to land use regulations to allow urbanization become applicable to the areas."

The subject Concept and Community Plans propose scenarios that have been developed and analyzed in order to satisfy the requirements for Title 11 compliance. Additionally, it has been the goal of this plan to satisfy, to the extent practicable, the conditions of approval within Exhibit "B" to Metro's Ordinance No. 11-1264B. To that end, the Concept Plan and Community Plan meet the Exhibit "B" conditions, as follows:

South Cooper Mountain, shown on Exhibit A as Area 3:

1. *The city of Beaverton, in coordination with Washington County and Metro, shall adopt comprehensive plan provisions and land use regulations for Area 3 to authorize urbanization, pursuant to Metro Code section 3.07.1120. To implement Principle 1 of Exhibit B to the Reserves IGA between Metro and Washington County, the city shall undertake and complete this planning for the whole of Urban Reserve Area 6B in order to provide appropriate protection and enhancement to the public lands and natural features, and protect and enhance the integrity of Titles 3 and 13 resources in the area. Planning for trails and pedestrian and bicycle travel shall be coordinated with Metro and the county to ensure appropriate access to Cooper Mountain Nature Park.*

The city, in coordination with Washington County and Metro, has developed the proposed *South Cooper Mountain Concept Plan*, *the South Cooper Mountain Community Plan*, and the *North Cooper Mountain Draft Community Plan and Code*. As part of the process, the project team developed the *DRAFT Natural Resources Memorandum*, dated June 3, 2013. As stated in the memo, "This report is intended to provide a planning level review of natural resources within the South Cooper Mountain Concept Plan project study area. Specifically, this report covers wetlands and waterways, riparian areas, and upland wildlife habitats. The goal of this report is to provide project planners with the ecological context to support concept and community plan development for the study area. A Local Wetland Inventory has also been conducted for the portion of the study area that was recently annexed to the City of Beaverton (described below as the South Cooper Mountain Annexation Area). The detailed Local Wetland Inventory documentation has been prepared as a separate report; however, the mapping results and general findings are included in this report." The resulting Riparian and Upland Habitats map, dated May 28, 2013, depicts lands that are to be addressed within Titles 3 and 13 resources.

The city also coordinated on the locations for trails and pedestrian and bicycle travel with Metro, Tualatin Hills Park and Recreation District, the City of Tigard, Washington County, and members of the Technical Advisory Committee. The plan includes a trail framework inclusive of connections to trails within the Cooper Mountain Nature Park, the Westside Trail, and trails within River Terrace trail system, specifically the multi-use path along Roy Rogers Road and the River Terrace Trail.

2. *The city shall apply the Main Street and Neighborhood designations to Area 3, in conformance with Exhibit A and as described in the Regional Framework Plan, Summary of the 2040 Growth Concept.*

The city is proposing adoption of the Main Street Development land use designation and Residential Neighborhood Development land use designations, inclusive of Standard Density, Medium Density, and High Density, within the SCMAA (Area 3 of Exhibit B).

3. *Land use regulations adopted pursuant to Metro Code section 3.07.1120 shall provide zoned capacity for a minimum of 4,651 dwelling units in Area 3.*

Metro Code Section 3.07.1120, Planning for Areas Added to the UGB, includes the following requirement of sub-section D, "The county or city responsible for comprehensive planning of an area shall submit to Metro a determination of the residential capacity of any area zoned to allow dwelling units, using the method in section 3.07.120..." Section 3.07.120, Housing Capacity, includes the following sub-section D, "A city or county may reduce the minimum zoned capacity of a zone without increasing minimum zoned capacity in another zone for one or more of the following purposes: 1. To re-zone the area to allow industrial use under Title 4 of this chapter or an educational or medical facility ...; or 2. To protect natural resources pursuant to Titles 3 or 13 of this chapter." For the South Cooper Mountain planning area, Section 3.07.120.D.2 is applicable due to the amount of natural resource protection required by Titles 3 and 13.

The South Cooper Mountain Community Plan planning gross area involves 544 acres. After removal of land associate with existing right-of-way, the area is equal to 534 acres. After removing land for civic uses and main street development, the residential area is equal to 442 acres. Following the city's Development Code definition for net acreage, which excludes street dedications, environmentally constrained lands, and land set aside in separate tracts or dedicated to a public entity for schools, parks, or open spaces, the net residential area is 237 acres.

Exhibit D to Metro Ordinance No. 11-1264B states, in part, "...The UGB ordinance sets a minimum zoned capacity for SCMA of 4,651 dwelling units (more than 15 units/net developable acre). ..." Therefore, the city, in agreement with Metro staff, have used 15 units per net acre as the target average residential density for the SCMAA. Based upon the available net acreage, and after taking into account all the needs of the planning area as evaluated through Title 11, the maximum estimated housing capacity that can be accommodated in the SCMAA is 3,480 dwelling units; which, over 237 net acres, is equivalent to 14.68 units per acre, roughly equivalent to the target of 15 units per acre.

Given the constraints associated with natural resources, infrastructure improvements, and community needs identified during the planning process.

4. *Land use regulations shall include provisions – such as setbacks, buffers and designated lanes for movement of slow-moving machinery – to enhance compatibility between urban uses in Area 3 and agricultural and forest practices on adjacent land outside the UGB that is zoned for farm or forest use pursuant to statewide planning Goal 3 or 4.*

The South Cooper Mountain Community Plan was developed with attention to the treatment of Rural Reserve Areas to the west of the SCMAA. The city intends to implement a cross-section for Tile Flat Road that buffers rural uses on the west side of Tile Flat Road from urban uses on the east side of Tile Flat Road. This cross-section includes a parallel multi-use trail section with vegetative buffer and additional development setbacks along the east side of Tile Flat Road. These Development Code standards and Engineering Design Manual street sections are to be developed as part of the Implementation Plan outlined in the Concept Plan.

Further analysis of Title 11 compliance will be presented in the staff report for the continuance of this hearing, schedule for December 3, 2014.

CONCEPT PLAN AND COMMUNITY PLAN

As described above, through an Inter-Governmental Agreements (IGA) with Metro and Washington County, the City of Beaverton has assumed the long-range planning for the *South Cooper Mountain Concept Plan* area inclusive of the North Cooper Mountain Area, Urban Reserve Area 6b, and the South Cooper Mountain Annexation Area. North Cooper Mountain is inside the UGB and Urban Reserve Area 6b is outside the UGB; both areas remain in the jurisdiction of Washington County. The South Cooper Mountain annexation area is within the UGB and in the jurisdiction of the City of Beaverton. The City has concurrently undertaken the planning process for drafting the *North Cooper Mountain Community Plan and Code Amendments* for Washington County adoption and for the proposed *South Cooper Mountain Community Plan* for adoption by the city. Urban Reserve Area 6b will be subject to the community planning process upon inclusion within the UGB guided by the SCM Concept Plan. Development of a future community plan for Urban Reserve Area 6b will be the responsibility of the City of Beaverton.

Development of the South Cooper Mountain Concept and Community Plans included a public involvement plan. Public outreach and citizen engagement efforts included:

- South Cooper Mountain project website www.BeavertonOregon.gov/SouthCooperPlan
- 13,500 large color postcards mailed to residents in the project area and nearby neighborhoods announcing public events
- 8,500 emails sent to subscriber lists announcing events and project updates
- Dozens of email responses to citizen inquiries received via email
- Three community open houses and one community visioning workshop with a combined attendance estimated at over 350
- Over 50 online workshop and survey participants
- Four press releases announcing public events
- Over 20 articles in the Oregonian and Daily Journal of Commerce
- Four City of Beaverton *Your City* newsletter articles
- 11 Citizen Advisory Committee and Technical Advisory Committee meetings open to the public
- Four Beaverton Committee for Citizen Involvement and Neighborhood Association Committee meetings
- Two Citizen Participation Organization (CPO) meetings
- One informational meeting sponsored by the City of Beaverton for CPO6, CPO10, and CPO 4B
- Six community organization and neighborhood meetings
- Eleven City Council, Planning Commission, Washington County Planning Commission, and Washington County Board of Commissioners meetings
- Beaverton Farmers Market and Last Tuesday booths
- Posters at libraries, in City Hall, and various business locations announcing public events

On April 8, 2014, the City Council adopted Resolution No. 4232 affirming the Preferred Concept Plan Scenario for South Cooper Mountain. The Council further directed staff to proceed with development of a more detailed concept plan for the entire 2,300-acre planning area, and community plans for the South Cooper Mountain (SCM) Annexation Area, added to the Urban Growth Boundary (UGB) in 2013, and the North Cooper Mountain (NCM) area, added to the UGB in 2002. The plans, described below, are a result of the continuing work subsequent to Council's direction.

The *South Cooper Mountain Concept Plan*, inclusive of an Infrastructure Funding Plan and Implementation Plan, are to be reviewed by the City of Beaverton Planning Commission and City Council for City acknowledgement and by the Washington County Planning Commission and Board of Commissioners for acknowledgement. The North Cooper Mountain Community Plan and Draft Code Amendments will follow the County's adoption process in 2015. The proposed South Cooper Mountain Community Plan is now proposed for (1) Planning Commission review, comment, and direction, (2) Planning Commission recommendation to City Council for adoption, and (3) City Council review for adoption.

CONCEPT PLAN

The purpose of the South Cooper Mountain Concept Plan, inclusive of the North Cooper Mountain area added into the UGB in 2002, Urban Reserve Area 6b, and the South Cooper Mountain Annexation Area added to the UGB in 2013 is to:

1. Establish a vision for future growth, natural resource preservation and enhancement, and development in the 2,300-acre planning area of South Cooper Mountain;

2. Guide city and county comprehensive planning in the Urban Growth Boundary expansion areas.

As previously stated, the Concept Plan is for the concept planning area (North Cooper Mountain, the Urban Reserve Area 6b, and the South Cooper Mountain Annexation Area). The concept plan is not a regulatory document adopted by ordinance, rather it is a guidance document that is acknowledged by the City Council and the Washington County Board of Commissioners in order to guide our jurisdictions in implementing a cohesive vision for the planning area.

At the September 10, 2014 Planning Commission meeting, the Planning Commission was provided with the current draft of the South Cooper Mountain Concept Plan with two exceptions. Two appendices were previously not included in the draft Concept Plan, these are Appendix A: Infrastructure Funding Plan and Appendix B: Implementation Plan. Descriptions of each are provided, below:

Infrastructure Funding Plan

The Infrastructure Funding Plan was created through a collaborative process, involving the consultant team, City staff, representatives of local and regional governments and service providers responsible for building and maintaining infrastructure in the South Cooper Mountain area, and private property owners and developers. Although developing the funding plan was an iterative process, the methods generally followed the following steps: review of land use scenarios and growth estimates; review of infrastructure analyses and identification of infrastructure projects to be included in the funding plan; estimation of revenues; identification of funding strategies in consultation with public and private partners; preparation of an Early Funding Analysis so that funding strategies were known when the Preferred Concept Plan Scenario was selected; and preparation of the draft and final Infrastructure Funding Plan.

Analysis was conducted for each of the three constituent subareas of South Cooper Mountain: the South Cooper Mountain Annexation Area, North Cooper Mountain, and the Urban Reserve Area.

The Infrastructure Funding Plan includes likely development of each of the infrastructure systems and provides details of costs and funding. The infrastructure systems are divided within the funding plan as follows: Parks, Water, Sanitary Sewer, Storm Water, and Transportation.

<u>Parks</u>

Tualatin Hills Parks and Recreation District (THPRD) is responsible for providing park infrastructure in South Cooper Mountain. Representatives of THPRD stated that Systems Development Charges (SDCs) are the only funding source that can be counted on for park projects in South Cooper Mountain. The analysis of costs and revenues in the Funding Plan illustrates that SDC revenues are sufficient to cover costs, with one exception: funding of a community park in the Urban Reserve Area. The specific need for and cost of a community park is not specifically known. It will be influenced by other facilities (e.g. what is built at the new Beaverton School District High School, potential expansions at Winkleman Park, etc.), actual growth in the Urban Reserve, potential school-park co-locations throughout SCM, and, the specific program and intended service area that is developed should a community park be implemented. Therefore, the SCM Funding Plan carries a known gap for this one facility, with the recognition that a final need determination and funding strategy will need to be identified in the future.

Water
The City of Beaverton will be responsible for providing water service to the SCMAA and any areas within the Urban Reserve that are annexed to the City. The Tualatin Valley Water District currently provides water to the North Cooper Mountain area. For any new extensions with the TVWD district, the funding strategy assumes those are paid for by developing properties. The City levies an SDC on new development to pay for the "public" share of water infrastructure costs. Private developers are also responsible for funding the "private" share of water infrastructure costs. Water infrastructure in South Cooper Mountain would be covered by these two sources.

Sanitary Sewer
The City of Beaverton has lead responsibility for providing sanitary sewer infrastructure for South Cooper Mountain. The City of Beaverton collects an SDC on new development to pay for the public portion of sanitary sewer infrastructure. The City has an inter-governmental agreement with Clean Water Services (CWS) to provide sanitary sewer service, which results in ninety-six percent of this SDC being passed through to CWS. Private developers are also responsible for paying for a portion of sanitary sewer infrastructure, including all pipes 12-inches or less in diameter, and a portion of all pipes larger than 12-inches.

Storm Water
Unlike parks, water, and sanitary sewer, the costs for stormwater infrastructure are not typically covered by an SDC. Traditionally, detention facilities have been the responsibility of private developers, with individual developers building detention facilities onsite that are sufficient to manage the stormwater generated on that individual property. Under the traditional model, the cost of stormwater detention facilities would be excluded from a funding analysis like this.

Based on preliminary stormwater planning, Clean Water Services and the City of Beaverton have identified the use of regional stormwater facilities as the preferred approach for South Cooper Mountain. Regional facilities can offer several benefits compared to traditional onsite detention facilities in regards to meeting natural resource objectives. These facilities could be funded using either a new Regional Facility Fee, or a private reimbursement district. However, due to the challenges associated with regional facilities, more traditional site-scale facilities may be used in place of, or in combination with, regional facilities. A storm water master plan for the SCMAA, as identified in the Implementation Plan, will further explore these options and identify the appropriate approach for the SCMAA.

Transportation
Existing sources of funding are limited to Major Streets Transportation Improvement Program (MSTIP), the Transportation Development Tax (TDT), and private sector developer funding. In addition, MSTIP funds are limited, in high demand, and must be applied to roads of countywide significance. In total, these funding sources are insufficient, requiring an additional funding mechanism, therefore, the Implementation Plan includes development of a new site-specific transportation SDC.

Through discussions with the Finance Task Force, developers, and Washington County, a four-part strategy was established for funding transportation projects on South Cooper Mountain:

1. Set Priorities. Transportation improvements were evaluated and segmented into which projects serve the annexation area versus other areas. They were then prioritized into time periods for implementation: 0-10 years; 10-20 years; and 20+ years.

2. Apply local TDT revenues to local projects. This strategy assumes 80% of TDT generated from development in South Cooper Mountain will be used for transportation projects in the area. This is a unique strategy because the city has never made a specific dedication of TDT revenue to a specific area.

3. Generate new revenue through an SCM transportation SDC. A SCM-specific special transportation SDC will be adopted to supplement other revenue sources. Revenues will be "dedicated" to transportation projects in the area.

4. Identify projects of county-wide significance, and include limited amounts of MSTIP funds in their funding plans. As a first step, a list of specific projects benefiting roads of countywide significance were identified. The list was then narrowed based on County input that MSTIP funds were limited and the City should reduce the amount of MSTIP assumed. The City revised the transportation funding responsibilities to decrease the proportion assumed from MSTIP and increase the proportion assumed from TDT dedication and the transportation SDC.

Based on the above strategies, the Infrastructure Funding Plan identifies funding sources for projects in each sub-area of SCM. Several follow-up implementation actions are needed:

- Completion of the calculation of the rate for the SCM transportation fee, and adoption of the SDC ordinance (see project sheet 11, SCM Transportation System Development Charge).
- City commitment to, and work on, the two specific transportation projects listed in the Action section of this plan (see project sheet 6, 175th Avenue "Kink" realignment phase 1 and project sheet 7, Loon Drive connection study and right-of-way acquisition). The 175th realignment project is one of the MSTIP funded projects (85% MSTIP, 15% local TDT), so the earlier next-step planning occurs, the more likely the project will be funded. The plan estimates it will take up to 10 years to complete preliminary design, finalization of the funding sources, and right-of-way acquisition.
- Continued discussion between the Beaverton and other Washington County cities and the County regarding transportation funding.

Implementation Plan

This Implementation Plan is a companion document to the South Cooper Mountain Concept Plan and is applicable to the entire 2,300-acre South Cooper Mountain planning area. Accordingly, it references actions by the City of Beaverton and other implementation partners: Washington County, Clean Water Services, Tualatin Hills Park and Recreation District, and others. The proposed Implementation Plan:

1. Provides a comprehensive to-do list of implementing actions planned occur after the adoption of the Concept Plan and SCM Community Plan.

2. Provides project sheets describing each of the implementing actions: what they are, who has lead responsibility, and implementation steps and schedule.

3. Summarizes the infrastructure plans and next steps for the Concept Plan area.

4. Summarizes the infrastructure funding plan and next steps for the Concept Plan area.

5. Describes the intended governance for South Cooper Mountain.

COMMUNITY PLAN

The South Cooper Mountain Community Plan is intended to implement the vision established by the Concept Plan for the South Cooper Mountain area for the 544 acres that are within the City of Beaverton, also referred to as the South Cooper Mountain Annexation Area (SCMAA). The South Cooper Mountain Community Plan is a regulatory document to be adopted by ordinance into the Comprehensive Plan by the City Council. The community plan provides regulatory policies and maps, along with descriptions and illustrations of the context for those policies and maps. The Community Plan was developed in compliance with Metro's requirements for new urban areas, which are codified in Title 11 of Metro's Urban Growth Management Functional Plan.

The Community Plan includes the following 12 'Overarching Policies':

1. *Implement the Concept Plan.*
2. *Create Beaverton's next great community.*
3. *Create a sustainable community.*
4. *Implement a realistic funding plan for infrastructure.*
5. *Provide housing choices.*
6. *Provide transportation options.*
7. *Provide appropriate protection, enhancement and access to Cooper Mountain's natural resources and public lands.*
8. *Coordinate with regional requirements and plans.*
9. *Coordinate with other planning in the area.*
10. *Ensure that the plan complements existing neighborhoods and commercial areas so that South Cooper Mountain is a part of greater Beaverton.*
11. *Plan new civic uses so they are focal points for the community.*
12. *Promote compatibility with adjacent rural areas.*

Land Use (description starting on page 12 of the Community Plan)
As previously describe in this report, the proposed land uses for the SCMAA are Main Street and Neighborhood Residential (including standard, medium, and high density) development types. With adoption of the proposed Comprehensive Plan Map Amendment (CPA2014-0012), land use designations shall be applied to the 21 subject properties, establishing initial comprehensive plan map designations for the South Cooper Mountain Community Plan area. The proposed location of the Main Street designation, immediately west of the new Beaverton School District high school site, is expected to be complimentary for the multitude of visitors anticipated to participate in functions at a high school of the size proposed.

Implementation of zoning districts within the planning area will be carried out with specific proposals for development. The zoning districts to be implemented in the SCMAA are Neighborhood Service Commercial and a range of Residential (R1, R2, R4, R5, and R7) zones. The reasoning for delayed zoning implementation is to respect that a property might develop with multiple zoning districts in order to be consistent with the Community Plan and that to apply zoning at this time would not reflect new property lines or new streets. This would necessitate additional Zoning Map Amendments in the future, which would add confusion to the development of the SCMAA.

Transportation (description starting on page 21 of the Community Plan)
The plan for transportation within the SCMAA includes streets and a bicycle and pedestrian framework. The two systems are expected to work together with the design of the bicycle and pedestrian framework off-setting some of the demand for street improvements.

Also, in part to reduce demand on the transportation system, is the decision to propose the location of the Main Street designation next to new Beaverton School District high school. The Main Street and the high school will be able to take access on the proposed north-south Collector Street that could be served by a future signal. Additionally, the two uses in relation to each other should encourage more 'foot-traffic' (and less auto-dependency) between uses on each site.

Resource Protection and Enhancement (description starting on page 26 of the Community Plan)
The SCMAA includes natural resource areas that fall within the regulations for Local Wetland Inventories and Metro's Titles 3 and 13. Any proposal for development will be required to prove compliance with Clean Water Services *Design and Construction Standards* and may need to prove compliance with US Army Corps of Engineers and the Oregon Department of State Lands. Additionally, the city is proposing adoption of all Metro Habitat Conservation classes on the city's Habitat Benefit Areas map for the SCMAA in an effort to provide additional opportunities in incentives for habitat protection.

Scenic Views were also discussed as a distinguishing feature of this planning area. As part of the Implementation Plan, the city will further review the Development Code for ways to encourage and protects views within the planning area.

Infrastructure Provision (description starting on page 30 of the Community Plan)
As outlined in the discussion about the Infrastructure Funding Plan, above, drinking water, sanitary sewer, and stormwater have been evaluated. These various pieces of urban infrastructure needed to serve the SCMAA also need to be sized and designed to connect with and be sized to serve the needs of the Urban Reserve Area and, to a limited degree, North Cooper Mountain.

REQUESTED COMMUNITY PLAN AND CONCEPT PLAN AMENDMENTS

Attachment A to this report is a table of *Requested Community Plan and Concept Plan Amendments* which provides summaries of requested modifications to the proposed plans from the general public, property owners, home owner associations, advisory committee members, the Planning Commission, and the project team. Each request acknowledges the source of the request, analysis by the project team in response the request, and a recommendation by the project team.

The requests are grouped by topic, as follows:

- Top Issues for Planning Commission Consideration and Direction
  - Land Use Designations and Policies
  - Transportation Framework and Policies
- Additional Amendments Related to Land Use Designations and Policies
- Additional Amendments Related to Transportation Framework and Policies
- Bicycle/Pedestrian Framework an Policies
- Resource Protection and Enhancement Maps and Policies
- Infrastructure Maps and Policies
- Development Code Amendments
- Comments on the Community Plan and Concept Plan Amendments Without a Request for Plan Modification

RECOMMENDATION: Direct staff to move forward with the project team recommendations as outlined on Attachment A, *Requested Community Plan and Concept Plan Amendments* or provide specific alternate direction from project team recommendations on key issues and continue the hearing to December 3, 2014.

Below are the top issues identified by staff for Planning Commission consideration and direction:

LU-1 Consider alternate location for Main Street on Community Plan and Concept Plan maps due to topography and potential use conflicts.

Project Team Recommendation:
Keep the Main Street location as shown on the Concept Plan map and SCM Community Plan.

TR-1 Consider alternate route for proposed East-West Collector in "East Neighborhood" on Concept and Community Plan maps rather than connecting to Loon Drive.

Project Team Recommendation:
Retain East-West Collector alignment in East Neighborhood as shown on Concept and Community Plan maps.

TR-2 Alvord Lane extension and connections

Project Team Recommendation:

A. Retain Neighborhood Route connection from Alvord Lane to Blackbird Drive as shown on Concept and Community Plan maps.
B. Retain Neighborhood Route connection from Alvord Lane to Blackbird Drive as shown on Concept and Community Plan maps.

TR-3 Reduce impacts to property owners on 175th Avenue from proposed improvements to 175th Avenue.

Project Team Recommendation:

A. Identify these issues for future study in the Implementation Plan and during the design stages of roadway improvements for 175th Avenue at "the kink".
B. Retain proposed safety and capacity improvements to 175th Avenue identified in the SCM Concept and Community Plans, as well as the proposed improvements to Tile Flat and Grabhorn Roads as part of a long-term alternative to 175th Avenue.
C. Retain proposed connections to 175th Avenue within the Community Plan area.

TR-4 Improve Kemmer Road & 190th Avenue in place of constructing new arterial connection from Kemmer Road to 185th Avenue.

Project Team Recommendation:
Retain the proposed Kemmer Road to 185th Avenue connection, as footnoted, on Concept Plan map, and amend Washington County TSP to reflect this project, subject to a refinement plan to determine actual alignment.

TR-5 Add Neighborhood Route connection to Scholls Ferry at Stroebel Road back into transportation framework maps.

Project Team Recommendation:
Add Neighborhood Route connection to Scholls Ferry at Stroebel Road back into Concept and Community Plan transportation framework maps, with a note indicating it is subject to approval by Washington County. Continue to work with Washington County to reach agreement on proposed Neighborhood Route connections.

LU-2 Timing of application of zoning to SCM Community Plan properties

Project Team Recommendation:

A. Apply R1 zoning to planned Beaverton School District High School site as part of Community Plan adoption.
B. Apply R1 zoning to planned Beaverton School District High School site as part of Community Plan adoption. Withhold application of zoning, except for the high school site, until a new SDC is established. Move forward with funding plan implementation as quickly as possible. Condition future zone changes on adoption of new funding mechanisms as applicable.

Continuance Hearing scheduled for December 3, 2014
After the initial hearing on November 5, 2014, the Concept Plan and Community Plan will be modified based upon direction provided by the Planning Commission. A staff report will then be prepared for the continuance hearing on December 3, 2014 that evaluates the proposed Community Plan for compliance with applicable approval criteria. CPA2014-0011 South Cooper Mountain Community Plan Comprehensive Plan Text Amendment and CPA2014-0012 South Cooper Mountain Community Plan Comprehensive Plan Land Use Map Amendment will be reviewed through Comprehensive Plan Section 1.5.1 *Criteria for Legislative and Quasi-judicial Comprehensive Plan Amendments.* TA2014-0002 South Cooper Mountain Community Plan Text Amendment will be reviewed through Development Code Section 40.85.15.1.C *Text Amendment.*

If the proposed modifications to the Plans are found to be acceptable to the Planning Commission on December 3, 2014 and if the proposed adoption of the Community Plan is found to satisfy the applicable approval criteria, the Planning Commission may choose to recommend acknowledgement of the South Cooper Mountain Concept Plan and adoption of the South Cooper Mountain Community Plan at the December 3, 2014 hearing.

Requested Community Plan & Concept Plan Amendments

The table below identifies the nature of the request, the source of the request (e.g. property owner or general public), the project team's evaluation of the request, and a project team recommendation to address the request.

Index #	Summary of Request	Source of Request	Project Team Analysis	Project Team Recommendation	Document and Page Reference
Top Issues for Planning Commission Consideration and Direction					
LU-1.	Consider alternate location for Main Street on Community Plan and Concept Plan maps due to topography and potential use conflicts. (See Exhibit 6-1)	Property owner (CAC member)	Some potential challenges have been identified with the Main Street location identified in the Community Plan, including a 7% grade (versus the 3% or less optimal for commercial development) and potential use conflicts with the adjacent future high school. Yet, a similar level of detailed site evaluation has not been done for other locations within the SCM Community Plan area identified as alternate sites by the questioning property owner. The other location previously evaluated during the planning process (north of the area where Vandermost Road intersects with Scholls Ferry Road) faces natural resource constraints, including two stream corridors and a man-made pond, and is less central to the SCM Community Plan area. Sight distance at the proposed location is also a consideration for the location of the intersection, which is closely related to the location of the Main Street. The location of the north-south collector intersection along Scholls Ferry Road is an important consideration since road spacing standards will only allow for one signalized intersection between 175th/Roy Rogers and Tile Flat Road. Access and visibility will be essential to the success of the Main Street commercial and mixed uses, will be beneficial to the future high school, and beneficial to future access to Urban Reserve Area 6C to the south of Scholls Ferry. The proposed location is an opportunity to consolidate access to the Main Street and High School at a signalized intersection that would also serve future growth south of Scholls Ferry Road.	Keep the Main Street location as shown on the Concept Plan map and SCM Community Plan.	Concept Plan pages ES-9 (Figure ES-3), 26 (Figure 3), 28, 33; Community Plan pages 9 (Figure 5), 12 (Figure 7), 20-21.
TR-1.	Consider alternate route for proposed East-West Collector in "East Neighborhood" on Concept and Community Plan maps rather than connecting to Loon Drive. (See Exhibits 6-2 and 6-3)	Sterling Park neighborhood and Churchill Forest subdivision residents	The project team has completed an analysis of three possible routes for the proposed east-west collector. These alignment options and their implications are described in Attachment D. In brief, the alignment shown on the Concept and Community Plan maps has better transportation performance, less natural resource impacts, and fewer feasibility concerns than the other alternatives, and impacts to adjacent neighborhoods are expected to be relatively minor, especially given the potential for design treatments to reduce noise, speeds, and cut-through traffic in existing neighborhoods.	Retain East-West Collector alignment in East Neighborhood as shown on Concept and Community Plan maps.	Concept Plan pages ES-11 (Figure ES-4), 21, 37 (Figure 7), 39; Community Plan pages 22 (Figure 10), 23. (Note, also shown on other maps that would require updates if planned alignment is changed.)

Index #	Summary of Request	Source of Request	Project Team Analysis	Project Team Recommendation	Document and Page Reference
TR-2.	Alvord Lane extension and connections				
TR-2-A	Eliminate proposed extension of Alvord Lane to the east. (Exhibits 6-3 and 6-4)	Alvord Lane residents; Sterling Park residents; Churchill Forest residents	The proposed connection from Alvord Lane to Black Bird Drive is already included in the Beaverton TSP; it has been reflected in the Concept and Community Plans as a way to improve connectivity. It would likely impact have property impacts on the Tenax Woods Nature Park and potentially require right-of-way acquisition from adjacent property owners. Grades are challenging, and do require further engineering analysis. This detailed analysis would be undertaken as part of developing detailed drawings for improvements. Further, because Alvord Lane lies outside the UGB, improvements (including the connection to the east) may be deferred until the area is brought into the UGB. As noted above, safety improvements and traffic calming measures may be appropriate for Alvord Lane to mitigate for increased traffic volumes and discourage cut-through commuter traffic when the improvements and connections are made.	Retain Neighborhood Route connection from Alvord Lane to Blackbird Drive as shown on Concept and Community Plan maps.	Concept Plan pages ES-11 (Figure ES-4), 21, 37 (Figure 7), 39-40; Community Plan page 22 (Figure 10). (Note, also shown on other maps that would require updates if planned alignment is changed.)
TR-2-B	Alter proposed neighborhood route connection from Alvord Lane to Blackbird Drive to provide a direct connection to Scholls Ferry Road via a new extension of Alvord Lane. (See Exhibit 6-5, pages 7 & 8)	Sterling Park neighborhood residents	As noted in response to TR-2-A, above, the connection of Alvord Lane to Blackbird Drive is an acknowledged, needed, connection to serve the surrounding neighborhoods. Specific design and development of this connection, or portions thereof, is not expected until such time as a proposal to develop private property, after the URA is brought into the UGB, or the HOA or THPRD is amenable to the connection traversing their properties. Therefore, design of the connection, inclusive of potential safety improvements and traffic calming measures, will be reviewed when improvements to make the connections are proposed.	Retain Neighborhood Route connection from Alvord Lane to Blackbird Drive as shown on Concept and Community Plan maps.	
TR-3.	Reduce impacts to property owners on 175th Avenue from proposed improvements to 175th Avenue.				
TR-3-A	Refine alignment of 175th Avenue improvements at "the kink" to reduce uncertainty for homeowners in the area. (See Exhibit 6-5, page 8 & Exhibit 6)	175th Avenue residents	Site-specific surveys and preliminary engineering details will need to be completed in order to understand the potential impacts to properties in the vicinity of the 175th Avenue "kink" from realignment and re-grading. This endeavor cannot be undertaken at the Concept Plan level. The draft Implementation Plan includes a preliminary design action for this section of 175th, including public outreach.	Identify these issues for future study in the Implementation Plan and during the design stages of roadway improvements for 175th Avenue at "the kink".	Concept Plan pages ES-11 (Figure ES-4), 20, 37 (Figure 7), 38; Community Plan page 22 (Figure 10). (Note, also shown on other maps that would require updates if planned alignment is changed.)

Index #	Summary of Request	Source of Request	Project Team Analysis	Project Team Recommendation	Document and Page Reference
TR-3-B	Plan for a future arterial around Cooper Mountain to the west rather than upgrading 175th Avenue. (See Exhibit 6-6)	175th Avenue residents	The suggested alternative route, west of Cooper Mountain and in alignment with Tile Flat Road and Clark Hill Road, extending to Tualatin Valley Highway, is problematic due to Oregon's land use laws. The identified route runs through designated Rural Reserve area and roads within Rural Reserve areas cannot be widened to serve urban traffic. The extension of Clark Hill Road identified in Exhibit 6-6 also lies outside the UGB, and while it does not pass through designated Rural Reserve, a goal exception would be required for such an extension, and would only be granted if there were no reasonable alternatives available inside the UGB. The improvements to Tile Flat and Grabhorn Road identified in the SCM Concept Plan are intended to provide an alternative to 175th Avenue over the long run. Those improvements face fewer regulatory hurdles than the option of improving Tile Flat Road and improving and extending Clark Hill Road. In addition, because not all of the north-south traffic currently using Roy Rogers Road and 175th Avenue is traveling to destinations further west, 175th would continue to play an important role in offering north-south connectivity even with an alternate arterial route to the west.	Retain proposed safety and capacity improvements to 175th Avenue identified in the SCM Concept and Community Plans, as well as the proposed improvements to Tile Flat and Grabhorn Roads as part of a long-term alternative to 175th Avenue.	Concept Plan pages ES-11 (Figure ES-4), 19, 37 (Figure 7).
TR-3-C	Reduce street and development access to 175th Avenue. (See Exhibit 6-6)	175th Avenue residents	175th Avenue is a designated Arterial and Washington County's access management policies limit access to Arterial streets. The Concept and Community Plans include a transportation network that limits development access onto 175th Avenue; within the SCMAA these connections are limited to a new east-west Collector and two Neighborhood Routes, each of which require further evaluation. The County's policies generally preclude new driveway access to Arterials unless there is no reasonable alternative access. Traffic generated from development within SCM will utilize 175th Avenue as a north-south route whether or not convenient street access is provided to the roadway; eliminating direct access via one of the proposed streets would increase out-of-direction travel and decrease connectivity within the Community Plan area, with a disproportionate impact on pedestrians and bicyclists. Projected traffic on 175th Avenue is primarily the result of traffic through the planning area; therefore, it is not primarily resulting from development access within the planning. In fact, the preferred Concept Plan scenario for distributed transportation is designed to result in less traffic on 175th Avenue than in the future baseline projections from the TSP.	Retain proposed connections to 175th Avenue within the Community Plan area.	Concept Plan pages ES-11 (Figure ES-4), 37 (Figure 7); Community Plan page 22 (Figure 10).

Index #	Summary of Request	Source of Request	Project Team Analysis	Project Team Recommendation	Document and Page Reference
TR-4.	Improve Kemmer Road & 190th Avenue in place of constructing new arterial connection from Kemmer Road to 185th Avenue. (See Exhibit 6-7 and Exhibit 6-5, pages 7-8)	Property owner	Based on traffic modeling done for the project, most of the southbound volume on 185th Avenue will utilize the 185th extension if available. This extension provides a quicker, more direct arterial route that the 190th-Kemmer alignment would not provide. Without this connection, more demand would be placed on congested parallel routes. The County's intent is to conduct a refinement plan in this area to determine actual alignment. The Concept Plan's Transportation Framework includes a footnote stating "requires further study" to acknowledge future work. (Note that Exhibit 6-7 includes an image that does not fully capture projected traffic flows through this area. Since the volumes noted on the figure are study intersection volumes, it is difficult to compare directional volumes between two intersections, especially with additional accesses between the two intersections, as is the case between the two compared in the figure. Most of the westbound volume reaching the Gassner Road/190th Avenue intersection is originating from the northbound direction of the 185th extension, and turning left onto Gassner to reach it, rather than traveling south from 185th Avenue and turning right onto Gassner Road as assumed in Exhibit 6-7.)	Retain the proposed Kemmer Road to 185th Avenue connection, as footnoted, on Concept Plan map, and amend Washington County TSP to reflect this project, subject to a refinement plan to determine actual alignment.	Concept Plan pages ES-11 (Figure ES-4), 20, 37 (Figure 7), 38. (Note, also shown on other maps that would require updates if planned alignment is changed.)
TR-5.	Add Neighborhood Route connection to Scholls Ferry at Stroebel Road back into transportation framework maps. (See Exhibit 6-8, page 1)	CAC member (property owner / developer)	The Neighborhood Route in question and its intersection with Scholls Ferry Road have been the subject of discussions with Washington County. The county has expressed concerns about a Neighborhood Route connection to Scholls Ferry Road, which is an Arterial. Stroebel Road is an existing private drive that currently connects only to Scholls Ferry Road. City staff believe retaining and improving a connection at this location will enhance connectivity and walkability within the SCM Community Plan area. Limited access, such as right-in/right-out only, may be appropriate if there are safety concerns with providing full access at that intersection (a traffic signal is not proposed at that location).	Add Neighborhood Route connection to Scholls Ferry at Stroebel Road back into Concept and Community Plan transportation framework maps, with a note indicating it is subject to approval by Washington County. Continue to work with Washington County to reach agreement on proposed Neighborhood Route connections.	Concept Plan pages ES-11 (Figure ES-4), 37 (Figure 7), 40; Community Plan page 22 (Figure 10). (Note, also shown on other maps that would require updates if planned connection is added back in.)
LU-2.	Timing of application of zoning to SCM Community Plan properties				
LU-2-A	Apply R-1 zoning to planned Beaverton School District High School site as part of Community Plan adoption. (See Exhibit 6-9)	Beaverton School District (property owner)	The High Density Residential plan designation is implemented exclusively by the city's R-1 zone, thus there is no ambiguity as to which zone should be applied or compliance with a required mix of zones. The planned high school will be a conditional use in the R-1 zone, and will be subject to a Conditional Use review. The high school is a unique, public, and site-specific use; approval of this request does not set a precedent for private residential or commercial developments.	Apply R-1 zoning to planned Beaverton School District High School site as part of Community Plan adoption.	N/A

Index #	Summary of Request	Source of Request	Project Team Analysis	Project Team Recommendation	Document and Page Reference
LU-2-B	Do not adopt zoning designations for the planned Beaverton School District High School site or other properties until measures to implement the funding strategy are in place. (See Exhibit 6-10, page 2)	Washington County Department of Land Use and Transportation	The transportation component of the Funding Plan has been the subject of on-going discussions with the SCM Finance Task Force, which includes representatives from Washington County, the City of Beaverton, and developers. It is the city's intent to hold off on application of zoning for all properties except the Beaverton School District high school site. The rationale behind this decision is the need to settle the Infrastructure Funding Plan and establish a new SDC. The new SDC needs to be in place prior to development review. The city can accommodate development review of the high school site through separate means.	Apply R-1 zoning to planned Beaverton School District High School site as part of Community Plan adoption. Withhold application of zoning, except for the high school site, until a new SDC is established. Move forward with funding plan implementation as quickly as possible. Condition future zone changes on adoption of new funding mechanisms as applicable.	N/A
Additional Amendments Related to Land Use Designations and Policies					
LU-3.	Adjust Community Plan Land Use designations around central knoll in "Northwest Neighborhood" to better follow topography. (See Exhibit 6-11)	Property owner (CAC member)	The requested adjustment would more closely mirror the land use framework in the Concept Plan, but creates a more arbitrary boundary between the plan designations that does not follow future roads. The request would shift roughly 15.5 acres (nearly all buildable) from Standard Density Residential to Medium Density Residential, and about 6.8 acres (largely unbuildable) under a separate ownership from Medium Density Residential to Standard Density Residential. This change would increase estimated housing capacity by roughly 100 units relative to the Land Use Designations map included in the Community Plan.	Adjust the plan designations as requested.	Community Plan page 12 (Figure 7).
LU-4.	Adjust Community Plan Land Use designation boundary in "East Neighborhood" on Concept and Community Plan maps due to topography. (See Exhibit 6-12)	Property owner / developer (CAC member)	The requested adjustment is equally consistent with the land use framework in the Concept Plan, and since an adjustment to the alignment of the Neighborhood Route that creates the boundary between the designations is also requested, the boundary would follow that future road. The request would shift roughly 4.1 buildable acres from High Density Residential to Medium Density Residential (net of a very small area requested to shift from Medium to High Density). This change would decrease estimated housing capacity by roughly 100 units relative to the Land Use Designations map included in the Community Plan.	Adjust the plan designations as requested.	Community Plan page 12 (Figure 7).

Index #	Summary of Request	Source of Request	Project Team Analysis	Project Team Recommendation	Document and Page Reference
LU-5.	Designate land between NCM & the Nature Park, adjacent to Grabhorn Road, for Future Very Low Density Residential on Concept Plan Land Use Framework map. (See Exhibit 6-13)	NCM resident (CAC member)	The request concerns portions of two parcels totaling roughly 7.8 acres of land (roughly 5 acres identified as buildable) in the Urban Reserve Area east of Grabhorn Road and south of Stonecreek Drive. There is an existing home on each parcel. The parcels abut the Cooper Mountain Nature Park on their east and south sides. Based on their current County AF-20 zoning, no further development of the properties is allowed until they are brought into the Urban Growth Boundary, within a city, and given urban zoning. Based on the infrastructure analysis for this project, these parcels would likely be the last in the Urban Reserve Area to have access to sanitary sewer service (even after being brought into the UGB). As a result, development on the parcels in question is not likely for many decades. In that distant future, if the land is still privately held (Metro is seeking willing sellers adjacent to the Nature Park), additional design and development standards may be appropriate to ensure sensitive transitions both to the adjacent stream corridors and the Nature Park and to the adjacent low density housing. Designating these properties for 1-acre lots is not appropriate, since development will not be allowed until such time as the UGB is expanded to include the area and sanitary sewer service is made available.	Retain the Future Single Family Neighborhood designation in the Concept Plan.	Concept Plan pages ES-9 (Figure ES-3), 26 (Figure 3).
LU-6.	Reduce planned density at northeast corner of Scholls Ferry Road and Tile Flat Road. (See Exhibit 6-5, page 11)	Adjacent residents	A multi-use path with landscaped setback is planned on the east side of Tile Flat Road to provide a visual and physical buffer between relatively high density housing east of Tile Flat Road and rural homes and farms to the west in the Rural Reserve. The land is flat and buildable, though constrained to the north by a stream corridor and wetland. Other public feedback has largely supported focusing the highest density development close to Scholls Ferry Road.	Retain the High Density land use designation on the SCM Community Plan land use map and the Urban Neighborhood designation on the Concept Plan land use framework map.	Concept Plan pages ES-9 (Figure ES-3), 26 (Figure 3); Community Plan pages 9 (Figure 5), 12 (Figure 7).
LU-7.	In the Community Plan land use policies, calculate required mix of zones by development site, not single parcel.	CAC & Project Team	Some development sites span multiple parcels, but the land use implementation policy related to application of zoning is currently worded to apply "to a given property". This would be unnecessarily burdensome for larger development sites with multiple parcels, and was not the intent of the policy.	Modify Land Use Implementation Policy 3 as follows (Also shown on Attachment B): "The mix of zones applied to a given ~~property~~ development site shall be consistent with the assumed mix of zones shown in Table 2." (No changes to remainder of policy.)	Community Plan page 15.
LU-8.	Allow more (but not less) application of higher density zones than the prescribed mix without a plan amendment. (See Exhibit 6-8, pages 1 & 6)	Property owner (CAC member)	Analysis of the transportation impacts and infrastructure needs of development was based on Concept Plan capacity estimates. The designations and mix of zones specified in the SCM Community Plan is intended to result in an estimated capacity in line with that estimated for the SCMAA as part of the Concept Plan work. Significant deviations from this capacity could affect infrastructure in ways not anticipated by the planning work to date. The project team's intent was to allow a limited amount of flexibility in the application of zoning in order to ensure both that capacities would not be diminished and that infrastructure would be adequate. The land use implementation policies include a standard that amendments to the Land Use Map will be required to demonstrate that the change does not result in an increase or decrease in minimum residential capacity of the subject property of more than 10%. A similar standard, keeping deviations in capacity within a 10% tolerance, was intended to be applied to the required mix of zones as well.	Modify Land Use Implementation Policy 3 to add: "Deviations from the mix shown in Table 2 may be allowed, provided that they do not result in an increase or decrease in minimum residential capacity of the subject site of more than 10%." (Also shown on Attachment B.)	Community Plan page 15.

Index #	Summary of Request	Source of Request	Project Team Analysis	Project Team Recommendation	Document and Page Reference
LU-9.	Clarify policy related to interim zoning and application of urban zoning in the SCM Community Plan.	Project team	Land Use Implementation Policy #2 states that Washington County zoning will remain in place until new city zoning is applied, and states that agricultural uses shall be allowed to continue until the property owner submits a development application and zone change request. The policy does not explicitly state that city of Beaverton resource protection requirements and other related standards (such as grading) will apply even prior to application of City zoning.	Modify Land Use Implementation Policy 2 to add: "City of Beaverton development code requirements are applicable to all site modifications, such as resource protection and grading standards, and shall be enforced throughout the SCM Community Plan area regardless of whether urban or rural zoning is in place." (Also shown on Attachment B.)	Community Plan page 15.
LU-10.	Clarify and re-organize housing variety policies in SCM Community Plan.	Project team	Neighborhood and Housing Policy #1.a requires a variety of housing types at the neighborhood level. This goal is implemented through the pattern of land use designations and requirements applied to individual developments. The goal to ensure that each neighborhood continues to provide opportunities for a variety of housing types is an on-going issue, and better captured as part of the policies related to changes to the Community Plan Land Use map as opposed to the Neighborhood and Housing Policies. The housing variety policies applicable to individual developments and PUDs should be clearly linked to the housing types allowed in each zone, and specify how much of a given housing type is required in order to meet the policy. These details are best captured in the development code rather than in the Community Plan.	**Policy recommendations:** (Also shown on Attachment B.) Delete Neighborhood and Housing Policies 1.a and 1.b, and modify Land Use Implementation Policy 5 as shown on Attachment B. Rewrite Neighborhood and Housing Policy 2 as shown on Attachment B. **Code recommendations:** Create development standards to implement this policy in the Development Code. (This will be addressed as a follow-up item in the Implementation Plan.) The code standards will define the types and amounts of housing that qualify to meet the variety goals, and provide flexibility through the PUD process to meet the standard through innovative design.	Community Plan pages 16,18-19.
LU-11.	Remove placeholder for Appendix B (Inter-Governmental Agreements) from the Concept Plan and change references to IGAs to MOUs.	Project Team	Memoranda of understanding (MOUs) will be developed with all relevant districts and service providers to provide for implementation of the Concept Plan and coordination of services by multiple service providers following adoption of the Concept Plan. They will not be completed prior to adoption. City legal staff recommends MOUs as the appropriate tool for such agreements.	Remove placeholder for Appendix B (Inter-Governmental Agreements) and references to it from the Concept Plan. Replace with language indicating that MOUs will be prepared following adoption of the Concept Plan.	SCM Concept Plan, pages 61, 62, Appendix B
LU-12.	Correct typo in Concept Plan capacity table.	Project Team	Table 1 on page 35 of the Concept Plan lists the capacity in the East Hills as 780; this number should read 830. The capacity for Grabhorn Meadow should ready 660 rather than 650 (this is due to a rounding error only). All other numbers in the table, including totals and net densities, are correct.	Amend Table 1 to list 830 rather than 780 as the capacity in the East Hills and 660 rather than 650 as the capacity for Grabhorn Meadow.	SCM Concept Plan, page 35
LU-13.	Correct typo in Concept and Community Plan acknowledgements pages.	Project Team	The name of the Tualatin Valley Water District representative on the Technical Advisory Committee was mis-spelled in both documents.	Change "Mark Knudesen" to "Mark Knudsen" in Concept and Community Plan acknowledgements pages.	SCM Community Plan, Appendix A; SCM Concept Plan, Appendix D

Index #	Summary of Request	Source of Request	Project Team Analysis	Project Team Recommendation	Document and Page Reference
Additional Amendments Related to Transportation Framework and Policies					
TR-6.	Plan for alternative alignment of 175th to 185th Avenue connection as previously considered in Scenario B. (See Exhibit 6-14)	Property owner	The option preferred by the questioning property owner was fully evaluated, along with the preferred alignment and three additional options in the Draft Concept Plan Scenario memorandum, dated May 12, 2014 (pages 25-28). The alignment that was considered with Scenario B that the property owner identifies as preferred would cost over $6 million more than the alignment identified in the Concept Plan based solely on the additional right-of-way and new road length needed to traverse through the "Hilltop" area in the Urban Reserve Area rather than improving Kemmer Road. This cost differential does not account for the cost of the bridge that would be needed over the creek, which would add millions of dollars in additional costs and would require more in-depth study to realistically estimate costs. In addition, a new road alignment through the Urban Reserve would require either a UGB expansion or a statewide planning goal exception. Since it is unlikely that a goal exception could be justified (because the alignment included in the Concept Plan provides a reasonable alternative), a new road would not be able to be built until the Hilltop area was brought into the UGB.	Retain the proposed Kemmer Road to 185th Avenue connection on Concept Plan map, and amend Washington County TSP to reflect this project.	Concept Plan pages ES-11 (Figure ES-4), 20, 37 (Figure 7), 38. (Note, also shown on other maps that would require updates if planned alignment is changed.)
TR-7.	Incorporate measures to reduce traffic speeds on Kemmer Road and improve intersections at 176th and 182nd Avenues to make it easier for residents to exit onto Kemmer Road. (See Exhibit 6-15)	Kemmer View Estates resident	The safety and access concerns of adjacent residents will need to be balanced with the need to provide for efficient traffic flow along Kemmer Road. Specific design measures and intersection treatments should be evaluated during the design stages of roadway improvements for Kemmer Road.	Identify these issues for future study during the design stages of roadway improvements for Kemmer Road.	Concept Plan page 38.
TR-8.	Identify 175th Avenue from Scholls Ferry Road to the UGB as a 5-lane arterial, rather than a 3-lane arterial, in the SCM Funding Plan. (See Exhibit 6-10, page 1)	Washington County Department of Land Use and Transportation	Transportation analysis of the preferred Concept Plan land use and transportation indicated that with all proposed transportation improvements in place, 175th Avenue would have adequate capacity at three lanes. However, in subsequent discussions, Washington County staff expressed concern that the proposed extension of Tile Flat Road through the Urban Reserve south of Scholls Ferry Road to connect to Roy Rogers Road at Bull Mountain Road may not be constructed within the planning horizon, in time to serve the projected 2035 demand. Given this uncertainty, the County requested that the section of 175th Avenue from Scholls Ferry Road to the UGB be planned as a 5-lane arterial. The Concept and Community Plan maps do not indicate the needed number of lanes; however Table 2 includes the proposed transportation project list, which lists the 175th Avenue improvement to three lanes. (In addition, the Beaverton TSP, which will be amended to be consistent with the SCM Community Plan, does identify the planned number of lanes for major roads in Figure 6.6.) In addition, the SCM Funding Plan, which is an appendix to the SCM Concept Plan, uses cost assumptions based on a specific number of lanes.	Identify 175th Avenue from Scholls Ferry Road to the UGB as a 5-lane arterial in the Beaverton TSP and in the Funding Plan project list.	Concept Plan page 46.

Index #	Summary of Request	Source of Request	Project Team Analysis	Project Team Recommendation	Document and Page Reference
TR-9.	Adjust alignment of north-south collector road on Community Plan and Concept Plan maps to cross Scholls Ferry at property line rather than center of parcel and to utilize a roundabout rather than a curve. (See Exhibit 6-1, pages 2 and 4)	Property owner (CAC member)	The project team produced two conceptual site studies for the Main Street based on the alternative alignments for the section of the north-south collector road just north of Scholls Ferry Road. One considered a two-sided Main Street with the collector running down the center of the parcel (as the street is currently mapped in the Community Plan); the other considered a Main Street located just on the west side of the road, with the high school site on the east side of the road. While there are design advantages to the two-sided Main Street, the potential to coordinate access with the High School and to provide a more direct connection to River Terrace suggest the property line alignment. The roundabout is a design solution that should be considered during site planning for the high school and the adjacent property; a specific intersection treatment does not need to be identified in the Community Plan. (Note, however, that the drawing provided by the property owner in Exhibit 6-1 shows the roundabout located further north than the remainder of the collector street alignment will allow, due to the presence of the natural resource area to the northeast. A roundabout, if appropriate, would likely have to be located at the northeast corner of 17811 SW Scholls Ferry, Tax Lot 00700 of Washington County Assessor's Map 2S10600.)	Adjust the north-south collector road alignment to run along the property line on the western edge of the high school site at its southern end, where it intersects Scholls Ferry Road. Consider options (e.g. signal, roundabout) for intersection design when the intersection is designed.	Concept Plan pages ES-11 (Figure ES-4), 37 (Figure 7); Community Plan page 22 (Figure 10). (Note, also shown on other maps that would require updates if planned alignment is changed.)
TR-10.	Adjust the Neighborhood Route alignment in "East Neighborhood" on Concept and Community Plan maps due to topography. (See Exhibit 6-12)	Property owner / developer (CAC member)	The Neighborhood Route in question and its intersection with 175th Avenue have been the subject of discussions with Washington County. The county has expressed concerns about a Neighborhood Route connection to 175th Avenue, which is an Arterial. City staff strongly believes that this is an important intersection, because it will provide a connection to the future high school, and is an important bicycle and pedestrian route. The alignment requested by the developer appears to meet Washington County's 1000-foot spacing standard for arterial intersections. Staff caution that further analysis may be needed regarding site distance and topography in determining the safest and most appropriate location for the intersection.	Continue to work with Washington County, Beaverton School District, and property owners, and developers to coordinate access to and crossings of 175th Avenue in the vicinity of the future high school. Consider the Neighborhood Route location as flexible in the Community Plan.	Concept Plan pages ES-11 (Figure ES-4), 37 (Figure 7); Community Plan page 22 (Figure 10). (Note, also shown on other maps that would require updates if planned alignment is changed.)
TR-11.	Show proposed traffic signals / traffic control at intersections in and around SCM.	Planning Commission	The cities of Beaverton and Tigard are working with Washington County to refine and approve appropriate locations for traffic signals serving South Cooper Mountain and River Terrace along Scholls Ferry Road and Roy Rogers Road / 175th Avenue. The County has approved planned signals at the intersection of Scholls Ferry Road and Tile Flat Road, and at the intersection of Roy Rogers Road and Bull Mountain Road. Additional traffic signals (or roundabouts) recommended by the cities as part of the SCM and River Terrace planning processes remain under discussion and are subject to County approval. Signalization of any intersection will be determined based on warrants and/or traffic impact analysis.	Existing, planned and recommended traffic signals and/or roundabouts are shown on the Transportation Framework comment log index map. This map (as amended based on other comments) would replace the current Transportation Framework map in the draft Community Plan.	Concept Plan pages ES-11 (Figure ES-4), 37 (Figure 7); Community Plan page 22 (Figure 10).

Index #	Summary of Request	Source of Request	Project Team Analysis	Project Team Recommendation	Document and Page Reference
TR-12.	Require that roads in SCM be constructed and maintained to City of Beaverton standards. (See Exhibit 6-16, page 2)	Wendy Kroger, Planning Commission Alternate	All new Collector roads, Neighborhood Routes, and local streets within the SCM Community Plan area will be built to Beaverton's street standards. However, 175th Avenue, Scholls Ferry Road, and Tile Flat Road are, and will remain, under Washington County jurisdiction. Because these are County roads (and designated as Arterials in the recently-adopted County Transportation System Plan), they will be improved and maintained to Washington County urban arterial standards, which are similar, but not identical, to the City of Beaverton's Arterial Road standards.	Keep existing transportation policies.	Concept Plan page 38; Community Plan pages 22-23.
TR-13.	Consider a MAX stop at the Main Street area. (See Exhibit 6-16, page 3)	Wendy Kroger, Planning Commission Alternate	Discussions with TriMet to date have indicated that the best opportunities for providing transit service to SCM are the extension of the existing bus line that runs on Scholls Ferry Road (line 56) and possibly a longer-term express bus service along 175th Avenue / Roy Rogers Road. The projected transit ridership for this area does not justify extension of MAX service, which does not currently extend anywhere near the SCM planning area.	Keep existing transit discussion and policies in Concept and Community Plan. Continue discussions with TriMet regarding potential bus line extensions to serve SCM.	Concept Plan pages 42, 44.
TR-14.	Modify street policies in the SCM Community Plan to emphasize goals and intended outcomes.	Project Team	The Community Plan will be adopted as part of the Comprehensive Plan; thus, it is appropriate for the policy language to focus on goals and intended outcomes rather than describing in detail what must be built where. This is better accomplished through maps and more detailed implementation.	See attached (Attachment B) for proposed modifications to Street Policies.	Community Plan pages 22-24.
TR-15.	Clarify that maps in the community plan are advisory only, and that the maps in the Transportation Element of the Comprehensive Plan control in case of a conflict.	Project team	Including maps in the Community Plan makes it a more complete and accessible document; however, there is the potential for maps to get out of sync with the city's primary comprehensive plan maps if updates are not reflected in both places. To ensure that this does not create a problem in the future, once updates from the Community Plan are reflected on the city's primary Transportation Plan maps, those maps should control in the event of a disparity.	Modify Street Policy #1 on page 22 as follows: "The streets planned for the Community Plan area are illustrated in Figure 10. The Beaverton Transportation System Plan and Washington County Transportation System Plans will be updated consistent with Figure 10 and will be the controlling documents for transportation planning. <u>Should conflicts arise between the maps in Chapter 6 of the City's Comprehensive Plan and the maps in this document, those in Chapter 6 shall prevail.</u>" (Also shown on Attachment B.)	Community Plan page 22.
Bicycle/Pedestrian Framework and Policies					
BP-1.	Adjust alignment of proposed Cooper Mountain Regional Trail south of Kemmer Road through Hilltop to west (within Cooper Mountain Nature Park) or east (on City-owned property). (See Exhibit 6-17)	Property owner	Cooper Mountain Nature Park has a "soft trail" policy that precludes a paved multi-purpose path within the park; however, the request is to place the trail immediately inside the property line for the park for a relatively short distance (about 600 feet). Aligning the trail to run near the western edge of the property owned by the City where the water tower is located may be feasible, however City public works has cautioned that existing piping and future property improvements are not conducive to locating the trail close to the property line. The Implementation Plan includes an action to evaluate options and establish the alignment for the trail.	Conduct future trail alignment planning in partnership with Metro, THPRD, and Beaverton Public Works regarding potential alignments on public land.	Concept Plan pages ES-12 (Figure ES-5), 21, 43 (Figure 8).

Index #	Summary of Request	Source of Request	Project Team Analysis	Project Team Recommendation	Document and Page Reference
BP-2.	Adjust alignment of proposed Cooper Mountain Regional Trail to follow THRPD Trails Plan (See Exhibit 6-19)	THPRD Trails Advisory Committee	The project team is aware of the alignment shown in the THPRD Trails plan; however, as noted above, the "soft trail" policy within the Nature Park likely precludes extension of the trail through the park. Because of this, the team identified the route shown in the Concept Plan as a way to make the connection to the west of the park.	Continue coordination with THRPD, Metro, and other stakeholders on alignment and implementation for the Cooper Mountain Regional Trail.	Concept Plan pages ES-12 (Figure ES-5), 21, 43 (Figure 8).
BP-3.	Base trail designs on THPRD standards (See Exhibit 6-19)	THPRD Trails Advisory Committee	The project team relied on the 2006 THRPD Trails Master Plan, along with conversations with THPRD staff, to identify appropriate trail types and standards for South Cooper Mountain. The presumption is that Community Trails within the SCM Community Plan area will be included in the Transportation Element of the City's Comprehensive Plan. Right-of-way dedication would then be required through the land use process for these trails, and they would be required to be constructed to City of Beaverton standards, which closely match THRPD's current community trail standards. Regional trails are presumed to have a somewhat different implementation mechanism than community trails, with more participation by THPRD. If those trails are initiated by the public sector, the cross-section would be established as part of project design by the lead agency. If they are to be built by developers, a refinement of the current standards may be needed to ensure the proper cross-section is provided.	Amend the Beaverton TSP to include all community trails (including those currently shown as Nature Trails but recommended to be shown as community trails in BP-5) within the SCM Community Plan area. Continue coordination with THRPD and others on implementation mechanisms for regional trails.	Concept Plan pages 40-41; Community Plan pages 24-25.

Index #	Summary of Request	Source of Request	Project Team Analysis	Project Team Recommendation	Document and Page Reference
BP-4.	Add further detail to trails descriptions in the Concept Plan. (See Exhibit 6-16, page 3-4)	Wendy Kroger, Planning Commission Alternate	THPRD is in the process of updating its Trails Master Plan; however, the current adopted version is from 2006. The project team relied on the 2006 Trails Master Plan, along with conversations with THPRD staff, to identify appropriate trail types and standards for South Cooper Mountain. Details of trail widths, cross-sections, and specific designs will be determined as part of the development review process or as part of project design for public sector initiated projects. This will allow for any updates to THPRD's trail standards and any conflicts between City standards and THPRD standards to be addressed at the time the trail is to be constructed.	Make the following changes to the Concept Plan text in the Bicycle & Pedestrian framework: • page 40, first paragraph under Introduction: "While the ultimate trail widths and designs will be determined in the future, the following trail typology is recommended for planning purposes (consistent with THPRD's 2006 Trails Master Plan). When trails identified in the Concept Plan are implemented, the applicable City or THPRD trail standards (as applicable) in place at that time should be used." • page 41, description of Pedestrian-Only Nature Trails, add: "Trails identified as Nature Trails should be designed to provide ADA accessibility wherever possible, and, where topography allows and storm water runoff can be managed appropriately, should be designed as paved shared-use paths." (No changes to the rest of the description.) • page 41, description of Cooper Mountain Regional Trail: "This trail will ultimately connect the Westside Trail to the planned Reedville Trail (formerly called the BN Powerline Trail) as well as linking to Cooper Mountain Nature Park, Winkelman Park, and the Jenkins Estate. The trail will be designed to meet Metro and THPRD Regional Trail standards." • page 42, last full paragraph, add: "Where trails parallel a road, right-of-way or easements for the trail should be purchased or dedicated simultaneously with road improvements or construction whenever possible."	Concept Plan pages 40-42.
BP-5.	Reduce reliance on Nature Trails, planning for paved trails wherever possible. (See Exhibit 6-16, page 4 and Exhibit 6-19)	Wendy Kroger, Planning Commission Alternate; THPRD Trails Advisory Committee	Nature trails reduce environmental impacts to adjacent resource areas from storm water runoff; however, they may not always be ADA-compliant and generally do not serve bicyclists. Because trails are assumed to be located outside of the vegetated corridors of protected streams and wetlands except where crossings are required, there may be other ways to address storm water runoff, such as with bioswales. Where a trail provides a connection not available through planned roadways, accommodating all users is especially important.	Amend Concept and Community Plan bicycle/pedestrian framework maps to show the following trails as multi-use paths: • Stream corridor trails in SCMAA • McKernan Creek Trail in URA • Creek to Creek Trail in URA	Concept Plan pages ES-12 (Figure ES-5), 43 (Figure 8); Community Plan page 25 (Figure 11).

Index #	Summary of Request	Source of Request	Project Team Analysis	Project Team Recommendation	Document and Page Reference
BP-6.	Upgrade Cooper Mountain Loop Trail to a Regional Trail (See Exhibit 6-19)	THPRD Trails Advisory Committee	The Cooper Mountain Loop Trails serve an important transportation purpose, providing a safe, protected facility for cyclists that may not feel comfortable riding in a bike lane on a busy street, and offering connections to important destinations and links to other trails. However, because they are planned to parallel the major roads, further coordination is needed between the City, the County, and THPRD to establish appropriate cross-sections and responsibilities for ownership and maintenance.	Continue to show the Cooper Mountain Loop Trails as community trails in the SCM Concept and Community Plans, pending further discussion and coordination with Washington County and THPRD.	Concept Plan pages ES-12 (Figure ES-5), 43 (Figure 8); Community Plan page 25 (Figure 11).
BP-7.	Indicate where mid-block crossings are needed for trails. (See Exhibit 6-16, page 3)	Wendy Kroger, Planning Commission Alternate	All new intersections and mid-block crossings on the arterial roads in the SCM area require approval of Washington County, which has (and will retain) jurisdiction over these roads. Mid-block crossings require a Traffic Impact Analysis (TIA), and will be approved by the County as warranted.	Rely on site-specific analysis to identify appropriate crossing locations and treatments for trails crossing roads.	Concept Plan pages ES-12 (Figure ES-5), 43 (Figure 8); Community Plan page 25 (Figure 11).
BP-8.	Construct trails that are parallel to streets at the same time the road is built or improved. (See Exhibit 6-16, page 3; and Exhibit 6-19)	Wendy Kroger, Planning Commission Alternate; THPRD Trails Advisory Committee	Trails within the SCM Community Plan area that serve a transportation function are proposed to be added to the Transportation Element of the City's Comprehensive Plan. Right-of-way dedication would then be required through the land use process for these trails.	Amend the Beaverton TSP to include all community trails (including those currently shown as Nature Trails but recommended to be shown as community trails in BP-5) within the SCM Community Plan area. As part of code amendments to implement the SCM Community Plan, consider whether clarifications are needed to Section 60.55.25 (Street and Bicycle and Pedestrian Connection Requirements) to strengthen dedication requirements for trails and/or standards for trail design.	Concept Plan pages 40-42; Community Plan pages 24-25.
BP-9.	Revise Concept Plan language regarding the pedestrian and bicycle network. (See Exhibit 6-16, page 3)	Wendy Kroger, Planning Commission Alternate	The words "trails" and "paths" are used interchangeably throughout the Concept Plan document. This reflects the variety of terms used by the City of Beaverton, Washington County, and THPRD. Trails / paths are considered an essential component of the SCM transportation system, and are seen as providing both functional and recreational value.	Amend the Concept Plan text on page 36, 3rd paragraph (and same text on page ES-10, 4th paragraph) to read: "**Provide a Diverse, Connected ~~Great, But Practical,~~ Pedestrian and Bicycle Network –** South Cooper Mountain's pedestrian and bicycle network is a key component of a balanced transportation system that provides many travel options. The network will be built incrementally over time...." (no change to remainder of paragraph)	Concept Plan, pages ES-10, 36.
BP-10.	Modify street and bicycle/pedestrian policies in the SCM Community Plan to emphasize goals and intended outcomes.	Project Team	The Community Plan will be adopted as part of the Comprehensive Plan; thus, it is appropriate for the policy language to focus on goals and intended outcomes rather than describing in detail what must be built where. This is better accomplished through maps and more detailed implementation.	See attached (Attachment B) for proposed modifications to Community Plan Bicycle and Pedestrian Framework Policies.	Community Plan pages 24-25.

Index #	Summary of Request	Source of Request	Project Team Analysis	Project Team Recommendation	Document and Page Reference
Resource Protection and Enhancement Maps and Policies					
RP-1.	Strengthen language regarding protection of natural resources in the Concept Plan. (See Exhibit 6-16, page 1)	Wendy Kroger, Planning Commission Alternate	The SCM Concept Plan is not a regulatory land use document: it guides, but does not bind, the development of Community Plans. The language in the document reflects this role. The SCM Community Plan policies include "will/shall" language for resources within city limits. The city does not currently have jurisdiction over resources within the Urban Reserve Area, which are subject to Washington County regulations. These regulations provide no protection to upland habitat, and limited protection for significant riparian habitat on agricultural / forest land (protection from development, but not from "activities customarily conducted in conjunction with commercial farm and forest practices"). Further coordination with Washington County is needed to explore options to enhance protections for significant riparian habitat on agricultural / forest land while it remains under Washington County jurisdiction. The implementation plan identifies next steps to address natural resources protection in coordination with Washington County and other partner jurisdictions.	Revise Concept Plan page 56, second paragraph, to read: "The City of Beaverton will work with Washington County and other partner jurisdictions to explore measures to encourage preservation of upland habitat within the URA prior to UGB expansion and to prevent tree removal in the interim period between UGB expansion and adoption of city zoning. Such measures could include:"	Concept Plan, page 56.
RP-2.	Address avoidance, minimization, and mitigation of natural resources for all transportation & infrastructure construction. (See Exhibit 6-16, page 2)	Wendy Kroger, Planning Commission Alternate	The project team has considered the mapped location and extent of known natural resources in identifying proposed future streets and trails, and sought to identify general locations for future roads and trails that minimize impacts to identified natural resources. The alignments of these facilities as shown on the Concept and Community Plan maps are conceptual and subject to further refinement through the development review process or through project design for city- or county-initiated projects. Article VII of Washington County's Community Development Code provides regulations for transportation improvements that include the requirement to evaluate alternatives and minimize impacts on natural resources for any projects that impact new areas of significant natural resources. In the City of Beaverton, Clean Water Services (CWS) regulates encroachment on protected vegetated corridors and the Development Code regulates impacts to Significant Natural Resource Areas (SNRA) and protected trees whether for new buildings or new roads.	Add an additional Street Policy to the SCM Community Plan, as follows: (Also shown on Attachment B.) "9. In refining specific alignments for new roads identified on the Community Plan Street Framework map through the development review or project design process, impacts to natural resources shall be minimized to the extent possible while retaining key connections." Add an additional Infrastructure Policy to the SCM Community Plan, as follows: "7. In identifying specific alignments for new water and sewer infrastructure, impacts to natural resources shall be avoided or minimized to the extent possible."	Community Plan, pages 22-24, 35.
RP-3.	Establish a baseline of Goal 5 resources in SCM. (See Exhibit 6-16, page 2)	Wendy Kroger, Planning Commission Alternate	Resource inventory work was done as part of the Concept and Community Plan process, focused on the SCM Community Plan area. Washington County's Rural/Natural Resources Plan maps identify Goal 5 resources within the portions of SCM that are in County jurisdiction. In addition, Metro's Title 13 mapping identifies upland habitat areas in the Urban Reserve Area (upland habitat area mapping has been updated within the SCM Community Plan area based on more recent aerial photography and site visits). The inventory work done in the SCM Community Plan area will provide the basis for adoption of Significant Natural Resources, Significant Tree Groves, and Habitat Benefit Areas by the City of Beaverton within the SCM Community Plan area. More detailed inventory work will be required for the URA at such time as it is brought into the UGB.	Rely on natural resources inventory work conducted as part of the Concept and Community Plan process to provide the basis for adoption of Significant Natural Resources, Significant Tree Groves, and Habitat Benefit Areas by the City of Beaverton within the SCM Community Plan area.	Concept Plan pages ES-14 (Figure ES-6), 54 (Figure 12); Community Plan, pages 26, 27 (Figure 12).

Index #	Summary of Request	Source of Request	Project Team Analysis	Project Team Recommendation	Document and Page Reference
RP-4.	Clarify Scenic View policies to presume voluntary, incentive-based protection rather than regulatory protection.	Project Team	The city's Comprehensive Plan, Chapter 7, notes that the city has chosen not to address views of surrounding mountains or similar features as protected Statewide Planning Goal 5 resources, choosing instead to focus on scenic sites such as wooded ravines within the city. Protecting scenic viewpoints beyond those already captured in the city's inventory would require establishing an inventory of such sites and evaluating and balancing the Environmental, Social, Economic, and Energy consequences of protecting such sites under Goal 5. Such an inventory and analysis is beyond the scope of this project, and is inconsistent with the city's existing policies. However, voluntary, incentive-based mechanisms can be developed to encourage protection of public access to scenic views without requiring an inventory and evaluation process.	Add language in Chapter 7 of the Comprehensive Plan that the city will pursue voluntary, incentive-based measures to encourage protection of public access to scenic views of mountains and other major topographic features. Modify Scenic View Policy 1 as shown on Attachment B.	Community Plan, page 28.
RP-5.	Revise Rural Transition policies to better reflect current city requirements and reduce duplication between Community Plan policies.	Project Team	Trails, including the one proposed adjacent to Tile Flat, are adequately addressed under the Bicycle and Pedestrian Framework policies. The policy directing the city to explore SDC credits for trails has been captured in the Implementation Plan, since it is a specific action rather than an on-going policy. In addition, current city policy would require developers to dedicate and construct trails shown in the TSP, such as the one proposed adjacent to Tile Flat, so a specific requirement for that trail is unnecessary.	Modify Rural Transition Policies as shown on Attachment B.	Community Plan, page 29.
Infrastructure Maps and Policies					
IN-1.	Clarify applicability of storm water management regulations.	Project team	The SCM Community Plan describes the work done to date regarding storm water management, acknowledges evolving federal requirements, and includes Infrastructure Policy 6 regarding development of a Storm Water Management Plan for the SCM Community Plan area. During the Concept Plan process, the project team stated their assumption that prior to completion and adoption of any new storm water management policies or regulations, existing regulations would apply; however, this is not explicitly stated in the Community Plan at present.	Modify Infrastructure Policy 6 to add: "In the interim, the City will work with Clean Water Services and developers to apply existing storm water management regulations."	Community Plan, page 35.
IN-2.	Require low impact development techniques for streets. (See Exhibit 6-16, page 2)	Wendy Kroger, Planning Commission Alternate	The City currently uses the Site Development review process to check for compliance with CWS Low Impact Development Approach (LIDA) standards.	Add an additional Street Policy to the SCM Community Plan, as follows: (Also shown on Attachment B.) "10. Low Impact Development and "green street" techniques to manage storm water runoff shall be utilized whenever feasible in the design of new streets and urban upgrades within the SCM Community Plan area, subject to the approval of the City Engineer."	Community Plan, pages 22-24.
IN-3.	Encourage use of sustainable storm water management techniques and provide incentives for developers to use green construction methods. (See Exhibit 6-16, pages 3 & 5)	Wendy Kroger, Planning Commission Alternate	The City's Development Code (60.12.40) includes a set of incentives for use of Low Impact Development Techniques. A Storm Water Management Plan will be developed for the SCM Community Plan area, as noted above. This plan will identify preferred storm water management techniques and requirements.	Consider development code amendments to strengthen incentives for LID techniques. (This will be addressed as a follow-up item in the Implementation Plan.)	Community Plan, pages 31-32.

Index #	Summary of Request	Source of Request	Project Team Analysis	Project Team Recommendation	Document and Page Reference
IN-4.	Consider a refinement to the location of a main sewer line to serve the central portion of the SCM Community Plan area. (See Exhibit 6-8, page 9)	Property owner (CAC member)	The sanitary sewer and drinking water alignments shown on maps in the Concept and Community Plans are conceptual only; refinements are assumed to be necessary as development occurs.	Address the requested refinement (and other similar refinements) through the development review process.	Concept Plan page 59 (Figure 14); Community Plan page 34 (Figure 16).
Development Code Amendments					
DC-1.	Modify the Planned Development code to help implement the vision of the SCM Community Plan while allowing a high level of flexibility. (See Exhibit 6-8, pages 2 & 7)	Property owner (CAC member)	The project team anticipates that the Planned Development process will be the most appropriate vehicle to implement many of the SCM Community Plan's policies and goals. The City's current Planned Development standards were not developed to implement new urban areas that have undergone concept and community planning. An update to the PUD code has potential to provide a valuable tool to implement the Community Plan.	Address updates to the Planned Development standards to both implement SCM Community Plan policies and make the process easier and more flexible for developers. (See Implementation Plan.)	Implementation Plan, page 4.
DC-2.	Allow courtyard / cottage / cluster development outright in the R-2 and R-4 zones. (See Exhibit 6-8, pages 2 & 7)	Property owner (CAC member)	Ensuring that it is relatively easy to build a variety of housing types, including courtyard, cottage, common green and similar types of products, supports the Community Plan policies about housing variety and is consistent with the Concept and Community Plan intent. Additional work is needed to determine what code amendments are needed in order to enable/facilitate the development of these housing types in the R-2 and R-4 zones.	Identify and adopt amendments to the development code to enable/facilitate the development of courtyard / cottage / cluster housing in the R-2 and R-4 zones.	N/A
DC-3.	Provide more protections for natural resources, including trees and upland habitat. (See Exhibit 6-5, page 9)	General public	The project team has continued to develop and refine strategies to enhance protections for natural resources within the project area. Some of these ideas have been captured in the draft Concept Plan. Others will be captured in proposed draft code amendments to implement the Concept and Community Plans.	Continue work on code amendments and other strategies to enhance protection for natural resources. (See Implementation Plan)	Implementation Plan, pages 18-19.

Comments on the Community Plan and Concept Plan Amendments Without a Request for Plan Modification

1. Letter in Opposition from Michael and Trisha Copeland, Received 10-22-2014 (Exhibit 6-18)

Land Use Implementation Policies

1. *The City shall adopt a Land Use Map as part of the Community Plan that establishes initial comprehensive plan map designations for the South Cooper Mountain Community Plan area.*

2. *Washington County zoning, as administered by the City, shall remain in place until new City zoning is applied. Existing agricultural uses in the Community Plan area shall be allowed to continue until the property owner decides to transition to urban development and submits a development application to the City, at which time the property will be rezoned consistent with the Community Plan. City of Beaverton development code requirements, with the exception of Chapter 20 Site Development Standards, are applicable to all site modifications, such as resource protection and grading standards, and shall be enforced throughout the SCM Community Plan area regardless of whether urban or rural zoning is in place.*

3. *Zoning may be applied[1] through initiation by the City or as requested by an applicant. Zoning and development review applications may be requested concurrently. The mix of zones applied to a given ~~property~~ development site shall be generally consistent with the assumed mix of zones shown in Table 2. Deviations from the mix shown in Table 2 may be allowed, provided that they do not result in an increase or decrease in minimum residential capacity of the subject site of more than 10%.*

4. *Amendments to the boundaries of Land Use Map designations may be proposed as individual requests prior to development, or simultaneously when development is proposed. This policy is intended to provide a means for the Land Use map and zoning to be aligned with site-specific conditions, and the placement of roads, housing densities, parks, schools and other development that will occur incrementally over time.*

5. *All Land Use map amendments ~~and~~ will be required to demonstrate consistency with this Community Plan in addition to applicable Comprehensive Plan policies, Development Code requirements, and other applicable regulations. Amendments to the Land Use Map will be required to demonstrate:*

   a. *~~that~~ That the change does not result in an increase or decrease in minimum residential capacity of the subject property of more than 10%; and*

   ~~a.~~ b. *That the affected neighborhood(s) (as depicted on Figure 8) continue to provide a mix of land use designations and opportunities for a variety of housing types. The goal of this policy is to ensure that South Cooper Mountain's neighborhoods and livability are enhanced by variety in the type and design of housing.*

~~5.~~6. *The City will support efforts by THPRD and Beaverton and Hillsboro School Districts to find, acquire and develop appropriate sites for neighborhood parks and elementary schools within the Community Plan area. The following location criteria shall guide the selection of appropriate sites:*

   a. *Neighborhood Parks*

[1] Section 40.97 of the Development Code of the City of Beaverton (Zoning Map Amendment) outlines various applications used in applying City zoning to properties within the City.

i. Two to four acres per neighborhood park of unconstrained, relatively level land for active recreation facilities
ii. Good frontage on a local street or Neighborhood Route with on-street parking
iii. Good connections to trails
iv. Focal points for neighborhoods, with walkable "catchment areas"
v. Co-location adjacent to a school is highly desirable

b. Elementary Schools

i. Eight to ten acres of unconstrained, relatively level land per elementary school
ii. Good access from Neighborhood Routes or Collector roads
iii. Generally not adjacent to an arterial road
iv. Focal points for neighborhoods, centrally-located within walkable attendance areas
v. Opportunities to co-locate schools adjacent to parks should be sought

~~6.~~7. As a matter of policy and planning for neighborhood cohesiveness, the City encourages BSD and HSD to work toward an adjustment of the boundary that would result in all of the Concept and Community Plan area being served by BSD.

Neighborhood and Housing Policies

1. Development shall contribute to creating walkable neighborhoods. This policy is implemented by demonstrating consistency with the neighborhood design principles listed below:

~~a. A variety of at least housing types shall be provided in each of the neighborhoods shown on the Neighborhood Framework Plan (Figure 8). The East, Northeast, Northwest, and West Neighborhoods shall include at least four housing types. The Main Street and Southwest Neighborhoods shall provide at least three housing types.~~

~~b. For the purposes of this Community Plan, each of the following are considered a "housing type": (1) Live/work dwelling; (2) Multi-dwelling structure; (3) Single-family attached dwelling; (4) Cluster housing and/or compact detached dwelling; and, (5) Detached dwelling.~~

~~c.~~a. Clear ~~neighborhood~~ focal points shall be provided. Focal points include but are not limited to: parks, schools, community gathering spaces, neighborhood services (i.e. day care), scenic viewpoints, and/or natural areas that are visually and physically accessible to the public;

~~d.~~b. A network of walkable blocks and trails, consistent with the Transportation Framework Plan, and the Bicycle and Pedestrian Framework Plan~~, and applicable Development Code standards~~ shall be provided;

~~e.~~c. The orientation of streets, blocks, development and/or trails shall be planned so that natural areas are not "walled off", but rather are as physically and visually accessible to the public as practicable;

~~f.~~d. The provision of parks ~~and open space shall be consistent with applicable Development Code standards and the Natural Resources Framework Plan. Park and open space~~ shall be coordinated with the Tualatin Hills Park and Recreation District.

~~2.~~ Residential developments over 10 acres (including all phases) shall provide a variety of housing types. The goal of this policy and the code standards is to ensure that, over time and multiple individual development reviews, South Cooper Mountain's neighborhoods and livability are enhanced by variety in the type and design of housing. ~~In addition to the housing variety that must be demonstrated at a neighborhood level, individual developments and PUDs shall provide housing variety consistent with:~~

~~3. Sites 0 to 15 acres (gross) – 1 housing type permitted, but more encouraged.~~

~~4. Sites greater than 15 and up to 30 acres (gross) – minimum of 2 housing types required.~~

~~5.~~2. ~~Sites over 30 acres (gross) – minimum of 3 housing types required although flexibility to housing types can be proposed through the development review process wherein an attractive and varied neighborhood is achieved.~~

~~6.~~3. The City will support efforts to provide affordable housing in South Cooper Mountain. The City will evaluate the feasibility of pro-active involvement in affordable housing projects and supportive programs benefiting South Cooper Mountain.

Street Policies

1. *The streets planned for the Community Plan area are illustrated in Figure 10. The Beaverton Transportation System Plan and Washington County Transportation System Plans will be updated consistent with Figure 10 and will be the controlling documents for transportation planning. Should conflicts arise between the maps in Chapter 6 of the City's Comprehensive Plan and the maps in this document, those in Chapter 6 shall prevail.*

2. *The City of Beaverton will work with ~~Access and circulation serving the high school shall be coordinated between~~ the Beaverton School District, ~~the City of Beaverton,~~ the City of Tigard, Washington County, Tualatin Valley Fire and Rescue and other service providers to establish appropriate access and circulation serving the community.*

3. *SW Scholls Ferry Road, SW 175th Avenue, and SW Tile Flat Road are under Washington County jurisdiction. ~~designated as Arterial streets, in recognition of their importance for regional movements.~~ The City of Beaverton will coordinate with Washington County through ~~T~~transportation facility design and land use regulations and review ~~shall~~ to recognize and balance the urban mobility needs with the multi-modal urban community functions of these key roadways. The city will advocate ~~Specific policies~~ for the objectives ~~of~~ for each street ~~are~~ provided below during planning and design for improvement projects affecting those streets within the Community Plan area.*

   a. *~~SW 175th Avenue within the Community Plan area shall be improved through a coordinated approach between the City, County and adjacent land owners. The City shall proactively initiate this coordination.~~ SW 175th Avenue ~~shall~~ should be designed to provide for mobility needs and provide an attractive and welcoming entrance to the area. ~~Safe, protected pedestrian crossing opportunities shall be provided near important pedestrian destinations, such as the future high school site, when a need is demonstrated and such crossings are appropriately and safely designed and located.~~*

b. SW Scholls Ferry Road adjacent to the Community Plan area should ~~shall be improved to meet Washington County's Urban Arterial road standards. It shall~~ be designed to provide for efficient movement of vehicles, including freight, but should ~~shall~~ also provide for safe bicycle and pedestrian facilities, especially in the vicinity of the Main Street. ~~Safe, protected pedestrian crossing opportunities shall be provided near important pedestrian destinations.~~ The city of Beaverton~~,~~ will work with city of Tigard and Washington County ~~shall~~ to explore coordinated access, and a pedestrian crossing, in the vicinity of the high school and Main Street.

c. SW Tile Flat Road adjacent to the Community Plan area ~~shall be designed to~~should retain a rural design, particularly on the west side adjacent to land designated as Rural Reserve. All expansions requiring additional right-of-way ~~shall~~ should be to the east (urban) side. Safe bicycle and pedestrian movements shall be accommodated by a shared-use pathway adjacent to the road on the east side, with trees and other landscaping to provide a visual buffer to adjacent rural lands.

4. The~~A~~ new east-west Collector street ~~shall connect from SW Tile Flat Road to SW Loon Drive~~ is intended to~~,~~ ~~providing~~ provide a parallel route to SW Scholls Ferry Road that connects through the full width of the Community Plan area. This street shall be designed to provide a safe and comfortable connection for pedestrians and bicyclists as well as cars and to create a clear, direct and convenient route that connects the eastern, northern and western neighborhoods. ~~The City and County shall evaluate options for the connection of the East-West Collector to SW Loon Drive, and how local circulation and local street connections should be coordinated with that connection.~~

5. ~~A~~ The new north-south Collector road ~~shall connect~~ from SW Scholls Ferry Road through the Community Plan area is intended to provide connectivity through the Community Plan area.

6. North of SW Scholls Ferry Road, this new collector shall serve as the Main Street area of South Cooper Mountain. The Main Street section of this Collector road shall be ~~designed to be pedestrian-friendly, and~~ designated as a Major Pedestrian Route. Pedestrian-oriented features appropriate to a Main Street~~,~~ ~~with on-street parking, wide sidewalks, pedestrian-scale street lights, "furnishings" such as benches and street trees in tree grates, and curb bump-outs where possible. A reduced design speed shall be pursued for the Main Street section along with~~ and features that encourage cars to travel more carefully through the Main Street area should be emphasized in design of the road.~~[2]~~

7. The alignment of the North-South Collector shall account for, and not preclude, future extension to the west to SW Grabhorn Road and south to serve Urban Reserve 6C.

8. Within the Community Plan area, new neighborhoods shall be served and linked by a connected network of streets. Neighborhood Route connections shall provide connectivity between neighborhoods. The preferred network is illustrated in Figure 10. The City may permit flexibility to adapt to site specific conditions and ownerships provided the conceptual network in Figure 10, or equivalent, is provided.

~~[2] According to the City of Beaverton's Engineering Design Manual, the City Engineer may approve a lower alternative design speed where it can be shown that the 85th percentile speed of traffic will be lower than the design speed standard during all hours. The design speed is the minimum speed that shall be used in design of safe road geometry. The design speed shall not prohibit the use of traffic calming features or signing, where appropriate, to encourage lower traffic speeds.~~

9. The City shall coordinate with Washington County to evaluate the need for, and feasibility of, any proposed Neighborhood Route connections to Arterial roads.

~~10. All signalized intersections within and abutting the plan area shall be designed with high-quality pedestrian crossing treatments, such as count-down timers and high-visibility cross-walks.~~In refining specific alignments for new roads identified on the Community Plan Street Framework map through the development review or project design process, impacts to natural resources shall be minimized to the extent possible while retaining key connections.

~~10.~~11. Low Impact Development and "green street" techniques to manage stormwater runoff shall be utilized whenever feasible in the design of new streets and urban upgrades within the SCM Community Plan area, subject to the approval of the City Engineer."

Bicycle and Pedestrian Framework Policies

1. Bicycle and Pedestrian Crossings: The ability to safely cross the major roads that surround and divide the SCM Community Plan area on foot and by bicycle is essential to creating a walkable community that is less reliant on automobiles and offers the community safe routes between uses. While the location and design of specific crossing points will be determined through further site-specific engineering evaluation, safe, protected pedestrian crossing opportunities should be provided near important pedestrian destinations, such as the future high school site, when a need is demonstrated and such crossings can be appropriately and safely designed and located, as determined by an engineering-level safety analysis.

2. Trails: Trails provide an essential component of the SCM transportation network, providing safe, comfortable routes for pedestrians and bicyclists that connect between neighborhoods and to important destinations within the Community Plan area, such as schools and the planned Main Street, as well as to destinations outside of the Community Plan area, such as Cooper Mountain Nature Park, the future Cooper Mountain Regional Trail, and River Terrace's trail system. Trails within the Community Plan area shall be provided as shown on Figure 11; however, the City may permit flexibility to adapt to site specific conditions and ownerships provided the conceptual network in Figure 11, or equivalent, is provided. The following principles shall provide guidance in the refinement of trail alignments within the Community Plan area:

~~1. On-Street Bicycle & Pedestrian Facilities: All new and improved roadways within the Community Plan area shall have sidewalks.[3] In addition, all new Arterial and Collector streets shall have bike lanes, as identified in the City of Beaverton and Washington County TSPs. More protective bicycle facilities, such as buffered bike lanes, shall be considered for SW Scholls Ferry Road and SW 175th Avenue, due to traffic speeds and, in the case of SW 175th Avenue, grades.~~

a. Stream Corridor Trails: ~~A system of nature trails and multi-use paths shall run~~Trails along stream corridors shall be built at the outer edge(s) of the vegetated corridors wherever possible, consistent with CWS standards. ~~adjacent to stream reaches within the Community Plan area, as illustrated in Figure 11,~~ Such trails shall be designed to ~~providing~~ provide a recreational amenity and safe, pleasant pedestrian and/or bicycle connections between neighborhoods, as well as

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~~[3] The exception is SW Tile Flat Road, which is planned to have a multi-use path along the eastern side in place of sidewalks. Another exception a trail that may parallel a street next to a resource area. In this case, the trail may replace the sidewalk on the resource side of the street.~~

offering visual access to the resource area. Additional native vegetation shall be provided to either side of such trails wherever possible in order to enhance their value as wildlife corridors as well as transportation corridors.

b. Trails through Resource Areas: The site specific design and location of providing trail connections across wetland resource areas within the Community Plan area shall be addressed on a case-by-case basis. There is a need to provide safe and convenient pedestrian and/or bicycle across the central natural resource area located north of the high school and Main Street. There is also a need to provide access to the River Terrace Trail south of SW Scholls Ferry Road. These, and other trails through resource areas, shall be designed to minimize impacts to the natural resources. Maintenance and enhancement of wildlife corridors and connections between resource areas should be considered when designing and locating trails.

c. School to School Trail: A multi-use path shall link from SW Loon Drive at Scholls Heights Elementary school to SW 175th Avenue at the planned high school site as shown in Figure 11 in order to provide safe routes to both schools and to connect neighborhoods to the east to the planned high school. ~~Its alignment shall be coordinated with efforts to extend a "purple pipe" (non-potable water) connection from a Beaverton well site near SW Loon Drive to the high school that could supply irrigation water for playing fields.~~

d. Western Edge Trail: ~~A~~ The community multi-use trail ~~shall run~~ along the east side of SW Tile Flat Road within the Community Plan area shall be designed with trees and other landscaping to provide a visual buffer to adjacent rural lands. This trail shall be designed so that it can be extended further north, paralleling SW Grabhorn Road as far as Cooper Mountain Nature Park, when that portion of the Urban Reserve Area is brought into the UGB and developed.

Natural Resource Policies

1. Locally significant wetlands and protected riparian corridors within the Community Plan area shall be protected and enhanced, consistent with local, state, and federal regulations.

2. Development adjacent to significant natural resource areas shall be designed to provide visual and/or physical access to the resource area and limit continuous rear lot line edges abutting a significant natural resource through one or more of the following treatments of the open space edge.

a. parallel trail along the edge of the vegetated corridor with access points from adjacent roads and community focal points;

b. local streets that run adjacent to the edge of the vegetated corridor, without development between the street and the vegetated corridor; or

c. neighborhood parks, pocket parks, schools and similar uses that connect to the resource area and provide breaks between developed areas abutting the resource.

Urban Forestry Policies

1. The City shall explore options to encourage and incentivize tree planting and retention of mature trees within the Community Plan area.

2. *Tree planting already required by City regulations (e.g. landscaped areas, street trees) shall be maximized as a method to increase the tree canopy in the Community Plan area.*

3. *Regionally Significant Upland Habitat within the SCM Community Plan area shall be protected through designation of Significant Groves and/or Significant Natural Resource Area and application of the City's existing tree protection standards and Habitat Benefit Area provisions, as appropriate.*

4. *Oregon Department of Forestry permitted removal of trees shall be regulated as commercial timber harvest by the City of Beaverton.*

Scenic View Policies

1. *The city shall explore options to encourage and incentivize protection of view corridors for the enjoyment of adjacent neighborhoods and the broader community ~~Development~~ on lands that currently offer views of the Chehalem Ridge ~~shall be designed to retain view corridors of at least 30 degrees for the enjoyment of the adjacent neighborhoods and the broader community, using one or more of the following techniques~~. Viewpoints should provide seating and space for passersby, , should provide for the permanent protection of the view through measures such as easements, and may include techniques such as:.*

   a. *Streets that "T", stub, or curve at a location offering a viewpoint, with a break between buildings;*

   b. *Neighborhood or pocket parks situated to offer a viewpoint; ~~and/or~~*

   c. *Gaps between buildings with small seating areas adjacent to the sidewalk (see Figure 13 for an illustration of this concept) ; and/or*

   ~~c.~~*d. Limitations on building heights down-slope from a viewpoint.*

Rural Transition Policies

~~1.~~ *Require ~~a special setback for~~that development abutting SW Tile Flat Road~~, to be dedicated and improved as a multi-use path. (If the path becomes part of the right-of-way, rear setbacks shall be reduced in order to reduce the impact on the land's development potential.)~~*

~~2.~~1. ~~Require that the setback area and path are~~ provide a landscaped buffer with trees and shrubs that provide a visual screen for adjacent rural uses.

~~3. The City shall work with THPRD to explore opportunities to provide Parks System Development Charge (SDC) credits to developers who dedicate and/or improve a trail implementing this objective.~~

Infrastructure Policies

1. *Urban development shall not be allowed until urban services, including water and sewer, are available to the subject property.*

2. *The City shall work with service providers and property owners to extend urban services in a coordinated and efficient manner.*

3. The City of Beaverton will coordinate closely with the City of Tigard on the final location and timing of the River Terrace Pump Station.

4. The City shall use the South Cooper Mountain Infrastructure Funding Plan as the basis of financing decisions for public facilities and services in the SCM Community Plan area.

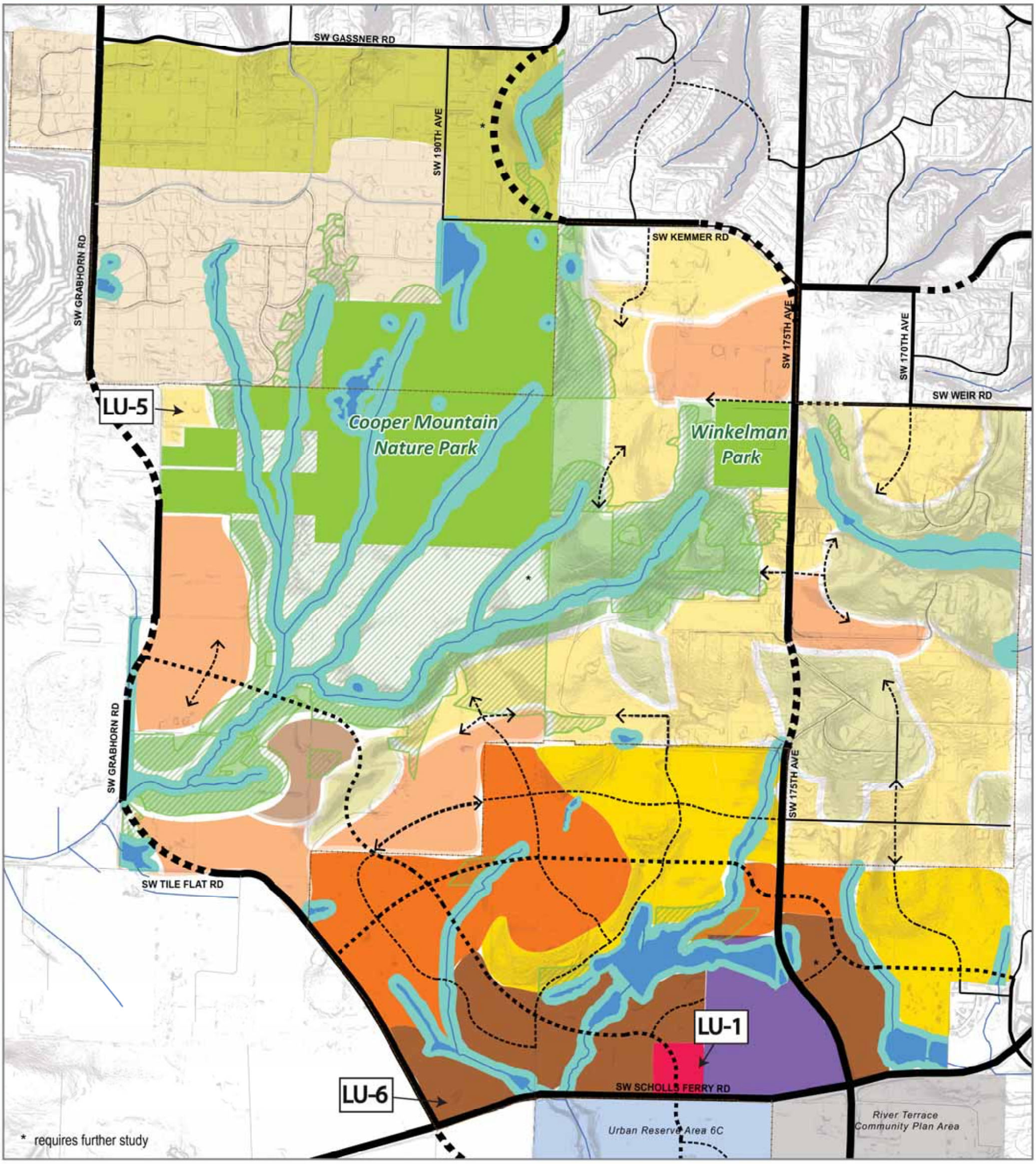
5. The City shall develop memorandums of understanding with service providers to implement the South Cooper Mountain Infrastructure Funding Plan.

6. The City shall work with Clean Water Services to develop a Stormwater Management Plan for the SCM Community Plan area. In the interim, the City will work with Clean Water Services and developers to apply existing storm water management regulations.

~~6.~~7. In identifying specific alignments for new water and sewer infrastructure, impacts to natural resources shall be avoided or minimized to the extent possible and shall be coordinated with trail alignments to the extent possible.

Beaverton South Cooper Mountain

South Cooper Mountain Concept & Community Plans



Concept Plan Land Use Framework

- Urban Growth Boundary
- Streams
- Open Water/Wetland/Probable Wetland
- Riparian & Wetland Buffers
- Class A Upland Habitat
- Planned High School Site
- Study Area Tax Lots

Transportation Framework

- Arterial
- Collector
- Neighborhood Route

See also Transportation Framework maps. Realignments and new roads shown in dashed lines. New alignments are conceptual.

Near Term (0-20 Year) Land Use

- Very Low Density Neighborhood
- Low Density Neighborhood
- Single Family Neighborhood
- Compact Neighborhood
- Urban Neighborhood
- Main Street Commercial

Future Land Use

- Future Low Density Hillside Neighborhood
- Future Cluster Neighborhood
- Future Single Family Neighborhood
- Future Compact Neighborhood
- Future Urban Neighborhood
- Future Neighborhood Commercial

July 9, 2014

Prepared By: Angelo Planning Group

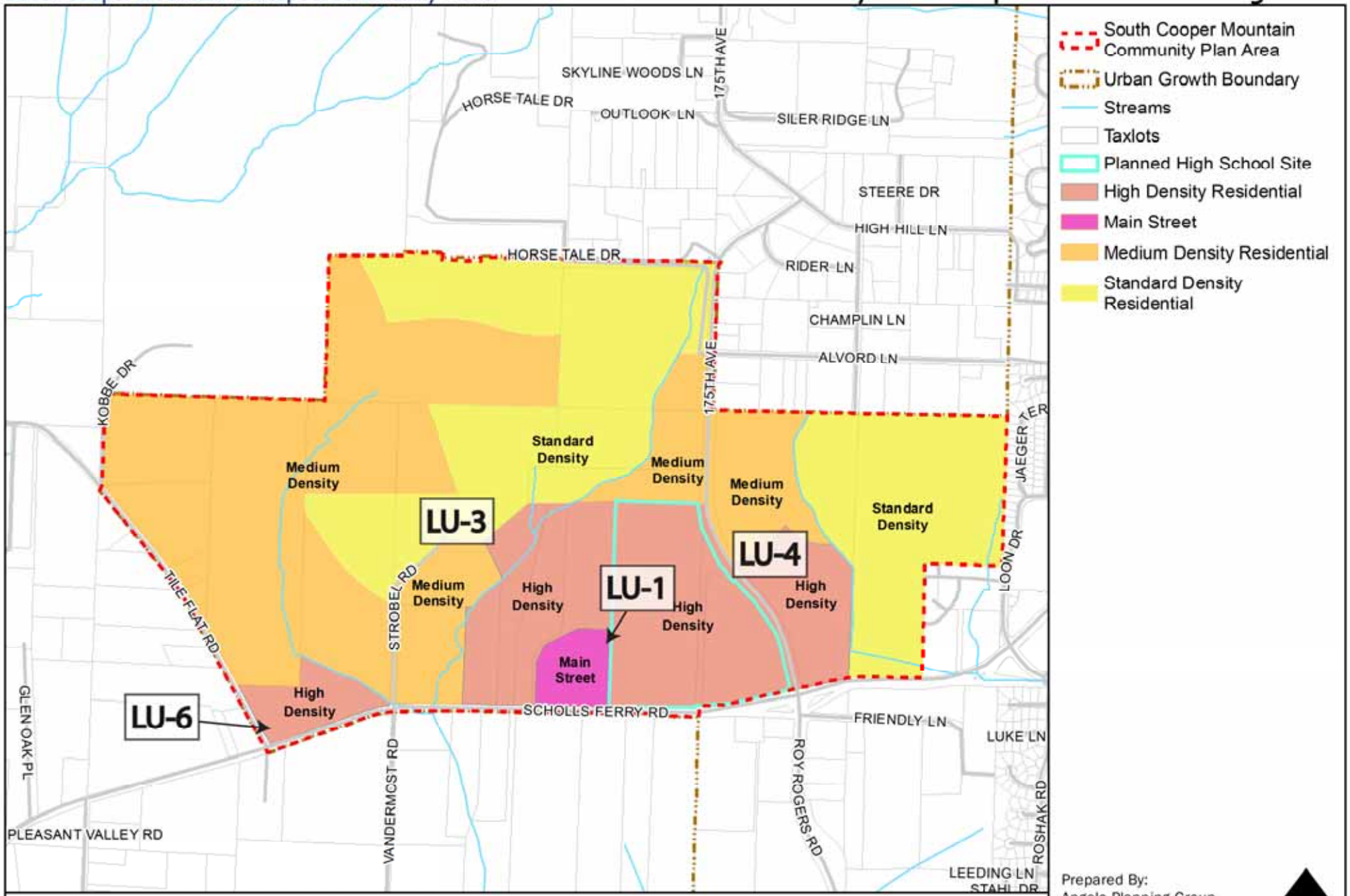
This map is intended for informational purposes only.

NORTH

0 500 1,000 2,000 Feet

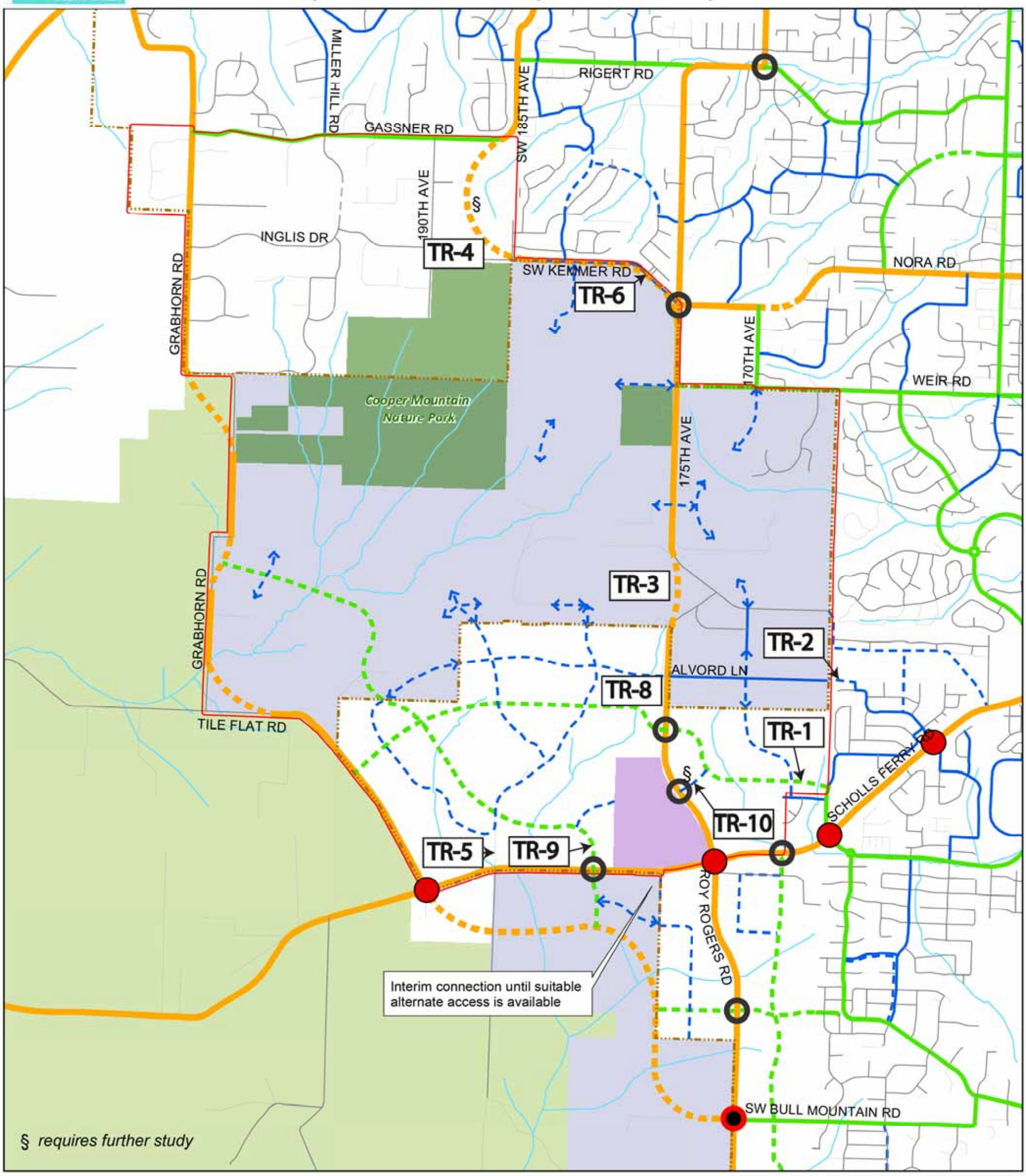
South Cooper Mountain Concept & Community Plans

SCM Community Plan Comprehensive Plan Designation



Beaverton South Cooper Mountain

South Cooper Mountain Concept & Community Plans



Transportation Framework with Intersection Treatments

Proposed Functional Classification*
- Arterial
- Collector
- Neighborhood Route
- Local
- Private

Intersection Treatments**
- Existing Signal
- Planned Signal
- Recommended Signal or Roundabout
- Rural Reserve
- Urban Reserve

- Study Area
- Urban Growth Boundary
- Existing Parks
- Planned High School Site
- Streams

NORTH 0 500 1,000 2,000 Feet

Prepared By: Angelo Planning Group Date: 10/27/2014

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

DISCLAIMER
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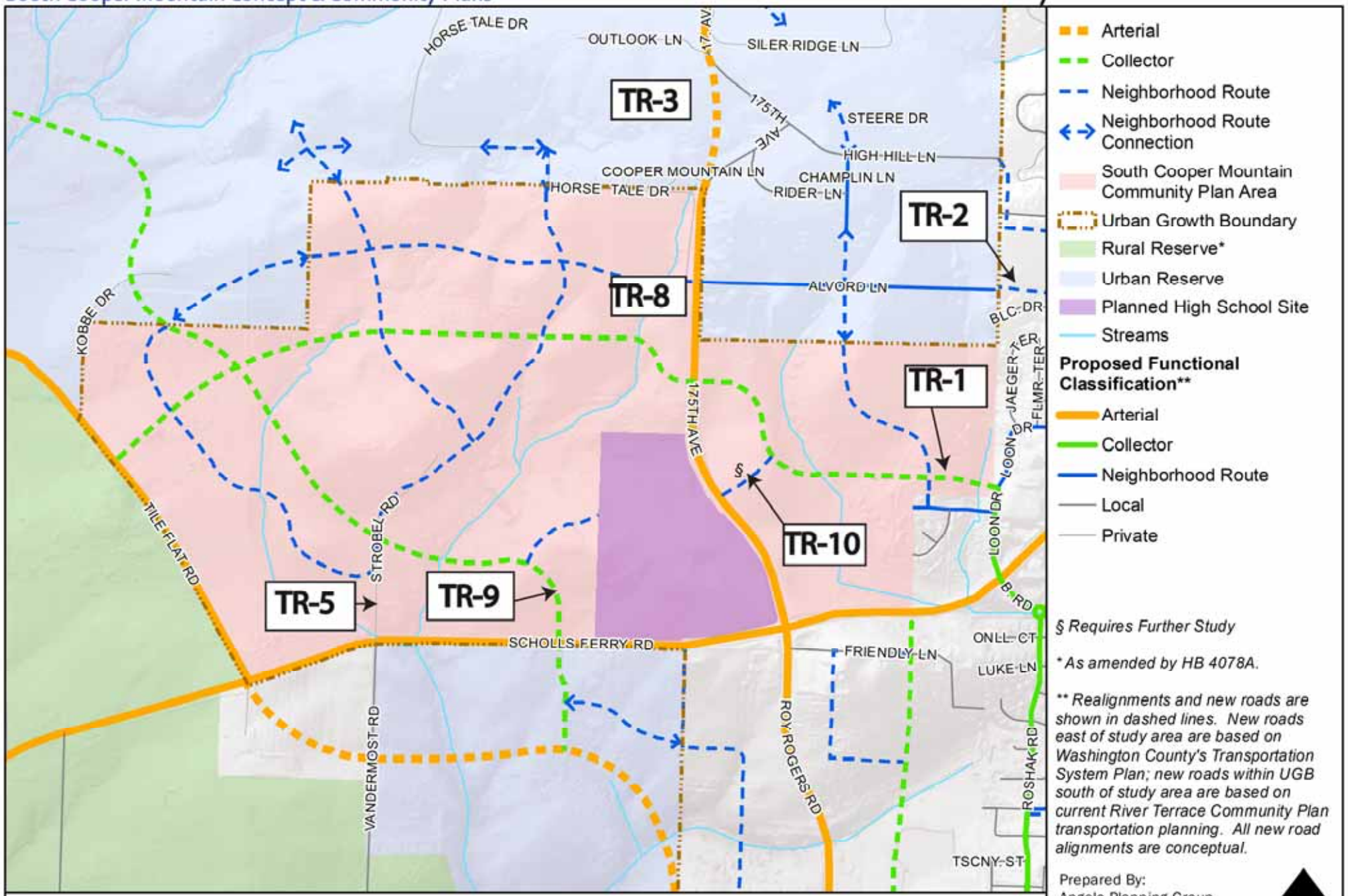
** Realignments and new roads are shown in dashed lines. New roads east of study area are based on Washington County's Transportation System Plan; new roads and intersection treatments within UGB south of study area are based on current River Terrace Community Plan transportation planning. All new road alignments are conceptual.*

*** Signalization of any intersection will be determined based on warrants via a TIA for development*

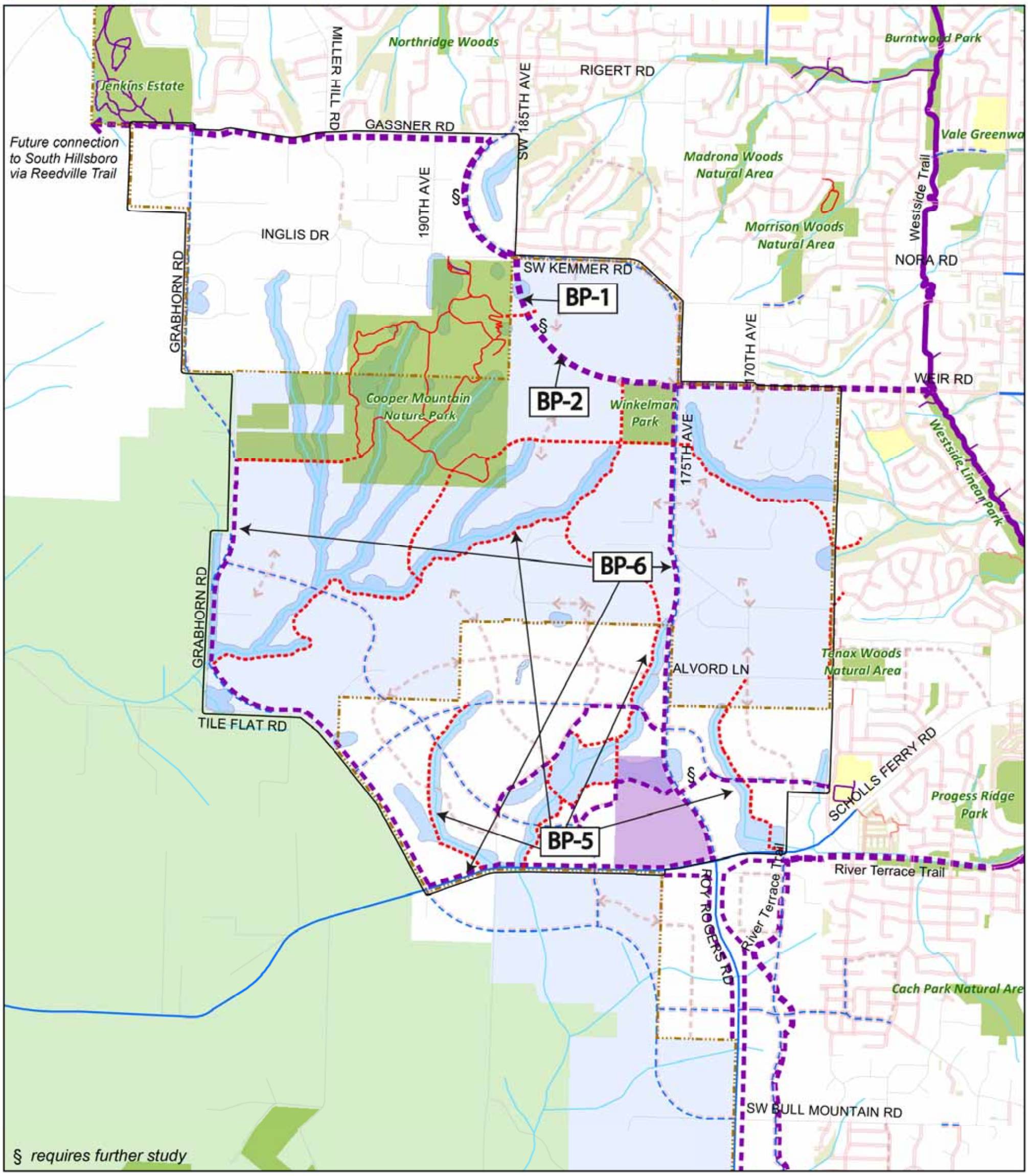
South Cooper Mountain Concept & Community Plans

SCM Community Plan Street Framework



Beaverton
South Cooper Mountain

South Cooper Mountain Concept & Community Plans



Preferred Bicycle & Pedestrian Framework

Type

- Proposed Regional Multi-Use Path
- Proposed Community Multi-Use Path
- Proposed Nature Trail
- Existing Sidewalk (Complete)
- Existing Partial Sidewalks
- Existing Bike lane
- Streets
- Planned Bike Lane
- Planned Sidewalks*
- Regional Multi-use Trails
- Community Multi-use Trails
- Local Multi-use Trails
- Existing Pedestrian-Only Nature Trails
- Private Paths
- Study Area
- Urban Growth Boundary
- Streams
- Riparian & Wetland Buffers
- Planned High School Site
- Existing Parks and Natural Areas
- Preserved by Home Owners Assns.
- Existing Schools
- Rural Reserve**
- Urban Reserve

Date: 8/26/2014

** New local streets (not shown) will have sidewalks.*
*** As amended by HB 4078A.*

Prepared By: Angelo Planning Group
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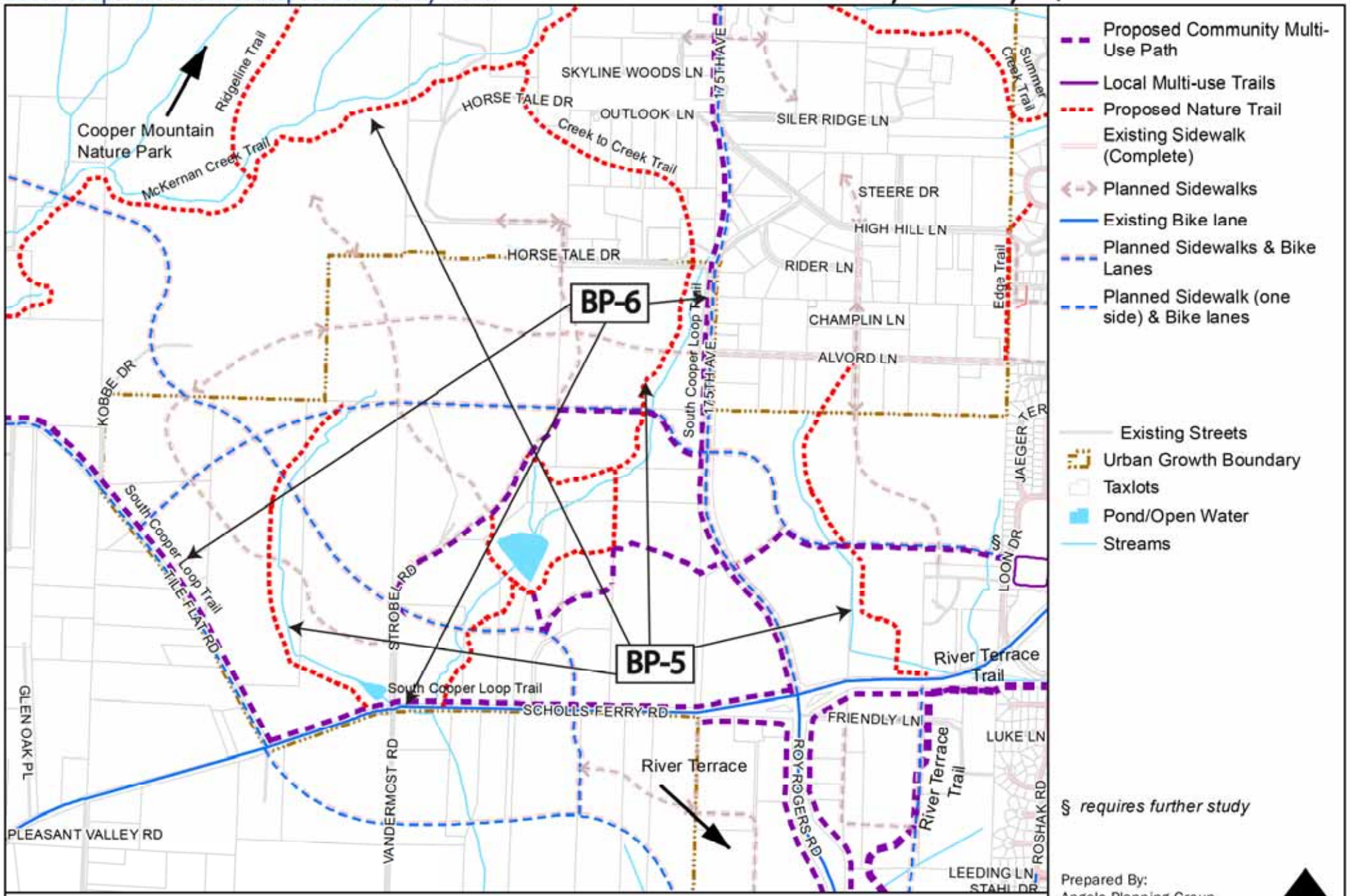
South Cooper Mountain Concept & Community Plans

SCM Community Plan Bicycle/Pedestrian Framework



Beaverton
South Cooper Mountain

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Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

Attachment D

Angelo planning group

LAND USE PLANNING • TRANSPORTATION PLANNING • PROJECT MANAGEMENT

Memorandum

Date:	October 27, 2014
To:	City of Beaverton Community Development Staff
From:	Joe Dills and Becky Hewitt, Angelo Planning Group Carl Springer and Kevin Chewuk, DKS Associates
Cc:	Beaverton Planning Commission
Re:	Analysis of Alignment Options for South Cooper Mountain East-West Collector

Introduction

As part of the work to date on the South Cooper Mountain (SCM) Concept and Community Plans, the need for a new east-west collector road serving the South Cooper Mountain Annexation Area (SCMAA) has been identified. As drawn, the route provides parallel route to Scholls Ferry Road for local trips, connects the neighborhoods in the annexation area, and helps meet the goal of a connected community. To date, three potential routes have been identified and evaluated as part of the planning process. This memorandum provides a summary of the project team's evaluation and comparison of these three options and identifies a recommended alignment to be carried forward into the Concept and Community Plans.

Based on concern from residents of Alvord Lane, as well as concerns about feasibility due to grades on Alvord Lane and its location outside the Urban Growth Boundary (UGB), the project team identified an alternative alignment that was approved as part of the Preferred Scenario and is currently shown on the Transportation Framework and other drawings in the Concept Plan and Community Plan. This option is identified as Option 2 throughout this memorandum.

Concerns from residents in the Sterling Park and Churchill Forest neighborhoods adjacent to Loon Drive have prompted evaluation of a third alternative. This option is identified as Option 3 throughout this memorandum.

Description of Alternative Alignments

Alignment Option 1: Alvord Lane and Black Bird Drive

Initially, a route was proposed that would connect to Alvord Lane at 175th Avenue, with Alvord Lane being extended to connect to Black Bird Drive, consistent with the Beaverton Transportation System Plan (TSP). This is shown in Figure 1. Black Bird Drive intersects with Scholls Ferry Road at an existing traffic signal. Both Alvord Lane and Black Bird Drive were proposed to be designated as Neighborhood Routes. A network of proposed neighborhood routes was also proposed along with this alignment option to connect 175th Avenue with Loon

Drive and the existing traffic signal at Scholls Ferry Road via the existing stubbed streets in the Churchill Forest subdivision.

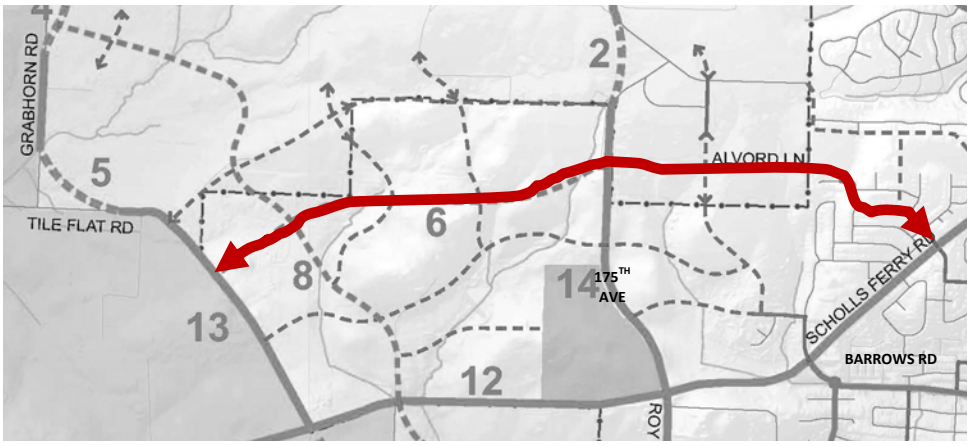


Figure 1: Alignment Option 1

Alignment Option 2: Loon Drive

In this option, the east-west collector would cross 175th Avenue further south and connect to Loon Drive adjacent to the play fields at Scholls Heights Elementary School. This is shown in Figure 2. Loon Drive provides a connection to Scholls Ferry Road and Barrows Road (an existing east-to-west collector street paralleling Scholls Ferry Road) at an existing traffic signal. A network of proposed neighborhood routes in the SCMAA would also connect 175th Avenue with Alvord Lane and Black Bird Drive under this alignment option.

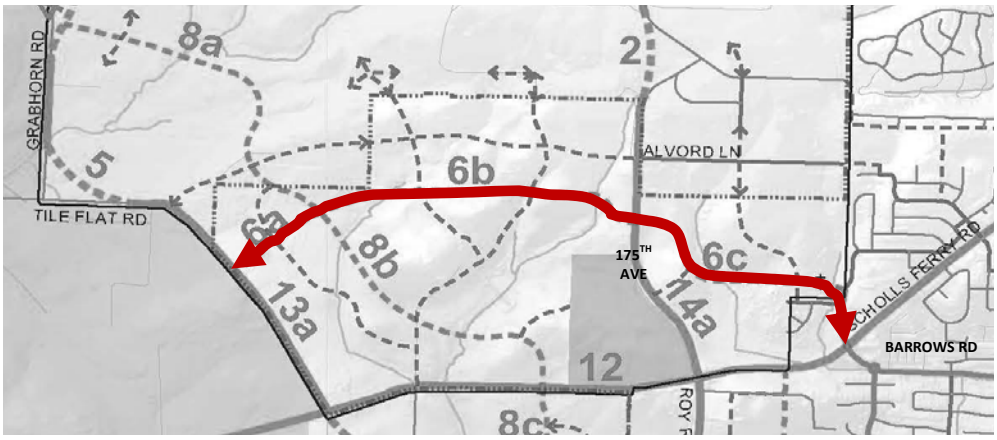


Figure 2: Alignment Option 2

Alignment Option 3: Proposed River Terrace Boulevard

This alignment would intersect with Scholls Ferry Road east of the Loon Drive / Barrows Road intersection, where a new intersection is proposed to River Terrace Boulevard, a proposed

collector road planned to serve River Terrace. This is shown in Figure 3. It is unknown whether a traffic signal will be approved at this location. A network of proposed neighborhood routes would support this alignment option, connecting 175th Avenue with Loon Drive and the existing traffic signal at Scholls Ferry Road via the existing stubbed streets in the Churchill Forest subdivision.

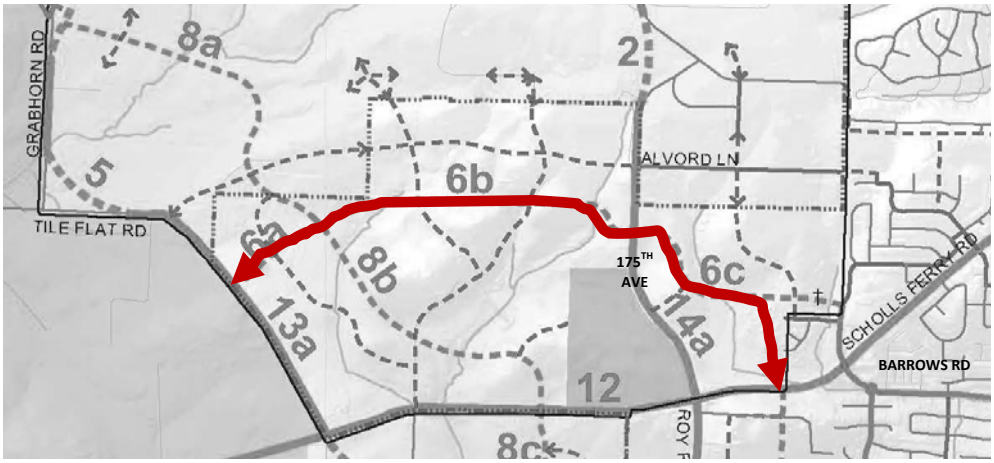


Figure 3: Alignment Option 3

Summary of Alternatives Analysis

Table 1 lays out the land use, transportation, natural resources, neighborhood compatibility, and feasibility considerations of each of the three alternatives.

Table 1: Alternatives Evaluation

Considerations	Option 1	Option 2	Option 3
Land Use	Alvord Lane lies outside the Urban Growth Boundary (UGB) – improvements to urban standards may not be possible until it is brought into the UGB. This is true for all options, since all include urban upgrades for Alvord Lane to Neighborhood Route standards, but Option 1 relies most heavily on this connection becoming available to serve the SCMAA.	The connection to Loon Drive requires acquisition of a small (0.12 acre) segment of land that is owned by the Sterling Park Owners Committee that lies between the SCMAA and Loon Drive. This alignment would increase traffic below the play fields and grounds of Scholls Heights Elementary School; however, not adjacent to the school building or to the entrance.	This alignment lies exclusively on land within the SCMAA and does not directly impact land outside the UGB or in existing neighborhoods. It also provides a direct connection to the future River Terrace community other than by 175th Avenue / Roy Rogers Road.
Transportation[1]	This option would not provide a continuous east-west collector connection from Tile Flat Road to Scholls Ferry Road. Because it lies further north, it would be expected to attract less use. This would cause more trips to route to 175th	This option would provide drivers a network of continuous east-west collector streets paralleling Scholls Ferry Road from Tile Flat Road to areas east of Murray Boulevard. This would best disperse traffic and reduce	If the proposed intersection is not approved by Washington County for a traffic signal, the proposed SCMAA collector access at Scholls Ferry Road would be restricted to right-in, right-out, left-in access only, which would only

[1] See attached technical memorandum from DKS Associates for details of transportation analysis of each of the three options.

Considerations	Option 1	Option 2	Option 3
	Avenue to access Scholls Ferry Road. A limited amount of traffic would connect to Loon Drive via Oystercatcher Lane, through the Churchill Forest subdivision.	demand along 175th Avenue and Scholls Ferry Road adjacent to the SCMAA. The Loon Drive-Barrows Road intersection with Scholls Ferry Road would not be significantly impacted with the increase in traffic demand associated with this alignment option because some of the projected traffic through that intersection would already have been using the intersection, but would have turned onto Scholls Ferry rather than continuing to Loon Drive. More trips would flow directly to Loon-Scholls-Barrows via the east-west collector, as opposed to through local street connections in Churchhill Woods.	be attractive to westbound drivers from the SCMAA, as drivers traveling eastbound from the SCMAA would not be able to access Scholls Ferry Road. This would increase reliance on 175th Avenue and increase traffic through the 175th Avenue-Scholls Ferry Road intersection. If a traffic signal was approved, this alignment would provide a continuous collector street connection between Tile Flat Road and the proposed River Terrace Boulevard; however, adding the SCMAA collector to the intersection would likely cause additional delay and back-ups along Scholls Ferry Road. In addition, drivers traveling further east would still have to utilize Scholls Ferry Road, which would be expected to attract fewer drivers than option 2. A limited amount of traffic would connect to Loon Drive via Oystercatcher Lane, through the Churchill Forest subdivision.
Natural Resources	Widening Alvord Lane would likely impact a number of trees, because the road is only 16 feet wide at	This option requires two new stream crossings. The streams in question are fairly narrow and	This alignment would impact a large wetland area that spans the SCMAA and the adjacent

Considerations	Option 1	Option 2	Option 3
	present and the area is heavily wooded. The extension of Alvord Lane to Black Bird Drive would have an impact on Tenax Woods Natural Area, owned by Tualatin Hills Park and Recreation District (THPRD). This is true for all options, since all include widening and extension of Alvord Lane, but Option 1 relies most heavily on this connection becoming available to serve the SCMAA.	minor; a culvert would likely be adequate. A similar crossing was recently installed in the Churchill Forest subdivision. There would also be some impacts to the trees and vegetation surrounding the streams.	Churchill Forest subdivision across a distance of roughly 300 feet (based on current public mapping; a wetland delineation is needed to determine the actual wetland impact area). This wetland has been identified as locally significant. While there are existing narrow, unpaved driveways crossing the wetland today, they are not located where the collector would need to be aligned in order to connect with the proposed River Terrace Boulevard, and, even if they were, they would need to be rebuilt and substantially widened in order to accommodate a collector street. It would also impact one of the two streams discussed under Option 2 (the western of the two streams).
Neighborhood Compatibility	Residents on Alvord Lane raised concerns about the potential increase in traffic past their homes. Traffic would also increase on Black Bird Drive. Traffic calming measures would likely be needed on both streets in order to reduce impacts.	Loon Drive north of the proposed collector alignment is fronted by single family homes and Scholls Heights Elementary School. However, based on the attached analysis by DKS Associates, an insignificant increase in traffic would be expected along this segment of Loon Drive, as drivers would remain on the collector.	The east-west collector would likely run relatively close to the new homes on the western edge of the Churchill Forest subdivision, though there is some flexibility to curve the road away from the subdivision to the west. Local street or Neighborhood Route connections would be provided to Oystercatcher Lane and Moorhen

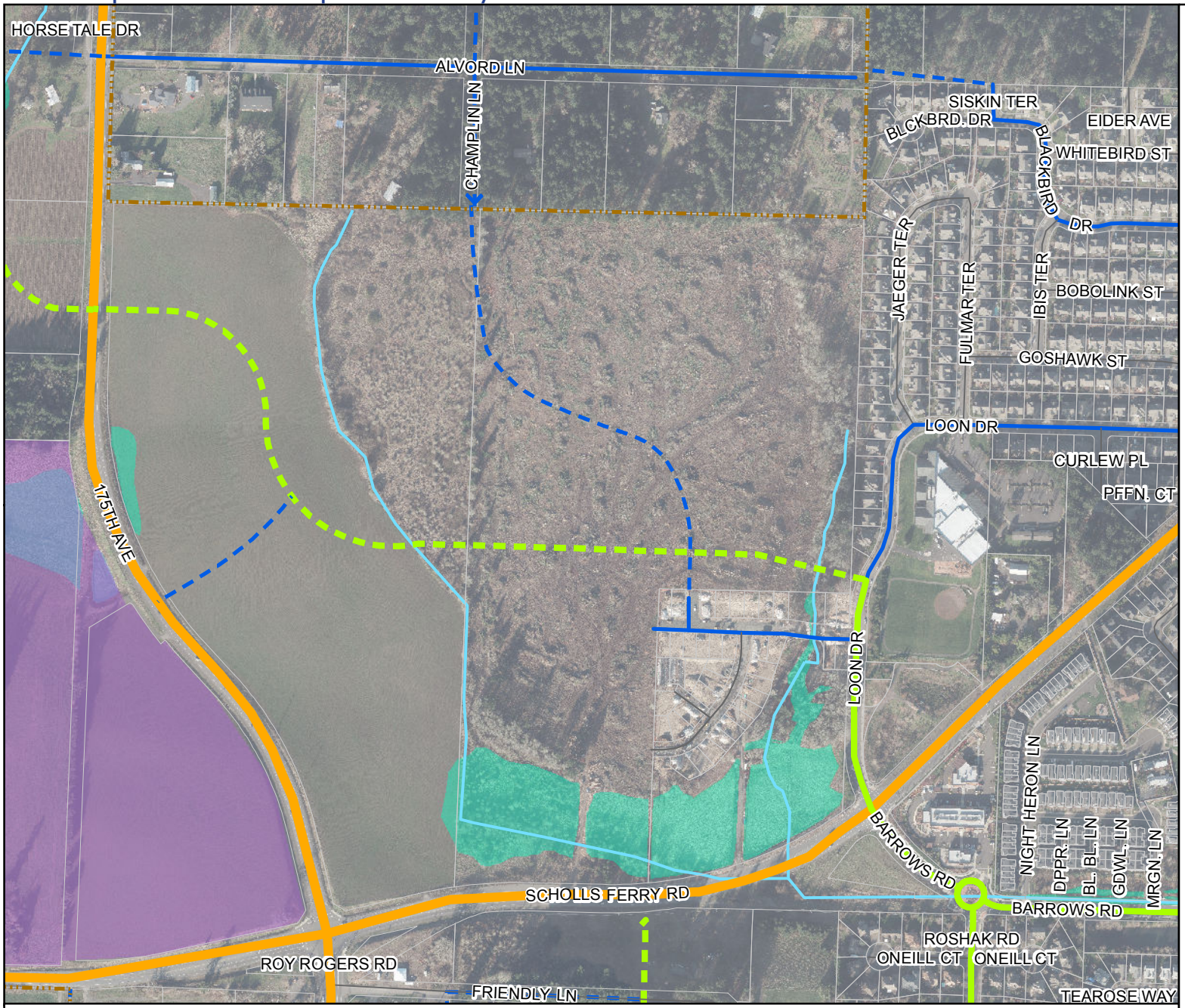
Considerations	Option 1	Option 2	Option 3
		Residents of the Sterling Park and Churchill Forest neighborhoods have raised concerns about noise, safety impacts around the school, and impacts to property values. The collector would run roughly 50 to 200 feet from the northern edge of the Churchill Forest subdivision. As noted above, this option would result in fewer trips using the local streets in Churchill Forest due to the more direct collector connection to Loon Drive.	Way, regardless of the precise alignment, as it would provide the only connection to Loon Drive and to Scholls Heights Elementary School from within the SCMAA aside from Scholls Ferry Road.
Feasibility	The eastern end of Alvord Lane has steep grades (over 10%) that will create challenges for extension to the east. This is true for all options, since all include an extension of Alvord Lane, but Option 1 relies most heavily on this connection becoming available to serve the SCMAA.	Although this option traverses some rolling terrain, the grades appear to be feasible, and the stream crossings (as discussed above) are fairly minor. Further study of the intersections of the proposed collector and Oystercatcher Lane with Loon Drive may be needed to design the appropriate solutions for those intersections.	State and federal wetlands permits would be required for this option in order to place fill in the wetland for the road. State and federal regulations require demonstration that alternatives are not available to filling a wetland; it is possible that they would not be issued if other alternatives that would avoid the wetland impacts were considered reasonable. If the wetland impacts were permitted, they would require mitigation. In addition, as mentioned above, it is unknown at this time whether a signal will be approved by Washington County at the

Considerations	Option 1	Option 2	Option 3
			proposed intersection with Scholls Ferry Road.

Conclusion and Recommendation

Based on the analysis of impacts summarized above, the project team recommends that alignment Option 2 be carried forward into the Concept and Community Plans, as it has better transportation performance, less natural resource impacts, and fewer feasibility concerns than the other alternatives. The impacts to the Loon Drive area can be mitigated to some degree through refinements to the precise alignment of the road in this area, landscaping and street design. Impacts to the Sterling Park neighborhood and safety considerations in the vicinity of Scholls Heights Elementary School can be addressed through street design treatments that will keep speeds low along the southern portion of Loon Drive, and intersection treatments that will provide for safe bicycle and pedestrian crossings of Loon Drive and discourage any through-traffic from continuing north on Loon Drive. These considerations should inform the refinement of the alignment and design of this street connection.

East-West Collector Alignment Option 2



Urban Growth Boundary
Planned High School Site
Streams

Proposed Functional Classification**

Arterial
Collector
Neighborhood Route
Local
Private
Taxlots
Open Water
Wetland/Probable Wetland

*** Realignments and new roads are shown in dashed lines. New roads east of study area are based on Washington County's Transportation System Plan; new roads within UGB south of study area are based on current River Terrace Community Plan transportation planning. All new road alignments are conceptual.*

Prepared By:
Angelo Planning Group
Date: 10/24/2014

NORTH

0 250 500 Feet

Beaverton
South Cooper Mountain
The Region's Next Great Community

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Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

Attachment D

MEMORANDUM

DATE: October 17, 2014

TO: South Cooper Mountain Technical Advisory Committee

Cc: South Cooper Mountain Project Management Team

FROM: Carl Springer, Kevin Chewuk

SUBJECT: East-West Collector Sensitivity Analysis P13036-000

This memorandum reconfirms the ultimate alignment recommendation for a connection from the planned east-to-west collector street through the South Cooper Mountain Annexation area (SCMAA), to areas east of 175th Avenue. The expected impacts, and sensitivity of different alignment options were assessed.

MULTI-MODAL CONNECTIVITY

The aggregate effect of local street design impacts the effectiveness of the regional system when local travel is restricted by a lack of connecting routes, and local trips are forced onto the regional network.[1] Therefore, street networks should be designed to keep through motor vehicle trips on arterial streets and provide local trips with alternative routes. Street system connectivity is critical because roadway networks provide the backbone for bicycle and pedestrian travel in the region. Metro's local street connectivity principal, which has been incorporated into the Beaverton Transportation System Plan (TSP), encourages communities to develop a connected network of local streets to provide a high level of access, comfort, and convenience for bicyclists and walkers that travel to and among centers. To improve connectivity of the region's arterial system and support walking, bicycling and access to transit, the Metro Regional Transportation Functional Plan requires that, to the extent possible, major arterial streets be spaced at one-mile intervals, and minor arterial or collector streets to be spaced at half-mile intervals.[2]

In addition, to improve local access and circulation, and preserve capacity on the region's arterial system, each local Transportation System Plan must include a conceptual map of new streets for all contiguous areas of vacant and redevelopable lots and parcels of five or more acres that are zoned to allow residential or mixed-use development. Full street connections should be provided at least every 530 feet (or 1/10th of a mile) or pedestrian and bicycle connections every 330 feet if a full-street connection is not possible. Cul-de-sac or other closed-end street designs are also restricted to circumstances in which barriers prevent full street extensions and such streets are limited in length to 200 feet and the number of dwellings along the street to no more than 25 units.

[1] Metro 2035 Regional Transportation Plan, Local Street Network Concept

[2] Metro Regional Transportation Functional Plan, Section 3.08.110 Street System Design Requirements

Streets within the SCMAA were identified to be consistent with the Metro Regional Transportation Functional Plan. Specifically, the proposed east-to-west collector between Tile Flat Road and 175th Avenue would be approximately a half-mile north of Scholls Ferry Road, while a proposed north-to-south collector street would be approximately a half-mile between Tile Flat Road and 175th Avenue.

East of 175th Avenue, a north-to-south collector gap was identified, with the nearest collector street being over a mile to the east (Teal Boulevard). In addition, an east-to-west collector gap was identified north of Scholls Ferry Road. Three alignment options were considered to ultimately satisfy the collector street gaps east of 175th Avenue and north of Scholls Ferry Road.

SENSITIVITY ANALYSIS

A sensitivity analysis was performed to determine the motor vehicle impacts associated with three alignment options connecting 175th Avenue with areas to the east. The alignment options were developed through the Community Plan process, and represent a combination of new and previous ideas. These options are summarized below.

Alignment Option 1: Alvord Lane and Black Bird Drive

The proposed east-to-west collector street through the SCMAA would connect with Alvord Lane at 175th Avenue (see Figure 1). The western terminus of Alvord Lane would be extended east, to connect with Black Bird Drive, just to the west of White Bird Street. This would give drivers a connection to the existing traffic signal at the Black Bird Drive intersection with Scholls Ferry Road. A network of proposed neighborhood routes would also connect 175th Avenue with Loon Drive and the existing traffic signal at Scholls Ferry Road under this alignment option. It should be noted that the extension of Alvord Lane is identified in the Beaverton TSP.

Figure 1: Alignment Option 1

Alvord Lane and Black Bird Drive would continue to be classified as neighborhood routes, as they are fronted by single family residential uses. This alignment option is the only option that would not provide a continuous east-to-west collector connection from Tile Flat Road to Scholls Ferry Road, and instead would provide an indirect connection through existing residential neighborhoods east of 175th Avenue. In addition, this alignment option would be towards the north end of the SCMAA, therefore, it would generally be expected to attract fewer motor vehicle trips as drivers would have to travel out of direction to reach it. Consequently, this alignment option would be expected to result in the highest motor vehicle demand along the segments of 175th Avenue and Scholls Ferry Road adjacent to the SCMAA, as this alignment option would provide the least attractive option for east-to-west motor vehicle travel demand. Most drivers would instead, be expected to access Scholls Ferry Road adjacent to the site, or utilize 175th Avenue to access Scholls Ferry Road, when traveling east-to-west.

It should be noted that the Alvord Lane segment of this alignment would be outside of the Urban Growth Boundary (UGB). This rural street is approximately 16 feet wide, and would require widening to accommodate the increased travel demand that would generally be expected with this alignment option. This would conflict with the

Transportation Planning Rule (OAR 660-012), since an exception is required to implement transportation improvements on rural lands. In this case, the exception would likely not be warranted since the east-to-west circulation need could be reasonably accommodated at another location (via alignment options 2 and 3).

Since it is unknown when this area could potentially be brought into the UGB (potentially delaying necessary improvements along Alvord Lane) and due to the alignment not providing a continuous collector route to Scholls Ferry Road, this alignment option is not preferred.

Alignment Option 2: Loon Drive

The proposed east-to-west collector street through the South Cooper Mountain Annexation area (SCMAA) would be extended east of 175th Avenue to connect with Loon Drive, just north of Oystercatcher Lane (see Figure 2). This alignment option would connect drivers with the existing traffic signal at the Loon Drive intersection with Scholls Ferry Road, and to Barrows Road, which is an existing east-to-west collector street paralleling Scholls Ferry Road. This would provide drivers a network of continuous east-to-west collector streets paralleling Scholls Ferry Road from Tile Flat Road to areas east of Murray Boulevard. A network of proposed neighborhood routes would also connect 175th Avenue with Alvord Lane and Black Bird Drive, and the existing traffic signal at Scholls Ferry Road under this alignment option.

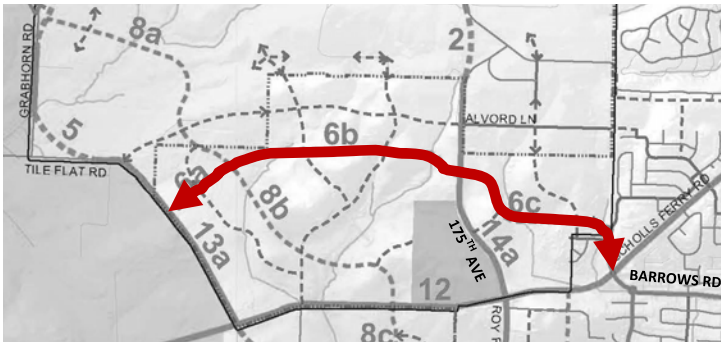

Figure 2: Alignment Option 2

Under this alignment option, the approximately 750 foot segment of Loon Drive, from the proposed collector connection south to Scholls Ferry Road, would be re-classified from a neighborhood route to a collector street. City of Beaverton design standards require collector streets to have minimum 12-foot travel lanes, while City spacing standards require a minimum of 200 feet between street and driveway connections. The current design of Loon Drive would be consistent with these standards for the collector street classification.

Loon Drive, north of the proposed collector alignment, is fronted by single family residential uses and Scholls Heights Elementary School. However, an insignificant increase in motor vehicle traffic would be expected along this segment of Loon Drive, as drivers would remain on the collector alignment south of this segment.

Motor vehicle trips are most dispersed under this alignment option, with drivers having a more convenient east-to-west alternative to Scholls Ferry Road. Thus, the expected motor vehicle demand along the segments of 175th Avenue and Scholls Ferry Road adjacent to the SCMAA would be lower. Intersection options during the p.m. peak hour at the Loon Drive-Barrows Road intersection with Scholls Ferry Road would not be expected to be significantly impacted with the increase in traffic demand associated with this alignment option, as some of the through traffic demand along Scholls Ferry Road would be shifted to Loon Drive. In addition, the collector street gaps east of 175th Avenue and north of Scholls Ferry Road would both be satisfied under this alignment option.

Alignment Option 3: Proposed River Terrace Boulevard

The proposed east-to-west collector street through the SCMAA would be extended east of 175th Avenue, to connect with the proposed River Terrace Boulevard intersection at Scholls Ferry Road (see Figure 3). A network of proposed neighborhood routes would also connect 175th Avenue with Loon Drive and the existing traffic signal at Scholls Ferry Road under this alignment option.

Figure 3: Alignment Option 3

While a traffic signal is being considered for the proposed River Terrace Boulevard intersection at Scholls Ferry Road, it has not and may not ever be approved by the County. Without a traffic signal, side street access at Scholls Ferry Road would be restricted to right-in, right-out, left-in access only, and therefore, this alignment option would only be attractive to westbound drivers, as drivers traveling eastbound would not be able to access Scholls Ferry Road.

With a traffic signal at the proposed River Terrace Boulevard intersection with Scholls Ferry Road, this alignment option would provide a continuous collector street connection between Tile Flat Road and the proposed River Terrace Boulevard, however, drivers traveling between areas further east would still have to utilize Scholls Ferry Road. Therefore, this alignment option would be expected to attract fewer motor vehicle trips than alignment option 2. In addition, assuming a traffic signal was approved by the County for the River Terrace Boulevard approach, adding an approach to the north leg of the intersection would likely cause additional delay and queuing along Scholls Ferry Road. The collector street gaps east of 175th Avenue and north of Scholls Ferry Road would both be satisfied under this alignment option.

Recommendation

The recommended alignment option (alignment option 2) would extend the proposed east-to-west collector street through the South Cooper Mountain Annexation area (SCMAA) east of 175th Avenue to connect with Loon Drive, just north of Oystercatcher Lane. This alignment option would satisfy the collector street gaps east of 175th Avenue and north of Scholls Ferry Road, and would be the most effective at dispersing motor vehicle trips, as it is the only option offering drivers a network of continuous east-to-west collector streets paralleling Scholls Ferry Road from Tile Flat Road to areas east of Murray Boulevard. It would also have the least impact to intersection operations along Scholls Ferry Road, as the Loon Drive-Barrows Road intersection with Scholls Ferry Road has enough excess capacity to accommodate the expected increase in side street traffic.

Beaverton
South Cooper Mountain
The Region's Next Great Community

CONCEPT PLAN

September 2014

Beaverton
OREGON

The Best of Oregon

Funding for the South Cooper Mountain Concept & Community Plans was provided by Metro Community Planning & Development Grants, private contributions, and the City of Beaverton.

Beaverton
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The Region's Next Great Community

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Beaverton
South Cooper Mountain
The Region's Next Great Community

EXECUTIVE SUMMARY

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A Vision for South Cooper Mountain

Create livable, walkable, sustainable new communities

Ensure an enduring legacy of natural resource protection and connections

Implement balanced solutions for regional and local transportation

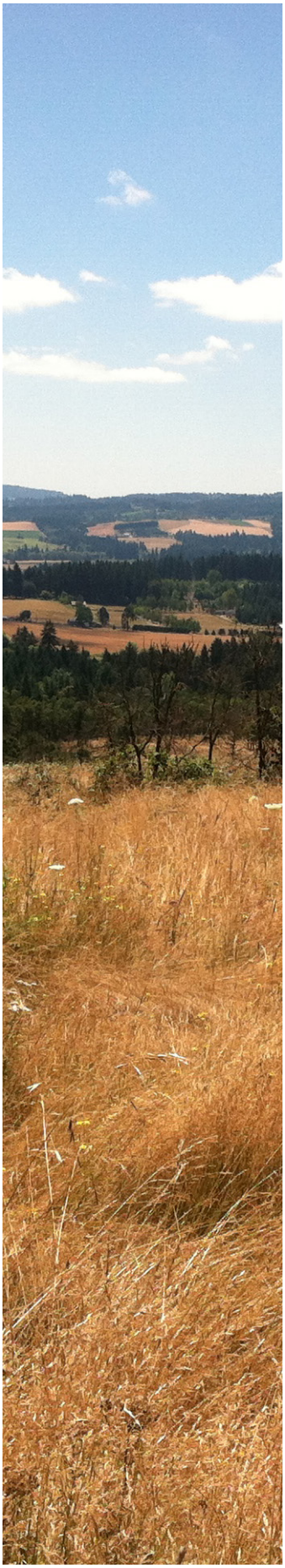
Shape growth and preservation to fit and honor the unique landscape

Work together to deliver feasible infrastructure solutions

Key features of the Concept Plan include:

- The South Cooper Mountain Community Plan Area - a sustainable and livable urban community
- North Cooper Mountain Community Plan Area - new growth is focused where services are available while retaining existing neighborhood character in other areas
- The Urban Reserve Area - future land uses are matched to landscape conditions, existing rural residential development patterns and infrastructure capabilities
- 600 acres of open space centrally-located around McKernan Creek and crowned by Cooper Mountain Nature Park
- A natural resources framework of resource protection, enhancement, and linkages
- Walkable neighborhoods anchored by parks and schools as focal points
- A Main Street with neighborhood shops and services
- A planned variety of housing types providing choices for a range of income levels
- A trails plan connecting neighborhoods, the Nature Park and adjacent areas
- A plan to disperse and balance regional traffic by connecting 175th and 185th Avenues, improving Tile Flat and Grabhorn Roads, and fixing key safety problems
- A well-connected collector, neighborhood route and local street network
- Focused densities and destination uses that help the area become transit-ready
- Water and sanitary sewer plans that can be phased over time
- A storm water management strategy that incorporates regional and site-specific approaches, promotes tree retention and anticipates evolving water quality standards
- An Infrastructure Funding Plan that matches revenues to project costs for water, sewer, storm water, and park facilities.
- A transportation funding strategy to bridge the funding gap, set project priorities, and coordinate long term funding

An illustrated vision for South Cooper Mountain, circa 2050



Background

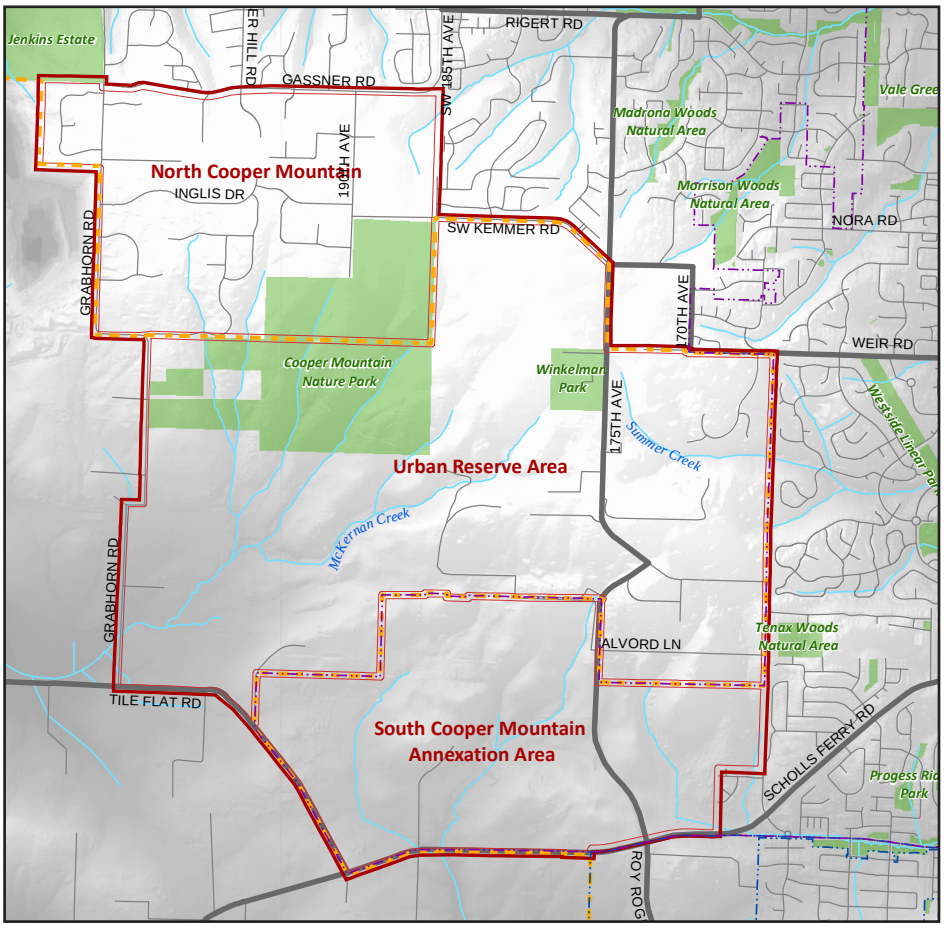
PURPOSE

The purpose of the South Cooper Mountain (SCM) Concept Plan is to:

1. Establish a vision for future growth, natural resource preservation and enhancement, and development in the 2,300-acre planning area of South Cooper Mountain;
2. Guide city and county comprehensive planning in the Urban Growth Boundary expansion areas.

The SCM Concept Plan area covers nearly 2,300 acres of land intended for future urban development over the next 50 years: two subareas inside the Urban Growth Boundary (UGB) and one subarea area that is designated as Urban Reserve.[1] The Concept Plan recognizes the unique needs of the three distinct subareas while providing a holistic vision of how the three areas could integrate and grow sustainably.

South Cooper Mountain Subareas

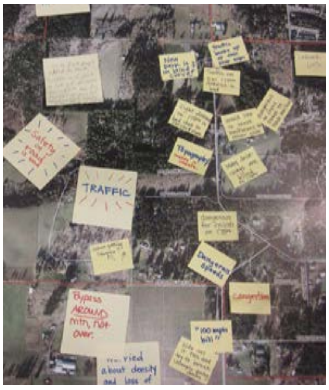


1 Urban Reserves are the Portland region's 50-year supply of future urban land. They are the first priority areas considered during UGB expansions and are intended to become or contribute to compact, mixed-use, walkable and transit-friendly urban communities. The Urban Reserve adjacent to the Community Plan area was called Urban Reserve 6B during the Urban and Rural Reserves designation process. For more on the Urban and Rural Reserves program, visit http://www.oregonmetro.gov/index.cfm/go/by.web/id=26257.

PROCESS

The Concept Plan was developed through an 18-month planning process that included a variety of opportunities for input from stakeholders and the general public. A Technical Advisory Committee (TAC) composed of staff from affected jurisdictions, agencies, service providers and districts provided input and guidance to the project team about technical aspects of the planning process. A Citizens Advisory Committee (CAC) composed of community representatives including residents, property owners, businesses, developers, city and county planning commissioners, citizen involvement organizations, advocacy groups, and other affected stakeholders provided feedback to the project team throughout the planning process. In addition, the City of Beaverton's City Council and Planning Commission provided direction at key milestones during the planning process. The general public was engaged at key points and invited to participate through open houses, online workshops, and community outreach meetings. Focus groups and intergovernmental coordination meetings were held throughout the project. The major phases of the process included:

- Establishment of Guiding Principles for the project and study of existing conditions and future needs in the planning area.
- Visioning, scenario development and analysis of alternative scenario options.
- Preparation of a Preferred Concept Plan scenario, which formed the basis for this Concept Plan.
- Preparation of implementing Community Plans and codes.
- Preparation of an Infrastructure Funding Plan as the Concept Plan was being developed, including an "early funding analysis" that was prepared concurrently with scenario analysis.



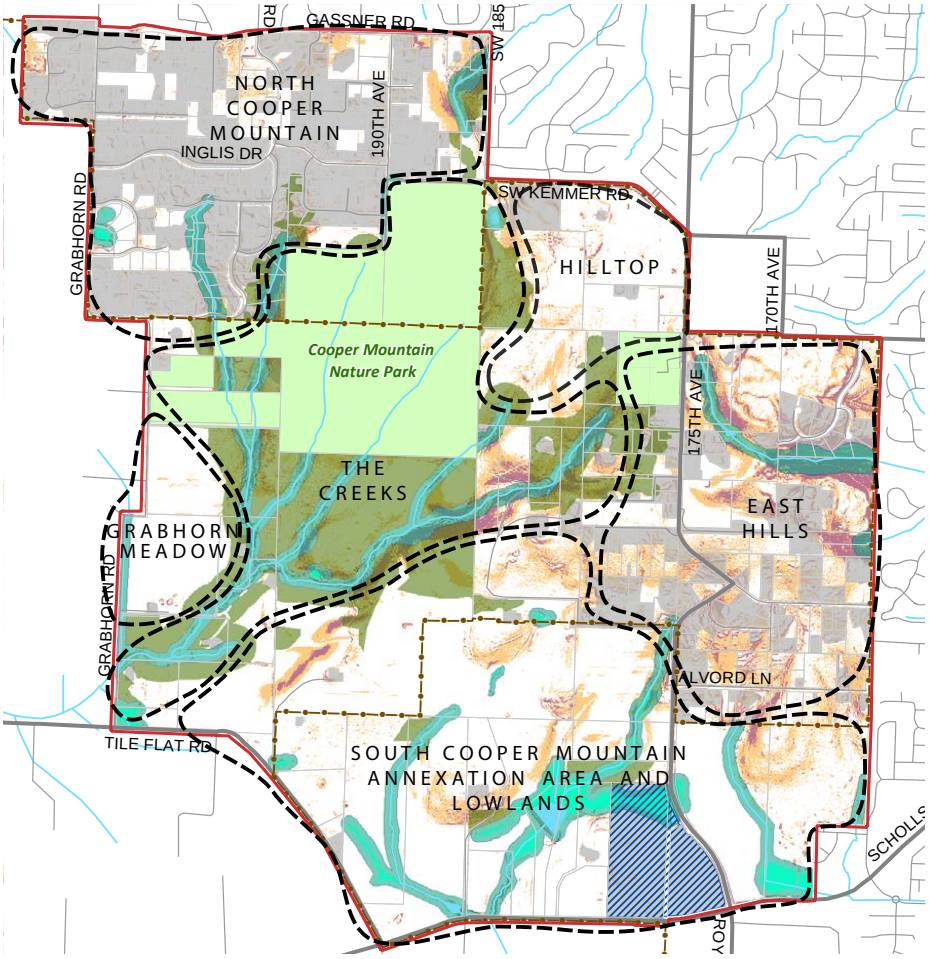
Land Use

FRAMEWORK OVERVIEW

The SCM land use framework is inspired by the distinctive landscapes that comprise South Cooper Mountain. Based on the community dialogue and early mapping for the project, a vision emerged to fundamentally shape, define, and integrate future urban growth and open space preservation based on the physiographic characteristics and natural resources of the mountain. From the hilltop views, to the McKernan Creek tributaries, to the vineyards and agricultural history of the area, it is the land itself that is the foundation for the land use framework. Land uses have been planned utilizing six landscape areas, as summarized below.

The SCM Annexation Area and adjacent Lowlands – Comprised of gently rolling fields, hummocks, and three small tributaries, this area is relatively free of constraints to development. Land has been acquired for a new high school and infrastructure is adjacent and being upgraded to serve SCM and the adjacent River Terrace community plan area to the south. Together, these conditions render the area suitable for development of a sustainable urban community. The Concept Plan organizes the land uses into six new

Figure ES-1 - South Cooper Mountain landscape areas



neighborhoods that are walkable, anchored by parks and schools, have easy access to neighborhood shops and services, and are connected to nature.

The Creeks – Cooper Mountain Nature Park and the set of drainages and uplands within The Creeks, totaling nearly 600 acres in the central portion of the plan, comprise the primary natural resource areas and best opportunities for an enduring green legacy for the area. Providing infrastructure to the developable portions would have costs and impacts disproportionate to the housing benefits. It is therefore planned for natural area preservation, transfer of development rights, and careful transitions from resource areas to future development in adjacent areas.

The East Hills – The East Hills are a mixed area of tree groves, developable areas, steep slopes, existing rural residential development, and natural resource areas. Infrastructure is close by and can feasibly extended to serve the area. Creating a more connected local street / Neighborhood Route network that reduces the need to use 175th Avenue for local trips is a key need for the area. The vision for the East Hills is carefully planned and connected single-family neighborhoods in the hillside setting. A small compact neighborhood area is shown east of 175th where topography is relatively level.

The Hilltop – Located at the top of the mountain, with flat to gently rolling conditions, and offering some of the best views of the Tualatin Valley, the hilltop is a distinctive and buildable area within South Cooper Mountain. Development can be served by new trunk sewer and water lines that connect to existing systems. The land use framework designates this area for both compact and single-family neighborhood development, with lower densities adjacent to Kemmer Road, the Nature Park, and natural resource areas. Public viewpoints will be the hallmark of this area, and the Cooper Mountain Regional Trail will be a key public amenity.

North Cooper Mountain (NCM) – NCM is largely built out, characterized by large-lot single-family residential neighborhoods. Cooper Mountain Nature Park, purchased through Metro's regional natural area bond program, occupies 230 acres along the southern and eastern boundary of NCM. The Nature Park is a treasured amenity in the community and provides habitat for a wide variety of wildlife. There are two distinctly different conditions that influence future growth and development potential in the area. The northern portion of NCM is readily served with sanitary sewer and has some remaining developable land. In contrast, the southern and western portions of NCM are nearly fully developed, difficult to serve with sewer and proximate to an active gravel quarry. The plan responds to these conditions, and extensive community input, by planning the northern portion for low density infill development and the southern and western portions to retain their existing very low density character and development pattern.

Grabhorn Meadow – Gently sloped, easily accessed from Grabhorn Road, and generally unconstrained, this area is suitable for new compact neighborhoods. However, water and sewer evaluations have demonstrated that substantial infrastructure expansion is required to provide urban services to this area. The plan anticipates that Grabhorn Meadow will likely be the last area to develop in South Cooper Mountain, when services become available in the long term.

ABOUT THE LAND USE DESIGNATIONS

“Near Term” vs. “Future” Land Use

The Land Use framework identifies a vision for development in SCM that will play out over the course of several decades. The concept plan map identifies “Near Term (0-20 Year) Land Use” and “Future Land Use”. “Near Term” land uses are identified in areas within the UGB – the SCM Annexation Area (SCMAA) and NCM. The SCMAA was annexed to the City of Beaverton in January 2013 and is anticipated to be developed in the near term. Potential development within the northern portion of NCM is also characterized as near term, although the timing depends on property owner initiative. The southern two-thirds of NCM is also considered near-term, but only in the sense that new zoning would reflect existing large lot development patterns that do not require sanitary sewers (extension of public sanitary sewers to this area is not assumed in the next 20 years). All of the Urban Reserve Area (URA) shows conceptual “Future Land Use” because urban development cannot occur until Metro, in partnership with the region and subject to state review, expands the UGB to include some or all of this area. The timeline for development to occur in the URA is less predictable than in the UGB, and will likely span several decades.

Summary of Designations

- **Urban Neighborhood / Future Urban Neighborhood:** Primarily made up of apartments/condos and townhomes, with some small-lot single family homes
- **Compact Neighborhood / Future Compact Neighborhood:** A mix of single family homes on small lots and townhomes.
- **Single Family Neighborhood / Future Single Family Neighborhood:** Single family homes on standard size lots, with some range of lot sizes.
- **Future Cluster Neighborhood:** Primarily applied in places with high quality upland habitat; houses are grouped together on more buildable portions of a property and can share views of and access to nearby natural areas.
- **Low Density Neighborhood:** Single family homes on lots that are generally on the larger side for typical suburban development.
- **Very Low Density Neighborhood:** Single family homes on lots around one to two acres, similar to the existing development pattern in North Cooper Mountain.
- **Main Street Commercial:** Street-oriented ground floor retail, with potential for office and/or residential units on the second floor of some buildings. All of the commercial uses are intended to serve day-to-day needs of residents.

COMMUNITY DESIGN CONCEPTS

The following community design concepts are intended to guide site-specific design treatments that will be essential to quality development and achieving the overall vision. They are intended to guide future development in South Cooper Mountain as well as future comprehensive planning and implementation measures.

- **Neighborhoods and Neighborhood Focal Points:** Development should create walkable neighborhoods, not disconnected subdivisions. Future schools and parks to serve South Cooper Mountain should, to the extent possible, be sited to provide focal points for neighborhoods and to be centrally located to walkable destinations and service areas. Co-location of parks and schools is desirable.
- **Housing Variety:** Neighborhoods should include a variety of housing types, providing choices for a range of income levels, designed and configured to provide compatibility.
- **Integrated Affordable Housing:** There should be a variety of options and locations where affordable housing development is possible, especially in locations with good access to amenities and services. Affordable housing choices should be available throughout the community.
- **Views:** Scenic vistas of the Chehalem Ridge and Tualatin Valley are part of the unique character of South Cooper Mountain, and should remain available after development for the enjoyment of the adjacent neighborhoods and the broader community.

- **Walkable Streets:** New development within SCM should be designed to offer a "friendly face" with physical and visual connections to the street in order to promote walking and biking, healthy lifestyles and a sense of community.
- **Open Space Edges:** Development adjacent to natural resource areas should be designed to provide public views of and access to the resource areas.
- **Habitat-Friendly Development:** Future development in SCM adjacent to protected open space areas, habitat priority areas, or both should be designed to maximize open space preservation, habitat functions and values, and connectivity of habitat areas that preserves wildlife movement corridors.
- **Main Street Character:** The Main Street should be developed as a community focal point and potential future transit node. Buildings should provide a pedestrian-oriented storefront character with parking located behind buildings wherever possible, and multi-story buildings are encouraged in order to provide an urban scale.

- **Rural Edges:** A multi-use path with a landscaped setback area is proposed to help provide a buffer between urban development in South Cooper Mountain and the Rural Reserve to the west.
- **Interim Agricultural Use:** Provisions should be put in place to ensure that on-going agricultural use is allowed to continue even as urbanization begins and progresses.

Figure ES-2 - Neighborhood Design Principles

HOUSING CAPACITY

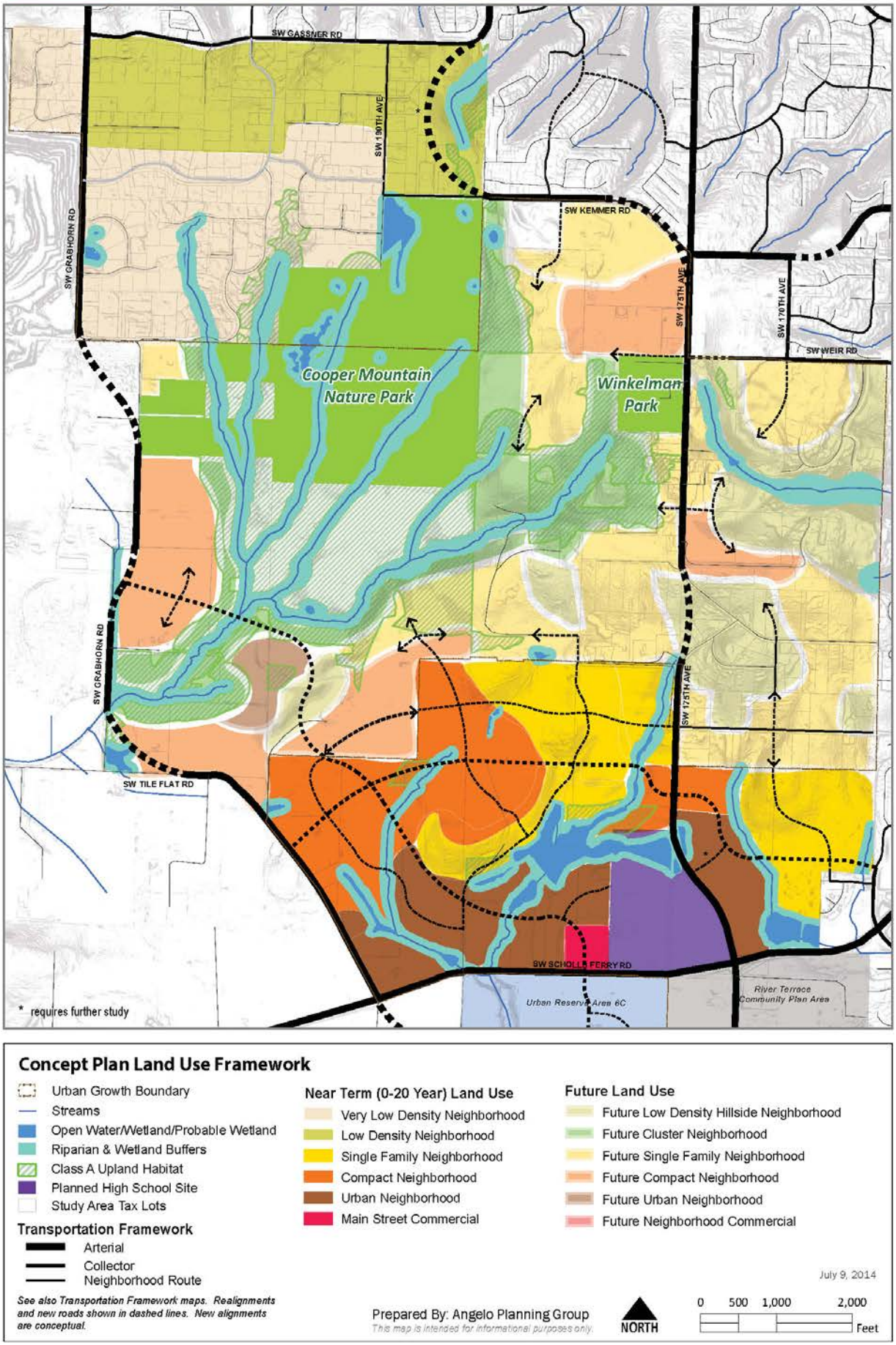
The housing capacity and density displayed in Table 1 demonstrate a balance between efficient utilization of land within the UGB, and protection and enhancement of public lands and natural features in the area, consistent with Metro requirements.[2] The highest densities are in the SCMAA (in the UGB), and in portions of the URA (Grabhorn Meadow and the Lowlands) that have the greatest future urbanization potential based on characteristics of the land and feasibility of infrastructure provision. The overall net density for the 2,300-acre planning area is over 11 dwelling units per acre.

Table ES-1 - Housing Capacity and Density by Subarea – New Dwellings

Subarea	Capacity (Housing Units)	Net Density
SCM Annexation Area	3,430	14.5
North Cooper Mountain	300	3.9
Urban Reserve Area	3,760	10.6
Total	7,490	11.2

2 Metro Ordinance No. 11-1264B, Exhibit B, conditions on Land Added to UGB, adopted by the Metro Council October 20, 2011.

Figure ES-3 - Concept Plan Land Use Framework



Transportation

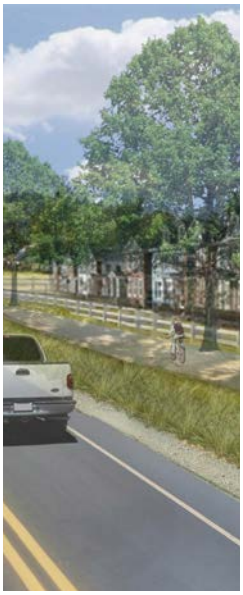
South Cooper Mountain has a rural road network that serves urban transportation needs. The key challenge for the Concept Plan is how to plan for growth and ensure solutions are delivered for multiple inter-related needs: high volumes of regional through-traffic; intersections and road sections with known safety and capacity issues; almost no existing pedestrian and bicycle system; and the vision to provide transportation options serving a sustainable community. The Concept Plan provides solutions through the strategies summarized below.

Disperse and Balance Regional Traffic – It is well documented that north-south traffic is over-reliant on one corridor: the 175th to 170th Avenue corridor. The solution is to reduce that reliance and disburse regional flows through a combination of improvements and new connections that result in a more complete network. Key projects include: (1) improving 175th at high priority locations such as the "kink" and the Kemmer/175th Avenue intersection; (2) connecting 175th Avenue to 185th Avenue via Kemmer Road and a new road east of 190th; (3) upgrading Tile Flat and Grabhorn Roads to arterial status and realigning the three 90-degree corners; (4) improving Scholls Ferry Road to 5 lanes west to Tile Flat Road; and (5) connecting Tile Flat Road to Roy Rogers Road (long term).

Provide a Well-Connected Local Street Network – The Concept Plan's Transportation Framework sets the stage for a connected, walkable local street system that provides transportation choices in incorporates active transportation elements. This will not only help address the transportation needs of the area, but is an integral part of the vision for highly livable community. The plan specifies the "point A to point B" collector streets and neighborhood routes, and provides flexibility for the site-specific alignments.

Provide a Great, But Practical, Pedestrian and Bicycle Network – South Cooper Mountain's pedestrian and bicycle network will be built incrementally over time. The overall strategy is to provide many types of facilities that will achieve the vision and can be feasibly implemented. The specific strategies and recommendations are to: (1) ensure all streets are "complete" and provide for pedestrians and bicycles as well as vehicles; (2) plan for multi-use paths that parallel one side of perimeter arterials that frame the area;(3) build two key multi-use paths in the SCM Annexation Area;(4) plan for a system of nature trails that provide access to and through resource areas and connect to Cooper Mountain Nature Park; (5) complete the Cooper Mountain Regional Trail; and (6) connect to the River Terrace Trail and other adjacent paths and bikeways.

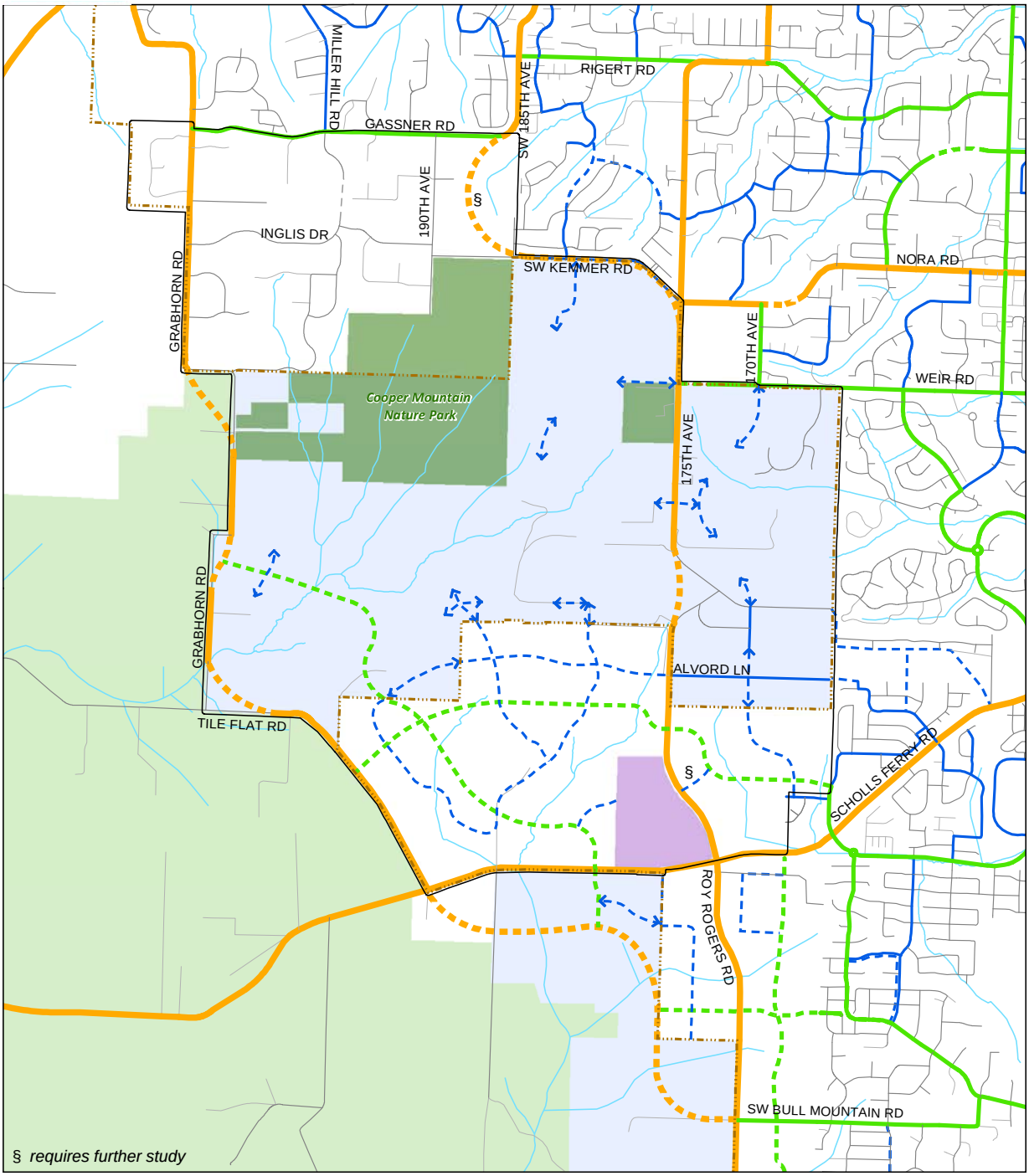
Be Transit-Ready – The Concept Plan focuses its highest density urban neighborhood designations near the high school and Main Street - in the southern part of the planning area - as one strategy to help the area support transit service in the future. The plan also anticipates longer-term, limited-stop commuter-oriented transit service from Sherwood to Hillsboro along Roy Rogers Road and 175th Avenue.



Set Transportation Priorities as Part of the Funding Plan – A pervasive challenge is the limited funds available for transportation needs. Developed through a collaborative process with the City, County, service providers and private sector, the Concept Plan includes an Infrastructure Funding Plan which sets forth three coordinated strategies for bridging the transportation funding gap: (1) increase local revenues through a supplemental system development charge; (2) focus locally generated Transportation Development Tax revenues on local projects; and, (3) identify and coordinate transportation priorities with Washington County and neighboring cities, including MSTIP[3] candidate projects. The funding plan combines these strategies into a high level capital improvement plan for meeting near-term and future transportation needs for the entire 2,300-acre Concept Plan area.

3 MSTIP is Washington County's Major Streets Transportation Improvement Program. More information is available at http://www.co.washington.or.us/LUT/TransportationFunding/what-is-mstip.cfm

Figure ES-4 - Transportation Framework Map



Concept Plan Transportation Framework

Proposed Functional Classification*

- Arterial
- Collector
- Neighborhood Route
- Local
- Private

- Rural Reserve**
- Urban Reserve
- Study Area
- Urban Growth Boundary
- Existing Parks
- Planned High School Site
- Streams

** Realignments and new roads are shown in dashed lines. New roads east of study area are based on Washington County's Transportation System Plan; new roads within UGB south of study area are based on current River Terrace Community Plan transportation planning. All new road alignments are conceptual.*

*** As amended by HB 4078A.*

Prepared By: Angelo Planning Group

Date: 8/29/2014

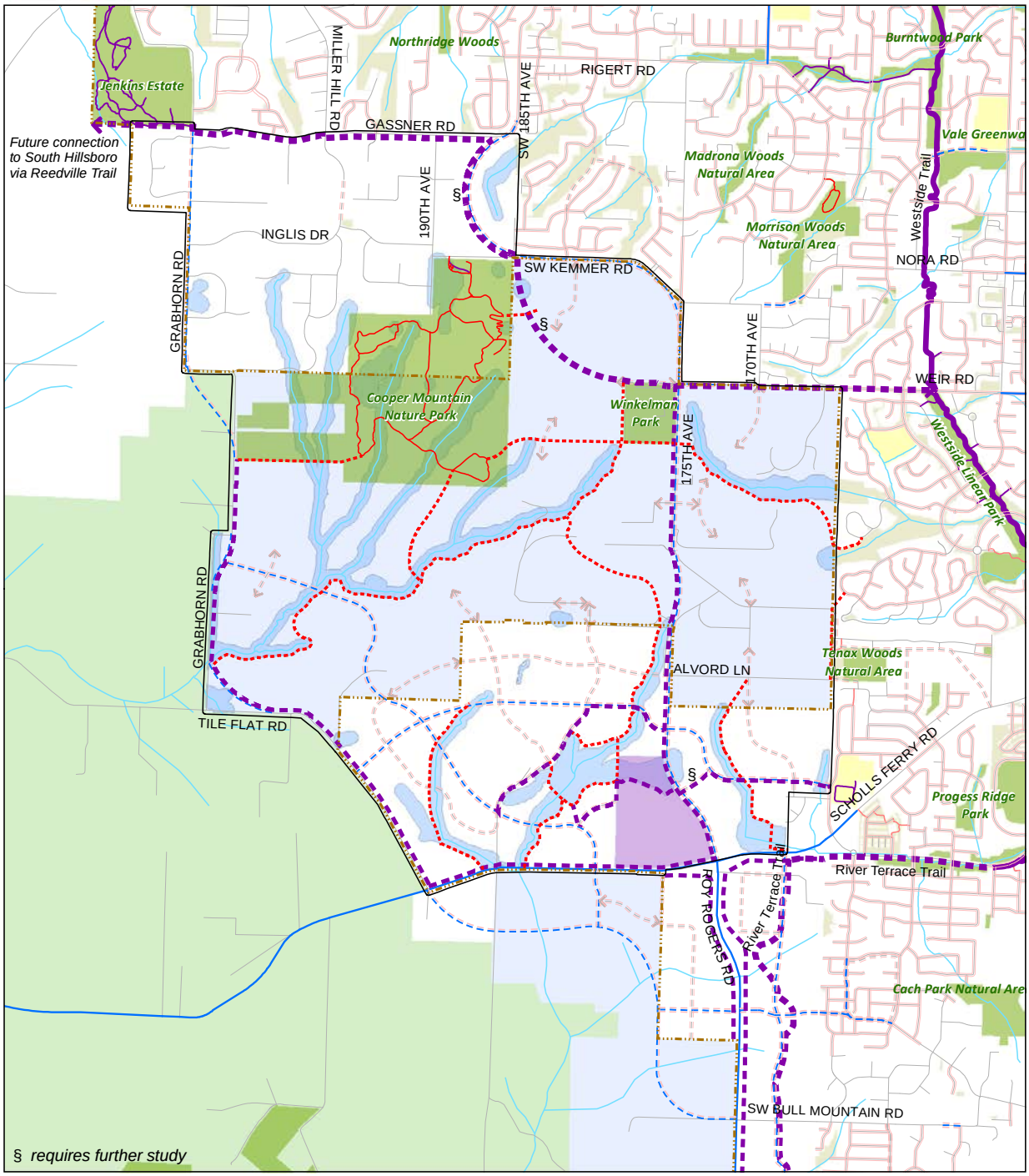
Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

DISCLAIMER
This map is intended for informational purposes only. It is not intended for legal, engineering, or surveying purposes. While this map represents the best data available at the time of publication, the City of Beaverton makes no claims, representations, or warranties as to its accuracy or completeness. Metadata available upon request.

NORTH

0 500 1,000 2,000 Feet

Figure ES-5 - Bicycle and Pedestrian Framework Map



Concept Plan Bicycle and Pedestrian Transportation Framework

Type

- Proposed Regional Multi-Use Path
- Proposed Community Multi-Use Path
- Proposed Nature Trail
- Existing Sidewalk (Complete)
- Existing Partial Sidewalks
- Existing Bike lane
- Streets
- Planned Bike Lane
- Planned Sidewalks*
- Regional Multi-use Trails
- Community Multi-use Trails
- Local Multi-use Trails
- Existing Pedestrian-Only Nature Trails
- Private Paths
- Study Area
- Urban Growth Boundary
- Streams
- Riparian & Wetland Buffers
- Planned High School Site
- Existing Parks and Natural Areas
- Preserved by Home Owners Assns.
- Existing Schools
- Rural Reserve**
- Urban Reserve

Date: 8/26/2014

** New local streets (not shown) will have sidewalks.*
*** As amended by HB 4078A.*

Prepared By: Angelo Planning Group
This map is intended for informational purposes only.

NORTH

0 500 1,000 2,000 Feet

Natural Resources

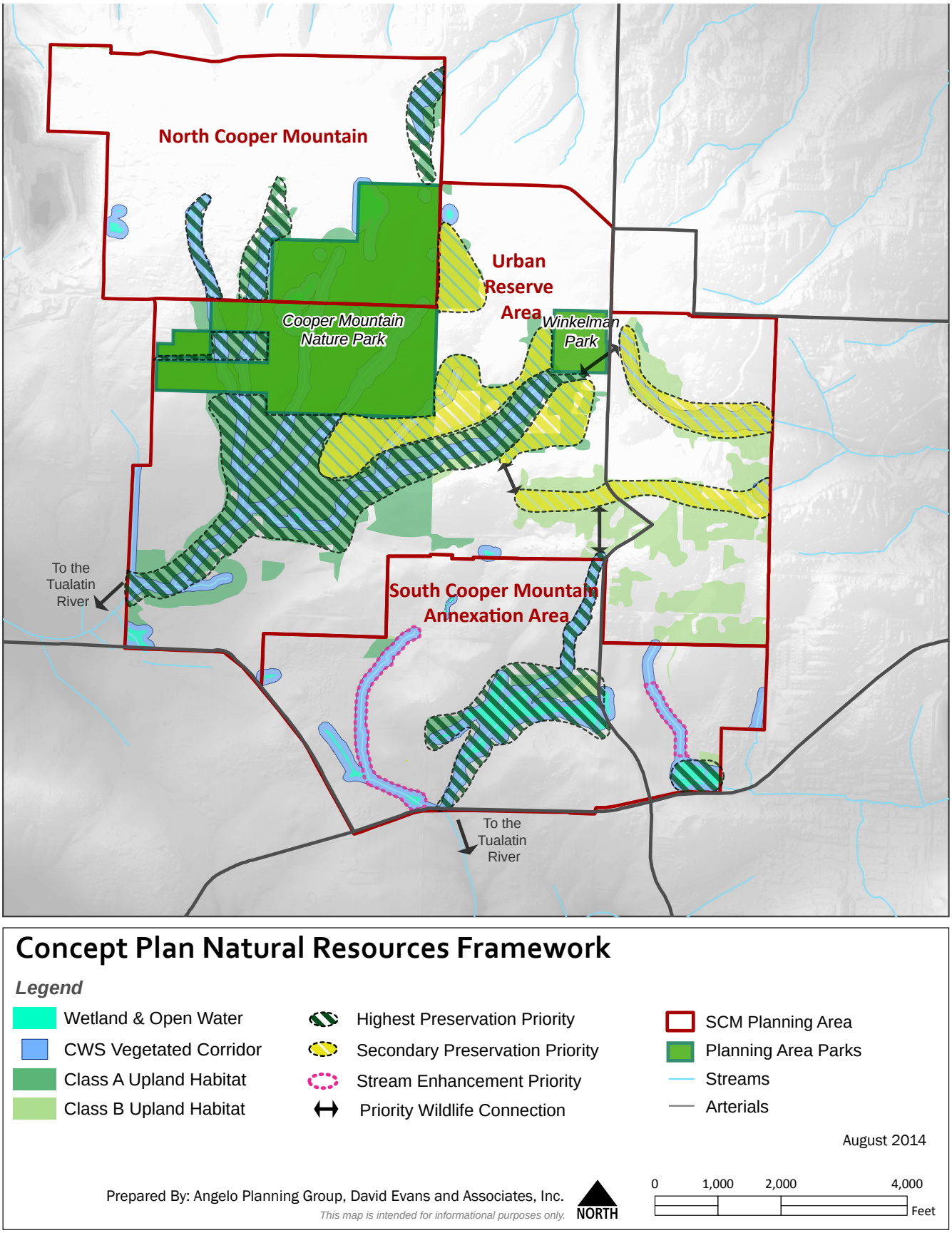
As noted above, South Cooper Mountain's unique landscape is a key theme for the Concept Plan and the organizing element for planning land use, open space, transportation and infrastructure. The most significant natural resources in the planning area include the large creek complex in the Urban Reserve Area, containing roughly 600 acres extending from Cooper Mountain Nature Park to where McKernan Creek flows under Tile Flat Road. "The Creeks" area spans public land, private land, forested riparian corridors, high-quality upland forest, farmed meadows, and a few rural homes. It is the core area that establishes a legacy of extensive and accessible natural resource areas virtually next door to the future urban communities of South Cooper Mountain.

The high resource value of The Creeks is supplemented by conditions in adjacent areas: the forested tributaries that extend into North Cooper Mountain; the significant tree canopy surrounding rural homes and drainages in the East Hills; and the open meadows of the Hilltop and Lowlands. The South Cooper Mountain Annexation Area provides the greatest opportunities for habitat restoration where a number of wetlands and waterways have been degraded by agricultural activities. Primary opportunities include protecting and enhancing native vegetation (in wetlands, riparian areas, and wildlife corridors) and enhancing stream functions and values for fish and other species.

Mechanisms to protect and to encourage enhancement of natural resources may include Significant Natural Resource Area designation, Tree Grove designation, tree protection standards, hillside/slope protection standards, development regulations that allow some increased flexibility or development potential on the buildable portion of the site in exchange for protection and enhancement on the constrained portion, public acquisition of valuable resource land, or other strategies.

On the Natural Resources Framework Map, Tier 1 habitat conservation priority areas represent the best habitats within the planning area and those most important to fish and wildlife. Within areas identified as Tier 1 conservation priorities, disturbance should be kept to the minimum possible, with little or no additional development allowed and carefully sited and designed road crossings. Tier 2 habitat conservation priority areas may have a greater level of human disturbance or play a less crucial role in wildlife movement than Tier 1 areas, but they include valuable upland habitats, riparian habitats, or both that provide important ecosystem services. Some limited degree of disturbance should be allowed, but the fundamental habitat value and ecosystem services should not be lost or excessively compromised. Within areas identified as restoration priorities, stream restoration may be paired with trail construction and storm water management facilities to improve these channels to a state where they can be both ecologically healthy and attractive neighborhood amenities. The identified priority habitat connections represent key links between stream corridors and priority habitat conservation areas. They are not intended to preclude development, but safe wildlife passage should remain possible wherever feasible.

Figure ES-6 - Natural Resources Framework Map



Infrastructure

WATER

As with other planning strategies for South Cooper Mountain, the water system for near-term and future land uses was conceptually planned by evaluating the area as a whole. The water system expansion into South Cooper Mountain will be based on the largest single point demand in the area: fire service flow. Although providing domestic and irrigation services to the area is essential, the water system expansion will be developed to provide sufficient fire flow while maintaining a minimum water pressure. Key facilities include:

- The new 24-inch water line in SW Scholls Ferry Road.
- A new 24-inch water line is planned to extend along SW 175th Avenue, ultimately connecting to a future five-million-gallon tank to be located near the intersection of SW 175th Avenue/SW Weir Road. By supplementing the existing system with this new five million-gallon storage tank, there will be adequate water storage to serve the entire planning area. It is scheduled to be constructed by 2020.
- Other major water lines planned in large loops within the existing or future right-of-ways.
- Plans to locate a future reservoir and large diameter distribution line in the concept plan area are being evaluated by the Willamette Water Supply study presently underway.

SANITARY SEWER

An existing 21-inch gravity sanitary sewer located in SW Scholls Ferry Road can serve some of the area east of 175th Avenue and north of Scholls Ferry Road as well as the planned High School site. Most of the East Hills portion of the Urban Reserve can also be served either with connections to existing sewer lines to the east or with sewer line extensions in SW 175th Avenue that will gravity flow to the existing line in SW Scholls Ferry Road.

With the exception of the high school site, much of the area west of SW 175th Avenue -- including a portion of the East Hills, the Hilltop, and the eastern portion of the URA Lowlands as well as most of the SCMAA -- will be conveyed towards the low point in SW Scholls Ferry Road (at the creek crossing near SW Vandermost Road) and eventually be conveyed to the new River Terrace Pump Station (in operation, 2015).

A new Tile Flat Road Pump Station will be needed to serve future development on the west side of the Urban Reserve Area, including Grabhorn Meadow and the western part of the URA Lowlands, and southern two-thirds of North Cooper Mountain.

STORM WATER

Conceptual storm water management planning was conducted during the evaluation of scenarios for the Concept Plan.[4] The work identified a preference by the City of Beaverton and Clean Water Services (CWS) for an approach that uses Regional Stormwater Facilities (RSFs). The regional approach is preferred because it is consistent with planning in other newly urbanizing areas; it provides planned, comprehensive flow control in a cost-effective manner; and it provides the highest level of certainty of meeting the flow management guidelines being established by CWS. In addition, RSFs will meet water quality requirements (capture and treatment of stormwater pollutants) as well as preserving the stream health of the receiving channel by avoiding hydrographic modification.

However, RSFs require a high level of coordinated implementation. Therefore, the Plan recommends that options be available so that flexibility is available to apply site-scale storm water management facilities in lieu of, or in combination with, RSFs. With water quality regulations set to change in the near future, further planning for stormwater in South Cooper Mountain, including the creation of a Storm Water Master Plan for the Community Plan area, is warranted.

4 For the scenario level evaluation, please see Stormwater and Water Quality Scenario Summary, David Evans and Associates, December 19, 2014.

Implementation

GUIDANCE TO FUTURE PLANNING

The SCM Concept Plan will guide future comprehensive plan and development code amendments that implement the Concept Plan in both the city of Beaverton and in Washington County. Detailed next steps for this process are identified in the South Cooper Mountain Implementation Plan, a non-regulatory document intended to inform and guide city, county, and service provider collaboration and coordination on plan implementation over the next several years.

GOVERNANCE AND URBAN SERVICES

As required under Metro's Title 11, areas of the SCM URA that are added to the UGB must be annexed to a city prior to or simultaneously with application of urban land use designations. The City of Beaverton will be the city responsible for annexations of and comprehensive planning for UGB expansion areas within the SCM URA. Urban services will be provided to those areas of the SCM URA that are brought into the UGB by the City of Beaverton in coordination with service providers including THPRD for parks, CWS for sanitary sewer and stormwater management, and TVWD for drinking water.

INFRASTRUCTURE FUNDING

The South Cooper Mountain Infrastructure Funding Plan describes a plan and strategy for how infrastructure in the South Cooper Mountain area could be funded. The document is intended to identify the types of infrastructure projects that appear to have adequate funding from existing sources, and the types of infrastructure projects that appear to require new funding tools and inter-jurisdictional collaboration. The Funding Plan lays out the estimated funding needs and strategies to meet them for parks, water, sanitary sewer, stormwater, and transportation facilities. The Funding Plan will guide future public and private investments in infrastructure and future collaborations and coordination among service providers to extend and enhance the infrastructure and services needed to support urban growth in South Cooper Mountain.

Beaverton
South Cooper Mountain
The Region's Next Great Community

CONCEPT PLAN

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Introduction

The purpose of the South Cooper Mountain (SCM) Concept Plan is to:

1. **Establish a vision for future growth, natural resource preservation and enhancement, and development in the 2,300-acre planning area of South Cooper Mountain;**
2. **Guide city and county comprehensive planning in the Urban Growth Boundary expansion areas.**

The SCM Concept Plan area covers nearly 2,300 acres of land intended for future urban development over the next 50 years: two subareas inside the Urban Growth Boundary (UGB) and one subarea area that is designated as Urban Reserve.[1]

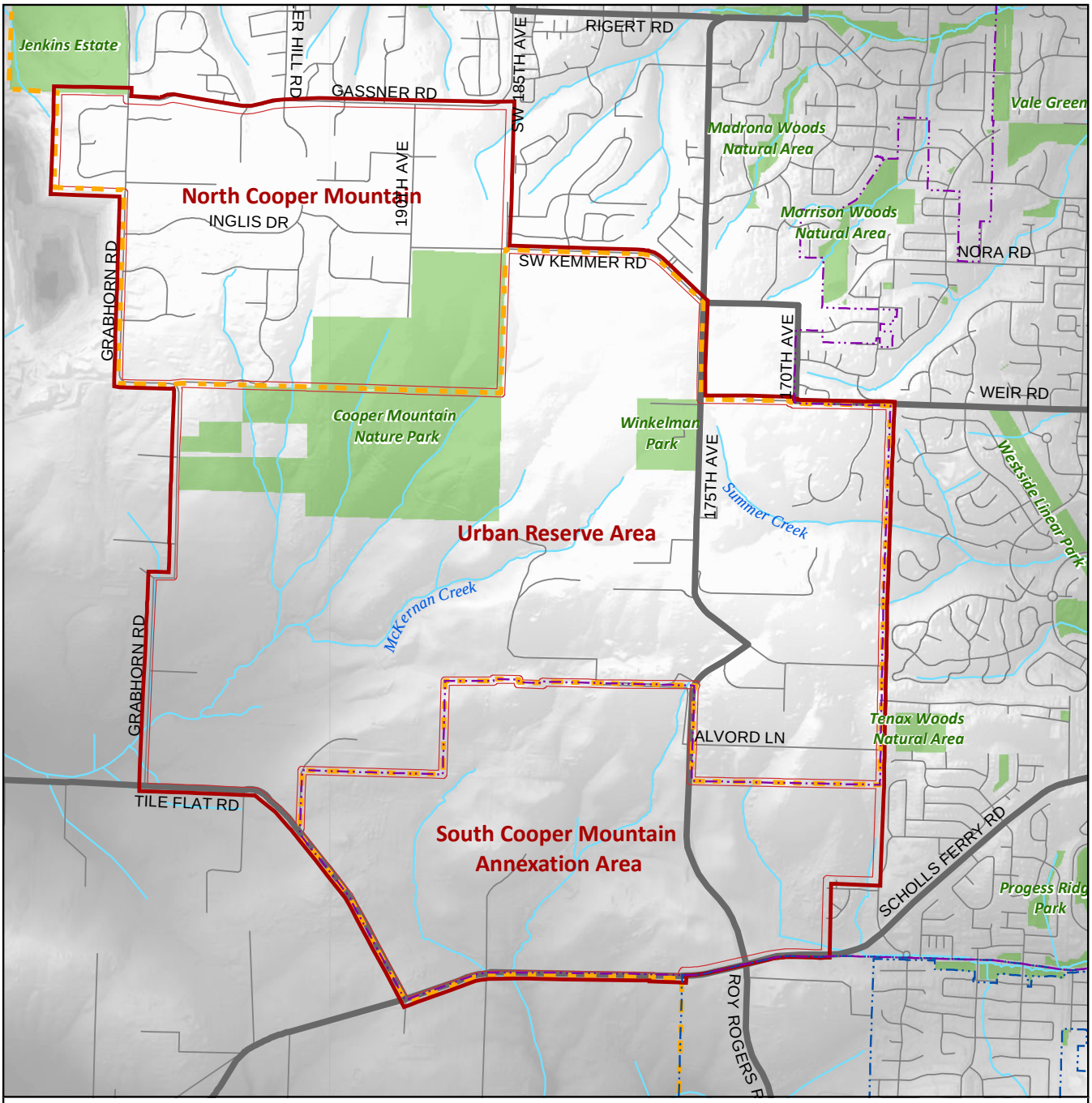
The 544-acre South Cooper Mountain Annexation Area (SCMAA) was added to the UGB in 2011 and annexed to the City of Beaverton in 2013. The largely developed 510-acre North Cooper Mountain (NCM) area in unincorporated Washington County was added to the UGB in 2002 but a concept plan was never adopted for that area. The 1,232-acre Urban Reserve area (URA) between North Cooper Mountain and the South Cooper Mountain Annexation Area was designated by Washington County and Metro in 2011 as part of a comprehensive analysis of lands outside the UGB to identify priority locations for future urban lands and areas for long term resource and rural land use. The Concept Plan recognizes the unique needs of the three distinct subareas while providing a holistic vision of how the three areas could integrate and grow sustainably.

The SCM Concept Plan implements regional requirements in Title 11 of Metro's Urban Growth Management Functional Plan. The overarching purpose of Title 11 is to "ensure that areas brought into the UGB are urbanized efficiently and become or contribute to mixed-use, walkable, transit-friendly communities". The plan achieves this purpose by providing a long term (50-year) and comprehensive guide for land use, housing needs, natural resources, transportation, public facilities, infrastructure funding and intergovernmental coordination. The Concept Plan also fulfills Metro conditions (as further adopted by Washington County) to plan the area as a whole, enhance and protect public lands and natural features, implement Main Street and Neighborhood designations, provide housing capacity, and enhance compatibility between urban uses and adjacent agricultural and forest practices.[2]

1 Urban Reserves are the Portland region's 50-year supply of future urban land. They are the first priority areas considered during UGB expansions and are intended to become or contribute to compact, mixed-use, walkable and transit-friendly urban communities. The Urban Reserve adjacent to the Community Plan area was called Urban Reserve 6B during the Urban and Rural Reserves designation process. For more on the Urban and Rural Reserves program, visit http://www.oregonmetro.gov/index.cfm/go/by.web/id=26257.

2 For the specific conditions, see Metro Ordinance No. 11-1264B, Exhibit B, and Exhibit A to the Intergovernmental Agreement between Metro and Washington County to Adopt Urban and Rural Reserves.

Figure 1 - South Cooper Mountain Subareas



South Cooper Mountain Planning Area and Subareas

Legend

- South Cooper Mountain Study Area
- South Cooper Mountain Subareas
- Beaverton City Limits
- Tigard City Limits
- Urban Growth Boundary
- Major Roads
- Local Roads
- Streams
- Parks and Natural Areas

Prepared By: Angelo Planning Group

Date: 8/29/2014

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

DISCLAIMER
This map is intended for informational purposes only. It is not intended for legal, engineering, or surveying purposes. While this map represents the best data available at the time of publication, the City of Beaverton makes no claims, representations, or warranties as to its accuracy or completeness. Metadata available upon request.

NORTH

0 1,000 2,000 4,000 Feet

Process

The Concept Plan was developed through an 18-month planning process that included a variety of opportunities for input from stakeholders and the general public. A Technical Advisory Committee (TAC) composed of staff from affected jurisdictions, agencies, service providers and districts, provided input and guidance to the project team about technical aspects of the planning process. A Citizens Advisory Committee (CAC) composed of community representatives including residents, property owners, businesses, developers, city and county planning commissioners, citizen involvement organizations, advocacy groups, and other affected stakeholders provided feedback to the project team throughout the planning process. In addition, the City of Beaverton's City Council provided direction at key milestones during the planning process. The general public was engaged at key points and invited to participate through open houses, online workshops, and community outreach meetings. Focus groups and intergovernmental coordination meetings were held throughout the project.

The first phase of the planning process included establishment of Guiding Principles for the project (see page 7) and study and documentation of existing conditions and future needs in the planning area. The project team studied land use, transportation, the real estate market, water and sewer infrastructure, stormwater, natural resources, parks, and energy. Key findings from this work are included in this Concept Plan, beginning on page 9 (the Existing Conditions and Future Needs Summary Report, dated June 6, 2013, provides additional background information).

The second phase of the project began with a visioning workshop, attended by roughly 60 people, with another 20 people participating through an online version of the workshop. This workshop solicited input on priorities and preferences for future land use and transportation in the Concept Plan area. Results of this workshop were used to develop three initial Concept Plan "scenarios" addressing future land use and transportation for the planning area. These three scenarios were vetted by the project's TAC and CAC and then fully analyzed for the transportation, infrastructure, park, school, natural resource, and land use implications. Based on the findings from the scenario evaluation, two hybrid scenarios were created that combined the best-performing elements of the three original scenarios. The two hybrid scenarios were discussed by the TAC and CAC and shared with the public at an open house and community outreach meetings. Based on input from those

meetings, a preferred scenario was developed. That preferred scenario became the basis for this Concept Plan. During the scenario development process, an "early funding analysis" was also done to identify funding gaps and begin to identify sources and strategies to pay for infrastructure.

In the final phase of the project, the Preferred Scenario was further refined to become this Concept Plan, and draft implementing Community Plans for the SCMAA and NCM were developed to identify the policy and code measures necessary to implement the Concept Plan. An Infrastructure Funding Plan was also prepared to identify funding sources and strategies to implement the infrastructure recommendations associated with the plan. The draft Concept and Community Plans were shared with the public at an additional open house and outreach meetings. The Final Concept Plan will be acknowledged by the City of Beaverton and Washington County.

Principles, Issues and Ideas that Shaped the Plan

GUIDING PRINCIPLES

The Guiding Principles established the foundation for and helped shape the South Cooper Mountain Concept Plan. They were initially prepared following a visioning exercise at a joint meeting of the CAC and TAC, then refined and adopted as the goals and broad criteria for the project.

3. Create Beaverton's next great community.

Create a community that is walkable, family-friendly, livable, and includes quality neighborhoods, great green spaces, community focal points, a Main Street, and well-designed development.

4. Create a sustainable community.

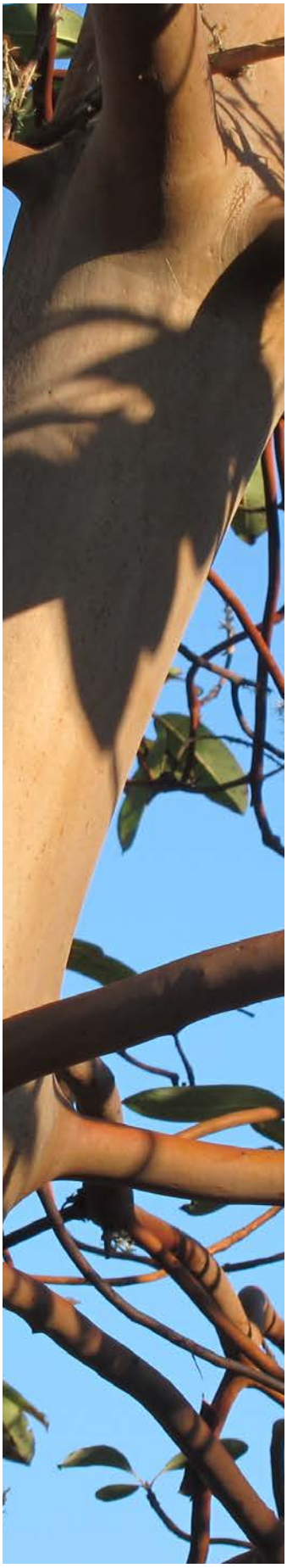
Create a community that meets the needs of Beaverton and the South Cooper Mountain area today and tomorrow, while minimizing negative environmental, social, and economic impacts. Support low-carbon economies and lifestyles, energy efficiency and security, health and well-being, and ecosystem stewardship; and enable future residents and the broader community to meet their own needs.

5. Prepare a realistic financing plan for infrastructure and feasible implementation strategies.

Examine financial strategies early in the process and work closely with all implementing parties. For regulatory implementation, use existing codes where possible and appropriate; consider new/modified codes as needed.

6. Provide housing choices.

Plan for a variety of housing types and densities to provide options for a range of income levels. Provide housing choices consistent with the overall housing needs of Beaverton.



7. Provide transportation options.

Plan a well-connected transportation network that promotes options for all modes of travel, and encourages walking, biking and future transit service. Address north-south, east-west, and other regional travel issues in coordination with neighboring cities, Washington County, Metro, Tri-Met and Oregon Department of Transportation.

8. Provide appropriate protection, enhancement and access to Cooper Mountain's natural resources and public lands.

Avoid and minimize impacts, protect key natural resources, and design new growth so that it is integrated with natural areas and other open spaces. Provide appropriately located access to natural areas and open space.

9. Implement regional requirements and plans.

Address Metro Title 11 requirements and conditions for Urban Growth Boundary expansion areas and Urban Reserves. Coordinate transportation planning with the 2035 Regional Transportation Plan and Regional Transportation Functional Plan. Promote connections from South Cooper Mountain to the area's regional trails and green spaces.

10. Coordinate with other planning in the area.

Coordinate with the River Terrace and South Hillsboro Community Plans. Coordinate with planning for regional water facilities. As additional planning projects in the area are identified, provide information and promote coordination with the South Cooper Mountain Concept Plan.

11. Ensure that the plan complements existing neighborhoods and commercial areas so that South Cooper Mountain is a part of greater Beaverton.

Ensure the public involvement process provides opportunities for participation by existing residents as well as neighbors and businesses in adjacent areas, so their needs and concerns can be addressed. Evaluate Main Street options in the South Cooper Mountain Annexation Area to serve local needs and complement existing and planned commercial centers near South Cooper Mountain.

12. Plan new civic uses so they are focal points for the community.

Ensure schools, parks and other civic uses are centers of community activity. Integrate the planned new high school with neighborhoods and other development within the plan.

13. Promote compatibility with adjacent rural areas.

Evaluate ways to enhance compatibility between urban uses and agricultural/ forestry uses outside the Urban Growth Boundary. Recognize elements of the area's agricultural heritage in the plan.

PLANNING AREA CONDITIONS

The Land

Landscape Context

South Cooper Mountain is a part of the elevated hills (Cooper, Sexton, and Bull "Mountains") that separate the urbanized areas of Beaverton and Tigard from the rural and agricultural flats of the Tualatin Valley to the west. In this context, South Cooper Mountain is a "top of watershed" location and transition area of the regional landscape. South Cooper Mountain itself spans a topographic transect of rolling lowlands, creeks and drainages, east hills, and hilltop areas.

Existing Land Use

Existing development and rural uses within the project area include working farms, forestry, rural residential housing, and parks. The NCM subarea is largely developed with homes on one- to two-acre lots, but also contains a few small farms, small undeveloped areas, and Cooper Mountain Vineyards. The URA contains the bulk of the Cooper Mountain Nature Park, Winkelman Park, larger working farms, forested areas used for logging, and some rural home sites (mostly on the eastern side of the subarea). The SCMAA is a mix of farms and forestry with scattered farm buildings and a few home sites.

Adjacent Land Uses

The land uses surrounding the planning area include:

- single family neighborhoods in the City of Beaverton to the east,
- single family neighborhoods in unincorporated Washington County to the north,
- planned development in Tigard's River Terrace community to the southeast,
- designated Rural Reserve areas with a mix of active farms and rural homesteads to the southwest and west, and
- an active aggregate extraction site to the northwest.

Natural Resources

The planning area contains valuable natural resources including streams, forested uplands, and a few significant wetlands. The most important natural resources in the planning area include: a large creek complex in the URA, spanning the Cooper Mountain Nature Park and private land, with forested riparian corridors separated by upland forest and meadows; and a chain of linked upland, riparian forest and wetland areas in the central part of the SCMAA that provide important habitat value.

The planning area also contains several isolated tributaries/headwaters, a number of small wetlands, and upland forest area interspersed with rural homes.

Landscape Areas

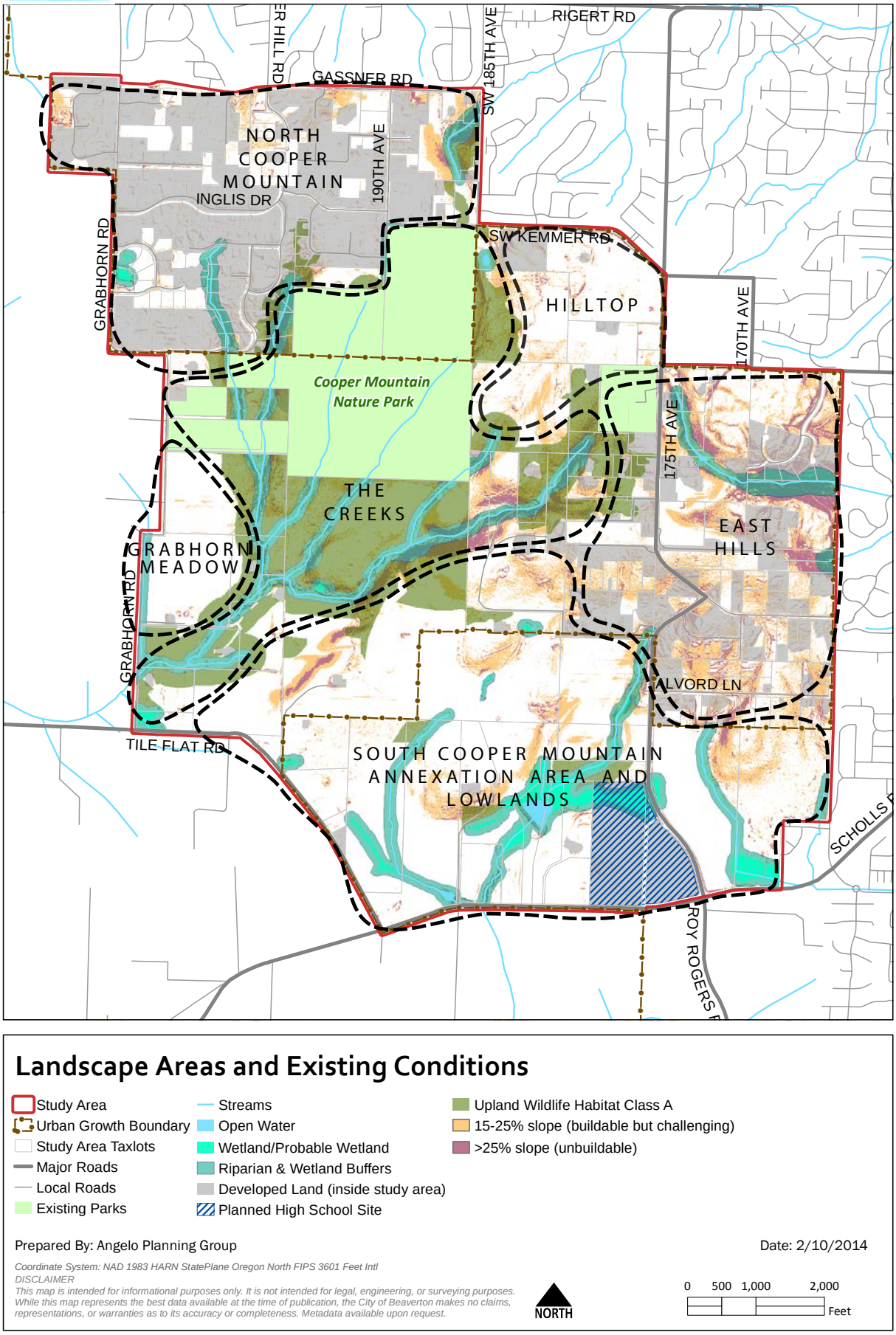
The SCM planning area can be broken down into six landscape areas that have been drawn based on topography, natural resources, and existing development patterns. The boundaries between the landscape areas are not intended to be precise or property-specific. The landscape areas and development constraints are shown on Figure 3 and summarized in brief below.

- **North Cooper Mountain:** NCM is largely built out, characterized by large-lot single-family residential neighborhoods. Cooper Mountain Nature Park, purchased through Metro's regional natural area bond program, occupies 213 acres along the southern and eastern boundary of NCM. The Nature Park is a treasured amenity in the community and provides habitat for a wide variety of wildlife.
- **The Creeks:** Cooper Mountain Nature Park and the set of drainages and uplands within The Creeks, totaling nearly 600 acres in the central portion of the plan, comprise the primary natural resource areas and best opportunities for an enduring green legacy for the area.
- **Hilltop:** Located at the top of the mountain, with flat to gently rolling conditions, and offering some of the best views of the Tualatin Valley, the hilltop is a distinctive and buildable area within South Cooper Mountain.
- **Grabhorn Meadow:** This area gently sloped, easily accessed from Grabhorn Road, and generally unconstrained.
- **East Hills:** The East Hills are a mixed area of tree groves, developable areas, steep slopes, existing rural residential development, and natural resource areas.
- **Annexation Area & Lowlands:** Comprised of gently rolling fields, hummocks, and three small tributaries, this area is relatively free of constraints to development. Land has been acquired for a new high school and infrastructure is adjacent and being upgraded to serve SCM and the adjacent River Terrace community plan area to the south.

Development Capacity

The majority of buildable land is in the SCMAA and the URA. There are small pockets of buildable land remaining in the NCM area, but many vacant or underdeveloped parcels are already platted and may be subject to private development restrictions. There are larger pockets of buildable land in the URA, some of which are isolated from other buildable areas, as well as areas that are partially developed but have some additional development capacity. The "rolling lowlands" in and adjacent to the SCMAA provide the largest buildable portion of the planning area.

Figure 2 - Existing Conditions Map



Infrastructure and Services

Roadways

South Cooper Mountain has a rural road network that serves urban transportation needs. East-west and north-south connections are limited both within and around the planning area, and several important regional roadways are nearing capacity. Scholls Ferry Road and 175th Avenue / Roy Rogers Road in particular carry a large volume of through-traffic. North-south commute patterns between Tualatin / Sherwood / Yamhill County and Washington County employment destinations rely heavily on 175th Avenue, despite its terrain, narrow width, and sharp curves. Tile Flat and Grahborn Roads also serve more through-traffic than their current rural design and sharp curves would suggest. Tile Flat Road forms an urban/rural edge, with UGB and Urban Reserve to the east and Rural Reserve to the west.

Roads within the planning area are not currently built to urban standards, and need improvements to resolve safety issues and accommodate existing traffic demands and new growth. Virtually none of the roads within or framing the Concept Plan are built with sidewalks or bike lanes at this time because they were designed as rural roads. Other existing safety issues include the “kink” or hairpin turn on 175th Avenue at High Hill Lane, the skewed intersection at Kemmer Road and 175th Avenue, speeds on the major roads through the planning area, and the multiple 90-degree turns on Grabhorn Road.

Transportation is the most-often cited concern of area residents, including motorist safety, bicycle and pedestrian safety, and traffic congestion.

The key challenge for the Concept Plan is how to plan for growth and ensure solutions are delivered for multiple inter-related needs: high volumes of regional through-traffic; intersections and road sections with known safety and capacity issues; almost no existing pedestrian and bicycle system; and the vision to provide transportation options serving a sustainable community.

Sanitary Sewer

Existing sanitary sewer infrastructure is located to the north and east of the Concept Plan area and is being upgraded within Scholls Ferry Road to just west of Roy Rogers Road / 175th Avenue. Sanitary sewer predominately relies on gravity. Therefore, topography and natural drainage patterns mean that sanitary sewer from the northern portion of NCM will drain to existing infrastructure north of the planning area, and most of the East Hills will drain to existing infrastructure to the east of the planning area. The southern part of NCM and much of the URA west of 175th Avenue will generally flow to the southwest corner of the planning area, away from existing infrastructure. The SCMAA generally drains to the south, towards Scholls Ferry Road.

Drinking Water

Drinking water infrastructure is available to the north and east of the Concept Plan area, and within NCM. NCM and areas to the north are served by the Tualatin Valley Water District (TVWD). Areas to the east of the Concept Plan area are generally served by the City of Beaverton; the SCMAA will be served by City facilities.

TVWD and the City of Hillsboro are in the early planning stages of an expansion of their water supply source. A future large-diameter distribution line and/or reservoir may be located in or near the planning area.

Schools

Hillsboro School District (HSD) and Beaverton School District (BSD) are the public school service providers for the planning area. NCM is fully within BSD, while the boundary between the districts runs through the center of the URA and SCMAA.

BSD is planning to build a new high school within the SCMAA, at the northwest corner of Scholls Ferry Road and 175th Avenue. The site is anticipated to be 40 acres, including ball fields and all other facilities.

Parks

The area is home to two important parks. Cooper Mountain Nature Park, a 213-acre natural area with hiking trails and a small nature-play area owned by Metro and co-operated by Metro and Tualatin Hills Park and

Recreation District (THPRD). Metro has expressed interest in expanding the Cooper Mountain Nature Park through purchases of land from willing sellers adjacent to the park. Winkelman Park is a newly-constructed 19-acre community park located in the URA along 175th Avenue is owned and operated by THPRD. The property containing Winkelman Park is not yet fully developed with park and recreation facilities; further expansion facilities may occur over time upon the remaining undeveloped portions of the land owned by THPRD at that location.

Trails

There are opportunities to connect to existing and proposed regional trails to the north (the Reedville Trail proposed through the Aloha-Reedville Study), east (the Westside Trail), and south (the planned River Terrace Trail) of the Concept Plan area. Metro has identified a future regional trail, the Cooper Mountain Trail, which is planned to run east-west through the northern portion of the planning area, connecting to the Westside Trail.

Stormwater

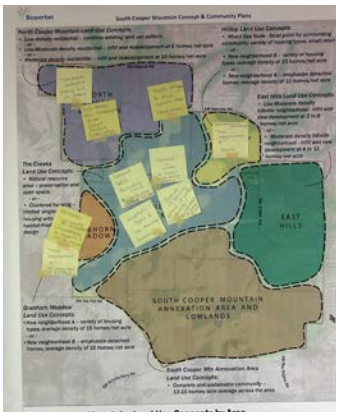
Stormwater management should be tailored to the unique soils and natural resources of South Cooper Mountain. Opportunities for infiltration of stormwater are limited due to slopes and soils, making the location, design, and sizing of detention facilities – in coordination with natural resource protection – especially important. Stormwater management is a key concern of area residents.

Market Analysis

A market study, informed by market research and consultation with real estate experts, identified a range of housing types that could be appropriate for the planning area, including workforce housing, apartments/condominiums, townhomes/cottages, and single-family homes on various size lots. Some neighborhood commercial development is appropriate to serve new development and provide an amenity for higher-density housing, but the size (approximately eight to 10 acres) will be limited since the area is already well-served by established retail centers at Progress Ridge, Murray Scholls Town Center, and the Murrayhill Marketplace.

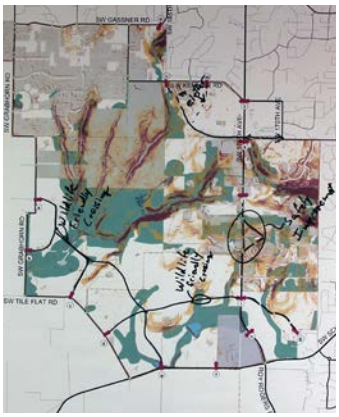
SCENARIOS: DEVELOPMENT AND TESTING OF CONCEPTS

Visioning Workshop



A Visioning Workshop was held in July 2013 at which participants gave feedback on big picture land use concepts for the “landscape areas” described on page 8; transportation issues, priorities and ideas; and ways to lay out development to create a complete and sustainable community in the SCM Annexation Area. The same type of input was gathered from additional participants in an online version of the workshop.

Overall comments on the big-picture land use concepts included focusing density in the Annexation Area, keeping areas near the Nature Park as open space and lower density, keeping the area as green as possible, and keeping the feeling of being close to farms.



Top transportation concerns included the following: the existing road network does not have adequate for today’s traffic and additional urban development will add to the problem; north-south transportation is particularly lacking; safety problems exist from sight distance, high speeds, tight corner, driveways and winter conditions; and facilities for bicycles and pedestrians are inadequate or absent.

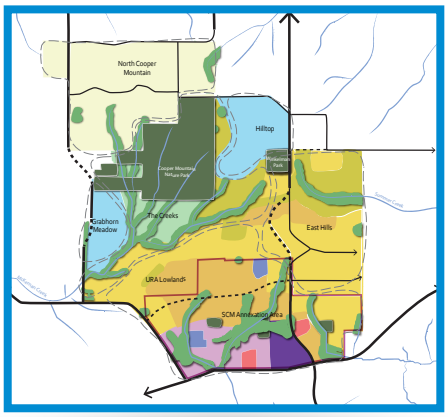
Common ideas and priorities identified for transportation improvements and solutions included:

- Improve north-south roadway capacity and improve regional connections by one or more of the following: adding a new road (bypass); widening and/or extending 170th, 175th, 185th, 209th, Grabhorn-Tile Flat Road, or Murray Boulevard; focusing on how to better move traffic via Scholls Ferry; upgrading Tile Flat Road to Clark Hill, and Clark Hill to Farmington Road; extending Cornelius Pass to Clark Hill; and/or providing better connections to area freeways.
- Improve traffic and safety by: lowering speed limits and discouraging travel through neighborhoods and on some roads such as 175th; and fixing specific safety issues such as the 175th Avenue intersections with High Hill Lane and with Rigert Road.
- Improve bike and pedestrian facilities by: adding bike lanes and sidewalks, particularly on busy streets; creating an off-street trail network; and connecting gaps in existing sidewalks.

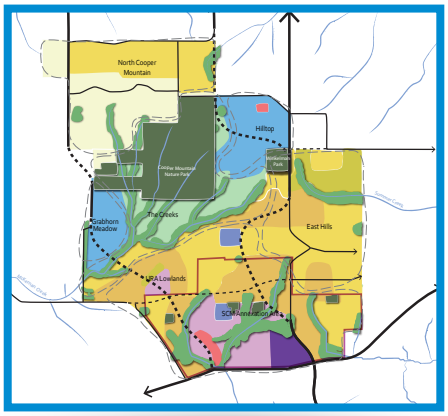
In the SCM Annexation Area, map-based activities showed a preference for a neighborhood commercial uses along Scholls Ferry Road; locating parks throughout the study area adjacent to natural resource areas; focusing multi-family housing along existing or suggested major roads, including along Scholls Ferry Road and to the east of 175th Avenue; and emphasizing standard single family neighborhoods along the north and east edges of the SCMAA.

Scenario Development

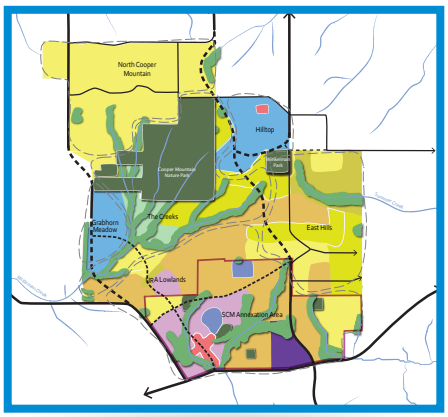
Based on the ideas from the Visioning Workshop, three alternatives, or “scenarios”, for future growth of the South Cooper Mountain (SCM) Concept Plan area were created. Each scenario presented different choices about where future growth should be focused, how the transportation system should be improved, and how the South Cooper Mountain Annexation Area should be designed. The highlights of the three scenarios are summarized below.



Scenario 1: This scenario placed a priority on compatibility with existing development and adjacent neighborhoods. Residential densities were generally within the range found in southwest Beaverton and nearby urban Washington County, with higher densities reserved for the southern portion of the SCM Annexation Area, and North Cooper Mountain limited to development similar to the existing pattern in the area. The transportation network focused on upgrades and safety improvements to 175th Avenue (including a realignment to avoid the hairpin turn), Tile Flat Road, and Grabhorn Road; and on improved connectivity with a new east-west collector road from Tile Flat Road to 175th Avenue, tying in to Alvord Road.



Scenario 2: This scenario focused future growth to the most buildable areas of South Cooper Mountain, primarily the SCM Annexation Area and the Lowlands, Hilltop and Grabhorn Meadow within the URA, which would all be planned for approximately 15 units per net acre. The Creeks were largely protected from development. A portion of North Cooper Mountain (closest to Gassner Road) would have densities equivalent to those to the north and east in unincorporated Washington County, while the rest would remain similar to the existing development pattern. The transportation framework included a new north-south arterial east of Grabhorn and Tile Flat Roads, a major realignment of 175th Avenue to avoid the hairpin turn, a new connection from 175th to 185th Avenue north of Winkelman Park, and a new east-west collector road extending directly from Tile Flat Road to 175th Avenue, tying in to Alvord Road.



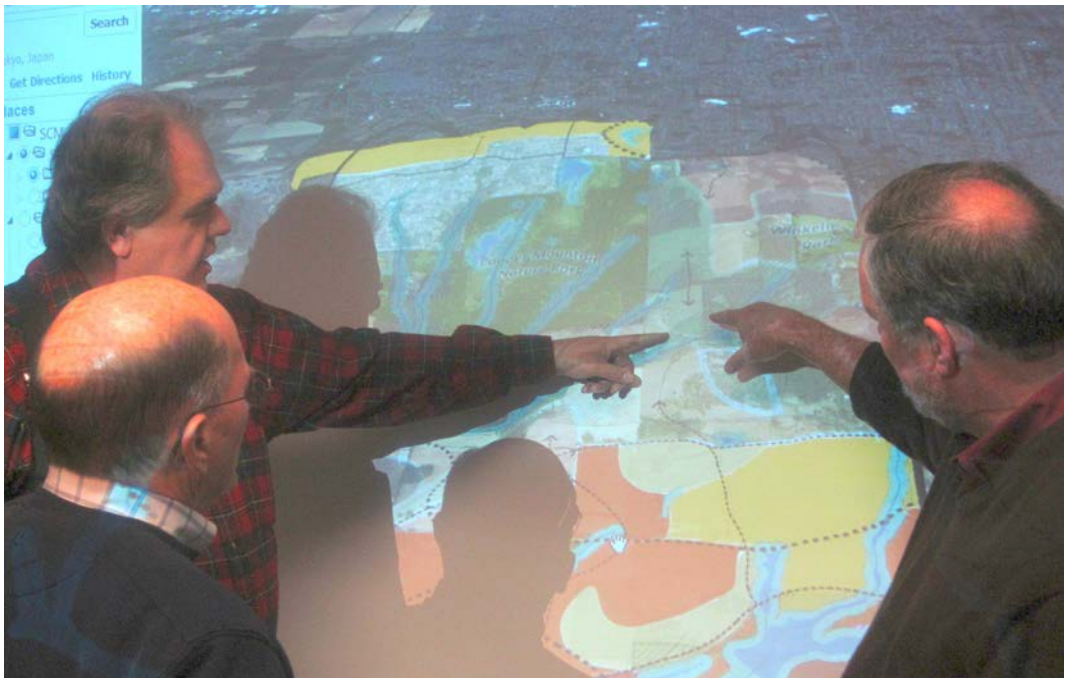
Scenario 3: This scenario focused on maximum long term use of all buildable areas on South Cooper Mountain. Those areas with least constraints (the SCM Annexation Area and the Lowlands, Hilltop, and Grabhorn Meadow within the URA) would all be planned for approximately 15 units per net acre. North Cooper Mountain, the Creeks, and the East Hills would develop at the top end of the ranges that are feasible given their constraints. The transportation framework included improvements to Grabhorn and Tile Flat to become a new north-south arterial, a new roadway from 175th Avenue to 185th Avenue (and a link back to 175th Avenue near the top of the hill), and a new east-west collector road tying in to 175th Avenue at the hairpin turn.

In addition to the three original scenarios summarized above, several potential variations on the transportation frameworks were suggested during committee meetings and were included for evaluation of their feasibility and transportation impacts.

Scenario Analysis and Refinement - Key Findings and Solutions

The three initial scenarios were evaluated for their implications for transportation, water, sanitary sewer, and storm water management; land use and energy; and parks, trails, and open spaces. Coordination meetings were held with Clean Water Services, Washington County, the City of Tigard, City of Hillsboro, Tualatin Valley Water District, Tri-Met, Tualatin Hills Park and Recreation District, and the Beaverton and Hillsboro School Districts. Following the technical analyses, two refined scenarios were prepared incorporating the best features of each. The two refined scenarios were further discussed through and extensive outreach process that included two CAC meetings, TAC review, an open house, two neighborhood meetings in North Cooper Mountain, reviews by the Washington County Planning Commission and Board of Commissioners, presentation to CPO6 and many team meetings.

Key findings and solutions from the scenario evaluations are summarized below. The issues and ideas listed here became part of the Preferred Scenario and ultimately the Concept Plan.



Issues and Findings	Solutions and Responses
Land Use	
SCMAA target density vs. need for single family homes: Meeting Metro's capacity / density target for the SCMAA requires a housing mix that makes it difficult to meet the City of Beaverton's projected need for single family homes, one of the key reasons the City annexed the SCMAA.	Reduce target density in the SCMAA slightly in order to allow a somewhat larger share of single-family homes, while staying close to the target set by Metro.
Zoning for NCM: Washington County does not currently have a land use designation that allows for a one-acre lot residential density comparable to what exists in NCM today; a new land use designation would be required in order to implement a Very Low Density Residential Concept Plan designation.	Work with Washington County to draft a new land use designation for lots around 1 acre for use in portions of NCM.
Development Near Resource Areas in The Creeks: Building housing in The Creeks would require extension of water and sewer lines through The Creeks' sensitive natural areas. The further west housing extends, the greater the impact to stream corridors to provide services.	Propose Transfer of Development Rights from land north of McKernan Creek to land in the URA Lowlands under common ownership in order to preserve land within the Creeks.
Infrastructure cost & density in western URA: Development in the western portion of the Lowlands, The Creeks, and Grabhorn Meadow require construction of a new sanitary sewer pump station and force main. Any development in those areas should provide enough housing capacity to justify and help pay for such an investment in infrastructure.	Plan Grabhorn Meadow and western portions of the URA Lowlands for densities around 15 units per acre in order to spread infrastructure costs. Do not assume development within the western portion of The Creeks.
Main Street location: A location at the intersection of the new north-south collector road and Scholls Ferry Road will provide visibility to the relatively high traffic volumes on Scholls Ferry Road while also providing good access by all modes from the SCMAA itself. It also provides the opportunity for a more pedestrian-friendly development style that is not entirely dependent on auto access. A location further east provides proximity to the High School and the associated playing fields as well as better accessibility from River Terrace. Proximity to the High School could limit the types of businesses that would be appropriate in the Main Street, and may restrict liquor license options. Of the two locations along Scholls Ferry considered, one has some topographic challenges (grades around 7%, rather than the optimal 3%), while the other has natural resource constraints.	Identify the location adjacent to the High School as the preferred location in the Concept Plan.
Density on knolls in SCMAA: Potentially affected property owners universally expressed concerns about applying a hillside (low density) designation to land with 15-25% slopes in the SCMAA, and expressed a preference for some flexibility to adjust lot sizes to respond to topography, rather than having a lower density zone applied.	Remove Hillside designation from the SCMAA on the Concept Plan land use framework. Explore code measures to increase flexibility on minimum density for land with moderate to steep slopes (15-25%).

Issues and Findings	Solutions and Responses
SCM Community Plan land use designations: Several property owners suggested refinements to the draft land use designations map in SCM Community Plan.	Work with the Beaverton PC and CC to address requested modifications to the Community Plan land use maps.
Concern about densities in the Hilltop: Nearby residents expressed concern about the compatibility of multi-family and high density housing being located adjacent to their lower density neighborhoods, and also raised concerns about stormwater runoff from dense development at this top-of-watershed location.	Lowered densities in the Hilltop to include only a node of Future Compact Neighborhood development adjacent to Winkelman Park and 175th Avenue, with the remainder planned for future single family neighborhoods and future cluster housing adjacent to Cooper Mountain Nature Park.
Lack of infrastructure and strong preference for the status quo in southern NCM: Residents of Corrinne Heights and adjacent subdivisions expressed a strong preference for precluding future infill in their portion of NCM. This portion of NCM is largely developed, and the remaining buildable land is nearly all platted at similar lot sizes to the developed land. Public sewer availability is estimated to be many decades in the future due to the need to connect to new lines that would be constructed to provide gravity flow southward of NCM, connecting to a pump station that would also need to be built to the south along Tile Flat Road. Provision of these sanitary sewer infrastructure components is not currently feasible, and absent a health hazard situation, they will not likely be built for many years.	In the southern portion of NCM and the small area west of Grabhorn Road, plan for preservation of the existing one- to two-acre lot development pattern.
Potential for limited infill in northern NCM: There are approximately 69 acres of buildable land in the northern portion of NCM.* Existing development in the northern portion (approximately 100 homes on 1+ acre lots) is served by septic systems that may need to be replaced in the future. Over the long term, it is likely that the public sanitary sewer system will be extended into this area. Existing sewer lines are adjacent in the higher density area downslope and north of Gassner Road, making it feasible to connect properties in the northern portion of NCM to the public sewer system with new gravity lines. Property owners will be better positioned to pay for new sewers if the land is zoned to allow additional homes. There were mixed opinions about how much infill should be allowed in the northern portion of NCM, but the need for some transition to the larger lots to the south was identified.	In the northern portion of NCM, adjacent to Gassner Road, plan for limited infill with lot sizes similar to those in adjacent neighborhoods to the north.

* See South Cooper Mountain Buildable Land Inventory, available on the project webpage, for an explanation of the methodology used to identify buildable land.

Issues and Findings	Solutions and Responses
Concern about the urban-rural edge: Nearby residents in the Rural Reserve expressed concern about the compatibility of the densities identified for areas just east of Tile Flat Road with the rural land to the west.	Identify a combination of landscaping, a multi-use path, a rural road design, and building setbacks along Tile Flat Road to provide a visual buffer between rural homes west of Tile Flat and future urban development in the SCMAA.
Concern about compact neighborhood development in the East Hills: Nearby residents expressed concern about the feasibility and compatibility of planning for compact neighborhood development west of 175th Avenue.	Limit the Future Compact Neighborhood designation within the East Hills to the relatively flat area on the east side of 175th Avenue just north of High Hill Lane.
Transportation	
North-south traffic solutions: Regional traffic makes up 50 to 80% of north-south arterial trips through the study area. Providing just one north-south arterial road is not sufficient to serve urban growth in the concept plan area. Spacing standards and north-south demand suggest an arterial is needed from Farmington Road south to Scholls Ferry Road, and ideally beyond Scholls Ferry Road. A new western arterial road would be very attractive to regional traffic, particularly if it continued south of Scholls Ferry Road to connect directly to Roy Rogers Road. Providing a connection from Roy Rogers Road to Scholls Ferry Road that continues as an arterial also much improves the 175th Avenue-Roy Rogers/Scholls Ferry intersection operationally. Simply smoothing the curves in Grahborn Road without providing the southern connection is less attractive to regional drivers. There was general acknowledgement that dispersing traffic to more roads, specifically 185th and Tile Flat-Grabhorn, is an appropriate way to address regional traffic issues. Many people supported the idea of providing a new connection from Roy Rogers Road to Scholls Ferry Road and to Grabhorn Road in order to reduce reliance on 175th Avenue.	Long-term improvements to, and extensions of, Tile Flat / Grabhorn to provide a western arterial option are recommended as part of the package of transportation improvements for the Concept Plan.

Issues and Findings	Solutions and Responses
175th Avenue to 185th Avenue connection: Providing a relatively direct connection from 175th Avenue to 185th Avenue makes that route more attractive to regional traffic, and pulls about 20% of the traffic from Clark Hill Road to that new connection. Providing a connection to 175th Avenue at Kemmer / Nora Road, which (although currently incomplete) is designated to become an arterial road and which provides a connection to the east as far as Murray Road, provides a more logical and connected system of roads than other possible connection points to 175th Avenue. Utilizing the existing Kemmer Road alignment reduces costs and property acquisition to make this connection, and was recommended by the CAC. The intersection of Kemmer Road and 175th Avenue already requires safety improvements—an improvement project could also improve capacity and be designed for a future arterial to arterial intersection. However, nearby residents expressed concern about increasing traffic volumes on Kemmer Road, and cited existing safety concerns at the intersection of 175th and Kemmer Road, particularly in winter. Potentially affected property owners within the Hilltop expressed concerns about building a new arterial road paralleling Kemmer Road across their land. Another potentially affected property owner within NCM questioned the need for a new connection rather than improving the existing connection via 190th Avenue and Gassner Road.	Include a connection from 175th Avenue to 185th Avenue as part of the package of transportation improvements for the Concept Plan that includes arterial improvements to a portion of Kemmer Road and a curving connection from Kemmer Road at Mayberry Place to 185th Avenue at Gassner Road. Identify a need for further study of appropriate intersection design for the intersection of Kemmer Road and 175th Avenue. Consider measures such as landscaping, street trees, and access road improvements to minimize impacts to adjacent existing homes north of Kemmer Road.
Fixing "the kink": The 'kink' in SW 175th Avenue needs to be removed for safety purposes, but the alignment of that improvement does not noticeably impact transportation operations. It is possible to do a realignment that removes the sharp corner and reduces steep grades to roughly 10% but significant re-grading is likely to be needed. Potentially affected property owners are concerned about the details of the design and how property and access will be affected.	Include rebuilding and re-grading 175th Ave in the vicinity of "the kink" as part of the recommended package of transportation improvements for the Concept Plan. Coordinate with Washington County to program further study of detailed alignments that minimize property impacts and construction costs in the County's work program.
Land use regulations & new roads outside the UGB: Current state and local land use laws have stringent permitting requirements for new roadways outside of UGBs, including in urban reserves. Realignment of an existing road is more easily permitted.	Recognize that new roads through Urban Reserves will likely not be built until the affected area is brought into the UGB. Focus on phasing and timing of improvements and identifying what improvements are needed to serve growth within the SCMAA.

Issues and Findings	Solutions and Responses
Concern about use of Alvord Lane as an east-west through connection: Residents of Alvord Lane expressed concern about having the proposed east-west collector road connect directly to Alvord Lane, and extending Alvord Lane to the east to connect with existing roads that link to Scholls Ferry Road. Upon further study, an option to connect the east-west collector road through the SCMAA to Loon Drive was found to be feasible and to allow improved connectivity prior to further UGB expansion into the East Hills in the vicinity of Alvord Lane.	Plan for the east-west collector road to run through the SCMAA and connect to Loon Drive. Plan for a Neighborhood Route connection through the northern part of the SCMAA to Alvord Lane as a secondary parallel route with lower traffic speeds and more intersections to make it less attractive to through-traffic than the collector road.
URA Neighborhood Routes: While topography and stream corridors create challenges to providing a connected street network to the east and west of 175th Avenue, a network of Neighborhood Routes is likely feasible, following existing private drive alignments in challenging locations.	Identify in the Transportation Framework the "bones" of a network of Neighborhood Routes running generally north-south through the East Hills (east of 175th Avenue) and through the Hilltop and URA Lowlands (west of 175th Avenue), with more specific alignments to be identified in future plans when those areas are brought into the UGB.
Support for a comprehensive trail system: There was broad public support for an interconnected network of off-street trails to supplement on-street sidewalks and bike facilities. The challenging topography was cited as a reason to provide separated facilities to allow cyclists to travel comfortably at a variety of speeds.	Maintain trails plan as an important component of the bicycle and pedestrian framework in the Concept Plan. With few exceptions, continue to plan for on-street bicycle and pedestrian facilities on all new and upgraded roads within the plan area as well.
Cooper Mountain Trail alignment: There was concern from potentially impacted property owners about the alignment of the Cooper Mountain Regional Trail through the Hilltop.	Work with Metro, THRPD, and property owners to refine options for trail alignments for the Cooper Mountain Regional Trail.

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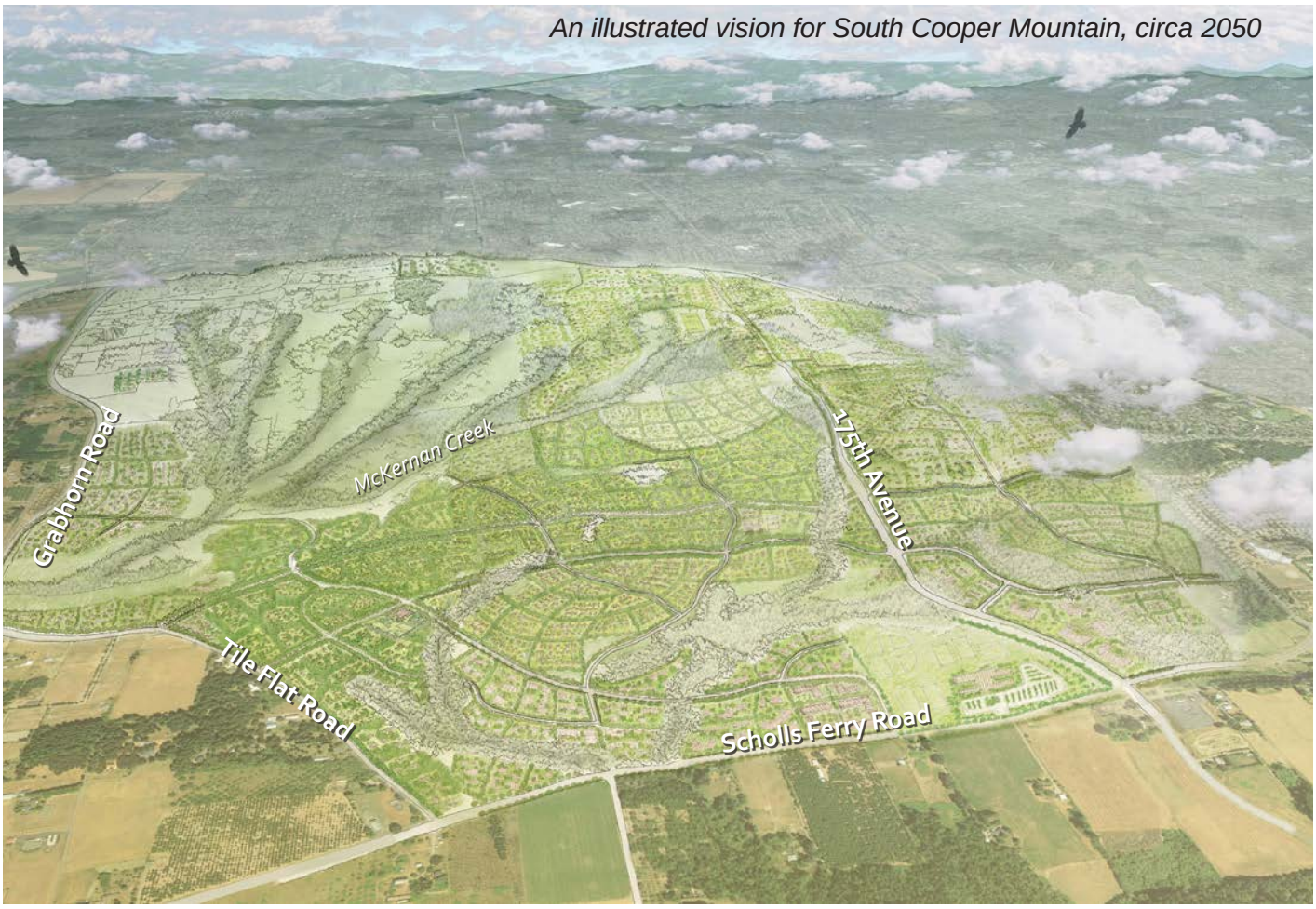
The Concept Plan

BIG IDEAS: CONCEPT PLAN OVERVIEW

The vision for South Cooper Mountain is to:

- Create livable, walkable, sustainable new communities
- Ensure an enduring legacy of natural resource protection and connections
- Implement balanced solutions for regional and local transportation
- Shape growth and preservation to fit and honor the unique landscape
- Work together to deliver feasible infrastructure solutions



An illustrated vision for South Cooper Mountain, circa 2050

Key features of the Concept Plan include:

- The South Cooper Mountain Community Plan Area - a sustainable and livable urban community
- North Cooper Mountain Community Plan Area - new growth is focused where services are available while retaining existing neighborhood character in other areas
- The Urban Reserve Area - future land uses are matched to landscape conditions, existing rural residential development patterns and infrastructure capabilities
- 600 acres of open space centrally-located around McKernan Creek and crowned by Cooper Mountain Nature Park
- A natural resources framework of resource protection, enhancement, and linkages
- Walkable neighborhoods anchored by parks and schools as focal points
- A Main Street with neighborhood shops and services
- A planned variety of housing types providing choices for a range of income levels
- A trails plan connecting neighborhoods, the Nature Park and adjacent areas
- A plan to disperse and balance regional traffic by connecting 175th and 185th Avenues, improving Tile Flat and Grabhorn Roads, and fixing key safety problems
- A well-connected collector, neighborhood route and local street network
- Focused densities and destination uses that help the area become transit-ready
- Water and sanitary sewer plans that can be phased over time
- A storm water management strategy that incorporates regional and site-specific approaches, promotes tree retention and anticipates evolving water quality standards
- An Infrastructure Funding Plan that matches revenues to project costs for water, sewer, storm water, and park facilities.
- A transportation funding strategy to bridge the funding gap, set project priorities, and coordinate long term funding

LAND USE FRAMEWORK

“Near Term” vs. “Future” Land Use

The Land Use framework identifies a vision for development in SCM that will play out over the course of several decades. The concept plan map identifies “Near Term (0-20 Year) Land Use” and “Future Land Use”.

“Near Term” land uses are identified in areas within the UGB – the SCM Annexation Area (SCMAA) and NCM. The SCMAA was annexed to the City of Beaverton in January 2013 and is anticipated to be developed in the near term. Potential development within the northern portion of NCM is also characterized as near term, although the timing depends on property owner initiative. The southern two-thirds of NCM is also considered near-term, but only in the sense that new zoning would reflect existing large lot development patterns that do not require sanitary sewers (extension of public sanitary sewers to this area is not assumed in the next 20 years).

All of the Urban Reserve Area (URA) shows conceptual “Future Land Use” because urban development cannot occur until Metro, in partnership with the region and subject to state review, expands the UGB to include some or all of this area. The timeline for development to occur in the URA is less predictable than in the UGB, and will likely span several decades.

Development Types

What is a Development Type?

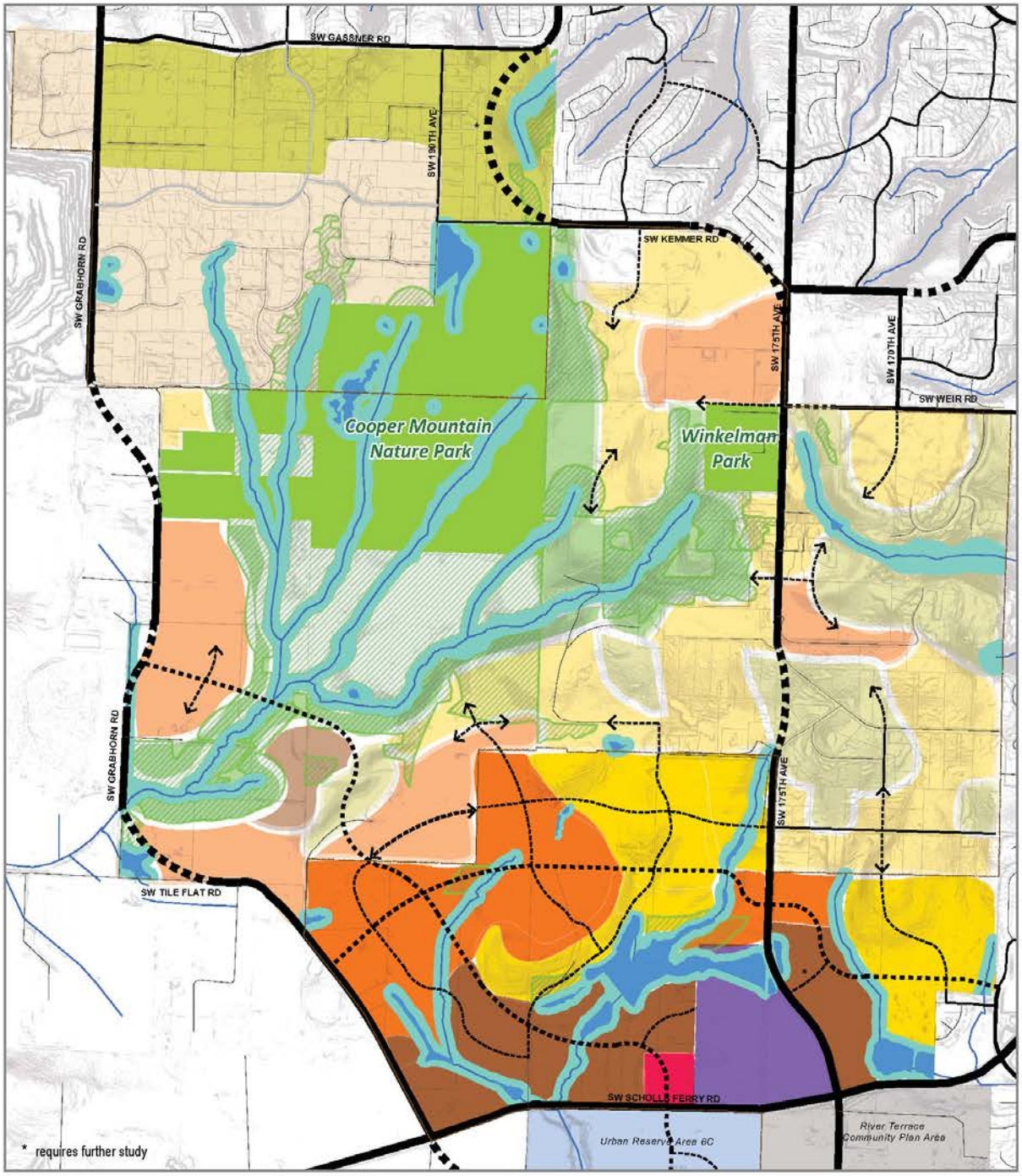
Development types are the land use designations on the Concept Plan Land Use Framework. They are made up of multiple building types (created based on real buildings and local regulatory parameters), grouped and mixed together to represent the types of places and neighborhoods planned for South Cooper Mountain.

Summary of Development Types Identified for South Cooper Mountain

The development types found on the Concept Plan Land Use Framework are described below. Example images of some of the buildings that comprise the development type are included for illustrative purposes.

Map Symbol	Development Type	Description
	Urban Neighborhood	Primarily made up of apartments/condos and townhomes, with some small-lot single family homes.
	Future Urban Neighborhood	
	Compact Neighborhood	A mix of single family homes on small lots and townhomes.
	Future Compact Neighborhood	
	Single Family Neighborhood	Includes single family homes on lots ranging from 5,000 to about 7,000 square feet, with a small percentage assumed to be larger lots where topography or other conditions make a slightly lower density appropriate.
	Future Single Family Neighborhood	
	Future Cluster Neighborhood	Primarily applied in places with high quality upland habitat; houses are grouped together on more buildable portions of a property and can share views of and access to nearby natural areas. Lot sizes are assumed to include a range of sizes from relatively small lots to larger lots to account for topography and to provide a transition to resource areas.
	Low Density Neighborhood	Made up of single family homes on lots from roughly 7,000 to 10,000 square feet. This development type is intended to represent residential development roughly consistent with Washington County’s R-6 zone.
	Future Low Density Hillside Neighborhood	Made up of relatively large-lot single family homes to account for challenging slopes and provide opportunities for “executive”-style housing.
	Very Low Density Neighborhood	Single family homes on lots around one to two acres, similar to the existing development pattern in North Cooper Mountain, providing opportunities for “executive”-style housing.
	Main Street Commercial	Street-oriented ground floor retail, with potential for office and/or residential units on the second floor of some buildings. All of the commercial uses are intended to serve day-to-day needs of residents.

Figure 3 - Concept Plan Land Use Framework



Concept Plan Land Use Framework

- Urban Growth Boundary
- Streams
- Open Water/Wetland/Probable Wetland
- Riparian & Wetland Buffers
- Class A Upland Habitat
- Planned High School Site
- Study Area Tax Lots

Transportation Framework

- Arterial
- Collector
- Neighborhood Route

See also Transportation Framework maps. Realignments and new roads shown in dashed lines. New alignments are conceptual.

Near Term (0-20 Year) Land Use

- Very Low Density Neighborhood
- Low Density Neighborhood
- Single Family Neighborhood
- Compact Neighborhood
- Urban Neighborhood
- Main Street Commercial

Future Land Use

- Future Low Density Hillside Neighborhood
- Future Cluster Neighborhood
- Future Single Family Neighborhood
- Future Compact Neighborhood
- Future Urban Neighborhood
- Future Neighborhood Commercial

July 9, 2014

Prepared By: Angelo Planning Group
This map is intended for informational purposes only.

NORTH

0 500 1,000 2,000 Feet

Land Use Patterns

The patterns of recommended land use are described below by landscape area.

SCMAA

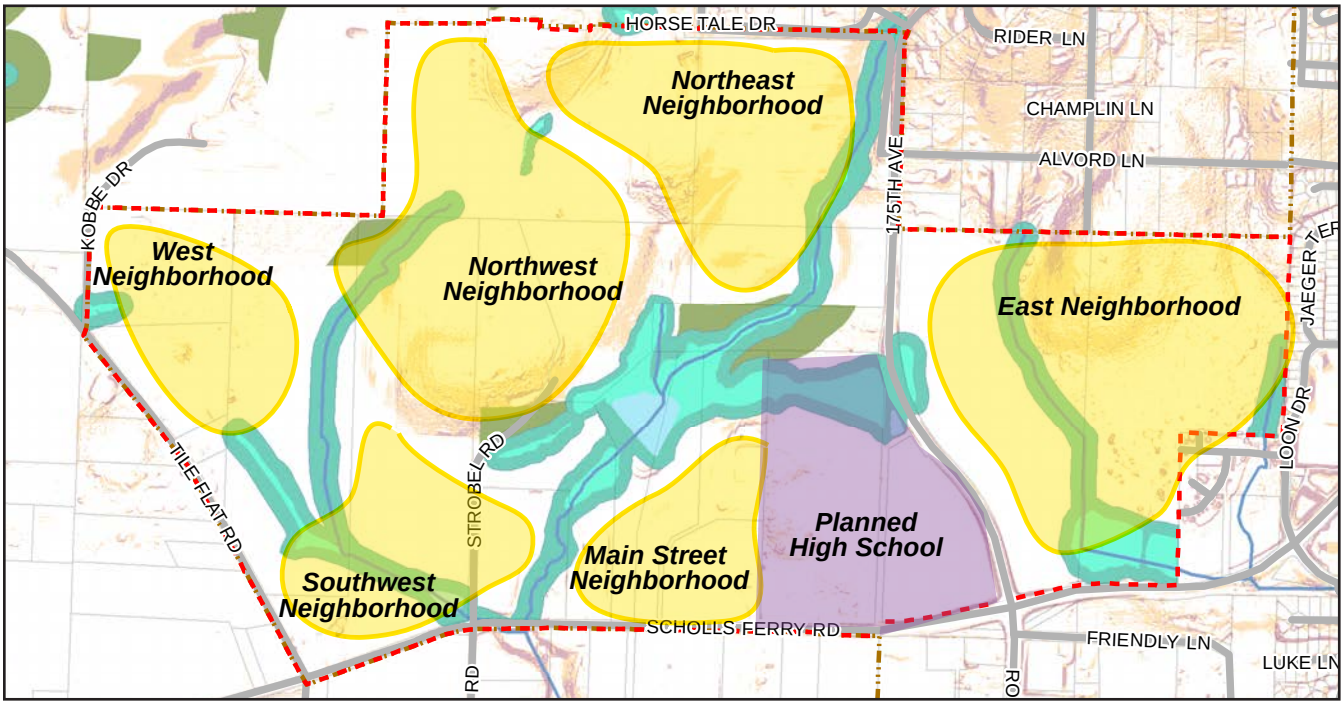
The land use patterns proposed for the SCMAA are responsive to the area's physical setting and existing conditions. The area is well suited for the proposed walkable urban community because it is:

- Comprised of gently rolling fields, hummocks, and small tributaries.
- Relatively free of physical constraints.
- Close to existing water, sanitary sewer, and transportation infrastructure.
- Anchored by a major civic land use – the new high school.
- Adjacent to existing water, sanitary sewer, and transportation infrastructure, currently being upgraded to serve SCM and the adjacent River Terrace community plan area to the south.

Residential Neighborhoods and Densities

The Concept Plan organizes residential land uses into six new neighborhoods that are intended to be walkable, anchored by parks and schools, have easy access to neighborhood shops and services, and connected to natural areas. Each neighborhood is approximately 1/4 mile (or less) from center to edge, which facilitates a comfortable 5 to 10 minute walk to all parts of the neighborhood. The proposed connected pattern of streets and trails is integral to creating a walkable setting that has direct and convenient routes for pedestrians, bicyclists and motorists alike.

Figure 4 - Annexation Area Neighborhood Framework



The plan focuses the highest density of housing (the Urban Neighborhood designation) in the southern portion of the SCMAA, close to Scholls Ferry Road and 175th Avenue, with density generally decreasing northward. The lowest density designation, Single Family Neighborhood, is placed near Loon Drive, Alvord Lane, and Horsetail Lane to promote compatibility with existing development and respect the sloped topography in these areas. Compact Neighborhood is the predominant land use designation in the eastern portion of the SCMAA where the land is relatively flat and can accommodate smaller lots, cottage clusters, and townhomes. The same topography extends west into the adjacent Lowlands area, so Future Compact Neighborhood is designated there in anticipation of a future UGB expansion. Density transitions along Tile Flat Road are planned through special setbacks (please seen Rural Edges section under Community Design Concepts).

Main Street Location

A 10-acre Main Street Commercial area is shown at the northwest corner of the intersection of Scholls Ferry Road and a future collector road. This location offers:

- Good visibility and frontage along Scholls Ferry Road.
- Proximity to the future high school: potential shared parking; complementary daily activities.
- Proximity to adjacent neighborhoods, particularly Urban Neighborhoods where higher density housing is planned.
- Access from the new north-south collector road envisioned to cross Scholls Ferry Road mid-way between existing intersections at 175th Avenue and Tile Flat Road.

North Cooper Mountain

Northern one-third of NCM

The Concept Plan shows the northern one-third of NCM as Low Density Neighborhood except in the area west of Grabhorn Road, which is designated Very Low Density Neighborhood. The Low Density Neighborhood designation is intended to be consistent with Washington County's R-6 zoning designation (the lowest density residential zone currently available in Washington County).

The area to the west of Grabhorn Road is designated Very Low Density Neighborhood in recognition of the fact that it is fully platted with one- to two-acre lots and lies immediately adjacent to an active quarry.

Southern two-thirds of NCM

The southern two-thirds of North Cooper Mountain is designated Very Low Density Neighborhood, intended to roughly match the development pattern that exists in this area today, with single family homes on lots of roughly one to two acres.

Areas within the Urban Reserve

The portions of the planning area within the URA are not currently eligible for urban development, but are included in the concept plan to show how these areas might be incorporated in the UGB over the next 20 to 50 years. The land use patterns described

for the landscape areas within the URA are intended to serve as a guide for more detailed comprehensive planning that will be required after future UGB expansions occur. Future urbanization planning will also be done in accordance with applicable land use laws and regional requirements in place at the time of any new UGB expansions.

Hilltop

The land use framework designates this area for both compact and single-family neighborhood development, with lower densities adjacent to Kemmer Road, the Nature Park, and natural resource areas, reflecting several key issues discussed during the scenario refinement process (summarized beginning on page 16). The recommended plan is summarized as follows:

- Target overall densities around 10 dwelling units/net acre.[3] This approach strikes a compromise between local concerns, stormwater considerations, and regional expectations and policies.
- Organize land uses so that the Future Compact Neighborhood designation is near 175th Avenue and Winkelman Park, with the Future Single Family Neighborhood designation in the northern, western and southern portions of the Hilltop.
- In the areas nearest Cooper Mountain Nature Park and creeks, designate the land as Future Cluster Neighborhood so that development is sited away from resource areas. As drawn, this band of the Future Cluster Neighborhood designation is approximately 400 to 500 feet in width.

Public viewpoints will be the hallmark of this area, and the Cooper Mountain Regional Trail will be a key public amenity.

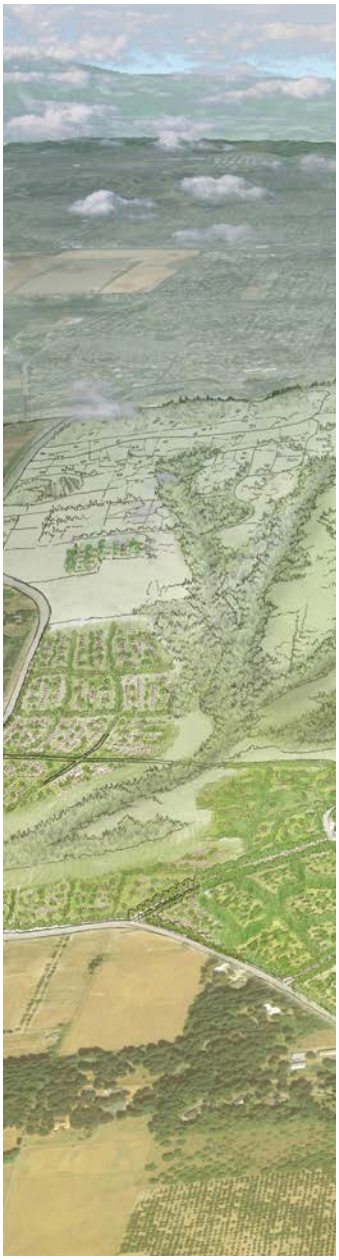
The Creeks

Cooper Mountain Nature Park and the set of drainages and uplands within The Creeks, totaling nearly 600 acres in the central portion of the plan, comprise the primary natural resource areas and best opportunities for an enduring green legacy for the area. Providing infrastructure to the developable portions would have costs and impacts disproportionate to the housing benefits. It is therefore planned for natural area preservation, transfer of development rights, and careful transitions from resource areas to future development in adjacent areas.

East Hills

The vision for the East Hills is carefully planned and connected single-family neighborhoods in the hillside setting. A small compact neighborhood area providing a node of medium density housing within the surrounding lower density areas is shown east of 175th Avenue (north of Siler Ridge Lane) where topography is relatively level. The Future Single Family Neighborhood designation is used in flatter areas and the Future Low Density Hillside Neighborhood designation is used in steeper areas and potentially geologically unstable areas.

3 A "net acre" excludes protected natural resource areas, slopes over 25%, and right-of-way. It represents an acre of buildable land.



The Lowlands

The URA Lowlands area is a logical extension of the land use pattern of the South Cooper Mountain Annexation Area, and makes a transition to McKernan Creek. Key land use concepts in this area include:

- Future neighborhoods abutting the SCMAA to the north and northwest extend the Compact Neighborhood and Single Family Neighborhood designations found within the UGB.
- There is a “shelf” of sloped land that separates the SCMAA terrace from the lower terrace of the Lowlands, which is designated Future Hillside Neighborhood due to the steep slopes.
- A node of Future Urban Neighborhood has been located on the lower terrace, to the west of the above-referenced slope. This flat area is appropriate for denser development and helps the plan avoid placing higher density adjacent to Tile Flat Road and the agricultural area in the Rural Reserves to the west. The Future Urban Neighborhood designation increases the overall density in the Lowlands, which aids the plan in satisfying Metro expectations for efficient use of new urban land and paying for the new infrastructure (including a pump station) needed to serve this area.
- A band of Future Cluster Neighborhood runs along McKernan Creek. This is intended to ensure that careful site planning in the future will protect habitat and riparian areas near the creek.

Grabhorn Meadow

Given the infrastructure challenges described previously and its location within the URA, it is reasonable to expect that development of Grabhorn Meadow will not occur for several decades. The Concept Plan identifies the majority of Grabhorn Meadow as Future Compact Neighborhood, with a band of the Future Cluster Neighborhood designation adjacent to McKernan Creek and its tributary. The Future Compact Neighborhood designation will provide roughly 15 units per net acre on average, a density that Metro has required for recently added new urban areas, and the ability to design lower density transitions adjacent to creeks on the eastern edge, and the rural reserve area to the west of Grabhorn Road.

Community Design Concepts

The following community design concepts are intended to guide future development in South Cooper Mountain as well as future plans and implementation measures.

Neighborhood Focal Points

Future schools and parks to serve South Cooper Mountain should, to the extent possible, be sited to serve as focal points for neighborhoods and to be centrally located to walkable service areas. Within neighborhoods, pocket parks and “tot lots” should also be provided to serve residents, as focal points of those neighborhoods that do not include neighborhood parks or elementary schools so

that all residents are within an easy walk of recreational spaces. (See additional discussion of park and school needs beginning on page 37.)

Housing Variety

Providing a variety of housing types can improve the aesthetic character of the neighborhoods by avoiding large, monotonous areas of the same building form. A variety of housing also helps provide different housing types for different income levels. Neighborhoods should include a variety of housing types, designed and configured to be complimentary.

Integrating Affordable Housing

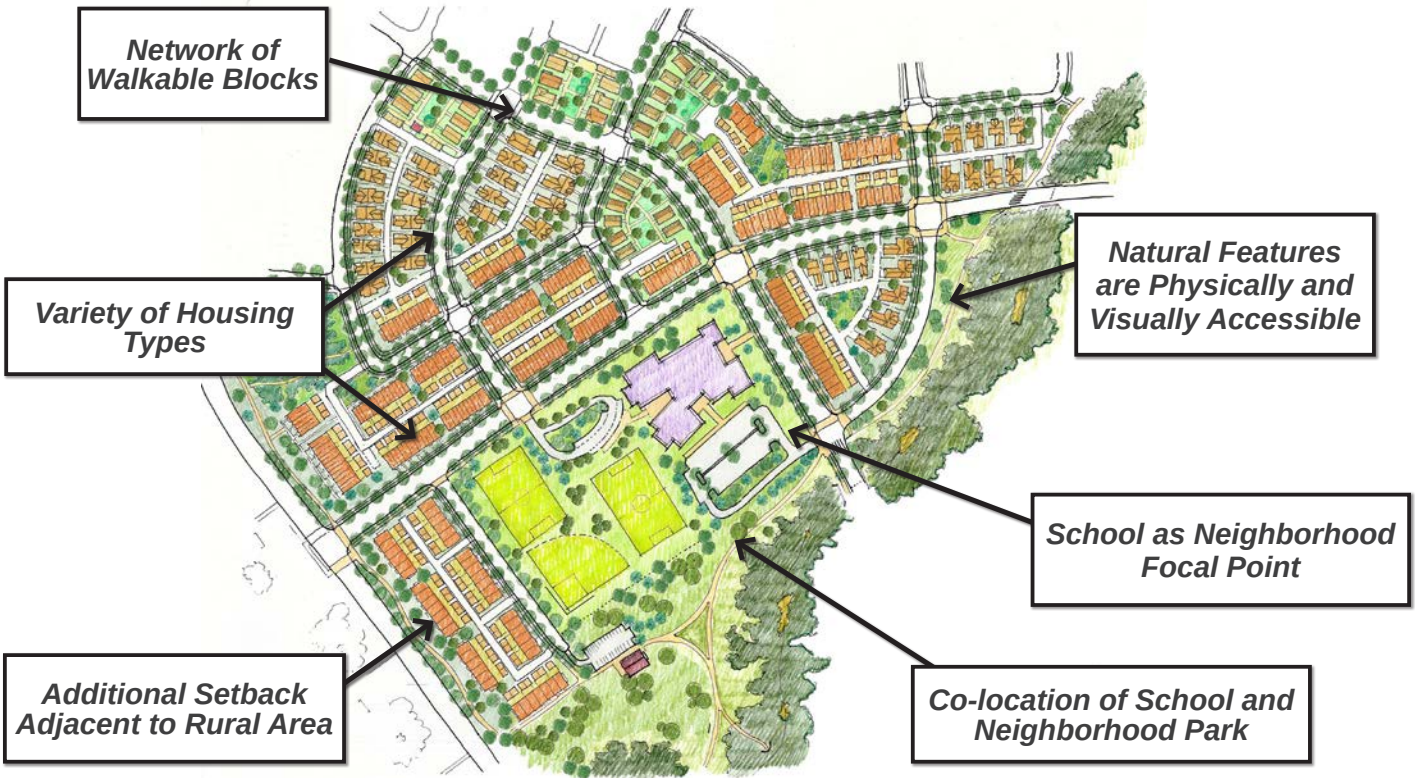
Clustering affordable housing within a single area tends to isolate and stigmatize residents. Providers of affordable housing must balance finding sites that provide amenities and services that support lower-income residents with integrating those residents into the broader community, so it is important to provide a variety of options and locations where affordable housing development is possible.

Walkable Streets

New development within South Cooper Mountain should be designed to offer a "friendly face" with physical and visual connections to the street in order to promote walking and biking, healthy lifestyles and a sense of community. This generally means that:

- garages and parking areas (other than driveways) should be located no closer to the street than the main pedestrian entrance;
- fences in front yards should not be so high as to block visual connections to the street; and
- buildings should have windows offering views onto the street.

Figure 5 - Neighborhood Design Principles



Open Space Edges

South Cooper Mountain includes several important stream corridors and wetland/riparian areas. These resources can become amenities for the future neighborhoods if they are properly protected and restored. In order to provide public views of and access to these natural areas, adjacent development should be designed with one of the following treatments of the open space edge:

- parallel trail along the edge of the habitat benefit area or vegetated corridor with access points from adjacent roads and community focal points;
- local streets that run adjacent to the edge of the habitat benefit area or vegetated corridor, without development between the street and the habitat benefit area or vegetated corridor; or
- neighborhood parks that connect to the resource area and provide breaks between developed areas abutting the resource.

Habitat-Friendly Development

Future development in South Cooper Mountain that is adjacent to protected open space areas and/or habitat priority areas should be designed to maximize open space preservation, habitat functions and value, and connectivity of habitat areas for wildlife movement. In order to achieve this, flexibility in development standards (such as setbacks, lot sizes, and required lot dimensions) should be allowed for sites that include or abut habitat benefit areas, natural resource areas, or protected open spaces so that development can be clustered away from the resources and designed to be as environmentally-sensitive as possible.

Main Street Character

The SCM Main Street should create a community focal point and potential future transit node. It is planned to have both street and trail connections to the adjacent neighborhoods and to be easy to access on foot, by bike, or by car from the rest of the SCM Community Plan area as well as from River Terrace in Tigard. Buildings should be built close to the sidewalk, promoting a pedestrian-oriented storefront character, and should occupy most of the street frontage

to provide a sense of enclosure and minimize breaks in the storefront environment. Parking should be located behind buildings wherever possible, and should not be allowed between the building and the sidewalk. Drive through uses may be allowed but drive aisles should not abut pedestrian improvements. Multi-story buildings are encouraged in order to provide an urban scale. The Main Street should relate and respond to the high school site.

Rural Edges

South Cooper Mountain abuts land outside the UGB and Urban Reserves, west of Tile Flat and Grabhorn Roads, that is designated Rural Reserve. Since this land is expected to stay in agricultural use for at least the next 50 years, the urban border will need to be sensitive to the adjacent rural uses. Due to density targets for the plan area and the unconstrained nature of the land immediately east of that edge along much of its length, it is not appropriate to substantially reduce densities adjacent to the rural edge. Further, even standard single-family neighborhoods can have a visual and spill-over impact on adjacent rural areas if not carefully designed. Therefore, the following measures are proposed along the edge adjacent to the Rural Reserve to provide a buffer between urban development in South Cooper Mountain and the Rural Reserve:

- Develop a multi-use path in a landscaped setback area adjacent to Tile Flat and Grabhorn Roads (south of Cooper Mountain Nature Park).
- Ensure that the setback area and path are landscaped with trees and shrubs that provide a visual screen for adjacent rural uses.

Interim Agricultural Use

Given the nature of South Cooper Mountain today, which includes some working farms and forestry lands, and the likelihood that not all property owners will be ready to develop immediately after plan implementation, provisions should be put in place to ensure that on-going agricultural use is allowed even as urbanization begins and progresses.

Views

Scenic vistas of the Chehalem Ridge and Tualatin Valley are part of the unique character of the South Cooper Mountain, and should remain available after development for the enjoyment of the adjacent neighborhoods and the broader community. Public spaces should be designed to offer dedicated view corridors to the Chehalem Ridge upon development. Such spaces should provide seating and areas for passersby to pause and take in the view without obstructing streets, sidewalks, or bike lanes.

By the Numbers: Capacity and Density Estimates

Housing Capacity and Density

The estimated housing capacity and density for the Preferred Concept Plan Scenario is shown in Table 1 below. The estimated total number of new dwelling units is 7,490.

The housing capacity and density displayed in Table 1 demonstrate a balance between efficient utilization of land within the UGB, and protection and enhancement of public lands and natural features in the area, consistent with Metro requirements.[4] The highest densities are shown in the SCMAA (in the UGB), and in portions of the URA (Grabhorn Meadow and the Lowlands) that have the greatest future urbanization potential based on characteristics of the land and feasibility of infrastructure provision. An estimated 20 to 25 percent of the 2,300-acre concept planning area is designated for natural resource protection and habitat conservation.[5] The overall net density for the 2,300-acre planning area is over 11 dwelling units per acre.

4 Metro Ordinance No. 11-1264B, Exhibit B, conditions on Land Added to UGB, adopted by the Metro Council October 20, 2011.

5 The areas identified for protection and conservation include stream corridors, wetlands, and the estimated protected buffer area around such resources; steep slopes (over 25%); and a portion of the upland habitat in the study area (roughly 50% of mapped Class B upland and roughly 90% of mapped Class A upland).

Table 1 - Housing Capacity and Density by Landscape Area – New Dwellings

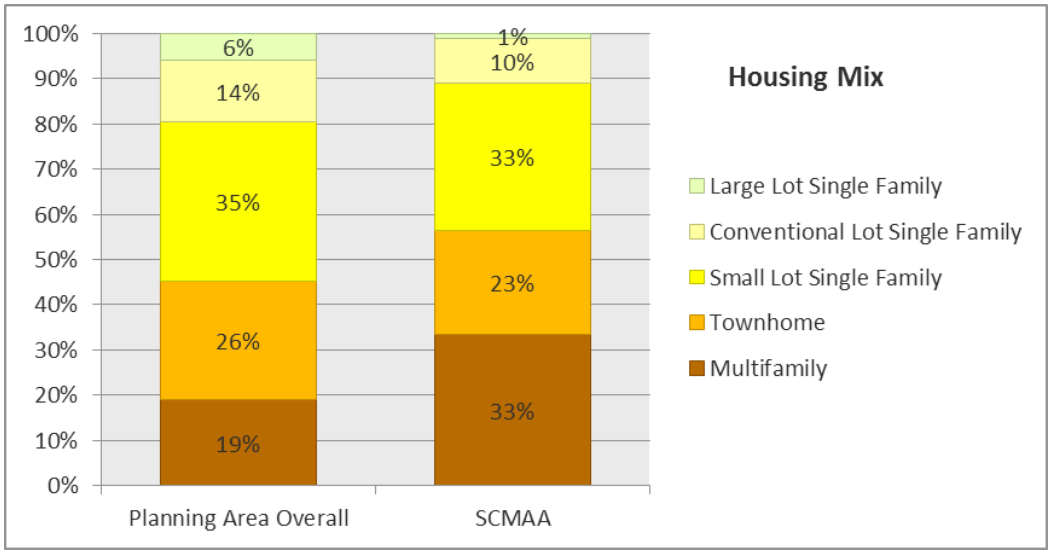
Landscape Area	Capacity (Housing Units)	Net Density
SCM Annexation Area*	3,430	14.5
North Cooper Mountain**	300	3.9
Hilltop	810	9.9
East Hills	780	7.1
URA Lowlands	1,360	13.7
Grabhorn Meadow	650	14.7
The Creeks	100	8.7
Total	**7,490**	**11.2**

* The 2011 UGB expansion including the SCMAA was conditioned by Metro to provide zoned capacity for an average of around 15 units per net developable acre.

** Title 11 of the Metro Code required 10 dwelling units per net developable acre in 2002 when NCM was added to the UGB. Title 11 has since been amended and no longer specifies density in new urban areas. The current version of the Metro Code prevails in this planning process.

The estimated mix of housing types for the Planning Area overall and for the SCMAA is shown in Figure 6.

Figure 6 - Overall Scenario Housing Mix - New Dwellings



The housing mix shown in Figure 6 is consistent with the city's desire to address the need for single-family housing that was identified in the Beaverton Civic Plan Housing Strategy, with detached single-family homes comprising around 44 percent of the housing in the SCMAA.[6]

6 Beaverton Civic Plan, Housing & Neighborhood Strategy, adopted by City Council April 12, 2011.

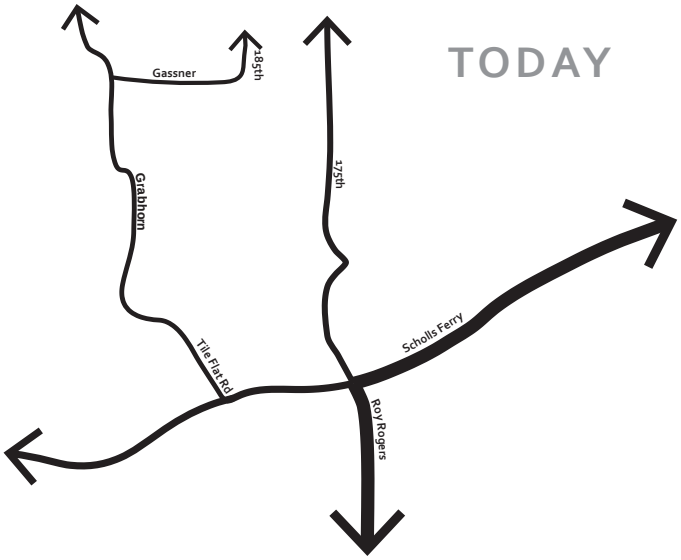
TRANSPORTATION

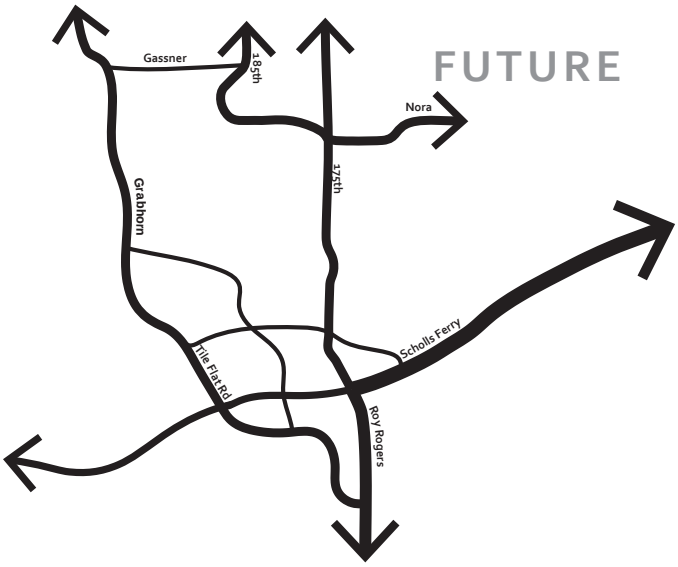
Five Key Transportation Solutions

Disperse and Balance Regional Traffic – It is well documented that north-south traffic is over-reliant on one corridor: the Roy Rogers/175th to 170th Avenue corridor. The solution is to reduce that reliance and disburse regional flows through a combination of improvements and new connections that result in a more complete network. Key projects include: (1) improving 175th at high priority locations such as the "kink" and the Kemmer/175th Avenue intersection; (2) connecting 175th Avenue to 185th Avenue via Kemmer Road and a new road east of 190th; (3) upgrading Tile Flat and Grabhorn Roads to arterial status and realigning the three 90-degree corners; (4) improving Scholls Ferry Road to 5 lanes west of 175th to Tile Flat Road; and (5) connecting Tile Flat Road to Roy Rogers Road (long term).

Provide a Well-Connected Local Street Network – The Concept Plan's Transportation Framework sets the stage for a connected, walkable local street system that provides transportation choices in incorporates active transportation elements. This will not only help address the transportation needs of the area, but is an integral part of the vision for highly livable community. The plan specifies the "point A to point B" collector streets and neighborhood routes, and provides flexibility for the site-specific alignments.

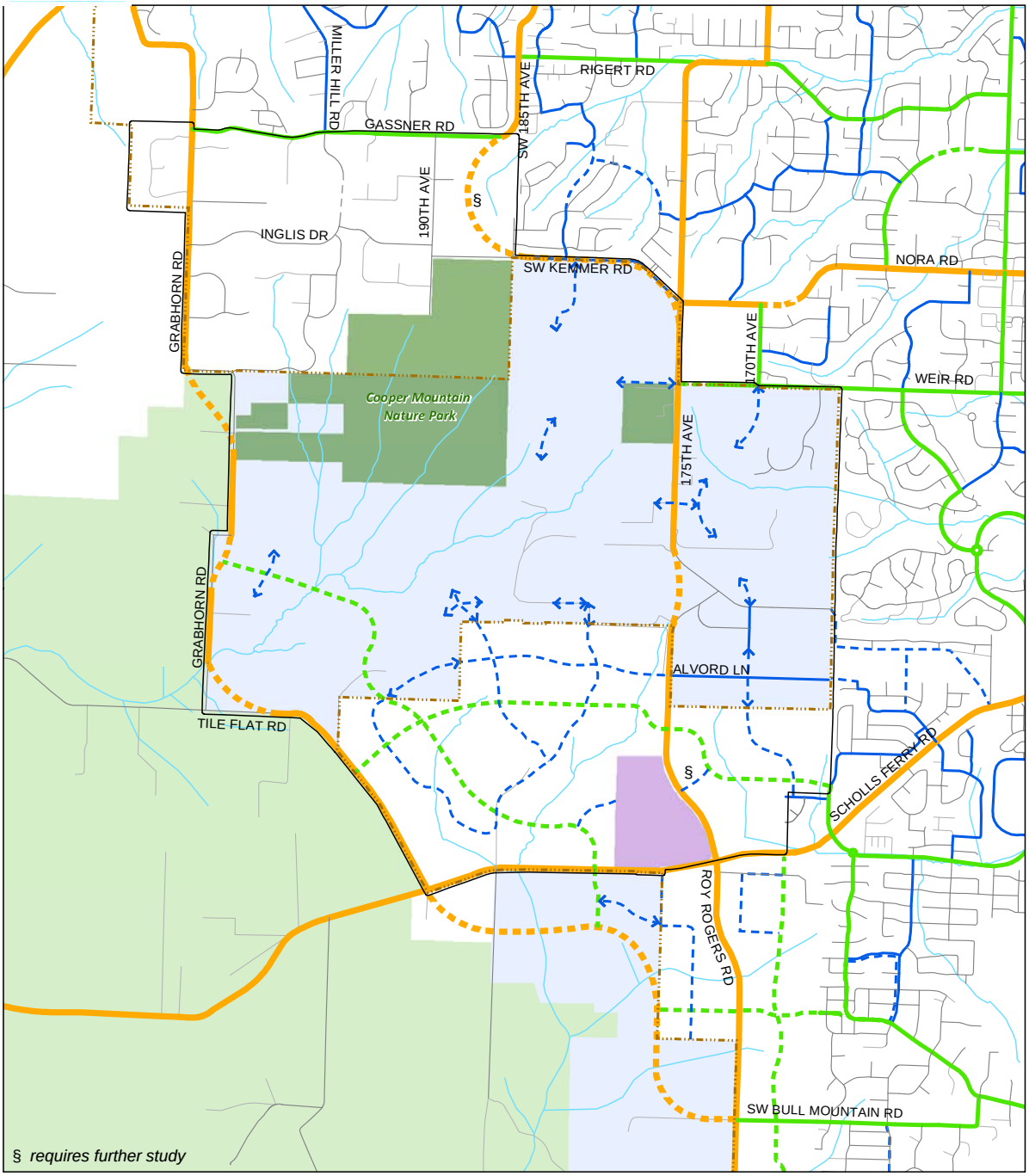
Provide a Great, But Practical, Pedestrian and Bicycle Network – South Cooper Mountain's pedestrian and bicycle network will be built incrementally over time. The overall strategy is to provide many types of facilities that will achieve the vision and can be feasibly implemented. The specific strategies and recommendations are to: (1) ensure all streets are "complete" and provide for pedestrians and bicycles as well as vehicles; (2) plan for multi-use paths that parallel one side of perimeter arterials that frame the area;(3) build two key multi-use paths in the SCM Annexation Area;(4) plan for a system of nature trails that provide access to and through resource areas and connect to Cooper Mountain Nature Park; (5) complete the Cooper Mountain Regional Trail; and (6) connect to the River Terrace Trail and other adjacent paths and bikeways.





Be Transit-Ready – The Concept Plan focuses its highest density urban neighborhood designations near the high school and Main Street - in the southern part of the planning area - as one strategy to help the area support transit service in the future. The plan also anticipates longer-term, limited-stop commuter-oriented transit service from Sherwood to Hillsboro along Roy Rogers Road and 175th Avenue.

Figure 7 - Concept Plan Transportation Framework



Concept Plan Transportation Framework

Proposed Functional Classification*

- Arterial
- Collector
- Neighborhood Route
- Local
- Private

- Rural Reserve**
- Urban Reserve
- Study Area
- Urban Growth Boundary
- Existing Parks
- Planned High School Site
- Streams

** Realignments and new roads are shown in dashed lines. New roads east of study area are based on Washington County's Transportation System Plan; new roads within UGB south of study area are based on current River Terrace Community Plan transportation planning. All new road alignments are conceptual.*

*** As amended by HB 4078A.*

Prepared By: Angelo Planning Group

Date: 8/29/2014

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

DISCLAIMER
This map is intended for informational purposes only. It is not intended for legal, engineering, or surveying purposes. While this map represents the best data available at the time of publication, the City of Beaverton makes no claims, representations, or warranties as to its accuracy or completeness. Metadata available upon request.

NORTH

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Set Transportation Priorities as Part of the Funding Plan – A pervasive challenge is the limited funds available for transportation needs. Developed through a collaborative process with the City, County, service providers and private sector, the Concept Plan includes an Infrastructure Funding Plan which sets forth three coordinated strategies for bridging the transportation funding gap: (1) increase local revenues through a supplemental system development charge (SDC); (2) focus locally generated Transportation Development Tax (TDT) revenues on local projects; and, (3) identify and coordinate transportation priorities with Washington County and neighboring cities, including Major Streets Transportation Improvement Program (MSTIP) candidate projects.7 The funding plan combines these strategies into a high level capital improvement plan for meeting near-term and future transportation needs for the entire 2,300-acre Concept Plan area.

Roadway Framework

Summary of Key Elements

Key elements of the transportation framework are summarized below.

Arterial Roads

- 175th Avenue remains designated as an Arterial. Moving north from Scholls Ferry Road, the width is assumed to be five lanes[8] through the SCMAA, tapering to three lanes[9] in the vicinity of Alvord Lane. Re-grading and realignment is recommended in the vicinity of "the kink" on 175th Avenue to remove the sharp corner and reduce existing steep grades to roughly 10 percent in order to improve safety.

- A new connection from 175th Avenue to 185th Avenue is proposed. Between Kemmer and Gassner Roads, the alignment of the new road is proposed to curve around the west side of the stream corridor. Kemmer Road is proposed to be improved to function as an arterial from 175th to where the curve begins, around Mayberry Place. Improvements to the intersection of 175th Avenue and Kemmer Road will be needed to address safety issues and increase capacity.

- Tile Flat and Grabhorn Roads are proposed to be redesignated from Collectors to Arterials adjacent to the planning area (Grabhorn Road would also need to be redesignated to an Arterial from Gassner Road north to Farmington Road). The required cross-section is assumed to meet Washington County's rural Arterial standards, with two travel lanes and turn pockets as needed. Any required additional width should be obtained from the urban east side in order to minimize impacts to farmland in the Rural Reserve to the west. Realignments to smooth sharp corners

7 As described in the Funding Plan, allocations of TDT and MSTIP funds are discretionary, and subject to approval by Washington County and the City of Beaverton. MSTIP funds in particular are limited, in high demand, and must be applied to roads of county-wide significance.

8 A five-lane road has two travel lanes in each direction with a two-way center turn lane in the center. All new, improved, and realigned roads will be designed in accordance with the applicable local (city or county) standards, including sidewalks and bike lanes in urban areas.

9 A three-lane road has one travel lane in each direction with a two-way center turn lane, where needed, in the center. All new, improved, and realigned roads will be designed in accordance with the applicable local (city or county) standards, including sidewalks and bike lanes in urban areas.

should be implemented wherever possible in order to improve safety. The proposed redesignations would result in a consistent functional classification from Scholls Ferry Road to 209th Avenue. 209th Avenue is planned by the City of Hillsboro as a 5-lane Arterial between Farmington Road and Tualatin-Valley Highway.

- A new Arterial road connection from Tile Flat Road to Roy Rogers Road and Bull Mountain Road is identified as a long-term extension through Urban Reserve Area 6C adjacent to Tigard's River Terrace and a small "undesignated" area located just south of the Tile Flat / Scholls Ferry intersection.[10] An extension of the north-south Collector road across Scholls Ferry, terminating at the proposed new arterial road, is also proposed, as discussed below.

Collector Roads

- A new north-south Collector road connection is identified from Scholls Ferry Road through the SCMAA. North of Scholls Ferry Road, this new collector would serve as the Main Street area of South Cooper Mountain. The Collector is planned to ultimately continue through the URA (when that area is added to the UGB and urbanized) to tie into Grabhorn Road. A further long-term extension of this Collector road is identified south of Scholls Ferry Road, running through Urban Reserve 6C, and tying into the proposed new Arterial road discussed above that would connect Tile Flat Road to Roy Rogers Road.

- A new east-west Collector road is proposed through the SCMAA, from Tile Flat Road to Loon Drive. The eastern connection point of this Collector is proposed to be on Loon Drive across from the Scholls Heights Elementary School athletic fields, south of the existing homes in the Sterling Park subdivision and north of SW Oystercatcher Lane which provides access to the Churchill Forest subdivision.

- Weir Road is shown extending westward to 175th Avenue, and ultimately across 175th Avenue north of Winkelman Park to tie into other future streets in the URA. The extension to Weir Road is consistent with the Beaverton and Washington County Transportation System Plans. Its connection with other planned future roads would extend the network to provide greater connectivity through the area.

Neighborhood Routes[11]

- A network of Neighborhood Routes is suggested through the SCMAA, including one running east-west and connecting to Alvord Lane to the east in the URA and ultimately

10 Oregon House Bill 4078A addresses urban and rural reserves in Washington County, and identifies this land as "undesignated" rather than Rural Reserve as originally shown. The Oregon Legislature passed HB 4078A on March 4, 2014 and the Governor is expected to sign the bill into law. Because new roads serving urban traffic are not allowed across land designated as rural reserve under Oregon's land use rules, Scenarios A and B did not show Tile Flat being extended through this area. However, new roads may be permitted in areas that are "undesignated" – designated neither as urban reserves nor as rural reserves – subject to a "goal exception" process. Whether such a "goal exception" is warranted has not been determined at this time; it is assumed that the proposed option will be evaluated for compliance with all applicable land use regulations when adopted in Transportation System Plans and implemented. For now, it is proposed for inclusion within the South Cooper Mountain Concept Plan.

11 Discussions with Washington County about potential Neighborhood Route connections to arterial roads are on-going. The need to provide a connected roadway system (which would benefit

west through the URA toward Tile Flat Road when the URA Lowlands are added to the UGB and urbanized. This Neighborhood route would connect to other Neighborhood Routes in the SCMAA creating a loop.

- Another key Neighborhood Route in the SCMAA would run north from Scholls Ferry Road along the edge of the central natural area in the SCMAA. This road could ultimately be extended into the URA (when that area is added to the UGB and urbanized) roughly where Horse Tale Road (a private road) exists today, continuing across McKernan Creek, linking to Kemmer Road. This would provide a second parallel route to 175th Avenue, providing for local trips, reducing turning movements on 175th Avenue, and facilitating walking, biking and access to Cooper Mountain Nature Park.
- A future north-south Neighborhood Route is identified winding through the East Hills from the intersection of 170th Avenue and Weir Road south to the SCMAA, enhancing connectivity through that part of the planning area; and providing a parallel route to 175th. This road would be developed segment by segment as future development in the East Hills is enabled by future UGB expansion(s).
- Improvements to Alvord Lane to Neighborhood Route standards are recommended in order to improve connectivity and provide safer pedestrian connections through neighborhoods.

Bicycle & Pedestrian Framework

Introduction

Provision of a diverse and connected bicycle and pedestrian network is one of the great opportunities for South Cooper Mountain. While the ultimate trail widths and designs will be determined in the future, the following trail typology is recommended for planning purposes:

Trail Types

(Tualatin Hills Parks & Recreation District)

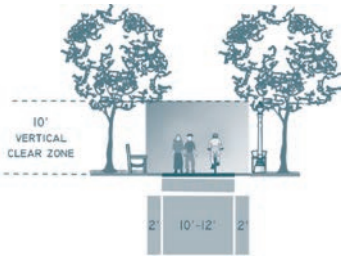


Figure 2. Regional Trail

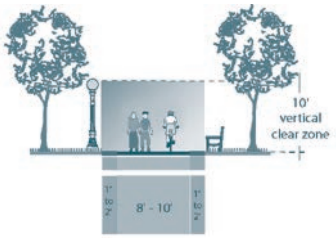


Figure 3. Community Trail

- **Regional Multi-Use Trails:** Regional trails provide connections between communities and to regionally significant features and destinations. These are assumed to be paved paths that accommodate both pedestrians (including those with disabilities) and bicyclists. They may follow roads, separated from the roadway by a landscaped area, or be located in their own separate right-of-way. Trail width may range from 10 to 14 feet depending on context and surrounding constraints (with 2 foot gravel shoulders wherever feasible).
- **Community Multi-Use Trails:** These trails link important land uses and areas of interest with one another and connect users to the regional trail system. They are assumed to be paved paths that accommodate pedestrians (including those with disabilities) and bicyclists, recognizing that topographic constraints may be challenging. Within the planning area, it is assumed that community multi-use trails along roadways will be separated by a landscaped area. Trail width may be slightly less than for regional trails, with 8 to 10 feet of paved width and one- to two-foot gravel shoulders.

from more connections) must be balanced with the need for mobility on the arterial roads (which would be negatively impacted by more connections).

- **Pedestrian-Only Nature Trails:** These are assumed to be soft-surface trails that are for pedestrians only. They provide connections through and along natural areas, including links to the Cooper Mountain Nature Park trail system. Widths may range from 3 to 8 feet.

Figure 6. Natural Trail

The major components of the proposed bicycle and pedestrian framework are summarized below.

- **On-Street Bicycle & Pedestrian Facilities:** All new and improved roadways within the planning area are planned to have sidewalks. In addition, all new Arterial and Collector roadways are planned to have bike lanes, as identified in the City of Beaverton and Washington County TSPs, unless additional sidewalk width or a more protective bike lane treatment is specified as part of the Community Plan in order to provide a comfortable walking and cycling experience.
- **Cooper Mountain Regional Trail:** This trail will ultimately connect the Westside Trail to the planned Reedville Trail (formerly called the BN Powerline Trail) as well as linking to Cooper Mountain Nature Park.

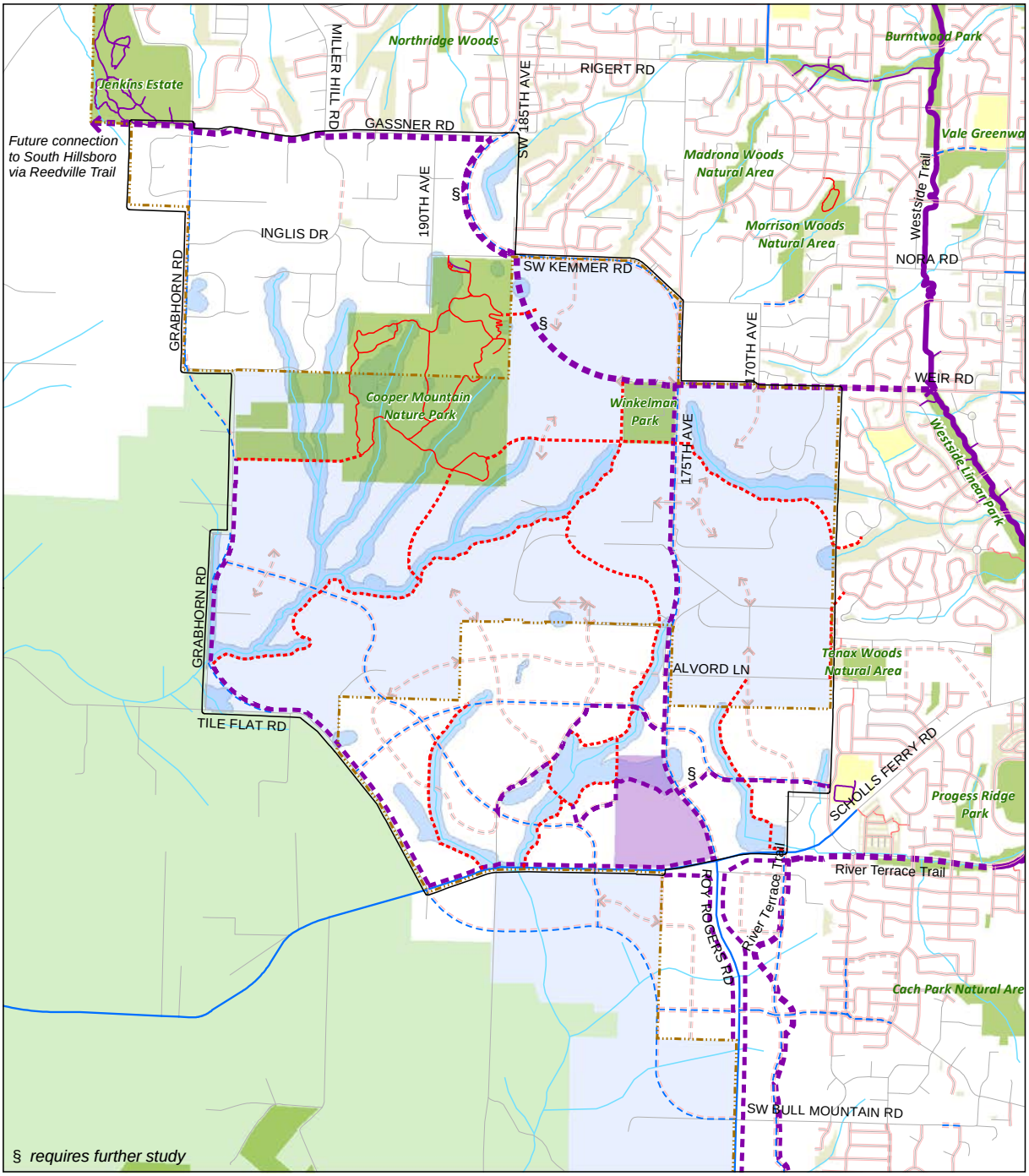
- **Cooper Mountain Loop Trails:** This system of community multi-use trails will follow major roadways within the planning area, running along the "inside" of the roads (i.e. the east side of Grabhorn Road & Tile Flat Road, the north side of Scholls Ferry Road, and the west side of 175th Avenue). These trails will link to one another and to the Cooper Mountain Regional Trail and the River Terrace trail system. A spur connection into the heart of the SCMAA along the northern side of the central stream and wetland complex will provide a connection to the Main Street and/or high density residential uses within the SCMAA.
- **McKernan Creek Trail:** This nature trail will run along the outer edge of the McKernan Creek riparian corridor, providing a link from Winkelman Park to Grabhorn Road.
- **Ridgeline Trail and other Nature Park connections:** A system of nature trails will provide links to Cooper Mountain Nature Park trail system from Winkelman Park, the McKernan Creek Trail, and the South Cooper Loop Trail.
- **Summer Creek Trail:** This trail follows the riparian corridor of Summer Creek, linking to Winkelman Park and the Cooper Mountain Nature Park trail system and the McKernan Creek Trail. A potential connection to the east near the southern tributary of Summer Creek and linking to local streets that connect to the Westside Trail is also shown.
- **Annexation Area Stream Corridor Trails:** A system of trails will run along the outer edges of several stream reaches within the SCMAA, providing a recreational amenity and safe, pleasant pedestrian connections. East of 175th Avenue, a connection to the River Terrace Trail south of Scholls Ferry Road crosses through the wetland area at an existing driveway and follows the riparian corridor northward to Alvord Lane.
- **Creek to Creek Trail:** This trail is proposed to provide a link between the McKernan Creek Trail and the Annexation Area stream corridor trails. The route is purely conceptual at this stage and very flexible, but should take advantage of tree groves and upland habitat areas where possible in order to help provide a habitat connection as well as a pedestrian connection.
- **Edge Trail:** This short nature trail is intended to provide connections from local roads in the East Hills to Tenax Woods and the city street system leading to the Westside Trail.

The above-described trail framework has been designed to connect to the River Terrace trail system, specifically the multi-use path along Roy Rogers Road and the River Terrace Trail (formerly called the 300-foot trail) within the community. The proposed bike/pedestrian framework is shown on Figure 8.

Future Transit Framework

Based on discussions with Tri-Met officials and Tri-Met's Westside Service Enhancement Plan, the most likely near-term extension of transit service to the planning area is the extension of bus service from Washington Square to the SCMAA along Scholls Ferry Road. This route will likely include a stop at Progress Ridge as well. A future stop to serve the SCMAA could potentially be located at the planned Beaverton School District high

Figure 8 - Concept Plan Bicycle & Pedestrian Framework



Concept Plan Bicycle & Pedestrian Framework

Type

- Proposed Regional Multi-Use Path
- Proposed Community Multi-Use Path
- Proposed Nature Trail
- Existing Sidewalk (Complete)
- Existing Partial Sidewalks
- Existing Bike lane
- Streets
- Planned Bike Lane
- Planned Sidewalks*
- Regional Multi-use Trails
- Community Multi-use Trails
- Local Multi-use Trails
- Existing Pedestrian-Only Nature Trails
- Private Paths
- Study Area
- Urban Growth Boundary
- Streams
- Riparian & Wetland Buffers
- Planned High School Site
- Existing Parks and Natural Areas
- Preserved by Home Owners Assns.
- Existing Schools
- Rural Reserve**
- Urban Reserve

Date: 8/26/2014

** New local streets (not shown) will have sidewalks.*
*** As amended by HB 4078A.*

Prepared By: Angelo Planning Group
This map is intended for informational purposes only.

NORTH

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school or at the Main Street, if the necessary facilities, including a bus pullout area and access to amenities for drivers (such as restrooms or shops) are available and if there is a logical way for the bus to turn around. Service would potentially run daily throughout most of the day with fairly frequent service (15 to 20 minute headways) during peak times and half-hour to hour headways during off times.

In the longer-term, limited-stop commuter-oriented transit service could be provided from Sherwood to Hillsboro along Roy Rogers Road and 175th Avenue through the planning area. Future stops could be located adjacent to the Future Compact Neighborhood nodes along 175th Avenue. Service would likely be limited to peak commute hours, and could be provided in a single direction (north) in the morning and the reverse direction (south) in the evening. This line would likely utilize the connection from 175th Avenue to 185th Avenue. Improvements to 175th Avenue to eliminate the sharp turn at “the kink” would be required in order to provide bus service on 175th Avenue.

Transportation Design Concepts

Crossing Treatments

With several busy arterial roads bounding and splitting the South Cooper Mountain area, crossings will be critical to ensuring safe pedestrian access throughout the plan area. All signalized intersections within and abutting the plan area should be designed with high-quality pedestrian crossing treatments, including count-down timers and high-visibility cross-walks. Pedestrian and bicycle connections to the planned high school and to River Terrace are particularly important for providing safe routes to school and providing access from River Terrace to the planned Main Street within the South Cooper Mountain area. If a full signalized intersection will not be provided on 175th Avenue adjacent to the planned high school, a mid-block crossing with a pedestrian refuge in the median and pedestrian-activated flashing beacons or a traffic light should be provided instead to ensure access both to the high school and the play fields that will also serve the broader community.

Traffic Calming

Several new road connections are proposed to improve connectivity within the South Cooper Mountain area as well as to better link it to surrounding neighborhoods. In some cases, this will create the potential for cut-through traffic in existing and future neighborhoods. In order to balance the concerns of adjacent residents with the need to provide more direct routes and more options to get around, traffic calming measures should be considered wherever new local street or Neighborhood Route connections create the likelihood of cut-through traffic. Traffic calming measures are street designs and features that are intended to encourage drivers to slow down and that make the route less desirable as a through-route while still providing a multi-modal connection. Examples may include speed bumps; designs that reduce the width of the road or make it feel narrower, such as narrow lanes, “queuing street” designs that require one car to pull to the side to let an oncoming car pass, curb bump-outs, and allowing on-street parking; designs that cause drivers to navigate curves or corners, such as allowing parking on alternating sides of the street so that the travel lane area shifts from one side to the other and adding small “jogs” to the road alignment; installing speed sensors with electronic displays that show speed; and other measures.

Wildlife Crossings

When conflicts between human activity and wildlife passage are identified, feasible safe wildlife passage options should be considered. For example: road crossings over streams should be designed with culverts large enough to allow wildlife passage wherever appropriate; where surface roads will cross through an important upland habitat area, measures to reduce driver speed should be considered in order to reduce the likelihood of collisions between vehicles and wildlife; when fencing is needed to delineate uses, wildlife friendly fencing systems should be encouraged.

Transportation Project List

The individual transportation system improvement projects recommended as part of the Concept Plan have been identified and their costs estimated. These projects and costs are focused on components that are not solely the responsibility of developers (such as local streets and neighborhood routes) and that are necessary to serve growth in the Concept Plan area. Transportation infrastructure in the South Cooper Mountain area will largely be the responsibility of the County (and to a lesser extent, the City) to build and maintain. Additionally, a sizable portion of project costs would be the responsibility of the private sector to fund directly. Table 2 lists the street projects, which in clude pedestrian and bicycle improvements. Additional shared-use paths, pedestrian crossings, and trails have been identified (see Infrastructure Funding Plan)

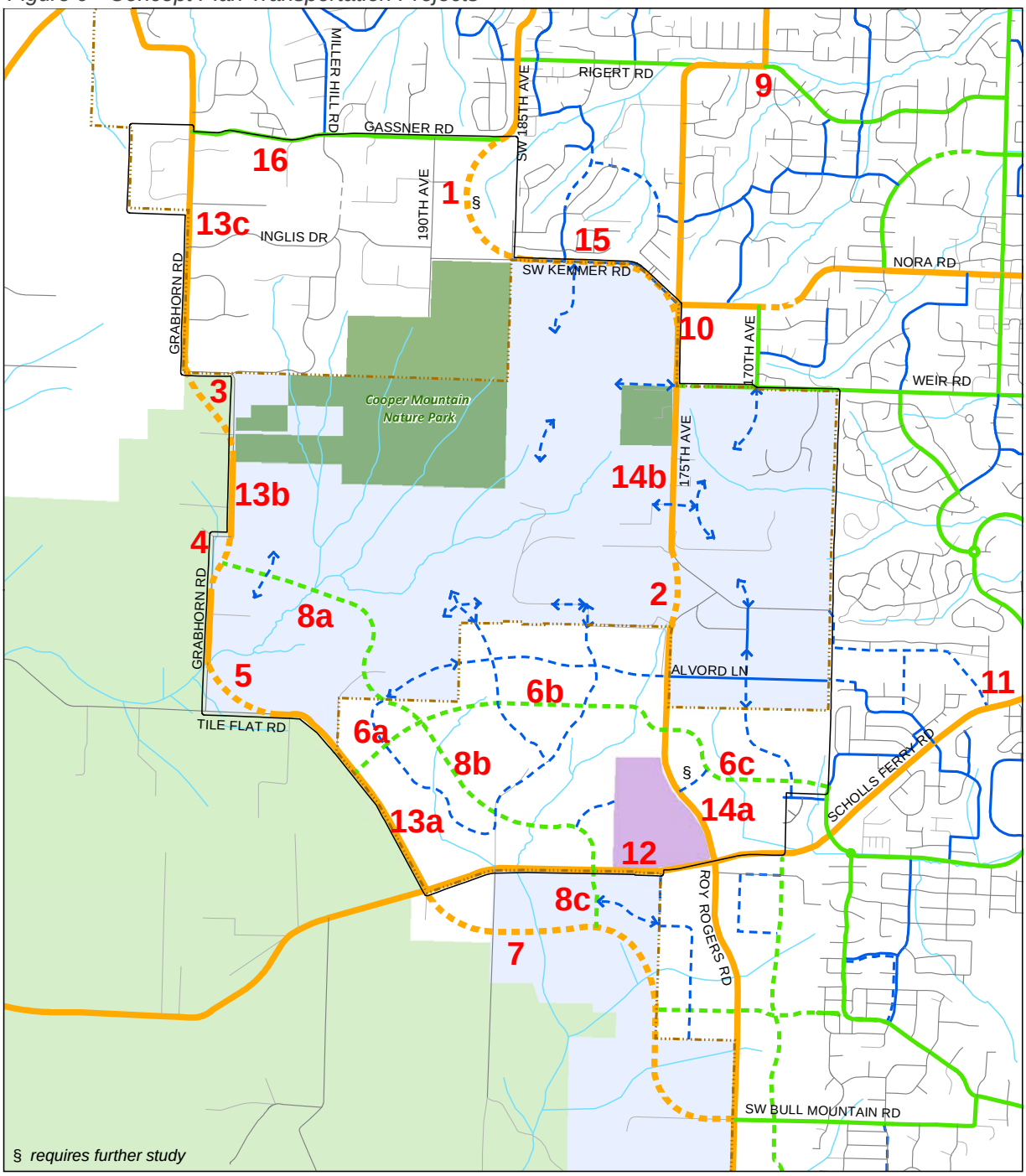
The projects listed and mapped in this section are in addition to projects already identified in the Transportation System Plan prior to the planning work for the Concept Plan. Approximate timing of these projects has been identified in Table 2.

Table 2 - Transportation Projects

Proj. ID	Project Description	Est. Cost	Est. Year of Need
1	Extend 185th Avenue from Gassner Road to Kemmer Road as a 3-lane County arterial.	$5,760,000	20+ years
2	Realign 175th Avenue between Outlook Lane and Cooper Mountain Lane, as a 3-lane County arterial.	$5,695,000	0-10 years
3	Realign the curve along Grabhorn Road near Stone Creek Drive, as a 3-lane County arterial.	$4,575,000	10-20 years
4	Realign the curve along Grabhorn Road north of Tile Flat Road, as a 3-lane County arterial.	$2,930,000	10-20 years
5	Realign Grabhorn Road east to provide a through connection with Tile Flat Road, as a 3-lane County arterial.	$4,710,000	10-20 years
6a	Create a new east-to-west 3-lane City Collector street from Tile Flat Road to the new north-to-south Collector Street.	$3,255,000	10-20 years
6b	Create a new east-to-west 3-lane City Collector street from the new north-to-south Collector Street to 175th Avenue.	$10,970,000	0-10 years
6c	Create a new east-to-west 3-lane City Collector street from 175th Avenue to Loon Drive.	$8,530,000	0-10 years

Proj. ID	Project Description	Est. Cost	Est. Year of Need
7	Extend Tile Flat Road between Scholls Ferry Road and the Roy Rogers Road/Bull Mountain Road intersection, as a 3-lane County arterial.	$18,780,000	20+ years
8a	Create a new north-to-south 2-lane City collector street between Grabhorn Road and the UGB	$9,465,000	20+ years
8b	Create a new north-to-south 2-lane City collector street between the UGB and Scholls Ferry Road	$11,020,000	0-10 years near Main Street; 10-20 years to the west
8c	Create a new north-to-south 2-lane City collector street between Scholls Ferry Road and the Tile Flat Road extension.	$1,935,000	20+
9	Improve the Rigert Road/170th Avenue intersection.	$2,000,000	10-20 years (2030)
10	Improve the Kemmer Road/175th Avenue intersection.	$2,500,000	0-10 years (2020)
11	Improve the Scholls Ferry Road/ Horizon-Teal Boulevard intersection.	$500,000	10-20 years (2030)
12	Improve Scholls Ferry Road from Roy Rogers Road-175th Avenue to Tile Flat Road as a 5-lane County arterial.	$8,165,000	0-10 years
13a	Improve Tile Flat Road from Scholls Ferry Road to the UGB as a 3-lane County arterial.	$3,025,000	10-20 years
13b	Improve Grabhorn Road from the UGB, north of the new east-to-west Collector Street, to the UGB, near Stone Creek Drive, as a 3-lane County arterial.	$4,170,000	10-20 years
13c	Improve Grabhorn Road from the UGB, near Stone Creek Drive, to Gassner Road, as a 3-lane County arterial.	$4,335,000	10-20 years
14a	Improve 175th Avenue from Scholls Ferry Road to the UGB, north of Alvord Lane, as a 3-lane County arterial.	$3,985,000	0-10 years
14b	Improve 175th Avenue from the UGB, north of Alvord Lane, to Kemmer Road as a 3-lane County arterial.	$3,940,000	10-20 years
15	Improve Kemmer Road from 175th Avenue to the 185th Avenue extension as a 3-lane County arterial.	$2,590,000	10-20 years
16	Improve Gassner Road from Grabhorn Road to the 185th Avenue extension as a 2-lane County collector.	$2,475,000	10-20 years

Figure 9 - Concept Plan Transportation Projects



Concept Plan Transportation Projects

Proposed Functional Classification*

- Arterial
- Collector
- Neighborhood Route
- Local
- Private

- Rural Reserve**
- Urban Reserve
- Study Area
- Urban Growth Boundary
- Existing Parks
- Planned High School Site
- Streams

** Realignments and new roads are shown in dashed lines. New roads east of study area are based on Washington County's Transportation System Plan; new roads within UGB south of study area are based on current River Terrace Community Plan transportation planning. All new road alignments are conceptual.*

*** As amended by HB 4078A.*

Prepared By: Angelo Planning Group

Date: 8/29/2014

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

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NORTH

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CIVIC USES

For both the near-term and the future long term, locations for civic uses such as parks and elementary schools are not specifically identified. The needed amount of land for these uses is set aside through the assumptions built into the residential development types.

During the scenario refinement process, the specific degree of flexibility was discussed and two points of view emerged: (1) the schools districts and THPRD would like more certainty on how and when land is identified for schools and parks; and (2) developers would like more flexibility.

The Parks and Schools Framework Plans illustrate locations that meet the locational criteria for neighborhood parks and schools, respectively, but are meant to be illustrative and provide guidance, rather than being regulatory tools. It is assumed that the service providers (THPRD and Beaverton and Hillsboro School Districts) will use their standard site selection and land acquisition processes to acquire the land needed for these facilities (BSD is already in possession of the 45-acre high school site). In addition, current development review practices provide for coordination through the requirement to obtain Service Provider Letters from special service districts indicating that service levels are, or can be made to be, sufficient to support proposed development.

Schools

School Needs

The need for schools has been calculated using planning standards regarding number of students per school and demographic assumptions about number of students per household from the Beaverton and Hillsboro School Districts and coordinated with representatives of both districts. The needed facilities are summarized below:

South Cooper Mountain Annexation Area

- 1 K-5 or K-8 school within the Beaverton School District area
- 1 K-5 or K-8 school within the Hillsboro School District area

Urban Reserve Area

- Up to 1 K-5 or K-8 school within the Beaverton School District area (if a suitable site can be identified)
- Up to 1 K-5 or K-8 school within the Hillsboro School District area

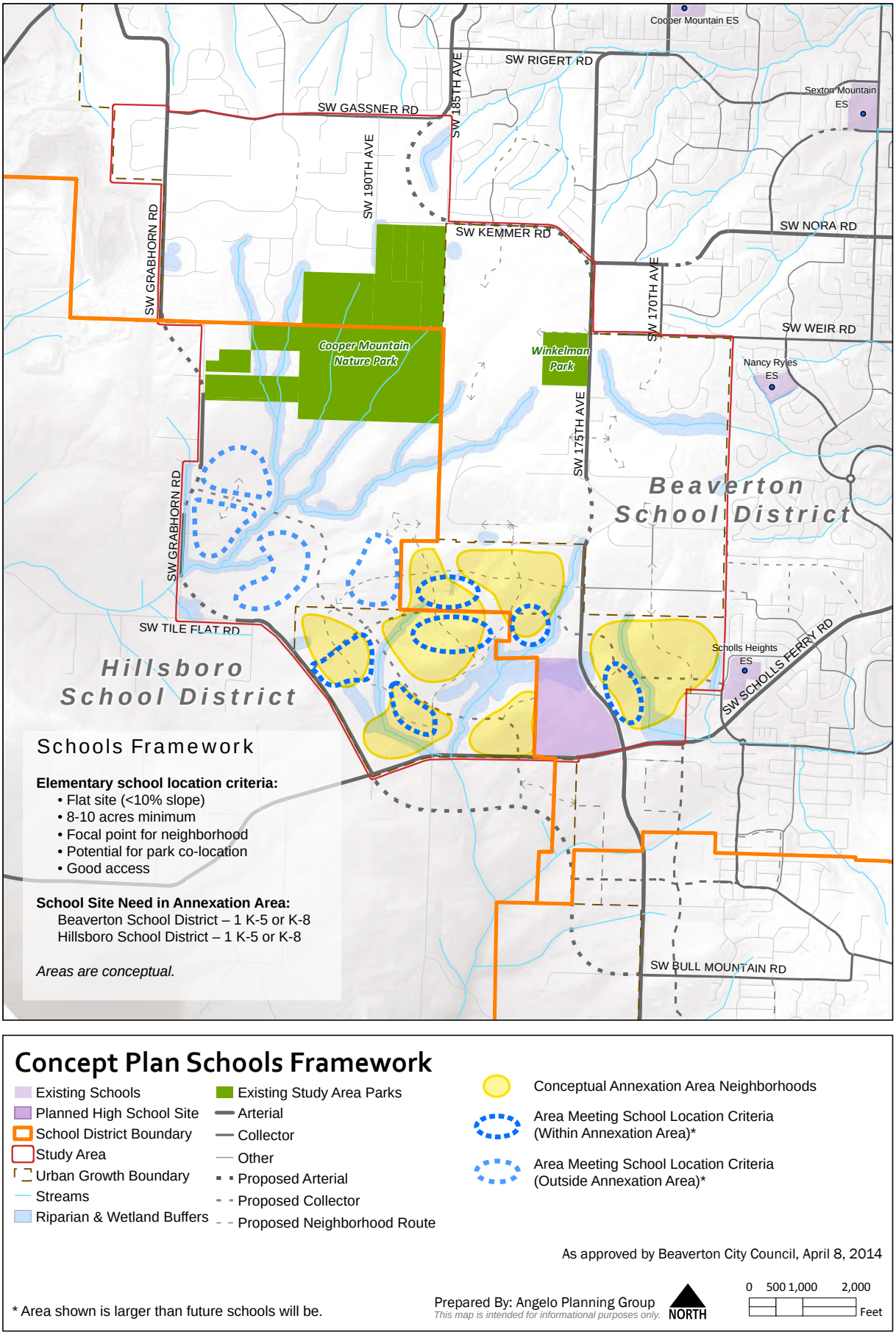
The planned Beaverton School District (BSD) High School site is identified specifically because BSD is already in possession of the 45-acre high school site.

School Siting

The following criteria generally summarize the types of sites that are preferred for new elementary schools:

- Eight to ten acres of unconstrained, relatively level land
- Good access from Neighborhood Routes or Collector roads
- Not adjacent to an arterial road

Figure 10 - Schools Framework



- Focal points for neighborhoods, centrally-located within walkable attendance areas
- Co-location adjacent to a park is desirable

Guidance for the potential location of schools is provided through the Schools Framework Plan (Figure 10), which indicates multiple areas which meet the criteria. This method reflects the priority, expressed by multiple stakeholders, for flexibility in where these uses will be located.

Parks

Park Needs

The need for parks and schools has been calculated using planning level of service standards for acres of parks per 1,000 population from THPRD based on the District's 2006 Comprehensive Plan as well as discussions with THPRD on desired outcomes for the South Cooper Mountain area. The estimated need for new parks is summarized below.

South Cooper Mountain Annexation Area

- Roughly 10 acres of land for neighborhood parks[12]

North Cooper Mountain

- Roughly three-quarters of an acre of neighborhood park land[13]

Urban Reserve Area

- Roughly 8 acres of land for neighborhood parks
- Roughly 17 to 18 acres of land for a community park

Park Siting

The following criteria generally summarize the types of sites that are preferred for neighborhood and community parks:

Neighborhood Parks

- Two to four acres of unconstrained, relatively level land for active recreation facilities
- Good frontage on a local street or Neighborhood Route with on-street parking
- Good connections to trails
- Focal points for neighborhoods, with walkable "catchment areas"
- Co-location adjacent to a school is highly desirable

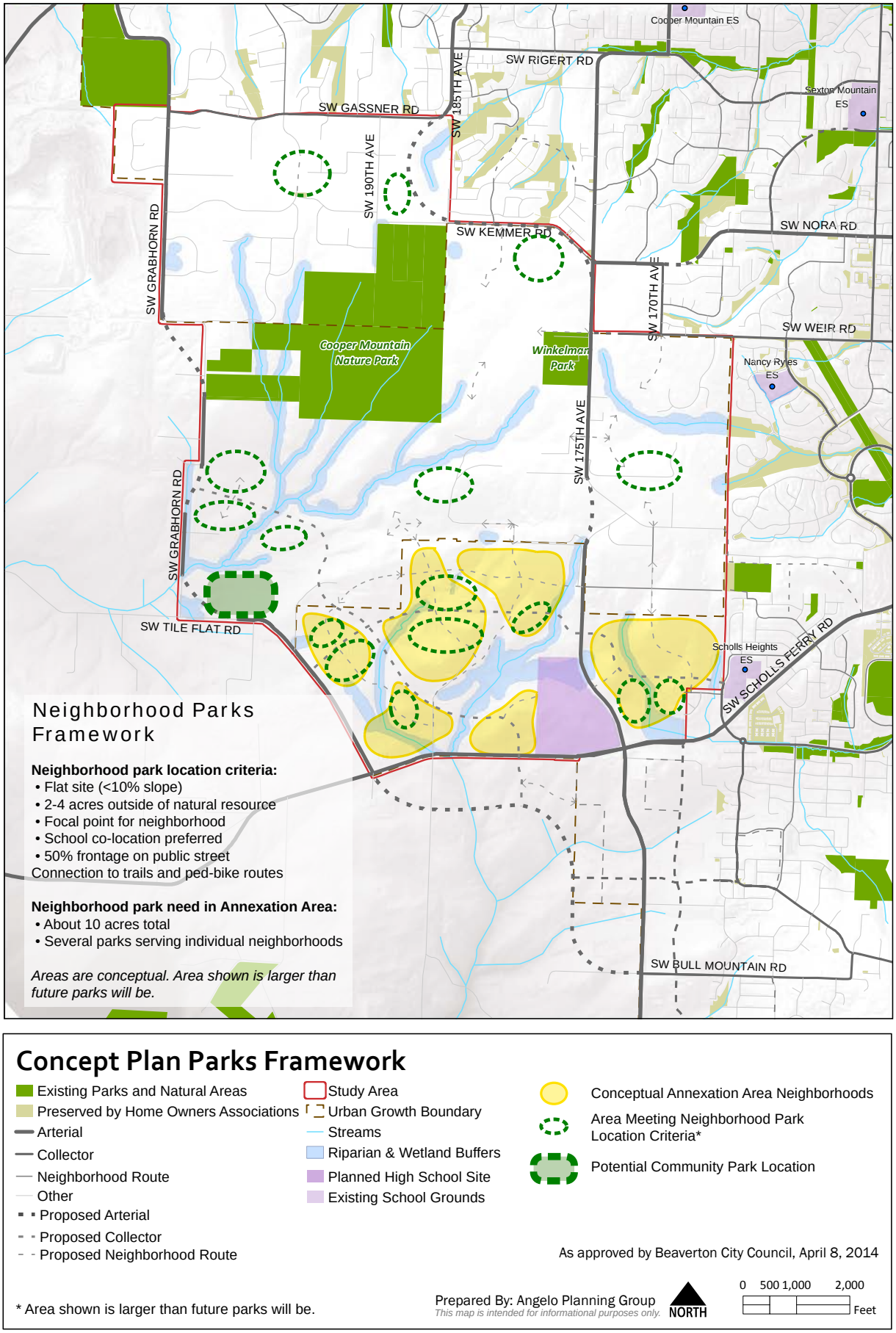
Community Parks

- 10 to 20 acres of unconstrained, relatively level land for active recreation facilities

12 The neighborhood parks standard generates a need for approximately 7 acres of neighborhood parks. The total number of neighborhood park acres needed within the SCMAA has been increased by about 40% to partially compensate for the decision to not site a community park within the Annexation Area.

13 Given the limited increase in demand expected from NCM, a new neighborhood park in that subarea may not be the best way to meet that need.

Figure 11 - Concept Plan Parks Framework



- Good connections to trails
- Co-location with schools or other public facilities is desirable, especially where there are opportunities to share facilities

Guidance for the potential location of parks is provided through the Parks Framework Plan, which displays multiple areas that meet the criteria above. This method reflects the priority, expressed by multiple stakeholders, for flexibility in where these uses will be located.

NATURAL RESOURCES

Overview

A basic premise of the scenarios and of this planning effort is that the natural resources within the planning area are among the most important amenities and should be protected and enhanced as much as possible. For this Concept Plan, resources have been inventoried at a planning level, and their relative importance has been evaluated in general terms. Community Plans for both the SCMAA and NCM have more specific detail on what will be protected and to what level. Identification of a given resource as locally significant and its addition to City or County inventories of significant resources requires consideration of environmental, social, economic, and energy factors under Oregon's Statewide Planning Goal 5 regulations. This evaluation is not included in this Concept Plan; rather, this section serves to describe the resources and set the stage for their evaluation for local significance.

The Natural Resource Protection and Enhancement Priorities map is shown in Figure 12. The resources on the map are keyed to descriptions in the sections below by category (conservation priorities, restoration priorities, and priority habitat connections). For each resource, identified with a letter below to correspond to the letters on Figure 12 on page 54, the rationale for its identification as a priority and the value provided by the resource is summarized in the text that follows. (The hatched areas on the map indicating priority habitat areas are generalized and are not meant to indicate specific boundaries.)

Habitat Conservation Priorities

Among the existing resources within the planning area, the top priorities for conservation have been categorized as Tier 1 or Tier 2 priorities based on the habitat value they provide.

Tier 1

Tier 1 habitat conservation priority areas represent the best habitats within the planning area and those most important to fish and wildlife. Within areas identified as Tier 1 conservation priorities, disturbance should be kept to the minimum possible, with little or no additional development allowed and carefully sited and designed road crossings.

A. The heart of the McKernan Creek complex contains high quality riparian corridors and upland habitats that are connected to Cooper Mountain Nature Park and are

relatively undisturbed. This area likely contains native Oak habitat similar to that found within Cooper Mountain Nature Park, which is important for native species.

B. The central resource area within the SCMAA contains a diversity of native habitats, including wetland, riparian, and upland habitat. It contains the most intact stream within the SCMAA; human disturbance throughout this resource area appears to be relatively minimal, with the exception of an existing dam (removal of which should be evaluated for feasibility and environmental impacts). The area is home to a diverse mix of vegetation and frequented by migratory birds.

C. The wetland area at the southeastern corner of the SCMAA covers roughly 4.5 acres, and is contiguous with wetlands on the Churchill Forest subdivision property that have been protected as part of the subdivision approval. This wetland provides diverse wildlife habitat, and meets criteria for designation as a locally significant wetland.

D. The headwaters of a stream that drains into Washington County's Johnson Creek at the northwest corner of NCM provides a connection between two stream sheds. This area includes an existing patch of trees and upland habitat that provides a wildlife connection between Cooper Mountain Nature Park and the creek. New road alignments that cross this resource should take special precautions in design to ensure safe wildlife passage.

E. The headwaters of two tributaries to McKernan Creek flow south through the southern portion of NCM to connect to stream corridors within Cooper Mountain Nature Park. They provide habitat connections through an otherwise largely developed area.

Tier 2

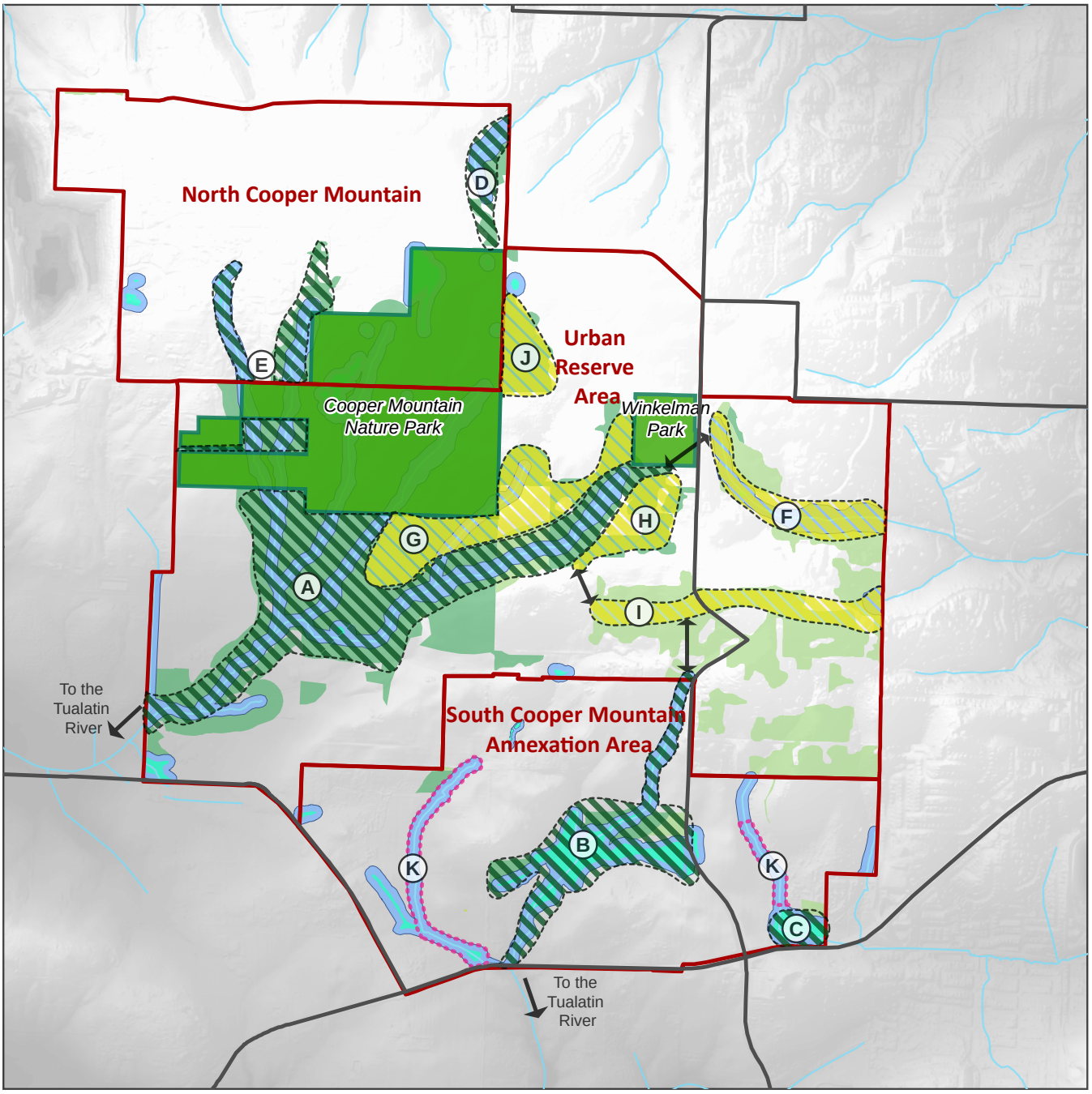
Tier 2 habitat conservation priority areas may have a greater level of human disturbance or play a less crucial role in wildlife movement than Tier 1 areas, but they include valuable upland habitats, riparian habitats, or both that provide important ecosystem services. Some limited degree of disturbance should be allowed, but the fundamental habitat value and ecosystem services should not be lost or excessively compromised.

F. The northern stream corridor in the East Hills area of the URA is in a steep, forested ravine with limited development potential. It provides a link to the Summer Creek stream shed and the protected stream corridors to the east.

G. The two farmed meadows within the McKernan Creek complex have experienced more human disturbance than other parts of The Creeks, with less tree cover and areas that have been farmed or cleared. However, they are contiguous with the remainder of the McKernan Creek complex (identified as Tier 1 habitat area A) and connect to Cooper Mountain Nature Park. The primary value in protecting this area is to prevent impacts on the Nature Park and on McKernan Creek.

H. Just south of McKernan Creek and Winkelman Park, this generally wooded upland area contains a mix of natural forested areas, planted wood lots (e.g. christmas tree farm), and very low density housing. Its primary value is in provid-

Figure 12 - Natural Resources Framework



Concept Plan Natural Resources Framework

Legend

- Wetland & Open Water
- CWS Vegetated Corridor
- Class A Upland Habitat
- Class B Upland Habitat
- Highest Preservation Priority
- Secondary Preservation Priority
- Stream Enhancement Priority
- Priority Wildlife Connection
- SCM Planning Area
- Planning Area Parks
- Streams
- Arterials

August 2014

Prepared By: Angelo Planning Group, David Evans and Associates, Inc.

This map is intended for informational purposes only.

NORTH

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ing upland forest habitat connected to the McKernan Creek complex (identified as Tier 1 habitat area A) and to Winkelman Park.

I. As part of a larger area of the East Hills containing a mix of moderate quality upland habitat and rural homes, the east-west corridor spanning 175th Avenue at the northern end of "the kink" identified on Figure 12 provides tree cover connecting from the McKernan Creek complex (identified as Tier 1 habitat area A) to drainages and protected stream corridors to the east.

J. A large stand of trees within the Hilltop area adjacent to Cooper Mountain Nature Park provides moderate to high quality upland forest habitat connected to the larger resource area of the Nature Park.

Habitat Restoration Priorities

The eastern and western stream corridors within the SCMAA (labeled K on Figure 12) have been impacted and degraded by agricultural activities over time. Because they are central to the SCMAA and protected by local, state, and federal regulations, it is important to improve these channels to a state where they can be both ecologically healthy and attractive neighborhood amenities. Local regulations will require enhancement of the vegetated corridors around each stream with native plants and trees. Additional tree planting adjacent to the required vegetated corridors should be encouraged to provide wildlife habitat enhancement. Within areas identified as restoration priorities, stream restoration may be paired with trail construction and stormwater management facilities to achieve multiple benefits.

Priority Habitat Connections

The areas identified with arrows on Figure 12 represent key links between stream corridors and priority habitat conservation areas. Based on reports from area residents, wildlife currently pass through many of the yards in partially developed areas such as NCM and the East Hills. As future development reduces the opportunities for wildlife passage, these connection points will become more important. Trail connections through upland areas and in the vicinity of these habitat connections should be designed to protect or enhance tree canopy adjacent to either side of the trail in order to provide safe areas for wildlife movement.

Natural Resource Protection and Enhancement Strategies

Mechanisms to protect and to encourage enhancement of natural resources may include Habitat Benefit Areas, Significant Natural Resource Area designation, Tree Grove designation, tree protection standards, hillside/slope protection standards, development regulations that allow some increased flexibility or development potential on the buildable portion of the site in exchange for protections on the constrained portion, incentive-based tree protection measures, or other strategies. The existing and potential future protections

for these resources are not absolute (i.e. they do not entirely prohibit disturbance); road and driveway crossings and some minimal disturbance is allowed when necessary.

While riparian and wetland habitats are regulated and protected (to a degree) by state and federal agencies, there is less protection of upland habitat areas. Trees provide a variety of important environmental benefits, in addition to offering aesthetic benefits. The environmental benefits include contributing to stormwater management by intercepting rainfall, moderating temperature, providing habitat, enhancing air quality, and improving soil stability on sloping terrain. Non-forested upland areas, particularly those with native vegetation, can also provide for wildlife habitat and corridors for wildlife movement. Upland habitat protection should be prioritized adjacent to protected open space areas, especially Cooper Mountain Nature Park; adjacent to wetland and riparian areas, to provide a buffer between the open space and future development; and in corridors (such as trail corridors) that connect protected open space areas, including parks, wetlands, and riparian areas.

Measures to encourage preservation of upland habitat within the URA prior to UGB expansion and to prevent tree removal in the interim period between UGB expansion and adoption of city zoning could include:

- inventorying resources, including tree groves, prior to annexation so that all City regulatory protections are in place immediately upon annexation;
- outreach and education to property owners about incentives for and regulations on tree protection; and/or
- restrictions on annexation for up to six years after logging occurs to ensure state replanting requirements have been met.[14]

INFRASTRUCTURE

Water

The water system expansion into the South Cooper Mountain planning area will be based on the largest single point demand in the area. The largest single point water demand is fire service flow. Although providing domestic and irrigation services to the area is essential, the water system expansion will be developed to provide sufficient fire flow while maintaining a minimum water pressure.

The new 24-inch water line in SW Scholls Ferry Road will extend to SW 175th Avenue and the planned High School site. Additional development to the north and west will require expanded network connections.

14 Oregon's Forest Practices Act generally requires reforestation after logging. Property owners generally have 12 months from completion of logging to start reforestation; 24 months to complete planting; and 6 years in total to establish an adequately-stocked, free to grow stand. See the Oregon Department of Forestry's website (http://www.oregon.gov/ODF/privateforests/pages/fpareforestation.aspx) for details. Reforestation is not required when the land is converted to non-forest use that is allowed under the rural zoning; the land use change must be completed within 24 months of harvest completion and must be maintained for at least 6 years.

A new 24-inch water line is planned to extend along SW 175th Avenue, ultimately connecting to a future five-million-gallon tank to be located near the intersection of SW 175th Avenue/SW Weir Road. By supplementing the existing system with this new five million-gallon storage tank, there will be adequate water storage to serve the entire planning area. The storage tank is scheduled to be constructed by 2020.

Other major water lines will be constructed in large loops within the existing or future right-of-ways of SW Scholls Ferry Road (west of SW 175th Avenue), the planned east-west collector roadway through the Community Plan area, the planned north-south Main Street collector roadway, SW Tile Flat Road and SW Grabhorn Road. In addition, while there are existing water lines within NCM, in order to provide a network of waterlines that will deliver consistent flow and pressures to all points within the network area, and to create a water system looped system, a major water main extension through NCM will likely be required in order to serve the full build-out of the western portion of the URA. Additional new lines will be needed to create a looped system to serve the eastern portion of the URA; these may or may not run within future street right-of-way, depending on the ultimate configuration of roads in that area.

The conceptual water system plan for the full Concept Plan area is shown in Figure 13. Water line alignments are conceptual and subject to further design and engineering. A planning-level cost estimate to construct these facilities is approximately $21.6 million for the full planning area (including soft costs such as engineering and contingency but excluding the cost of the planned storage tank).[15]

Sanitary Sewer

An existing 21-inch gravity sanitary sewer located in SW Scholls Ferry Road can serve some of the area east of 175th Avenue and north of Scholls Ferry Road as well as the planned High School site. Most of of the East Hills portion of the URA can also be served either with connections to existing sewer lines to the east or with future sewer line extensions in SW 175th Avenue that will gravity flow to the existing line in SW Scholls Ferry Road.

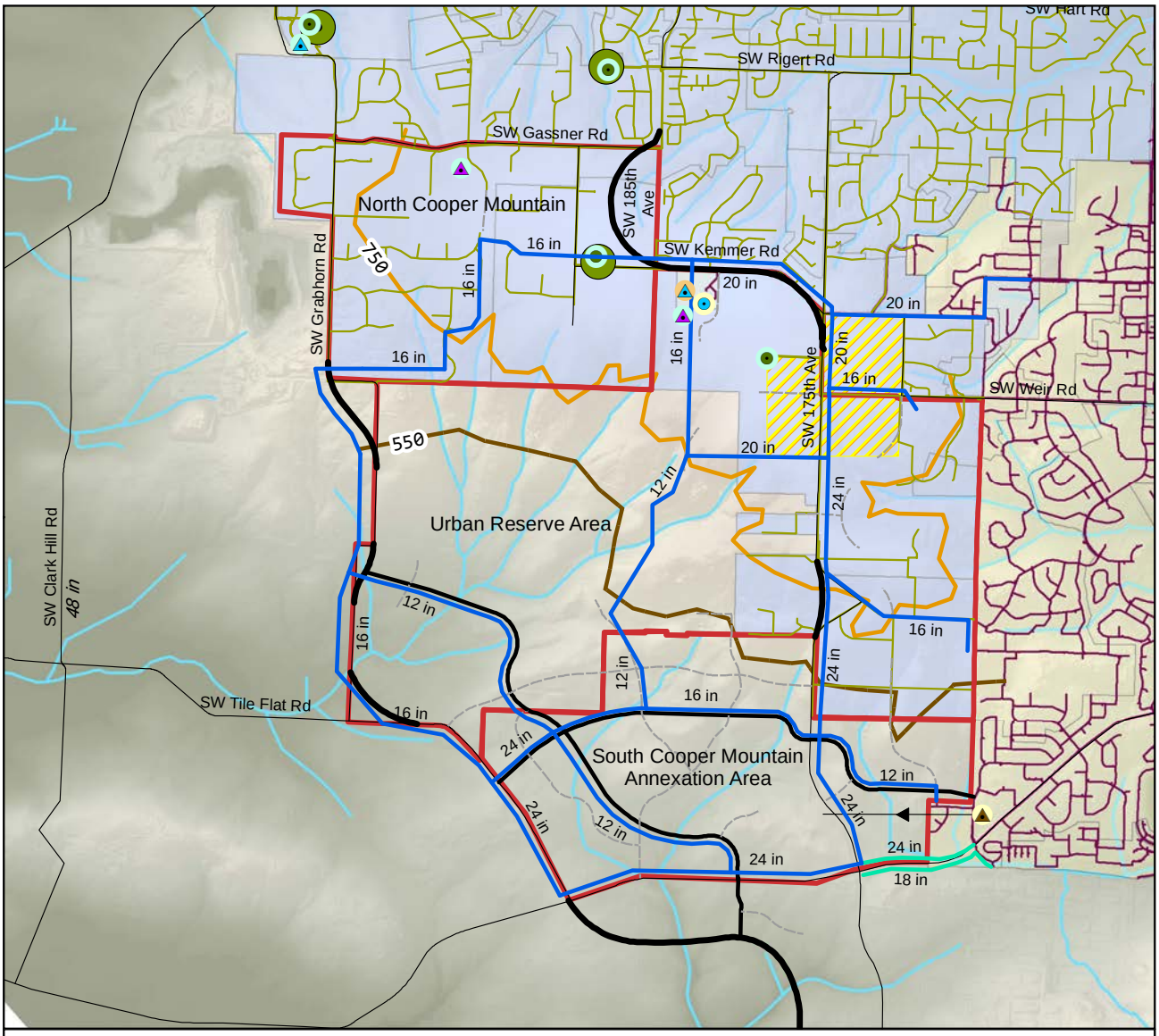
With the exception of the high school area, the areas west of SW 175th Avenue -- including a portion of the East Hills, the Hilltop, and the eastern portion of the URA Lowlands as well as most of the SCMAA -- will be conveyed towards the low point in SW Scholls Ferry Road (at the creek crossing near SW Vandermost Road) and eventually be conveyed to the new River Terrace Pump Station. The River Terrace Pump Station will be located within the urban growth boundary along the creeks south of SW Scholls Ferry Road and west of SW Roy Rogers Road. The River Terrace Pump Station is anticipated to be in operation by the end of 2015, and all flows from this proposed pump station will be directed to the intersection of Scholls Ferry Road and 175th Avenue to connect to the 21-inch Scholls Ferry Road Sanitary Sewer Extension and ultimately to the Durham Wastewater Treatment Plant.

A new Tile Flat Road Pump Station will be needed to serve future development on the west side of the URA, northwest of the downslope that runs towards McKernan Creek (Grabhorn Meadow and the western portion of the URA Lowlands). The Tile Flat Road Pump Station will be located at the low point (creek intersection) of Tile Flat Road. This pump station is anticipated to pump to the east along Tile Flat Road to a gravity system that will eventually convey sewage to the new River Terrace Pump Station. Sewer lines will be extended north and southeast of the pump station to serve Grabhorn Meadow and the western part of the URA Lowlands, respectively. The lines will likely follow SW Grahborn Road and the western edge of the creek complex that flows into McKernan Creek as well as the extension of the north-south collector road and the realignment of Tile Flat Road.

Once the Tile Flat Road Pump Station is constructed and sewer lines have been extended north through Grabhorn Meadow, this will enable the southern portion of NCM to be connected to the sanitary sewer system by further extending the sewer lines north as needed to address failing septic systems.

15 Details of the cost estimates and planned water system are available in the Water System Concept Plan – Summary Findings and Planning Level Cost Estimates memorandum prepared by David Evans and Associates, Inc., June 11, 2014.

Figure 13 - Water Infrastructure Map



South Cooper Mountain Future Water System

Legend

Reservoirs
- Beaverton, In service
- TVWD Pump Station
- Potential Reservoir Site Zone*

ASR Wells
- Beaverton, Drilled not producing
- JWC, In service
- TVWD, In service
- TVWD, Planned

Existing Waterlines
- CoB Water Main
- TVWD Waterline
- Potential non-potable*

New Waterlines
- Under construction (Local)
- Planned (Local)*

Future Pressure Zones
- 550 ft elevation
- 750 ft elevation
- CoB Supply Zone
- TVWD Supply Zone
- South Cooper Mountain Study Area
- Streams
- Arterials
- New Arterial
- New Collector

* Locations of planned facilities are conceptual only.

Prepared By: David Evans and Associates, Inc.

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

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NORTH

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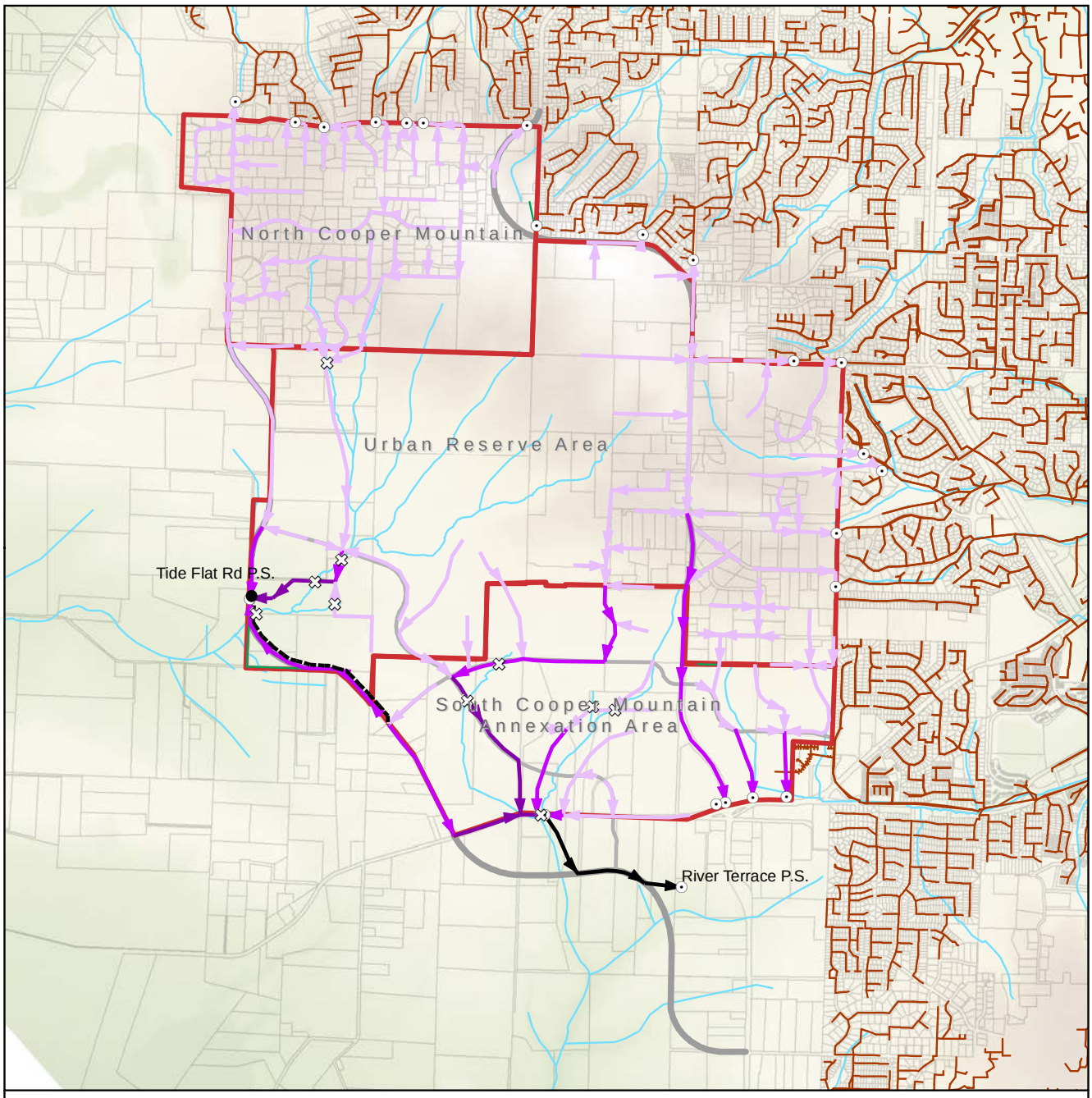
Date: 6/11/2014

Figure 14 - Sanitary Sewer Map



South Cooper Mountain Sanitary Sewers

Proposed Pipe Location and Diameter

- Force Main
- 8-inch
- 12-inch
- 15-inch
- 18-inch

- Point of Connection
- Stream Crossing
- Existing Stream
- New Arterial
- New Collector

- Existing Sanitary Sewer
- South Cooper Mountain Study Area
- Washington County Taxlot

Note: All sewer lines are conceptual and are subject to zoning authority and permits.

Prepared By: David Evans and Associates, Inc.

Date: 6/11/2014

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

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NORTH

0 0.125 0.25 0.5 Miles

A planning-level cost estimate to construct sewer facilities to serve the full planning area is approximately $43.3 million (including the Tile Flat Road Pump Station, the 6" force main to link it to the gravity line in Tile Flat Road, and soft costs such as engineering and contingency, but excluding the cost of the planned River Terrace Pump Station).[16]

The conceptual sewer system plan for the full Concept Plan area is shown in Figure 14. Sewer line alignments are conceptual and subject to further design and engineering. Sewer lines outside of Community Plan area are also conceptual and shown only for context and to inform future planning in the area.

Storm water

Conceptual storm water management planning was conducted during scenarios phase of the Concept Plan. The work identified: (1) A preference by the City of Beaverton and Clean Water Services (CWS) for an approach that uses Regional Stormwater Facilities (RSFs); (2) Recognition that there are challenges to implementing RSFs, and flexibility is needed to apply site-scale storm water management instead of, or in combination with, RSFs; and (3) Changing water quality regulations merit further planning for South Cooper Mountain, including the creation of a Storm Water Management Plan for the Community Plan area. The description below summarizes elements of the work that was prepared for the Concept Plan.[17]

The preferred approach for implementing Overarching Principles 3 (sustainability), 4 (funding plan), and 7 (natural resources) is to plan for large scale dry detention ponds, termed Regional Stormwater Facilities (RSFs) by CWS, in order to manage peak runoff rates to avoid downstream impacts. This approach is preferred because it is consistent with planning in other new areas added to the Urban Growth Boundary; it provides planned, comprehensive flow control in a cost-effective manner; and, it provides the highest level of certainty of meeting the flow management guidelines being established by CWS. In addition, RSFs will meet water quality requirements (capture and treatment of stormwater pollutants) as well as preserving the stream health of the receiving channel by avoiding hydrographic modification.

It should be noted that RSFs require a high level of coordinated implementation. Options should be available so that there is some flexibility as how to design and construct facilities to serve individual properties prior to regional facilities being available.

16 Details of the cost estimates and planned sewer system are available in the Sanitary Sewer Concept Plan – Summary Findings and Planning Level Cost Estimates memorandum prepared by David Evans and Associates, Inc., June 11, 2014.

17 For the scenario level evaluation, please see Stormwater and Water Quality Scenario Summary, David Evans and Associates, December 19, 2014.

Implementation Measures

Making it Happen

GUIDANCE TO FUTURE PLANNING

The SCM Concept Plan will guide future comprehensive plan and development code amendments that implement the Concept Plan in both the City of Beaverton and in Washington County. Detailed next steps for this process are identified in the South Cooper Mountain Implementation Plan, a non-regulatory document intended to inform and guide city, county, and service provider collaboration and coordination on plan implementation over the next several years. The Implementation Plan is included in Appendix A.

GOVERNANCE AND URBAN SERVICES

As required under Metro's Title 11, areas of the SCM URA that are added to the UGB must be annexed to a city prior to or simultaneously with application of urban land use designations. The City of Beaverton will be the city responsible for annexations of and comprehensive planning for UGB expansion areas within the SCM URA. This is identified in an IGA between the City and the County, included in Appendix B.

Urban services will be provided to those areas of the SCM URA that are brought into the UGB by the City of Beaverton in coordination with service providers including THPRD for parks, CWS for sanitary sewer and stormwater management, and TVWD for drinking water. IGAs identifying the specific responsibilities for service provision with each of the relevant agencies are included in Appendix B.

FUTURE URBAN GROWTH BOUNDARY EXPANSIONS

Metro is responsible for managing the Portland metropolitan area's UGB. Oregon law requires the Metro Council to study the capacity of the existing UGB every five years to determine whether it can accommodate the population and employment growth that is forecast for the next 20 years. If the existing UGB provides sufficient capacity to accommodate the growth that is forecast for the next 20 years, no UGB expansion is needed. If the existing UGB does not have sufficient capacity to accommodate the 20-year growth that is forecast, the Metro Council will first work with local governments to determine whether steps can be taken to enhance the efficiency of land inside the existing boundary to accommodate more growth. If, after these efficiency measures are taken, there remains a need for additional capacity within the boundary to meet the forecast growth, the Metro Council will consider boundary expansions. Urban reserve lands will be the first lands studied and considered for possible expansion.18

While Metro Council is responsible for decisions regarding future UGB expansions, local governments play an important role in advocating for inclusion of specific candidate expansion areas. Given this role, the City of Beaverton and Washington County will coordinate with Washington County and service providers in considering support for areas within the SCM Urban Reserve Area for future expansion. The city will consider the following:

18 *Metro, "Urban Growth Boundary,"* http://www.oregonmetro.gov/urban-growth-boundary, accessed 8/25/14.

- adjacency to city limits;
- ease and cost of extending infrastructure, as described in this Concept Plan or in future refinement plans;
- ability to provide needed housing consistent with the land uses and housing described in the Concept Plan;
- ability to logically extend from and provide connections to existing neighborhoods, including the SCM Annexation Area;
- ability to build complete, sustainable communities with active transportation options;
- land needed to provide road or trail connections or improvements; and
- property owner commitment to natural resource protection, including preservation of upland habitat.

This understanding is captured in an IGA between the City and the County, included in Appendix B.

INFRASTRUCTURE FUNDING

The South Cooper Mountain Infrastructure Funding Plan describes a plan and strategy for how infrastructure in the South Cooper Mountain area could be funded. Metro Title 11 Functional Plan requirements that state, for areas added to the Urban Growth Boundary, that "Comprehensive plan provisions for the area shall include… provision for the financing of local and state public facilities and services." Areas within Urban Reserves are required by Title 11 to provide more generalized information in concept plans, including: "…Preliminary estimates of the costs of the systems and facilities in sufficient detail to determine feasibility and allow comparisons to other areas; and… Proposed methods to finance systems and facilities." In addition to meeting these regulatory requirements, the analysis is intended to serve several practical purposes. First, it fulfills the projects guiding principle to "Prepare a realistic financing plan for infrastructure and feasible implementation strategies." The analysis also informed selection of the final preferred land use and transportation scenarios.

The document is intended to identify the types of infrastructure projects that appear to have adequate funding from existing sources, and the types of infrastructure projects that appear to require new funding tools and inter-jurisdictional collaboration. The Funding Plan lays out the estimated funding needs and strategies to meet them for parks, water, sanitary sewer, stormwater, and transportation facilities. The Funding Plan was developed in collaboration with the South Cooper Mountain Finance Task Force and city staff. The Funding Plan will guide future public and private investments in infrastructure and future collaborations and coordination among service providers to extend and enhance the infrastructure and services needed to support urban growth in South Cooper Mountain.

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APPENDICES

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Appendix A: Infrastructure Funding

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South Cooper Mountain

Infrastructure Funding Plan

October 27, 2014

Prepared for:

City of Beaverton

Contact Information

Nick Popenuk prepared this report. ECONorthwest is solely responsible for its content.

ECONorthwest specializes in economics, planning, and finance. Established in 1974, ECONorthwest has four decades of experience helping clients make sound decisions based on rigorous economic, planning and financial analysis.

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For more information about ECONorthwest, visit our website at www.econw.com.

For more information about this report, please contact:

Nick Popenuk
Project Manager

ECONorthwest
222 SW Columbia Street
Portland, OR 97201
503-222-6060
popenuk@econw.com

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1 Introduction

This memorandum describes a plan and strategy for how infrastructure in the South Cooper Mountain area could be funded. This analysis is driven, in part, by Metro Title 11 Functional Plan requirements that state, for areas added to the Urban Growth Boundary, that "Comprehensive plan provisions for the area shall include… provision for the financing of local and state public facilities and services." Areas within Urban Reserves are required by Title 11 to provide more generalized information in concept plans, including: "…Preliminary estimates of the costs of the systems and facilities in sufficient detail to determine feasibility and allow comparisons to other areas; and… Proposed methods to finance systems and facilities."

In addition to meeting these regulatory requirements, the analysis is intended to serve several practical purposes. First, it fulfills the projects guiding principle to "Prepare a realistic financing plan for infrastructure and feasible implementation strategies." This is consistent with the City's Capital Improvement Program (CIP), which identifies geographic priority areas for infrastructure investment. One of those priorities is to "Plan and prepare infrastructure and infrastructure financing for South Cooper Mountain/6B area development."

The analysis also informed selection of the final preferred land use and transportation scenarios, and is intended to increase developer and property owner confidence in the process by addressing financing and implementation strategies early on. This document is a revised version of the "Early Funding Analysis" completed in March 2014. The document has been updated to reflect refined development scenarios and infrastructure costs, and to address feedback provided by the South Cooper Mountain Finance Task Force.

This memorandum is organized in three main sections:

- **Methods** describes the steps that were taken to conduct the analysis.
- **Funding plan** identifies the key conclusions of the analysis, organized by type of infrastructure.
- **Implications** summarizes the important implications of the analysis.

2 Methods

This Infrastructure Funding Plan was created through a collaborative process, involving the consultant team, City staff, representatives of local and regional governments and service providers responsible for building and maintaining infrastructure in the South Cooper Mountain area, and private property owners and developers. The process was both technical (identifying what infrastructure improvements are needed and how much they would cost), and political (discussing who should pay and how much). Although this was an iterative process, the methods generally followed the following steps:

- **Land use scenarios**. Multiple scenarios were developed to show what potential development in South Cooper Mountain might look like, including what types of development would occur where at what densities.
- **Infrastructure analysis**. The land use scenarios were evaluated to determine the infrastructure that would be necessary to accommodate the projected new development. This resulted in a list of specific infrastructure projects with cost estimates for each project.
- **Basic revenue estimates**. For "basic" sources of revenue (i.e., fundamental revenue sources assumed to be available for South Cooper Mountain infrastructure, like Systems Development Charges (SDCs), and Transportation Development Tax (TDT)) we estimated the amount of revenue that would be generated at full build-out of the land use scenarios.
- **Consultation with public and private partners**. A series of interviews were conducted with private developers and public infrastructure providers to understand their perspectives on who should pay for infrastructure, through what sources, and what amounts. Additionally, a Finance Task Force was convened to bring these various public and private parties together to discuss these issues. Meetings were held with Washington County to discuss issues and options for funding transportation facilities.
- **Early Funding Analysis**. An Early Funding Analysis was completed, showing total project costs and projected allocation of basic funding sources for each type of infrastructure. In situations where basic funding sources were projected to be insufficient to cover the total project costs, funding gaps were identified.
- **Infrastructure Funding Plan**. Following the Early Funding Analysis, the final land use scenario was determined, and infrastructure project cost estimates were refined. The Early Funding Analysis was updated to reflect a different allocation of resources for each infrastructure project to eliminate the funding gap.

This analysis was conducted for each of the three constituent subareas of South Cooper Mountain: the South Cooper Mountain Annexation Area (SCMAA), North Cooper Mountain (NCM), and the Urban Reserve Area (URA). One caveat when reading this report: all dollar amounts stated in this report are in constant 2014 dollars, and have not been adjusted for inflation.

3 Funding Plan

3.1 Parks

Overall strategy

Tualatin Hills Parks and Recreation District (THPRD) is responsible for providing park infrastructure in South Cooper Mountain. Representatives of THPRD stated that Systems Development Charges (SDCs) are the only funding source that can be counted on for park projects in South Cooper Mountain. Any funding from grants and general obligation bonds would be speculative.

The amount of the THPRD SDC varies depending on the type of development. The following rates were used to forecast SDC revenue generated by development in South Cooper mountain: $5,524 per single-family home, $4,131 per unit of multifamily residential, and $143 per employee for commercial development, as determined by THPRD's employee formula.[1]

SCMAA funding plan

Exhibit 1 shows the funding plan for parks in the SCMAA. Total project costs are estimated to be $9,012,000, and 100% of these costs would be funded by SDCs. Note that land acquisition is a significant component of the cost of parks projects, and the ultimate cost of these projects may differ from the projections shown in Exhibits 1 – 3, if land values in the area change before THPRD purchases their sites for future park development. Development in the SCMAA is forecast to generate $15,443,721 in parks SDCs, which is more than what is needed for parks projects in the area. However, new development is expected to generate more SDCs than what is needed for the immediate geographic area, as they fund other facilities throughout the district.

Exhibit 1. SCMAA parks infrastructure funding plan

		Funding Sources	
Project Type	Cost	SDC	Developer
Community Parks	$ -	$ -	$ -
Neighborhood Parks	$ 8,500,000	$ 8,500,000	$ -
Trails	$ 512,000	$ 512,000	$ -
Total Costs	**$ 9,012,000**	**$ 9,012,000**	**$ -**
SDC Revenues		$ 15,443,721	
SDC Surplus (Deficit)		$ 6,431,721	

Source: Angelo Planning Group. Park Acreages and Costs – updated 052714.xlsx. From Becky Hewitt. May 27, 2013.

[1] City of Beaverton, "System Development Fees (SDC)." Revised February 2014.

UR funding plan

Exhibit 2 shows the funding plan for parks in the UR. Total project costs are estimated to be $28,520,000. THPRD could consider purchasing land in the UR before the area is brought into the UGB. This strategy may help prevent cost increases due to future increases in land values. Although SDCs are the only funding source identified for parks projects in the UR, SDCs generated within the UR are projected to be only $19,373,886, which would be insufficient to pay for the cost of these park projects. This is because a neighborhood park is planned to be located in the UR. The community park would be intended to serve residents from all of South Cooper Mountain as well as the surrounding neighborhoods. Thus, Exhibit 2 shows a parks SDC funding gap of $10,704,473 for the UR.

The first logical source of funding to fill this gap would be surplus parks SDC revenues from elsewhere on South Cooper Mountain. Both the SCMAA and NCM are estimated to generate surplus parks SDC revenues totaling $7,990,080. Even with these SDCs, there remains a gap of $2,714,393. If capital costs for parks facilities in the area cannot be reduced, then it may be necessary for an additional funding source to be used in the future. The potential need for additional revenues is also driven by the fact that SDCs generated in the area should actually exceed the total project costs in the area, as these SDCs are also intended to contribute to district-wide facilities like an aquatic center.

One potential strategy for reducing the cost of parks infrastructure in the area is for THPRD to collaborate with the school district on shared park facilities. THPRD has noted that they have begun exploring park and recreation facilities in conjunction with the proposed new high school; this may influence the size and location of a future community park elsewhere on South Cooper Mountain.

Exhibit 2. UR parks infrastructure funding plan

		Funding Sources	
Project Type	Cost	SDC	Developer
Community Parks	$ 20,700,000	$ 20,700,000	$ -
Neighborhood Parks	$ 6,800,000	$ 6,800,000	$ -
Trails	$ 1,020,000	$ 1,020,000	$ -
Total Costs	**$ 28,520,000**	**$ 28,520,000**	**$ -**
SDC Revenues		$ 17,815,527	
SDC Surplus (Deficit)		$ (10,704,473)	

Source: Angelo Planning Group. Park Acreages and Costs – updated 052714.xlsx. From Becky Hewitt. May 27, 2013.

NCM funding plan

Exhibit 3 shows the funding plan for parks in NCM. There are no planned park projects in NCM. Development in NCM is forecast to generate $1,558,359 in parks SDCs, which would potentially be available to contribute to the cost of park facilities elsewhere on South Cooper Mountain.

Exhibit 3. NCM parks infrastructure funding plan

		Funding Sources	
Project Type	Cost	SDC	Developer
Community Parks	$ -	$ -	$ -
Neighborhood Parks	$ -	$ -	$ -
Trails	$ -	$ -	$ -
Total Costs	**$ -**	**$ -**	**$ -**
SDC Revenues		$ 1,558,359	
SDC Surplus (Deficit)		$ 1,558,359	

Source: Angelo Planning Group. Park Acreages and Costs – updated 052714.xlsx. From Becky Hewitt. May 27, 2013.

3.2 Water

Overall strategy

The City of Beaverton would be responsible for providing water service to the SCMAA and any areas within the Urban Reserve that are annexed to the City. The Tualatin Valley Water District currently provides water to the North Cooper Mountain area. For any new extensions with the TVWD district, the funding strategy assumes those are paid for by developing properties.

The City levies an SDC on new development to pay for the "public" share of water infrastructure costs. Private developers are also responsible for funding the "private" share of water infrastructure costs. Water infrastructure in South Cooper Mountain would be covered by these two sources. The public-private split of costs is determined by the demand from new development. For our analysis, we assume pipes 12" or less in diameter are the responsibility of private developers. Pipes larger than 12" in diameter are paid for jointly between the public and private sector. The costs are divided proportionately based on the diameter of the pipe, with the public sector paying for the portion of the cost of pipe larger than 12" in diameter. Although the proportionality of funding for pipes does not have a hard break at 12" diameter, input from the City and TVWD indicated this was a good rule-of-thumb assumption to use for the purposes of this analysis.

The water SDC rate, effective February 1st, 2014, varies depending on the size of the water meter, ranging from $5,293 for a 5/8-inch meter, up to $30,497 for a 1.5-inch meter.[2]

[2] City of Beaverton. "Exhibit 2 – Current Water SDCs and Revised." From Barnett, Brion, Project Engineer, Public Works Department. December 3, 2013.

SCMAA funding plan

Exhibit 4 shows the funding plan for water infrastructure in the SCMAA. Total project costs are estimated to be $9,146,924. Developers would be expected to pay for $5,727,198 of these costs. SDCs would pay for the public share of costs, $3,419,726. Development in the SCMAA is forecast to generate $18,133,818 in water SDCs, which is more than what is needed for water infrastructure projects in the area. This is expected, as the cost of distribution pipes is typically a fraction of the total cost of facilities needed to serve an area, and new development is expected to generate more SDCs than what is needed for the immediate geographic area, as they fund other regional facilities throughout the district, like upsizing lines and building more storage capacity. The City's CIP specifically identifies a new reservoir on South Cooper Mountain as the City's sole focus for water storage capital projects. This proposed new reservoir would bolster the capacity provided by the existing Cooper Mountain Reservoir No. 1, and would provide service to future residents of South Cooper Mountain, as well as other residents of the City's upper elevation service areas.

Exhibit 4. SCMAA water infrastructure funding plan

		Funding Sources	
Project Type	Cost	SDC	Developer
12" Pipe	$ 1,678,019	$ -	$ 1,678,019
16" Pipe	$ 1,258,905	$ 314,726	$ 944,179
20" Pipe	$ -	$ -	$ -
24" Pipe	$ 6,210,000	$ 3,105,000	$ 3,105,000
Total Costs	**$ 9,146,924**	**$ 3,419,726**	**$ 5,727,198**
SDC Revenues		$ 18,133,818	
SDC Surplus (Deficit)		$ 14,714,092	

Source: David Evans and Associates, Inc. memorandum on "Water System Concept Plan – Summary Findings and Planning Level Cost Estimates." From Steven Harrison. To South Cooper Mountain Technical Advisory Committee. May 7, 2014.

UR funding plan

Exhibit 5 shows the funding plan for water infrastructure in the UR. Total project costs are estimated to be $10,409,625. The privately-funded share of these costs are estimated to be $7,234,344. The public-share of these costs, covered by SDCs, are estimated to be $3,175,281. Development in the UR is forecast to generate $19,917,559 in water SDCs, which is substantially more than what is needed for water infrastructure projects in the area.

Exhibit 5. UR water infrastructure funding plan

		Funding Sources	
Project Type	Cost	SDC	Developer
12" Pipe	$ 1,792,500	$ -	$ 1,792,500
16" Pipe	$ 3,037,125	$ 759,281	$ 2,277,844
20" Pipe	$ 3,740,000	$ 1,496,000	$ 2,244,000
24" Pipe	$ 1,840,000	$ 920,000	$ 920,000
Total Costs	**$ 10,409,625**	**$ 3,175,281**	**$ 7,234,344**
SDC Revenues		$ 19,917,559	
SDC Surplus (Deficit)		$ 16,742,278	

Source: David Evans and Associates, Inc. memorandum on "Water System Concept Plan – Summary Findings and Planning Level Cost Estimates." From Steven Harrison. To South Cooper Mountain Technical Advisory Committee. May 7, 2014.

NCM funding plan

Exhibit 6 shows the funding plan for water infrastructure in NCM. Total project costs are estimated to be $2,093,547. The privately-funded share of these costs are estimated to be $1,570,160. The public-share of these costs, covered by SDCs, are estimated to be $523,387. Development in NCM is forecast to generate $1,572,021, in water SDCs, which is substantially more than what is needed for water infrastructure projects in the area.

Exhibit 6. NCM water infrastructure funding plan

		Funding Sources	
Project Type	Cost	SDC	Developer
12" Pipe	$ -	$ -	$ -
16" Pipe	$ 2,093,547	$ 523,387	$ 1,570,160
20" Pipe	$ -	$ -	$ -
24" Pipe	$ -	$ -	$ -
Total Costs	**$ 2,093,547**	**$ 523,387**	**$ 1,570,160**
SDC Revenues		$ 1,572,021	
SDC Surplus (Deficit)		$ 1,048,634	

Source: David Evans and Associates, Inc. memorandum on "Water System Concept Plan – Summary Findings and Planning Level Cost Estimates." From Steven Harrison. To South Cooper Mountain Technical Advisory Committee. May 7, 2014.

3.3 Sanitary Sewer

Overall strategy

The City of Beaverton would be responsible for providing sanitary sewer infrastructure for South Cooper Mountain. The City of Beaverton collects an SDC on new development to pay for the public portion of sanitary sewer infrastructure. The City has an intergovernmental agreement (IGA) with Clean Water Services (CWS) to provide sanitary sewer service, which results in ninety-six percent of this SDC being passed through to CWS. Private developers are also responsible for paying for a portion of sanitary sewer infrastructure, including all pipes 12-inches or less in diameter, and a portion of all pipes larger than 12-inches.

SCMAA funding plan

Exhibit 7 shows the funding plan for sanitary sewer infrastructure in the SCMAA. Total project costs are estimated to be $13,942,169. Developers would be expected to pay for $10,825,168 of these costs. SDCs would pay for the public share of costs, $3,117001. Development in the SCMAA is forecast to generate $16,444,800 in sanitary sewer SDCs ($15,787,008 for CWS and $657,792 for the City), which is more than what is needed for water infrastructure projects in the area. However, new development is expected to generate more SDCs than what is needed for the immediate geographic area, as they fund other regional facilities throughout the district (for example, wastewater treatment plants).

Exhibit 7. SCMAA sanitary sewer infrastructure funding plan

		Funding Sources	
Project Type	Cost	SDC	Developer
Gravity Sewer Lines			
8" Pipe	$ 5,082,405	$ -	$ 5,082,405
12" Pipe	$ 4,553,040	$ -	$ 4,553,040
15" Pipe	$ 1,487,154	$ 297,431	$ 1,189,723
Pump Stations			
Tile Flat Road	$ -	$ -	$ -
River Terrace	$ 2,819,570	$ 2,819,570	$ -
Total Costs	**$ 13,942,169**	**$ 3,117,001**	**$ 10,825,168**
SDC Revenues		$ 16,444,800	
SDC Surplus (Deficit)		$ 13,327,799	

Source: David Evans and Associates, Inc. memorandum on "Sanitary Sewer Concept Plan – Summary Findings and Planning Level Cost Estimates." From Steven Harrison. To South Cooper Mountain Technical Advisory Committee. May 7, 2014.

UR funding plan

Exhibit 8 shows the funding plan for sanitary sewer infrastructure in the UR. Total project costs are estimated to be $21,037,775. The privately-funded share of these costs are estimated to be $19,521,920. Private developers would pay for the bulk of the project costs, because most of the project costs are for 8-inch diameter gravity sewer lines. The public-share of these costs, covered by SDCs, are estimated to be $1,515,855. Development in the UR is forecast to generate $17,170,545 in sanitary sewer SDCs ($16,483,723 for CWS and $686,822 for the City), which is substantially more than what is needed for sanitary sewer infrastructure projects in the area.

Exhibit 8. UR sanitary sewer infrastructure funding plan

		Funding Sources	
Project Type	Cost	SDC	Developer
Gravity Sewer Lines			
8" Pipe	$ 15,573,615	$ -	$ 15,573,615
12" Pipe	$ 3,496,884	$ -	$ 3,496,884
15" Pipe	$ 564,276	$ 112,855	$ 451,421
Pump Stations			
Tile Flat Road	$ 1,403,000	$ 1,403,000	$ -
River Terrace (Phase 2)	$ -	$ -	$ -
Total Costs	**$ 21,037,775**	**$ 1,515,855**	**$ 19,521,920**
SDC Revenues		$ 18,686,400	
SDC Surplus (Deficit)		$ 17,170,545	

Source: David Evans and Associates, Inc. memorandum on "Sanitary Sewer Concept Plan – Summary Findings and Planning Level Cost Estimates." From Steven Harrison. To South Cooper Mountain Technical Advisory Committee. May 7, 2014.

NCM funding plan

Exhibit 9 shows the funding plan for sanitary sewer infrastructure in NCM. Total project costs are estimated to be $9,967,695. One hundred percent of these costs would be privately funded, as they are all for 8" gravity sewer lines. Development in the NCM is forecast to generate $2,505,600 in sanitary sewer SDCs ($2,405,376 for CWS and $100,224 for the City), which would not be needed for sanitary sewer infrastructure projects in the area.

Exhibit 9. NCM sanitary sewer infrastructure funding plan

		Funding Sources	
Project Type	Cost	SDC	Developer
Gravity Sewer Lines			
8" Pipe	$ 9,967,695	$ -	$ 9,967,695
12" Pipe	$ -	$ -	$ -
15" Pipe	$ -	$ -	$ -
Pump Stations			
Tile Flat Road	$ -	$ -	$ -
River Terrace (Phase 2)	$ -	$ -	$ -
Total Costs	**$ 9,967,695**	**$ -**	**$ 9,967,695**
SDC Revenues		$ 2,505,600	
SDC Surplus (Deficit)		$ 2,505,600	

Source: David Evans and Associates, Inc. memorandum on "Sanitary Sewer Concept Plan – Summary Findings and Planning Level Cost Estimates." From Steven Harrison. To South Cooper Mountain Technical Advisory Committee. May 7, 2014.

3.4 Stormwater

Overall strategy

Unlike parks, water, and sanitary sewer, the costs for stormwater infrastructure is not typically covered by an SDC. Traditionally, detention facilities have been the responsibility of private developers, with individual developers building detention facilities onsite that are sufficient to manage the stormwater generated on that individual property. Under the traditional model, the cost of stormwater detention facilities would be excluded from a funding analysis like this.

Based on preliminary stormwater planning, CWS and the City of Beaverton have identified the use of regional stormwater facilities as the preferred approach for South Cooper Mountain. Regional facilities can offer several benefits compared to traditional onsite detention facilities in regards to meeting natural resource objectives. Regional facilities can create wildlife and aquatic life habitat, and be integrated into a network of green spaces that provide recreational opportunities in addition to stormwater drainage.

Due to the challenges associated with regional facilities (see discussion below), more traditional site-scale facilities may be used in place of, or in combination with, regional facilities. Our funding analysis assumes a regional stormwater facility approach is used, in which large-scale dry detention ponds are used to manage stormwater for the surrounding areas, which could include multiple private property owners. These facilities would be funded using either a new Regional Facility Fee (RFF), or a private reimbursement district.

The concept of a regional facility fee is relatively new, and is currently being used in only one other location in the Portland region, North Bethany. CWS adopted a Regional Stormwater Management Charge for North Bethany. The methodology applied to North Bethany, could also be applied to South Cooper Mountain to fund stormwater infrastructure. This methodology is based on the total capital cost of all regional stormwater facilities in the area, and the total stormwater treatment volume that would be handled by these facilities. Note that stormwater conveyance facilities are excluded from this cost estimate, and are assumed to be the responsibility of private developers. The regional stormwater management charge is also adjusted annually for inflation of previous project costs, to compensate CWS for the time value of money.

In a nutshell, the regional stormwater management charge for North Bethany determines the volume of stormwater that a specific development would contribute to the system as a percentage of the total stormwater capacity of the system, and assesses that development a proportional share of the regional stormwater facility system costs. Because this method is based on the actual costs incurred, the calculation balances itself out, so that development should always pay for itself. If a similar approach were to be adopted for South Cooper Mountain, further analysis would be required to estimate the magnitude of the new regional facility fee on a per household basis.

As an alternative to a RFF, these types of regional facilities could be financed using a reimbursement district. Such a district would allow for private developers to build stormwater facilities that benefit an area larger than their own property. Neighboring properties that specially benefit from the privately-built regional facility would then be relieved of obligations to construct their own storm and surface water improvements, but would be required to pay a separate Reimbursement Charge to repay the capital investment made by the initial developer.

It is worth noting that the regional stormwater management approach is not without challenges. Several private developers on the Finance Task Force voiced concerns about the regional stormwater management approach based on their experiences with North Bethany. These concerns include:

- **Coordination among property owners.** If one property owner is ready to develop, but has to cross through other properties to connect to the regional stormwater retention pond, and if those property owners are not ready to develop, then it can cause costly development delays.
- **Prevailing wage.** Because the regional facilities are publicly funded, they must be constructed using "prevailing wage rates," which typically results in a cost-premium compared to privately-funded projects. This can increase project costs 30% or more.
- **Upfront funding.** These shared facilities need to be in place prior to the surrounding development. That means that someone needs to provide upfront funding, to be reimbursed by subsequent development. In North Bethany, CWS provided $1 million of seed money to jump start the first regional stormwater facility, but no such seed money has been identified for South Cooper Mountain.
- **Size and location**. While regional facilities may require fewer acres overall, compared to the traditional site-specific approach, the large-scale facilities do require large, consolidated areas of land. This land is then unavailable for private development. With the traditional approach, stormwater facilities could be small, and tucked away on otherwise unusable portions of a site.

SCMAA funding plan

Exhibit 10 shows the funding plan for stormwater infrastructure in the SCMAA. Total project costs are estimated to be $14,432,400. These costs would be funded either through a new RFF or directly by private developers using a reimbursement district, or through a combination of both approaches.

Exhibit 10. SCMAA stormwater infrastructure funding plan

		Funding Sources	
Project Type	Cost	SDC	RFF or Developer
Detention Facilities	$ 7,952,300	$ -	$ 7,952,300
Conveyance Facilities	$ 6,480,100	$ -	$ 6,480,100
Total Costs	**$ 14,432,400**	**$ -**	**$ 14,432,400**
SDC Revenues		$ -	
SDC Surplus (Deficit)		$ -	

Source: David Evans and Associates, Inc. memorandum on "Stormwater and Water Quality Scenario Summary." From Claudia Sterling. To South Cooper Mountain Beaverton Core Project Team. November 5, 2013 (draft).
Note: Detention facilities cost estimates do not include the cost of land acquisition.

UR funding plan

Exhibit 11 shows the funding plan for stormwater infrastructure in the UR. Total project costs are estimated to be $17,213,100, with all funding estimated to come from a new RFF, or direct developer funding, or a combination of both.

Exhibit 11. UR stormwater infrastructure funding plan

		Funding Sources	
Project Type	Cost	SDC	RFF or Developer
Detention Facilities	$ 9,739,100	$ -	$ 9,739,100
Conveyance Facilities	$ 7,474,000	$ -	$ 7,474,000
Total Costs	**$ 17,213,100**	**$ -**	**$ 17,213,100**
SDC Revenues		$ -	
SDC Surplus (Deficit)		$ -	

Source: David Evans and Associates, Inc. memorandum on "Stormwater and Water Quality Scenario Summary." From Claudia Sterling. To South Cooper Mountain Beaverton Core Project Team. November 5, 2013 (draft).
Note: Detention facilities cost estimates do not include the cost of land acquisition.

NCM funding plan

Exhibit 12 shows the funding plan for stormwater infrastructure in NCM. Total project costs are estimated to be $4,336,500, with all funding estimated to come from a new RFF, or direct developer funding, or a combination of both.

Exhibit 12. NCM stormwater infrastructure funding plan

		Funding Sources	
Project Type	Cost	SDC	RFF or Developer
Detention Facilities	$ 1,330,400	$ -	$ 1,330,400
Conveyance Facilities	$ 3,006,100	$ -	$ 3,006,100
Total Costs	**$ 4,336,500**	**$ -**	**$ 4,336,500**
SDC Revenues		$ -	
SDC Surplus (Deficit)		$ -	

Source: David Evans and Associates, Inc. memorandum on "Stormwater and Water Quality Scenario Summary." From Claudia Sterling. To South Cooper Mountain Beaverton Core Project Team. November 5, 2013 (draft).
Note: Detention facilities cost estimates do not include the cost of land acquisition.

3.5 Transportation

The specific funding plan assumptions for transportation infrastructure are currently under refinement based on recent input from the Finance Task Force. These assumptions and associated funding strategies will be updated and inserted prior to Council review.

Overall strategy

Transportation infrastructure in the South Cooper Mountain area will largely be the responsibility of the County (and to a lesser extent, the City) to build and maintain. Thus, County and City representatives were interviewed and invited to participate in the Finance Task Force. Existing sources of funding for these types of City and County transportation infrastructure projects are essentially limited to developer funding, the Transportation Development Tax (TDT) and the Major Streets Transportation Improvement Program (MSTIP).

The existing rates for TDT vary based on use. Townhomes pay $4,919 for TDT, apartments pay $5,381, and single-family detached homes pay $8,225. Commercial uses vary greatly based on the type of business. Some of the likely types of commercial development in South Cooper Mountain include shopping centers, and general office uses, which pay $11,293 and $8,632 respectively in TDT for every 1,000 SF. MSTIP is an annual property tax rate, as opposed to a one-time fee at the time of development. The property tax rate amounts to $0.6520 per $1,000 of assessed value.

Based on input from the Finance Task Force and other key stakeholders, it was determined that these funding sources would also need to provide the bulk of the funding for the public share of transportation costs in South Cooper Mountain. However, these funding sources would be insufficient, requiring an additional funding mechanism, like a new site-specific SDC. Additionally, a sizable portion of project costs would be the responsibility of the private sector

to fund directly. The Finance Task Force also directed the team to look not only at project costs versus revenues, but also what types of funds are appropriate for specific projects. This is particularly true for use of MSTIP funds, which are limited, in high demand, and must be applied to roads of countywide significance.

For the purposes of this analysis, we assumed that roughly __% of the TDT generated by new development in each subarea would be used to pay for projects in that subarea. Additionally, we assumed that a new transportation SDC of $_____ per housing unit would be applied to the area, and that 100% of the SDC funds generated in each subarea would be used to pay for projects in that subarea.[3]

Note that the inclusion of MSTIP revenue in this funding strategy does not in any way guarantee that those funds would be available for these projects. MSTIP is a discretionary allocation of the County general fund. As such, it is subject to the policy direction of future Boards of County Commissioners, including the potential of being used for non-transportation purposes. Under current direction, adding South Cooper Mountain transportation projects to the MSTIP list will require the recommendation of the Washington County Coordinating Committee (WCCC) and Board of County Commissioners in the next MSTIP allocation process, scheduled to be in FYE 2017. Despite the inherent uncertainty of long-term MSTIP funding for any specific project, many projects in South Cooper Mountain appear to be a good fit for MSTIP funding, given their importance to regional traffic patterns. Thus, this funding strategy assumes that multiple projects will receive MSTIP funding. These projects were specifically identified by members of the Finance Task Force, based on their importance to the region.

This funding strategy does not assume any revenue will be provided by Federal, State, or regional sources. This assumption was based on current policies regarding the allocation of those funds, which emphasize projects on State-owned facilities, and/or projects in industrial and commercial areas that directly support job creation or enhance freight routes. Because SCM is one of several urban planning efforts occurring simultaneously in Washington County (other efforts include South Hillsboro, River Terrace, and Area 93), it is possible that a coordinated effort by multiple jurisdictions could result in a change in regional or State policy, potentially securing transportation funding revenue that is not anticipated at this time. If the City does find opportunities to secure Federal, State, or regional funding, then it could potential reduce the funding burden for local and County sources.

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[3] Although this analysis assumes a supplemental transportation SDC of $_____ per housing unit, the actual SDC rate may differ, and would need to be determined through further analysis and negotiation between the City and private developers and property owners. Furthermore, the SDC rate would likely vary for different types of development (e.g., residential versus commercial) and different housing types (e.g., single-family detached homes versus multifamily apartments). For the purposes of our analysis, we have simply shown an average SDC rate across all types of residential development.

SCMAA funding plan

Exhibit 13 shows the funding plan for transportation infrastructure in the SCMAA. Total project costs are estimated to be $_____.[4] Developers would be expected to directly pay for $_____ of these costs. TDT, MSTIP, and a new SDC would pay for the public share of costs, $_____. Note that although TDT and SDC are listed as funding sources, many projects will actually be built and paid for entirely by private developers with those developers earning TDT and SDC credits from the City. Those credits would likely be transferrable throughout all of South Cooper Mountain.

Although this credit-based approach to infrastructure finance works well in most situations, there are potentially serious timing issues that can arise. For example, if a property owner is not yet ready to develop, but a road is needed through their property to serve developments on either side of it, the City and adjacent developers will need to find a way to finance construction of that road. Similarly, if there are certain transportation projects planned for a given property that serve the larger area and are very expensive relative to the value of development that will occur on that property, then the property owner may be unable or unwilling to pay for the full cost of the project upfront in exchange for TDT and SDC credits that may not be able to be redeemed until years later. Due to these timing issues, it will be important for the City (or County or some other public entity) to have sufficient resources on hand to fill these funding gaps if and when they arise.

The $_____ million in developer costs are largely for new collector roads in the area. It may be possible to add these collector roads to the TDT list, which would make them 100 percent creditable, reducing the portion of project costs to be funded directly by developers. Given the existing funding sources assumed in this Infrastructure Funding Plan, there is insufficient revenue to make these collector projects 100% creditable. However, if additional funding sources are identified (e.g., a county service district), then the City may want to explore the possibility of adding these projects to the TDT list.

Development in the SCMAA is forecast to generate $_____ in TDT, roughly __% of which is anticipated to be needed for transportation infrastructure projects in the area, with the remainder assumed to be used for infrastructure projects elsewhere in Washington County.[5] The new transportation SDC for the area would generate $_____in the SCMAA. The funding plan shows that virtually all of these proposed supplemental SDC revenues ($_____) would be needed to fund projects in the subarea. Allocations of TDT and MSTIP funds are discretionary, and subject to approval by Washington County and the City of Beaverton. Attachment A to this report shows a more detailed breakdown of the SCMAA transportation

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[4] Cost estimates for all transportation projects include cost of right-of-way acquisition, which was assumed to be between $9 and $14 per square foot.

[5] For all forecasts of TDT and new transportation SDC revenue, we assume 10% under-build for private development.

infrastructure funding plan, including the amount of funding from each source for each specific project.

Exhibit 13. SCMAA transportation infrastructure funding plan

		Funding Sources				
Timing	Cost	TDT	New SDC	MSTIP	Developer	Other
Years 0-10 Years 10-20 Years 20+						
Total Costs						
TDT / SDC Revenues						
TDT / SDC Surplus (Deficit)						

Source: DKS memorandum on "Transportation Findings for Preferred Scenario." From Carl Springer, Kevin Chewuk. To South Cooper Mountain Technical Advisory Committee. June 23, 2014.
Note that "other" funding in Years 10—20 is assumed to come from THPRD and Metro grants for a trail improvement project.

The funding plan for the SCMAA has a slim cushion, should project costs exceed current estimates. These cost estimates do include $1,000,000 in contingency for street extensions. There is roughly $$_____ million in TDT revenues generated in the subarea that are not expected to be spent in the subarea. Virtually all new SDC revenues that would be generated in the subarea, have been allocated to project costs in this subarea.

Note that the bulk of the spending for the SCMAA is anticipated to occur during years 0-10. If private development occurs over a longer period of time, then funding may not be available for all of these short-term projects, which may cause the timeline for some capital projects to be delayed until funding is available.

UR funding plan

Exhibit 14 shows the funding plan for transportation infrastructure in the UR. Total project costs are estimated to be $_____. The share of these costs paid directly by developers is estimated to be $_____. The public-share of these costs, covered by TDT, a new SDC, and MSTIP is estimated to be $_____. Development in the UR area is forecast to generate $_____ in TDT, __% of which is anticipated to be needed for transportation infrastructure projects in the area, with the remainder assumed to be used for infrastructure projects elsewhere in Washington County. The new transportation SDC is anticipated to generate $_____ in the UR, __% of which is anticipated to be spent on transportation projects in the UR. Given the surplus TDT and new SDC revenues projected for the UR, this subarea appears to have a modest cushion, should project costs exceed current estimates.

Exhibit 14. UR transportation infrastructure funding plan

		Funding Sources			
Timing	Cost	TDT	New SDC	MSTIP	Developer
Years 0-10 Years 10-20 Years 20+					
Total Costs					
TDT / SDC Revenues					
TDT / SDC Surplus (Deficit)					

Source: DKS memorandum on "Transportation Findings for Preferred Scenario." From Carl Springer, Kevin Chewuk. To South Cooper Mountain Technical Advisory Committee. June 23, 2014.

NCM funding plan

Exhibit 15 shows the funding plan for transportation infrastructure in NCM. Total project costs are estimated to be $_____. Development in NCM is forecast to generate $_____ in TDT, __% of which is anticipated to be needed for transportation infrastructure projects in the area, with the remainder assumed to be used for infrastructure projects elsewhere in Washington County. The new transportation SDC is anticipated to generate $_____ in NCM, __% of which is shown to be needed for projects in NCM.

Exhibit 15. NCM transportation infrastructure funding plan

		Funding Sources			
Timing	Cost	TDT	New SDC	MSTIP	Developer
Years 0-10 Years 10-20 Years 20+					
Total Costs					
TDT / SDC Revenues					
TDT / SDC Surplus (Deficit)					

Source: DKS memorandum on "Transportation Findings for Preferred Scenario." From Carl Springer, Kevin Chewuk. To South Cooper Mountain Technical Advisory Committee. June 23, 2014.

4 Implications

Implementing this plan will take the hard work and cooperation of numerous public- and private-sector partners over the course of several decades. During that period of time, we can be assured that changes will occur, affecting the key assumptions that underpin this analysis: the addition (or not) of Urban Reserve areas to the Urban Growth Boundary; the timing of new development, the cost of needed infrastructure projects, the availability of funding sources, and the rates that are charged to new developers. As development on South Cooper Mountain unfolds, the South Cooper Mountain Infrastructure Funding Plan will need to be amended in response to these changes.

Thus, the primary purpose of this document isn't to set in stone the exact dollar amount that a certain funding source will contribute to a specific project that will be built decades from now. Instead, the document is intended to identify the types of infrastructure projects that appear to have adequate funding from existing sources, and the types of infrastructure projects that appear to require new funding tools and inter-jurisdictional collaboration. With that purpose in mind, we draw the following implications from the analysis:

- **Parks, water, and sanitary sewer infrastructure in the SCMAA should be adequately funded by existing SDCs and private developer contributions**. For these three types of infrastructure the projected SDCs to be generated by new development significantly exceeds the estimated project costs in the area. This surplus is expected, because the SDCs are intended to serve system-wide needs as well as local needs. The phasing of private development relative to the timing of infrastructure construction could lead to some cash flow issues, but these issues can be mitigated if infrastructure is generally extended incrementally to coincide with the timing of private development.
- **A regional facility approach to stormwater infrastructure will likely be challenging**. This approach requires cooperation among multiple private property owners, who may have different development timelines. Additionally, these facilities often require someone to fund the initial facility construction upfront, with private developers paying fees over time to finance the project. Without a source of seed-money to cover the upfront costs early on, this approach may not be feasible, which means that a traditional, site-specific approach to stormwater management needs to be available as a backup plan for the South Cooper Mountain area. The City, Clean Water Services, and private developers should work together to identify places and projects where the regional approach can implemented through a cooperative approach.
- **Transportation infrastructure will be the most challenging component of the Infrastructure Funding Plan**. Transportation is the most expensive category of infrastructure for South Cooper Mountain, accounting for roughly $_____ million of the $_____ million in total infrastructure costs. This is particularly true in the SCMAA, where transportation projects account for over half of the total infrastructure costs. While new development in the area will generate a substantial amount of TDT and MSTIP revenue, a portion of those funds will be needed to pay for transportation projects all

across Washington County. The City and Washington County will need to continue to work together, over many years, to identify the specific funding mechanisms for specific projects. This Infrastructure Funding Plan provides an initial platform to work from. Private developers have expressed a willingness to adopt an additional transportation funding source for the area, like a supplemental SDC, which is clearly needed to fill the gap in transportation revenue.

- **Some transportation projects related to SCM are not included in the Infrastructure Funding Plan**. Attachment A to this report identifies a list of projects not included in the Infrastructure Funding Plan. These projects are located off-site, and were previously identified in City and County plans, and are needed to accommodate traffic regardless of potential future development in SCM. These projects range in cost from $245,000 for adding a turn lane at Murray Boulevard and Beard Road, to $27.4 million to widen 209th Avenue-Grabhorn Road to five lanes north of Leland Drive. The total cost for these eight projects is $108.7 million. Our analysis assumes that these projects will be funded following the typical process for transportation infrastructure projects of regional importance.

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Appendix B: Inter-Governmental Agreements

(Under development)

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Appendix C: Implementation Plan

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South Cooper Mountain Concept & Community Plans

Implementation Plan
October 28, 2014

Introduction

Background

This Implementation Plan is a companion document to the South Cooper Mountain Concept Plan. The purpose of the South Cooper Mountain (SCM) Concept Plan is to:

1. Establish a vision for future growth, natural resource preservation and enhancement, and development in the 2,300-acre planning area of South Cooper Mountain;
2. Guide city and county comprehensive planning in the Urban Growth Boundary expansion areas.

The SCM Concept Plan area covers nearly 2,300 acres of land intended for future urban development over the next 50 years: two subareas inside the Urban Growth Boundary (UGB) and one subarea area that is designated as Urban Reserve. The 544-acre South Cooper Mountain Annexation Area (SCMAA) was added to the UGB in 2011 and annexed to the City of Beaverton in 2013. The largely developed 510-acre North Cooper Mountain (NCM) area in unincorporated Washington County was added to the UGB in 2002 but a concept plan was never adopted for that area. The 1,232-acre Urban Reserve area (URA) between North Cooper Mountain and the South Cooper Mountain Annexation Area was designated by Washington County and Metro in 2011 as part of a comprehensive analysis of lands outside the UGB to identify priority locations for future urban lands and areas for long term resource and rural land use.

Purpose of the Implementation Plan

This Implementation Plan:

1. **Provides a comprehensive to-do list** of implementing actions planned occur after the adoption of the Concept Plan and SCM Community Plan.

2. **Provides project sheets describing each of the implementing actions**: what they are, who has lead responsibility, and implementation steps and schedule.

3. **Summarizes the infrastructure plans and next steps** for the Concept Plan area.

4. **Summarizes the infrastructure funding plan and next steps** for the Concept Plan area.

5. **Describes the intended governance** for South Cooper Mountain.

The Implementation Plan is applicable to the entire 2,300-acre South Cooper Mountain planning area. Accordingly, it references actions by the City of Beaverton and other implementation partners: Washington County, Clean Water Services, Tualatin Hills Park and Recreation District, and others.

Timeframe and Organization of the Implementation Plan

The Implementation Plan has a short term focus – those implementation projects that will occur over the next one to three years. A few implementation actions have a longer term focus. The Implementation Plan should be updated as the area develops and additions are considered to the UGB. A review cycle of every three years is recommended, with on-going monitoring.

For the City of Beaverton, the starting point for this Implementation Plan is after the acknowledgement and adoption of the initial documents by the City of Beaverton, which include:

- The South Cooper Mountain Concept Plan and Infrastructure Funding Plan
- The South Cooper Mountain Community Plan
- Amendments to the Beaverton Transportation System Plan
- Amendments to other chapters of the Beaverton Comprehensive Plan
- Amendments to the Beaverton Development Code and Zoning Map

For Washington County, the starting point for this Implementation Plan is after the acknowledgement of the initial documents by Washington County, which include:

- The South Cooper Mountain Concept Plan and Infrastructure Funding Plan

Implementation Plan Actions

Overview

This plan provides a comprehensive to-do list for early years of implementation of the Concept Plan. Table 1 listed the actions that are included in this plan. As used here, an “action” is the term used to describe the individual implementation efforts. The types of actions addressed by this plan include:

- Comprehensive plan and code amendments
- Infrastructure planning and implementation
- Intergovernmental coordination and agreements
- Natural resource planning

The Implementation Plan does not include projects that have already been initiated and are currently in various planning stages, such as the new water reservoir for South Cooper Mountain and River Terrace pump station. It also does not include some efforts that will be on-going, such as refining specific alignments for the first water and sewer lines to serve the annexation area.

Table 1. South Cooper Mountain Implementation Plan Actions

#	Action	Lead Sponsor	Timeframe
1	Beaverton code amendments to implement Community Plan policies	Beaverton Community Development	Dec 2014 – May 2015
2	North Cooper Mountain comprehensive plan and code amendments	Washington County Department of Land Use and Transportation	Fall, 2014 – Fall, 2015
3	Washington County TSP amendments	Washington County Department of Land Use and Transportation	Fall, 2014 – Fall, 2015
4	175th Avenue "kink" realignment – Phase 1	Beaverton Public Works and Washington County Department of Land Use and Transportation	Spring 2015 – Fall 2017
5	Loon Drive connection study and right of way acquisition	City of Beaverton Public Works	Spring 2015 – Fall 2017
6	SCM Annexation Area Storm Water Master Plan	City of Beaverton Public Works	March 2015 – Summer 2016
7	Update of Public Facility Plans	Beaverton Community Development	Spring 2015 – Summer 2015
8	Memorandum of understanding for concept plan implementation and coordinated services provision	Beaverton Community Development	Spring 2015 – Summer 2015
9	SCM Special Transportation System Development Charge	Beaverton Finance Department	Fall 2014 – May 2015
10	Administration of SCM TDT funds	Beaverton Finance	Fall 2014 – Spring 2015
11	Urban Reserve Area Tree Protection Study	Washington County Department of Land Use and Transportation and Beaverton Community Development	Summer 2015 to Summer 2016
12	Urban Forestry Study	Beaverton Community Development	Summer 2015 to Winter 2016

Project Sheets

Each action in Table 1 is supported by a project sheet that provides the project description, lead sponsor, rationale, implementation steps and schedule, public outreach, partners and roles, estimated costs, and funding sources or notes. The content of the project sheets is intended to be guiding, flexible and outcome-oriented; recognizing that actual actions will evolve as they are conducted. Also, the estimated costs and funding sources are initial estimates and very general; many are "to be determined".

Beaverton South Cooper Mountain The Region's Next Great Community	**#1**
	Planned Unit Development Code Amendments

Project Description	Lead/Sponsor Organization
Adoption of amendments to the Beaverton Development Code to implement SCM Community Plan policies as related to Planned Unit Development (60.35) requirements. The Development Code will be reviewed with the perspective of developing modifications that will implement policy objectives in line with SCM and City-wide policies. (Note: other code amendments to implement the SCM Community Plan will be adopted as part of the adoption package for the SCM Community Plan.)	City of Beaverton Community Development Department

Rationale
Amendments to the Planned Unit Development code are needed to implement the policies in the SCM Community Plan, to ensure that future development is consistent with the vision and goals of the plan.

Implementation steps and schedule	1. Prepare draft code amendments – December 2014 to February 2015 2. Work sessions with Planning Commission – March, 2015 3. Hearings and adoption – April - May, 2015
Public outreach	Focus groups or other outreach to developers during drafting of code amendments. Standard notice and public hearings for adoption, including email notice to all interested parties from the SCM Concept & Community Plan process.

Partners and roles
Legal department for review of modifications to the Planned Development code and whether any new standards for housing meet legal requirements for clear and objective regulation of needed housing, that trail dedication requirements meet nexus and proportionality standards, etc.

Estimated Cost	Funding Sources
$ NA	Staff time

Beaverton South Cooper Mountain The Region's Next Great Community	# 2
	NORTH COOPER MOUNTAIN COMPREHENSIVE PLAN AND CODE AMENDMENTS

Project Description	**Lead/Sponsor Organization**
This action will create and adopt amendments to the County Comprehensive Framework Plan and Aloha-Reedville-Cooper Mountain Community Plan to implement recommendations of the Cooper Mountain Concept Plan specific to North Cooper Mountain. It will also create and adopt amendments to the County Development Code to establish the R-1 CM district.	Washington County Department of Land Use and Transportation

Rationale

This action implements the recommendations for the North Cooper Mountain Area that were developed during, and acknowledged as part of, the South Cooper Mountain Concept Plan. It completes the work and extensive community dialogue that was undertaken during the Concept Plan process.

Implementation steps and schedule	4. Community outreach (see below) – ongoing starting Fall, 2014 • North Cooper Mountain Open House – October 29, 2014. 5. Prepare draft amendments – Winter 2014-15 6. Work sessions with County Planning Commission and Board of County Commissioners – Spring/Summer, 2015 7. Hearings and adoption – By October 31, 2015
Public outreach	Examples: open house, web site information, digital and hard copy mailings prior to public outreach, and required notification of ordinance hearings. Outreach to NCM was extensive during the Concept Plan planning process. This action will continue the practice of providing on-going information for NCM residents. A primary point of contact at the County should be designated and communicated on the City and County web pages.

Partners and roles

City of Beaverton – The City should keep its SCM web page up- to-date with information and links to Washington County's web page and contacts.
Washington County – the County will create and keep up-to-date a North Cooper Mountain webpage with appropriate topic headers and links. Cross-links to the City's South Cooper website shall be updated as needed.

Estimated Cost	**Funding Sources**
$ NA	Staff time

Beaverton South Cooper Mountain The Region's Next Great Community	# 3
	WASHINGTON COUNTY TRANSPORTATION SYSTEM PLAN UPDATE

Project Description	**Lead/Sponsor Organization**
This action will create and adopt amendments to the Washington County Transportation System Plan (TSP) to implement the South Cooper Mountain Concept Plan.	Washington County Department of Land Use and Transportation

Rationale
This action is needed to update the County TSP so it is consistent with, and implements, transportation-related recommendations from the SCM Concept Plan. The updates will solidify the extensive City-County coordination which occurred related to transportation facilities and funding. The updated TSP will set the stage for coordinated project planning and delivery in the future.

Implementation steps and schedule	• Include TSP information in public information posted regarding North Cooper Mountain (NCM) plan and code amendments - ongoing • Prepare draft amendments – Winter, 2015 • Work sessions with County Planning Commission and Board of County Commissioners – Spring, 2015 • Hearings and adoption – By October 31, 2015 TSP amendments must be completed by the end of the 2015 County "ordinance season", or held over to the next year.
Public outreach	See above. Outreach was extensive during the Concept Plan. This action will continue the practice of providing on-going information for NCM and Urban Reserve Area residents. A primary point of contact at the County should be designated and communicated on the City and County web pages.

Partners and roles
City of Beaverton – The City should keep its SCM web page up to date with information and links to Washington County's web page and contacts.

Estimated Cost	**Funding Sources**
$ NA	Staff time

Beaverton South Cooper Mountain The Region's Next Great Community	**#4**
	175th AVENUE "KINK" – PHASE 1

Project Description	Lead/Sponsor Organization
This action will conduct the preliminary design and coordination work needed for the realignment of 175th Avenue between Outlook Lane and Cooper Mountain Lane (3-lane County arterial, actual cross-section tbd). Phase 1 is a first step of a multi-year process to design the project and work with property owners in the area – leading to project construction by 2025. The land is currently outside the Urban Growth Boundary (UGB) and therefore will initially be improved to County rural arterial standards if it remains outside the UGB at time of construction.	A Partnership of: City of Beaverton Public Works Washington County Department of Land Use and Transportation

Rationale
This project was identified in the SCM Infrastructure Funding Plan as one of the 0-10 year priorities. It is needed to correct steep grades and the sharp turn at the "kink", and bring this section of 175th Avenue into compliance with adopted standards for a 3 lane arterial. Due to the adjacency to the UGB and near-term development in the Community Plan area, it is a high priority project to initiate. It is particularly important that this project be conducted with on-going outreach and communication with affected property owners.

Implementation steps and schedule	The following steps are preliminary. At County request, no dates have been included. 1. Establish partnership agreement and approach to the project, and verify staff resources. 2. Establish staff leadership for the project, including an engineering manager and public outreach planner within the partner agencies. 3. Prepare a project schedule and outreach program. 4. Obtain survey information and base mapping.. 5. Prepare a preliminary design and cost estimate. 6. Prepare updated funding plan. Notes: a. Phase 1 will conclude with a preliminary design. Future phases will include: Phase 2 – Commitment of project funds; Phase 3 - right-of-way acquisition; Phase 3 – Final design and construction.
Public outreach	Effective, open and on-going public outreach is essential to this project. As noted above, a public outreach program should be prepared as part of Phase 1. At a minimum: information should be available on the City's web site; a point of contact (i.e. public outreach planner) for the public should established; and a pro-active

	approach to public information and communication with property owners should be established.
Partners and roles	
Key partners: City of Beaverton Public Works, City of Beaverton Community Development, Washington County Department of Land Use and Transportation.	
Estimated Cost	**Funding Notes**
$ 40-50,000	Costs are for survey and consultant assistance. Potential funding is the SCM transportation SCD and/or dedicated TDT funds for Phase 1.

Beaverton South Cooper Mountain The Region's Next Great Community	# 5
	LOON DRIVE CONNECTION STUDY AND RIGHT-OF-WAY ACQUISITION

Project Description	Lead/Sponsor Organization
This action will conduct preliminary design, coordination and right-of-way acquisition needed to implement the connection of the SCM East-West Collector road to Loon Drive. Note: This action is contingent on the Loon Drive connection being included in the approved SCM Community Plan.	City of Beaverton Public Works, Engineering

Rationale

The East-West Collector is an important street within the SCM Transportation Framework. It provides a continuous parallel route to Scholls Ferry Road, connects existing and future neighborhoods, provides a safe route to multiple schools, connects SCM to the existing signal at the Barrows Road intersection, and enhances emergency access to the area. The SCM Community Plan identifies a conceptual connection point and acknowledges that more detailed and site-specific work is needed. This action is needed to conduct that work and ensure that the connection can be made when development occurs in the future. Three specific elements include:

a. The connection point at Loon Drive is in private ownership and needs to be acquired or donated as public right-of-way in order to implement the concept for the street.
b. The segment of Loon Drive north from Scholls Ferry Road needs to be studied for a potential redesign to prioritize the traffic flow to the E-W collector, and reduce flow to the north on Loon Drive.
c. Local street connections need to be evaluated.

Public outreach will be very important so that residents in the area can track the work and have opportunity to comment on working recommendations.

Implementation steps and schedule	Note: the following steps and schedule assume a City lead on this project. The steps and schedule may be different if the developer of the SCM property to the west takes the lead. 7. Establish staff leadership for the project, including an engineering manager and public outreach planner – Spring 2016. 8. Prepare a project schedule and outreach program – Spring 2015. 9. Obtain survey information and base mapping – Summer 2016. 10. Prepare a preliminary design (may be alternatives), traffic analysis, and cost estimate. Identify funding – by Fall 2016 11. Select an alternative and determine whether amendments to the City TSP and/or Community Plan are needed to implement the plan – by Spring 2017 12. Obtain right-of-way – 2017-18.

Public outreach	As noted above, a public outreach program should be prepared as part of Phase 1. At a minimum: information should be available on the City's web site; a point of contact (i.e. public outreach planner) for the public should established; and a pro-active approach to public information and communication with property owners and neighbors should be established.
Partners and roles	
Key partners: City of Beaverton Public Works, City of Beaverton Community Development	
Estimated Cost	**Funding Sources**
$ $ Steps 3 and 4 - $15-20,000 Step 6 - tbd	tbd

Beaverton South Cooper Mountain The Region's Next Great Community	# 6
	SOUTH COOPER MOUNTIAN STORM WATER PLAN

Project Description	Lead/Sponsor Organization
This action will describe the surface water runoff management (stormwater runoff) approach for the 544-acre SCM Annexation Area. Note: The action assumes the City will communicate the approach prior to accepting and processing land use applications.	City of Beaverton Public Works

Rationale

Given that:

1. Surface water runoff conveyance already occurs within the planning area.
2. Future development proposals will be filed for properties that are, for the most part, larger than 10 acres in size and their development effectively results in sub-regional approach(s) for surface water runoff management.
3. There is no enforceable legal mandate to make any changes to the current surface water runoff management (stormwater runoff) design criteria.

Surface water runoff management for the South Cooper Mountain area will be addressed by way of amendments to the Beaverton's Engineering Design Manual (EDM). A potential approach is expected to empower the private engineering community to use their creativity to craft a surface water runoff system design that fits well with marketable residential and commercial products as well as with the SCM annexation area ecosystem.

As for the future expansion areas, it is envisioned that an urban Washington County approach using a continuous simulation hydrologic modeling will be in effect and mandated for use by the time these area annex to a city.

Implementation steps and schedule	Milestone steps and schedule: 1. Draft proposed modifications to Chapter 3 of the Beaverton Engineering Design Manual that communicates an approach surface water runoff management approach for the 544-acre SCM Annexation Area - by October, 2014. 2. Technical Meeting with internal and external partners to discuss the engineering feasibility of the approach and anticipated results - by November, 2014. 3. Stakeholder meeting to present the proposed modification to the EDM for additional input and consideration - by December, 2014. 4. Adopt modifications to the EDM with public notice - by January, 2015.

Public outreach	Partner and Stakeholder meeting as described in implementation steps
Partners and roles	
Internal partners: Beaverton Community Development External partners: property owners, developers, civil engineering consultants, Stakeholders (initial list): Clean Water Services, City of Tigard, Tualatin Hills Park and Recreation District, Tualatin Riverkeepers	
Estimated Cost	**Funding Notes**
$ 10,000	Staff time

Beaverton South Cooper Mountain The Region's Next Great Community	# 7
	UPDATE OF PUBLIC FACILITY PLANS

Project Description	**Lead/Sponsor Organization**
This action will create and adopt amendments to the City's Public Facility Plans that are needed to implement the South Cooper Mountain Community Plan.	City of Beaverton Community Development Department

Rationale

OAR 660-011, the Public Facilities Planning rule, requires that cities adopt public facility plans (PFPs) as support documents to their Comprehensive Plans. The purpose of a PFP is to "help assure that urban development in ... urban growth boundaries is guided and supported by types and levels of urban facilities and services appropriate for the needs and requirements of the urban areas to be serviced, and those facilities and services are provided in a timely, orderly and efficient arrangement, as required by Goal 11."[1] The City currently fulfills this requirement by referencing, in the Comprehensive Plan, other master plans such as the Water Master Plan. This action is needed as a "housekeeping" item to ensure that all references are up to date, and, the master plans themselves are fully consistent with the South Cooper Mountain Community Plan.

Implementation steps and schedule	1. Review the Comprehensive Plan and Master Plans. Identify needed amendments – Spring, 2015. 2. Draft amendments, conduct hearings, and adopt amendments – Summer, 2015.
Public outreach	None.

Partners and roles

Internal partners – Beaverton Public Works Department

Estimated Cost	**Funding Sources**
$ NA	Staff time

[1] OAR 660-011-0000

8

MEMORANDUM OF UNDERSTANDING FOR CONCEPT PLAN IMPLEMENTATION AND COORDINATED SERVICES PROVISION

Project Description	Lead/Sponsor Organization
This action will create and adopt a Memorandum of Understanding (MOU) for the implementation of the Concept Plan and coordination of services by multiple service providers. The MOU will establish that the City and service providers will use the South Cooper Mountain Concept Plan (which includes the Infrastructure Funding Plan) as the framework for on-going planning and implementation of the following services: water, sanitary sewer, storm water, transportation, parks, schools, and fire and emergency services. Note: This is the "umbrella" MOU. Additional topic-specific MOUs and/or intergovernmental agreements (IGAs) may be created for individual service providers or projects.	City of Beaverton, Community Development Department

Rationale

This action is needed to coordinate the planning and projects provided by multiple service providers in the 2,300-acre area, over many years. Each service provider will be able to use a common vision, policy base, land use assumptions, and infrastructure framework to deliver services and work together. Over the long term, the MOU will help implement the Concept Plan and save all parties time, resources and public investment through the collective benefits of coordinated implementation.

Implementation steps and schedule	1. Draft the MOU. Existing service provider agreements will be reviewed, and updated if needed, to ensure they are up to date and consistent with the MOU – Spring, 2015. 2. Circulate the MOU for agency input – Spring, 2015. 3. Finalize the MOU and request approval by each of the partner jurisdictions – Summer, 2015.
Public outreach	Post information regarding the MOU on the project web site.

Partners and roles	
Governmental partners: Washington County – land use and transportation City of Tigard – land use, transportation, infrastructure Districts: Tualatin Hills Park and Recreation District – parks, natural resources, trails Tualatin Valley Fire and Rescue – emergency services Tualatin Valley Water District – water infrastructure Clean Water Services – sanitary sewer and storm water infrastructure Beaverton School District – schools Hillsboro School District - schools	
Estimated Cost	**Funding Sources**
$ NA	Staff time

9

SCM SPECIAL TRANSPORTATION SYSTEM DEVELOPMENT CHARGE

Project Description	Lead/Sponsor Organization
Creation and adoption of a Special Transportation System Development Charge (SDC) to be applied within the South Cooper Mountain Annexation Area.	City of Beaverton Finance Department

Rationale

This action implements the recommendations from the South Cooper Mountain Infrastructure Funding Plan. Analysis of revenues and costs in the funding plan identified a gap in revenues to cover estimated project costs. The Special Transportation System Development Charge is one of several strategies to fill the gap in needed transportation funding. Initially estimated at generating over $15,000,000 (at full build out), it is an essential funding source for the area.

Implementation steps and schedule	1. Obtain legal advice on steps required by state law and City ordinance – by Fall, 2014. 2. Calculate rate, prepare required documentation and draft ordinance. This step will identify internal administration/accounting procedures required for the SDC funds – February, 2015. 3. Provide working draft of ordinance to members of the SCM Finance Task Force for a comment period and provide informational notice of the SDC to property owners within the annexation area – March, 2015. 4. Hold work session with City Council – April, 2015. 5. Prepare hearings draft of ordinance, notice, conduct adoption hearing, and adopt SCD – May, 2015.
Public outreach	See Step 3 above. Developers and the Finance Task Force will continue to be directly involved in creating the Special SCD strategy. Also, the City has worked closely with property owners throughout the SCM process. This outreach is intended to continue the close coordination that has occurred during planning.

Partners and roles

Internal partners: Community Development Department, Public Works Department, City Attorney.

External: Washington County Department of Land Use and Transportation.

Estimated Cost	Funding Sources
$ NA	Staff time

Beaverton South Cooper Mountain The Region's Next Great Community	# 10
	ADMINISTRATION OF SCM TDT FUNDS

Project Description	Lead/Sponsor Organization
This action will establish the administrative and accounting mechanism for the "dedication" of Transportation Development Tax (TDT) funds from SCM to projects in the SCM area, as described in the SCM Infrastructure Funding Plan.	City of Beaverton Finance Department

Rationale

This action implements the recommendations from the South Cooper Mountain Infrastructure Funding Plan. Analysis of revenues and costs in the funding plan identified a gap in revenues to cover estimated project costs. The "dedication" of funds from Transportation Development Tax funds to projects in the SCM area is one of several strategies to fill the gap in needed transportation funding. It is an essential funding source for the area.

Implementation steps and schedule	1. Obtain legal advice on steps required by state law and City ordinance – by Fall, 2014. 2. Calculate rate, prepare required documentation and draft ordinance. This step will identify internal administration/accounting procedures required for the SDC funds – February, 2015. 3. Provide working draft of ordinance to members of the SCM Finance Task Force for a comment period and provide informational notice of the SDC to property owners within the annexation area – March, 2015. 4. Hold work session with City Council – Aprill, 2015. 5. Prepare hearings draft of ordinance, notice, conduct adoption hearing, and adopt SCD – Mayl, 2015.
Public outreach	None required.

Partners and roles

NA

Estimated Cost	Funding Sources
$ NA	Staff time

Beaverton South Cooper Mountain The Region's Next Great Community	**# 11**
	Urban Reserve Area Tree Protection Study

Project Description	**Lead/Sponsor Organization**
Identify and evaluate options to require or incentivize tree protection within the SCM Urban Reserve Area (URA) prior to inclusion in the Urban Growth Boundary (UGB).	Washington County Land Use and Transportation Department

Rationale

Tree preservation was identified as a priority by many participants in the SCM Concept and Community Plan process, especially for newly urbanizing areas. Concerns were raised about logging within the SCM Annexation Area after its addition to the UGB, and many expressed a desire to prevent the same from happening with any future UGB expansions into the SCM URA. With the Cooper Mountain Nature Park and adjacent high quality upland habitat on private land, protection of upland resources is a high priority for this area. In addition, Metro's IGA with Washington County for Urban and Rural Reserves identifies principles for concept planning of Urban Reserves that include offering "appropriate protection and enhancement to the public lands and natural features that are located throughout the area".

Implementation steps and schedule	Beaverton makes formal request to the County Board of Commissioners to add this to the Department of Land Use and Transportation Long Range Planning 2015-16 Work Program.
Public outreach	Formation of a working group or similar mechanism to bring together key partners and stakeholders is recommended. Additional public outreach should include web-based information for ease of access by the general public and stakeholder groups.

Partners and roles

Internal partners: Washington County Counsel
External partners: Oregon Department of Forestry, City of Beaverton, Metro, Clean Water Services, Tualatin Hills Park and Recreation District
Stakeholders (initial list): Tualatin Riverkeepers, Tualatin River Watershed Council, Friends of Trees, property owners, developers

Estimated Cost	**Funding Sources**
$ NA	Staff time

Beaverton South Cooper Mountain The Region's Next Great Community	**#12**
	Urban Forestry Review

Project Description	Lead/Sponsor Organization
Evaluate current urban forest conditions; review the city's existing regulations that relate to tree protection and planting; review natural resource policies and programs. Determine if there is a need to modify the current regulations; if so, work with stakeholders such as arborists, landscape architects, and developers and conduct outreach as needed.	City of Beaverton Community Development Department

Rationale

Tree preservation was identified as a priority by many participants in the SCM Concept and Community Plan process, especially for newly urbanizing areas like SCM. Concerns were raised about logging within the SCM Annexation Area after its addition to the Urban Growth Boundary (UGB). In addition, Metro's Title 13 ("Nature in Neighborhoods") requires local jurisdictions to designate upland wildlife Class A and B habitat, mapped by Metro, as Habitat Conservation Areas when areas are brought within the UGB. The city's existing tree regulations and HBA program and LID techniques include protection, mitigation, and incentives for protection; however, further study of options is recommended.

Implementation steps and schedule	Milestone steps and approximate schedule: 1. Identify project approach, management structure, and generalized scope – Summer, 2015. 2. Review as described in the project description – Fall, 2015. 3. Complete review and draft recommendations – Fall, 2015. 4. Work sessions with Planning Commission and City Council, to determine if further Code amendments are needed – Fall 2015. 5. If determined to be needed, hearings and adoption for recommended plan and code amendments – Summer, 2016.
Public outreach	To be determined based upon direction of City Council in the Fall of 2015.

Partners and roles

Internal partners: Beaverton Public Works Department and Sustainability Division
External partners: Clean Water Services, Tualatin Hills Park and Recreation District, Oregon Department of Forestry
Stakeholders (initial list): arborists, landscape architects, property owners, developers, Tualatin Riverkeepers, Tualatin River Watershed Council, Friends of Trees

Estimated Cost	Funding Notes
$ NA	Staff time Funding for consultant services only if City Council directs staff to proceed with a larger study.

Summary of Infrastructure Plans and Next Steps

As part of preparing a cohesive plan for the 2,300-acre Concept Plan area, the project team prepared infrastructure analyses and plans for the major infrastructure systems for the area: water, sanitary sewer, storm water, and transportation. The analyses included a review of existing conditions, projection of needs, evaluation of alternative scenarios, and preparation of a final concept-level infrastructure plan consistent with the preferred alternative land use scenario. In the case of storm water, the work concluded at the end of scenario evaluation that the storm water plan would be prepared as part of a subsequent storm water master planning effort. In all cases, the infrastructure plans were prepared in an iterative and integrated manner so that land use, transportation, natural resources, utilities and funding were all coordinated and planned together.

The infrastructure plans for South Cooper Mountain are summarized in the Concept Plan report. The technical memoranda are also attached as exhibits to this Implementation Plan. For further explanation and detail regarding the infrastructure plans, please refer to those documents.

The implementation of the infrastructure plans will occur though the many means, including the following:

1. *Implementation Plan actions* – The actions included in this Implementation Plan provide a to-do list of the key implementation actions needed in the early years of implementation. As described above, the actions span many different types of needs ranging from codes to agreements to specific project planning.

2. *Capital projects* – Specific capital projects will be planned individually, consistent with adopted Concept Plan and Community Plans. Examples include the South Cooper Water Reservoir and River Terrace Pump Station.

3. *Water and sewer specific area master planning* – Within the SCM Annexation Area, the Concept Plan's infrastructure plans provide the basic framework for water and sewer lines: "point A to B" alignments, key connection points, pipe sizes, and other facilities. Where appropriate, the City will initiate more localized water and sewer line master planning, so that the specific site conditions, more detailed engineering and alignment routing, and property owner coordination can occur. This work may, in some cases, also identify financing mechanisms such as local improvement districts that will serve specific projects and properties.

4. *Development review* – Within the SCM Annexation Area, development review of specific proposals will determine the "what, where, when and by whom" of infrastructure development, as guided by the Concept Plan. The Development Code, the Comprehensive Plan, inclusive of the adopted Community Plan, and the Engineering Design Manual will be the regulatory documents used to evaluate the needs and requirements for each of the specific proposals in order to establish the location of streets, intersections and access, trails, storm water facilities and other infrastructure improvements.

5. *On-going coordination with other projects* – South Cooper Mountain is at the nexus of two cities, the County, a regional park, regional and local transportation facilities, and the rural-urban interface. There will be many needs and opportunities for intergovernmental coordination. Examples include the Willamette Water Supply project, on-going coordination with the River Terrace Community Plan in Tigard, and the Washington County Transportation Study, just to name a few. The SCM Concept Plan will inform these efforts, and in turn, the projects will also inform the implementation of the Concept Plan.

6. *Monitoring and internal coordination by Beaverton's Core Implementation Team* – Beaverton created the Concept Plan and Community Plan through a core planning team that included expertise from community development, transportation, public works, finance, and legal. This in-house expertise and continuity will be invaluable to the implementation of the plan. The City's Core Implementation Team will provide the key staff to carry out this Implementation Plan.

Summary of Infrastructure Funding Plan and Next Steps

Process and Method

The Infrastructure Funding Plan was created through a collaborative process, involving the consultant team, City staff, representatives of local and regional governments and service providers responsible for building and maintaining infrastructure in the South Cooper Mountain (SCM) area, and private property owners and developers. Although this was an iterative process, the methods generally followed the following steps: review of land use scenarios and growth estimates; review of infrastructure analyses and identification of infrastructure projects to be included in the funding plan; estimation of revenues; identification of funding strategies in consultation with public and private partners[2]; preparation of an Early Funding Analysis so that funding strategies were known when the Preferred Concept Plan Scenario was selected; and preparation of the draft and final Infrastructure Funding Plan.

The analysis was conducted for each of the three constituent subareas of South Cooper Mountain: the South Cooper Mountain Annexation Area (SCMAA), North Cooper Mountain (NCM), and the Urban Reserve Area (URA).

The following is a very brief summary of how each of the infrastructure systems is likely to be built and funded. Details of costs and funding are provided in the Infrastructure Funding Plan.

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[2] A series of interviews were conducted with private developers and public infrastructure providers to understand their perspectives on who should pay for infrastructure, through what sources, and what amounts. Additionally, a Finance Task Force was convened to bring these various public and private parties together to discuss these issues. The Finance Task Force meet five times between September 2013 and October, 2014. The Task Force meetings were supplemented by two developer focus group meetings and several meetings with Washington County regarding transportation funding.

Parks

Tualatin Hills Parks and Recreation District (THPRD) will be responsible for providing park infrastructure in South Cooper Mountain. Representatives of THPRD stated that Systems Development Charges (SDCs) are the only funding source that can be counted on for park projects in South Cooper Mountain.

Acquiring land for parks to serve will occur through two principle means: proactive site acquisition by THPRD and acquisition associated with development reviews. Co-location of parks with schools is special opportunity that is supported by the Concept Plan. Two new elementary schools will be needed in the annexation area.

The analysis of costs and revenues in the Funding Plan illustrates that SDC revenues are sufficient to cover costs, with one exception: funding of a community park in the Urban Reserve Area. The specific need for and cost of a community park is not specifically known. It will be influenced by other facilities (e.g. what is built at the High School, potential expansions at Winkleman Park, etc.), actual growth in the Urban Reserve, potential school-park co-locations throughout SCM, and, the specific program and intended service area that is developed should a community park be implemented. Therefore, the SCM Funding Plan carries a known gap for this one facility, with the recognition that a final need determination and funding strategy will need to be identified in the future.

Water

The City of Beaverton will be responsible for providing water service to the SCMAA and any areas within the Urban Reserve that are annexed to the City. The Tualatin Valley Water District currently provides water to the North Cooper Mountain area. For any new extensions with the TVWD district, the funding strategy assumes those are paid for by developing properties.

The City levies a SDC on new development to pay for the “public” share of water infrastructure costs. Private developers are also responsible for funding the “private” share of water infrastructure costs. Water infrastructure in South Cooper Mountain would be covered by these two sources. The public-private split of costs is determined by the demand from new development. Major capital projects will be initiated by the City or TVWD. Other more local water system improvements will be initiated through development projects.

Sanitary Sewer

The City of Beaverton has lead responsibility for providing sanitary sewer infrastructure for South Cooper Mountain. The City of Beaverton collects a SDC on new development to pay for the public portion of sanitary sewer infrastructure. The City has an intergovernmental agreement (IGA) with Clean Water Services (CWS) to provide sanitary sewer service, which results in ninety-six percent of this SDC being passed through to CWS. Private developers are also responsible for paying for a portion of sanitary sewer infrastructure, including all pipes 12-inches or less in diameter, and a portion of all pipes larger than 12-inches. Major capital projects will be initiated by the City or CWS. Other more local sewer system improvements will be initiated through development projects.

Storm Water

Unlike parks, water, and sanitary sewer, the costs for stormwater infrastructure are not typically covered by a SDC. Traditionally, detention facilities have been the responsibility of private developers, with individual developers building detention facilities onsite that are sufficient to manage the stormwater generated on that individual property. Under the traditional model, the cost of stormwater detention facilities would be excluded from a funding analysis like this.

Based on preliminary stormwater planning, Clean Water Services and the City of Beaverton have identified the use of regional stormwater facilities as the preferred approach for South Cooper Mountain. Regional facilities can offer several benefits compared to traditional onsite detention facilities in regards to meeting natural resource objectives. These facilities could be funded using either a new Regional Facility Fee (RFF), or a private reimbursement district. However, due to the challenges associated with regional facilities (see discussion below), more traditional site-scale facilities may be used in place of, or in combination with, regional facilities.

The Implementation Plan includes an action to prepare a Stormwater Master Plan for the annexation area to further explore storm water management options and identify the appropriate approach for the SCMAA. This plan is expected to address both the physical planning of facilities and an implementation strategy for funding stormwater facilities, regional or otherwise.

Transportation

Transportation infrastructure in the South Cooper Mountain area will largely be the responsibility of the County (and, to a lesser extent, the City) to build and maintain. County and City representatives participated in the Finance Task Force. Existing sources of funding for these types of City and County transportation infrastructure projects are essentially limited to developer funding, the Transportation Development Tax (TDT) and the Major Streets Transportation Improvement Program (MSTIP).

Based on input from the Finance Task Force and other key stakeholders, it was determined that these funding sources would also need to provide the bulk of the funding for the public share of transportation costs in South Cooper Mountain. However, these funding sources would be insufficient, requiring an additional funding mechanism, like a new site-specific SDC. Additionally, a sizable portion of project costs would be the responsibility of the private sector to fund directly. The Finance Task Force also directed the team to look not only at project costs versus revenues, but also what types of funds are appropriate for specific projects.

Through discussions with the Finance Task Force, developers, and Washington County, a four-part strategy was established for funding transportation projects on South Cooper Mountain:

1. **Set Priorities.** Transportation improvements were evaluated and segmented into which projects serve the annexation area versus other areas. They were then prioritized into time periods for implementation: 0-10 years; 10-20 years; and 20+ years.[3]

2. **Apply local TDT revenues to local projects.** This strategy assumes 80% of TDT generated from development in South Cooper Mountain will be used for transportation projects in the area.

3. **Generate new revenue through a SCM transportation SDC.** A SCM-specific special transportation SDC will be adopted to supplement other revenue sources. Revenues will be "dedicated" to transportation projects in the area.

4. **Identify projects of county-wide significance, and include limited amounts of MSTIP funds in their funding plans.** As a first step, a list of specific projects benefiting roads of countywide significance were identified. The list was then narrowed based on County input that MSTIP funds were limited and the City should reduce the amount of MSTIP assumed. The City revised the transportation funding responsibilities to decrease the proportion assumed from MSTIP and increase the proportion assumed from TDT dedication and the transportation SDC.

Based on the above strategies, the Infrastructure Funding Plan identifies funding sources for projects in each sub-area of SCM. Several follow-up implementation actions are needed:

- Completion of the calculation of the rate for the SCM transportation fee, and adoption of the SDC ordinance (see project sheet 11, SCM Transportation System Development Charge).
- City commitment to, and work on, the two specific transportation projects listed in the Action section of this plan (see project sheet 6, 175th Avenue "Kink" realignment phase 1 and project sheet 7, Loon Drive connection study and right-of-way acquisition). The 175th realignment project is one of the MSTIP funded projects (85% MSTIP, 15% local TDT), so the earlier next-step planning occurs, the more likely the project will be funded. The plan estimates it will take up to 10 years to complete preliminary design, finalization of the funding sources, and right-of-way acquisition.
- Continued discussion between Beaverton and other Washington County cities and the County regarding transportation funding.

[3] Several projects were identified as not part of the SCM funding plan because they are far off-site and have been identified in previous plans (e.g. widening of 209th Avenue), or, are very far into the future (Project 7, Tile Flat extension to Roy Rogers Road).

Governance

As required under Metro's Title 11, areas of the SCM URA that are added to the UGB must be annexed to a city prior to or simultaneously with application of urban land use designations. The City of Beaverton will be the city responsible for annexations of and comprehensive planning for UGB expansion areas within the SCM URA. This will be identified in the Memorandum of Understanding (MOU) for Concept Plan Implementation and Coordinated Services Provision between the City and the County. The MOU is an action described in this Implementation Plan – please see the Implementation Plan Actions section. This City's role in governance of areas added to the UGB on South Cooper Mountain will also be implemented through a new land use policy and/or an amendment to the Special Policy section of the Urban Growth Management Agreement between Beaverton and Washington County.

Urban services will be provided to those areas of the SCM URA that are brought into the UGB by the City of Beaverton in coordination with service providers including THPRD for parks and trails, Washington County for transportation, CWS for sanitary sewer and stormwater management, and TVWD for drinking water.

Future Urban Growth Boundary Expansions

Metro is responsible for managing the Portland metropolitan area's UGB. Oregon law requires the Metro Council to study the capacity of the existing UGB every five years to determine whether it can accommodate the population and employment growth that is forecast for the next 20 years. If the existing UGB provides sufficient capacity to accommodate the growth that is forecast for the next 20 years, no UGB expansion is needed. If the existing UGB does not have sufficient capacity to accommodate the 20-year growth that is forecast, the Metro Council will first work with local governments to determine whether steps can be taken to enhance the efficiency of land inside the existing boundary to accommodate more growth. If, after these efficiency measures are taken, there remains a need for additional capacity within the boundary to meet the forecast growth, the Metro Council will consider boundary expansions. Urban reserve lands will be the first lands studied and considered for possible expansion.[4]

While Metro Council is responsible for decisions regarding future UGB expansions, local governments play an important role in advocating for inclusion of specific candidate expansion areas. Given this role, the City of Beaverton and Washington County will coordinate with service providers in considering support for areas within the SCM Urban Reserve Area for future expansion. The city will consider the following:

- adjacency to city limits;
- ease and cost of extending infrastructure, as described in this Concept Plan or in future refinement plans;

[4] Metro, "Urban Growth Boundary," http://www.oregonmetro.gov/urban-growth-boundary, accessed 8/25/14.

- ability to provide needed housing consistent with the land uses and housing described in the Concept Plan;
- ability to logically extend from and provide connections to existing neighborhoods, including the SCM Annexation Area;
- ability to build complete, sustainable communities with active transportation options;
- land needed to provide road or trail connections or improvements; and
- property owner commitment to natural resource protection, including preservation of upland habitat.

This understanding will be captured in a MOU for Concept Plan Implementation and Coordinated Service Provision between the City and the County, which will be prepared subsequent to the adoption of this Concept Plan.

Exhibits

The following exhibits are attached to and a part of this implementation plan:

1. Water System Concept Plan – Summary Findings and Planning Level Cost Estimate, memorandum by David Evans and Associates, June 11, 2014.

2. Sanitary System Concept Plan – Summary Findings and Planning Level Cost Estimate, memorandum by David Evans and Associates, June 11, 2014.

3. Stormwater and Water Quality Scenario Summary, South Cooper Mountain and Community Plans, memorandum by David Evans and Associates, December 19, 2013.

4. Transportation Findings for Preferred Scenario, memorandum by DKS Associates, June 27, 2014.

DAVID EVANS
AND ASSOCIATES INC.

PROJECT MEMORANDUM

DATE: June 11, 2014

FROM: Steven Harrison, PE – David Evans and Associates, Inc.

TO: South Cooper Mountain Technical Advisory Committee

CC: South Cooper Mountain Project Management Team

SUBJECT: **Water System Concept Plan – Summary Findings and Planning Level Cost Estimates**

PROJECT: **South Cooper Mountain Concept and Community Plans**

City of Beaverton #2752-13B

DEA PROJECT NO: APGI0000-0002

This memo provides a summary to support the evaluation of the final concept for the South Cooper Mountain Concept Plan including estimated water system demands and estimated waterline capacity and associated costs. This memo is related to the future water system infrastructure needs within the South Cooper Mountain planning area. Information was gathered from the City of Beaverton (City), Tualatin Valley Water District (TVWD), and the City of Hillsboro to identify their near term plans to provide adequate water system capacity to serve the planning area.

Evaluation Assumptions

The water system expansion into the South Cooper Mountain planning area will be based on the largest single point demand in the area. The largest single point water demand is fire service flow. Although providing domestic and irrigation services to the area is essential, the water system expansion will be developed to provide sufficient fire flow while maintaining a minimum water pressure. Therefore, the water system design will not vary based on the density of development. The City has indicated the design fire flow at any given point within the water system is 3,000 gallons per minute (gpm) while maintaining a minimum pressure of 20 pounds per square inch (psi).

Our evaluation did not include smaller diameter service lines (8-inches and smaller) to private land development projects, however, we did include the larger main lines (12-inches and larger) that are necessary to serve the larger area.

The unit cost for the water system is on a per linear foot basis and, in addition to raw pipe material, includes a 20% increase for miscellaneous items such as utility relocation, abandoning of existing facilities, etc.; 15% increase for general contractor profit and overhead; 25% increase for engineering and administration; and a 30% increase for general contingency. The City of Beaverton provided recommended unit costs as shown:

Table 1. Water System Unit Costs

Ductile Iron Pipe Diameter (inches)	Unit Cost ($/LF)	Ductile Iron Pipe Diameter (inches)	Unit Cost ($/LF)
12	239	20	374
16	267	24	460

Water System Overview by Subarea

As stated in previous memorandums, there are three (3) subareas defined in this study. They are, as shown on the attached map, "North Cooper Mountain", "Urban Reserve Area", and "South Cooper Mountain Annexation Area". Existing water service and the anticipated types of improvements needed within each subarea are summarized briefly below.

North Cooper Mountain (NCM)

This area is largely developed with existing single family homes on large lots. TVWD currently provides water service through their existing network of waterlines and water storage tanks in this area. Further development and added water demand in this area can be served by extending the existing water system network to areas that currently do not have service. To provide a network of waterlines that will deliver consistent flow and pressures to all points within the network area, and to create a water system looped system, we anticipate a major water main extension through this area will be required. Potential connection points are shown in the attached "South Cooper Mountain Water System" map.

Urban Reserve Area (URA)

This area includes the Cooper Mountain Nature Park and several dozen single family homes on large lots in the vicinity of SW 175th Avenue. TVWD currently provides water service to these properties through their existing network of waterlines. Future development and added water demand in this area can be served by extending the existing water system network to areas that currently do not have service. We anticipate the expanded network will include water main pipes between 12- and 24-inches in diameter located within existing and future roadways. Points of connection can be made at SW Kemmer Road, SW Weir Road, SW Snowy Owl Lane, and/or from a main line extension through the South Cooper Mountain Annexation Area in SW 175th Avenue as shown in the attached "South Cooper Mountain Water System" map.

South Cooper Mountain Annexation Area (SCMAA)

This subarea is also mostly undeveloped. The Beaverton School District has near-term plans to build a new high school in the area just north of SW Scholls Ferry Road and east of SW 175th Avenue starting as early as 2015. The City has indicated the school site can be adequately served from the 24-inch waterline soon to be under construction in SW Scholls Ferry Road. However, additional development to the north and west will require expanded network connections. Based on preliminary information from the City, the expansion will likely include water main pipes between 12- and 24-inches in diameter located within roadways and connections to the water storage facilities in the Hilltop area. Potential connections can be made at any point in SW Scholls Ferry Road, and/or from SW 175th Avenue. Potential connection points are shown in the attached "South Cooper Mountain Water System" map.

The City is also planning a future five-million-gallon tank to be located near the intersection of SW 175th Avenue/SW Weir Road and has indicated that by supplementing the existing system with this new five-million-gallon storage tank, there will be adequate water storage to serve the entire planning area. The new tank is not included in the cost estimate. Per the City, it is scheduled to be constructed by 2020.

Water System Improvements

The concept plan includes a 16-inch water line within North Cooper Mountain area. This new water line will serve the new growth within NCM area. However, the main purpose of this water main is to create a water system loop that will serve Grabhorn Meadow to the south. The looped system will provide a network of waterlines that will deliver consistent flow and pressures to all points within the network.

175th Avenue remains in the same location to the north boundary of the SCMAA. A new 24-inch water line will extend along this new alignment to the future SW Weir Road intersection where the water line becomes a 20-inch line. The east-west roadway extending from SW Tile Flat Road through the 175th Avenue intersection and continuing on to SW Loon Drive will include a water line that starts as a 24-inch line on the west side and decreases to 16-inch, then 12-inch water line. A new 24-inch water line will be extended west from the 175th/Scholls Ferry intersection to Tile Flat Road and will continue north along Tile Flat Road connecting up with the new 24-inch water line within the new east-west roadway. A new 12-inch water line will be extended along the new collector from SW Scholls Ferry Road and extend northwest to SW Grabhorn Road. Development occurring within the interior of SCMAA area will connect to one of these mainlines. Service to the initial phases of development in the SCMAA (in the vicinity of 175th), could be provided from the new 24-inch water line located within 175th Avenue or SW Scholls Ferry Road.

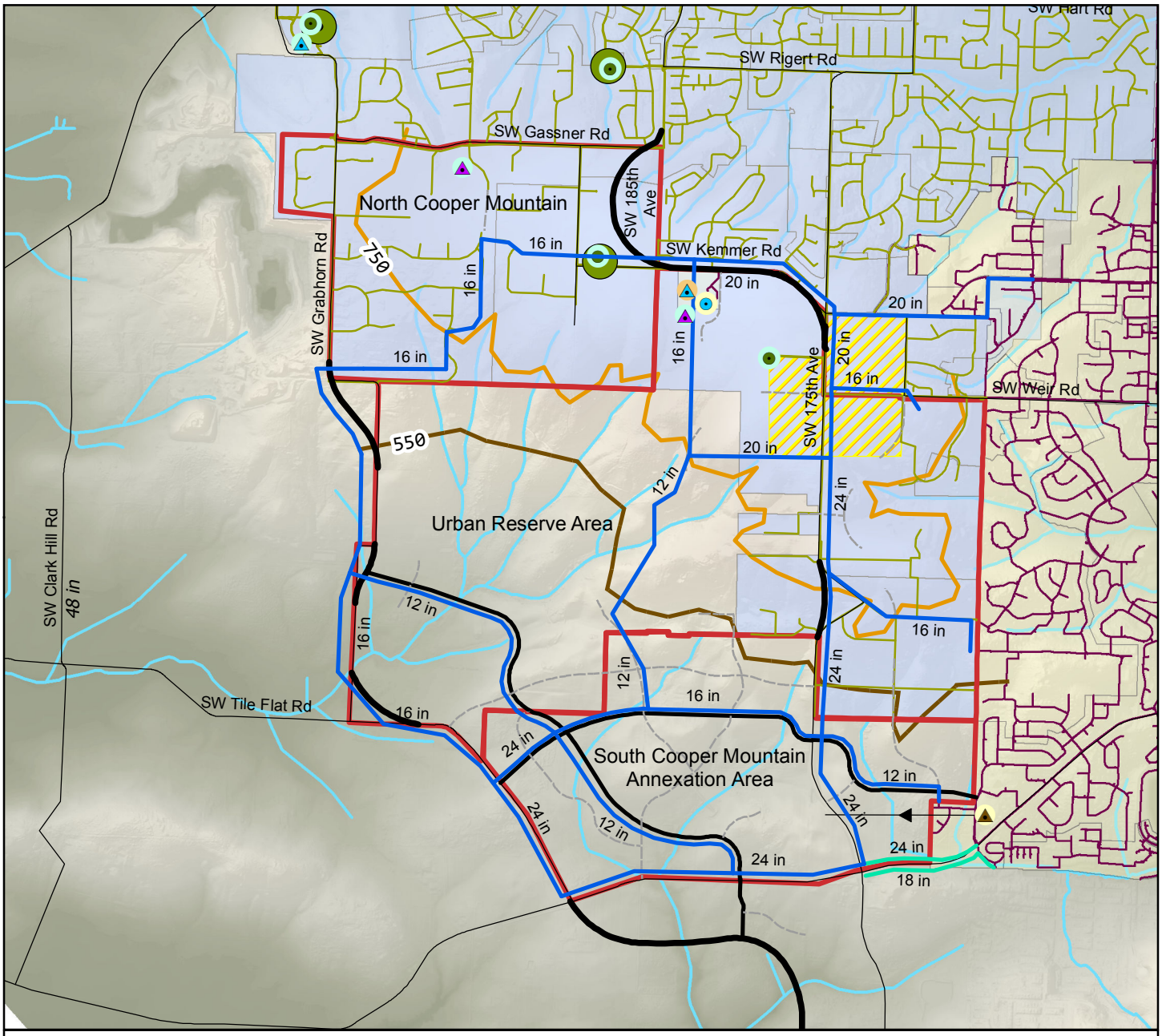
Table 2. Water System Infrastructure Costs

North Cooper Mountain			
Pipe Diameter	**Total Length (ft)**	**Unit Cost ($/LF)**	**SubTotal**
16	*7,841	267	$2,093,547
		Subarea Total:	**$2,093,547**
Urban Reserve Area			
Pipe Diameter	**Total Length (ft)**	**Unit Cost ($/LF)**	**SubTotal**
12	7,500	239	$1,792,500
16	11,375	267	$3,037,125
20	10,000	374	$3,740,000
24	4,000	460	$1,840,000
		Subarea Total:	**$10,409,625**
South Cooper Mountain Annexation Area			
Pipe Diameter	**Total Length (ft)**	**Unit Cost ($/LF)**	**SubTotal**
12	7,021	239	$1,678,019
16	4,715	267	$1,258,905
24	13,500	460	$6,210,000
		Subarea Total:	**$9,146,924**
		Total:	**21,650,096**

* - This pipe is necessary to provide a sufficient network of waterlines to serve the Urban Reserve Area.

2100 SW River Parkway Portland Oregon 97201 Phone: 503.223.6663 Facsimile: 503.223.2701

South Cooper Mountain Concept Plan



South Cooper Mountain Future Water System

Legend

Reservoirs
- Beaverton, In service
- TVWD Pump Station
- Potential Reservoir Site Zone*

ASR Wells
- Beaverton, Drilled not producing
- JWC, In service
- TVWD, In service
- TVWD, Planned

Existing Waterlines
- CoB Water Main
- TVWD Waterline
- Potential non-potable*

New Waterlines
- Under construction (Local)
- Planned (Local)*

Future Pressure Zones
- 550 ft elevation
- 750 ft elevation
- CoB Supply Zone
- TVWD Supply Zone
- South Cooper Mountain Study Area
- Streams
- Arterials
- New Arterial
- New Collector

* Locations of planned facilities are conceptual only.

Prepared By: David Evans and Associates, Inc.

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

DISCLAIMER
This map is intended for informational purposes only. It is not intended for legal, engineering, or surveying purposes. While this map represents the best data available at the time of publication, the City of Beaverton makes no claims, representations, or warranties as to its accuracy or completeness. Metadata available upon request.

NORTH

0 1,000 2,000 4,000 Feet

Date: 6/11/2014

DAVID EVANS
AND ASSOCIATES INC.

PROJECT MEMORANDUM

DATE: June 11, 2014

FROM: Steven Harrison, PE – David Evans and Associates, Inc.

TO: South Cooper Mountain Technical Advisory Committee

CC: South Cooper Mountain Project Management Team

SUBJECT: **Sanitary Sewer Concept Plan – Summary Findings and Planning Level Cost Estimates**

PROJECT: **South Cooper Mountain Concept and Community Plans**

City of Beaverton #2752-13B

DEA PROJECT NO: APGI0000-0002

This memo provides information to support the evaluation of the final concept for the South Cooper Mountain Concept Plan including estimated sanitary sewer design flows, and estimated pipe and pump station capacity and associated costs. This memo is related to the sanitary sewer infrastructure needs within the South Cooper Mountain planning area. Information was gathered from the City of Beaverton and Clean Water Services District (CWS) to identify their near term plans to provide adequate sanitary sewer capacity to serve the study area and to verify our cost assumptions.

Evaluation Assumptions

The final concept depicts land uses using "development types". We pared down the "development types" to five (5) basic types. The average daily sanitary sewer flows from each of these basic "development types" is given below:

Table 1. Average Daily Sanitary Sewer Flows from Basic Development Types

Generalized Development Type	Average Daily Sanitary Sewer Flow (gallons/day/unit)	Average Daily Sanitary Sewer Flow (gallons/day/employee)	Average Daily Sanitary Sewer Flow (gallons/day/student)
Single Family Neighborhoods	360		
Compact Neighborhoods	295		
Urban Neighborhoods	212		
Commercial Development		45.8	
Schools			15

(Typical Average Daily Flows are between 100-125 gpcd. The above assumptions resulted in 140 gpcd based on the population)

Because sanitary sewer flows fluctuate throughout the day, the peak hourly design flow rate is obtained by multiplying the average daily rate by a peaking factor. Based on the anticipated population of the planning area, the peaking factor can range from 1.8 to 5.5.[1] A larger population requires a smaller peaking factor. Given that the South Cooper Mountain planning area is relatively small (adding roughly 7,400 housing units), we used a peaking factor of 4.0.

[1] Source: Babbitt, H.E., "Sewerage and Sewage Treatment". 7th ed., John Wiley & Sons, Inc. New York (1953).

Based on industry accepted design principles, we assumed the minimum pipe size would be 8-inches in diameter with a minimum slope of 0.5%. We also evaluated existing contours along the roadway alignments to determine potential roadway, and associated sewer, grades/slopes. We used this information to estimate future pipe capacity. Where possible we avoided sanitary sewer creek crossing. However, there were instances where a creek crossing was required. In most cases we ran the new sanitary lines along the creek top of bank.

The unit cost for the sanitary sewer system was provided by the City of Beaverton and is on a per linear foot basis and includes manholes at 200-foot intervals and service laterals at 50-foot intervals. The unit costs also include miscellaneous items such as utility relocation, abandoning of existing facilities, etc.; 15% increase for general contractor profit and overhead; 25% increase for engineering and administration; and a 30% increase for general contingency.

Table 2. Gravity Sanitary Sewer Unit Costs

PVC Pipe Diameter (Inches)	Unit Cost ($/LF)
8	255
12	311
15	354
18	393

Sanitary Sewer System Overview by Subarea

As we have established in previous memoranda, there are three (3) subareas defined in this study. They are the “North Cooper Mountain”, “Urban Reserve Area”, and “South Cooper Mountain Annexation Area”. Generally, the overall sanitary sewer system will flow by gravity towards future pump stations (Tile Flat Road Pump Station or River Terrace Pump Station) or to a 21-inch line in Scholls Ferry Road and eventually to the Durham Waste Water Treatment Plant.

North Cooper Mountain (NCM)

This area is largely developed with existing single family homes on large lots that are currently utilizing septic systems for sanitary sewerage disposal. The need for a public sanitary sewer system to serve this area may come from failure of the existing septic systems[2] and/or future growth at urban densities within the northern part of NCM. The northern one-third of this area, by following the natural existing terrain, may be conveyed to the north and connect to adjacent existing systems. We have evaluated several potential future sanitary sewer points-of-connection. The southern two-thirds of this area will require conveyance to the south and be served by the future Tile Flat Road Pump Station. The cost estimate has been broken down to differential the northern one-third and the southern two-thirds.

Urban Reserve Area (URA)

This area includes the Cooper Mountain Nature Park and several dozen single family homes on large lots in the vicinity of SW 175th Avenue. Based on the natural terrain of this subarea, connections can be made along the east boundary, through the South Cooper Mountain Annexation Area within SW

[2] Septic systems typically last approximately 50 years before they require replacement. Failure of septic systems within an urban area requires connection to a public sewer; replacement with a new septic system is not allowed.

Scholls Ferry Road, to the future River Terrace Pump Station or Tile Flat Road Pump Station systems. These connection points are shown in the attached "South Cooper Mountain Sanitary Sewers" map.

South Cooper Mountain Annexation Area (SCMAA)

This subarea is mostly undeveloped. Based on the natural terrain, connections can be made at SW Scholls Ferry Road or to the future River Terrace Pump Station system. These connection points are shown in the attached "South Cooper Mountain Sanitary Sewers" map.

Future Pump Stations

Clean Water Services has evaluated the South Cooper Mountain area and has determined that in order to meet the service requirements of both the URA and SCMAA, two new pump stations (Tile Flat Rd Pump Station and River Terrace Pump Station) will be required. The Tile Flat Road Pump Station will be located at the low point (creek intersection) of Tile Flat Road. This pump station is anticipated to pump to the east along Tile Flat Road to a gravity system that will eventually convey sewage to the new River Terrace Pump Station.

The River Terrace Pump Station will be located within the urban growth boundary along the creeks south of SW Scholls Ferry Road and west of SW Roy Rogers Road. The tentative location is shown on the attached "South Cooper Mountain Sanitary Sewers" map. The River Terrace Pump Station is anticipated to be in operation by the end of 2015, and all flows from this proposed pump station will be directed to the intersection of Scholls Ferry Road and 175th Avenue to connect to the 21-inch Scholls Ferry Road Sanitary Sewer Extension and ultimately to the Durham Wastewater Treatment Plant. The final location and timing of this facility should be coordinated closely with the City of Tigard in that it is concurrently developing an urbanization plan for the River Terrace area, directly south of SW Scholls Ferry Road along SW Roy Rogers Road. Based on a CWS study conducted by CH2M Hill in March 2013, regardless of the inclusion of the Cooper Mountain sanitary flows, significant improvements are required to the Summer Creek trunk line extending east to SW 121st Avenue. The study states improvements will include upsizing sewer lines to 21- to 42-inches in diameter.

Pump stations can be expanded to add capacity relatively easily, so the initial designs are assumed to serve only the projected growth within the existing UGB. The pump stations can then be expanded to provide additional capacity to serve the Urban Reserve Area in the future. The design and construction costs for these pump stations are estimated both for the full build-out of the Urban Growth Boundary (20 years) and the build-out of the Urban Reserve Area (50 years).

Sanitary Sewer System Improvements

The northern NCM area includes several 8-inch sewer lines with seven (7) different points of connection in SW Gassner Road. These improvements will be needed in order to serve future development in this area whenever it is initiated by property owners, but will also provide a solution for existing homes as septic systems fail. Because these lines serve small areas, they are likely to be built incrementally, as needed. The southern part of NCM area also includes new 8-inch sewer lines that will convey waste water to the south to the new Tile Flat Road Pump Station. These new 8-inch lines will only be built when the Tile Flat Pump Station is complete and enough septic systems in the area have failed to create a need for public sewer service.

When the URA Grabhorn Meadow area is urbanized, it will be served by new 8-inch sanitary lines along the creek and within Grabhorn Road. The low area south of the creeks will be served by several 8-, and 12-inch sewer lines. The portion of the Hilltop area is served by several connection points. The Hilltop area with natural grades that slope to the north will be served by new 8-inch sewer pipe and two

(2) connection points within Kemmer Road when urbanization occurs. The area of Hilltop with natural slope to the south will connect to a new 8-inch and eventual 12-inch line in 175th Avenue. The 175th Avenue sanitary sewer line will mainly serve properties adjacent to the roadway. There are several lengths of 8-inch sewer lines along the east boundary of the study area connecting at six (6) different locations.

The SCMAA will be served by many different sewer line locations. The Beaverton School District has near term plans to build a new high school in the area just north of SW Scholls Ferry Road and east of SW 175th Avenue starting as early as 2015. This area can be served by the existing 21-inch gravity sanitary sewer located in SW Scholls Ferry Road. The area east of 175th Avenue and north of Scholls Ferry Road will be served by a new 12-inch sewer line located in 175th Avenue and two (2) connection points in SW Scholls Ferry Road. With the exception of the high school area, the areas west of 175th Avenue will eventually be conveyed to the new River Terrace Pump Station. The new east-west collector road will include 8- and 12-inch sewer lines. The new north-south collector road extension located east of SW Vandermost Road will include a new 15-inch sewer line along the northern portion and an 8-inch sewer line along the southern portion connecting to the SW Scholls Ferry Road line. A 12-inch line will also be located in SW Tile Flat Road serving adjacent properties and will eventually accept force main flow from the Tile Flat Road Pump Station. The sewer line from Tile Flat Road to the low point in Scholls Ferry Road will need to be 15-inches in diameter. The low lying creek will have 8-inch and 12-inch sanitary sewers on each side to convey waste water to the low point in Scholls Ferry Road. From this point the sanitary sewer flows will be conveyed within an 18-inch sanitary sewer line southeast to the River Terrace Pump Station as shown in the attached “South Cooper Mountain Sanitary Sewers” map.

Table 3. Gravity Sanitary Sewer Infrastructure Costs

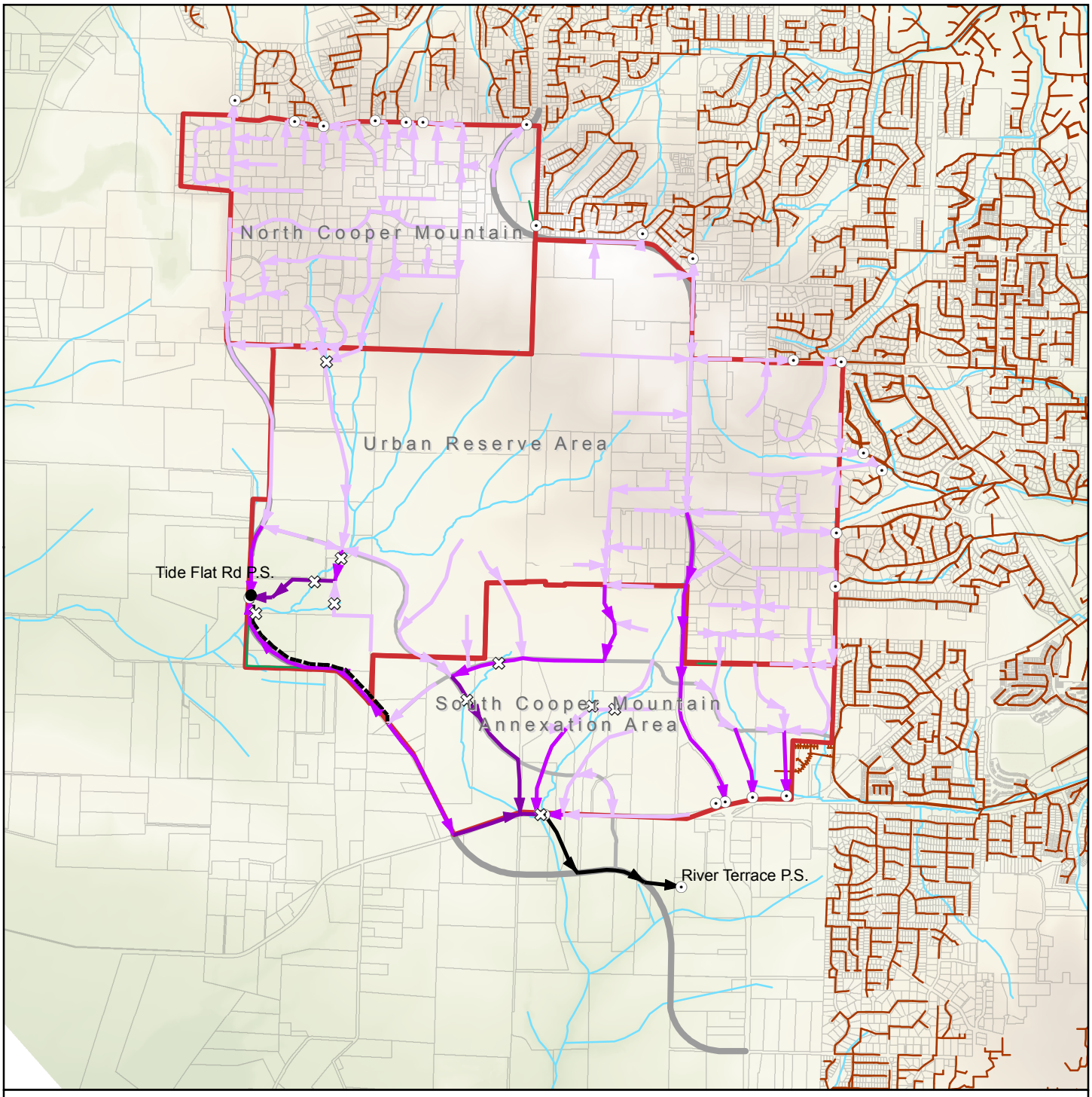
North Cooper Mountain			
NCM Northern One-Third			
Pipe Diameter	**Total Length (ft)**	**Unit Cost ($/LF)**	**SubTotal**
8	17,506	255	$4,464,030
NCM Southern Two-Thirds			
Pipe Diameter	**Total Length (ft)**	**Unit Cost ($/LF)**	**SubTotal**
8	21,583	255	$5,503,665
		Subarea Total:	**$9,967,695**
Urban Reserve Area			
Pipe Diameter	**Total Length (ft)**	**Unit Cost ($/LF)**	**SubTotal**
8	61,073	255	$15,573,615
12	11,244	311	$3,496,884
15	1,594	354	$564,276
		Subarea Total:	**$19,634,775**
South Cooper Mountain Annexation Area			
Pipe Diameter	**Total Length (ft)**	**Unit Cost ($/LF)**	**SubTotal**
8	19,931	255	$5,082,405
12	14,640	311	$4,553,040
15	4,201	354	$1,487,154
18	3,000	393	$1,179,000
		Subarea Total:	**$12,301,599**
		Total:	**$41,904,069**

Table 6. Sanitary Sewer Pump Station Costs

Tile Flat Road Pump Station			
Pump Station	**Total**	**Unit Cost**	**SubTotal**
Pump Station (Complete with wet well, piping, pumps, control building, and backup generator)	1 each	$765,000	$765,000
6" Force Main	4,400 ft	$145/LF	$638,000
		Total:	**$1,403,000**

2100 SW River Parkway Portland Oregon 97201 Phone: 503.223.6663 Facsimile: 503.223.2701

South Cooper Mountain Concept Plan



South Cooper Mountain Sanitary Sewers

Proposed Pipe Location and Diameter

- Force Main
- 8-inch
- 12-inch
- 15-inch
- 18-inch

- Point of Connection
- Stream Crossing
- Existing Stream
- New Arterial
- New Collector

- Existing Sanitary Sewer
- South Cooper Mountain Study Area
- Washington County Taxlot

Note: All sewer lines are conceptual and are subject to zoning authority and permits.

Prepared By: David Evans and Associates, Inc.

Date: 6/11/2014

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

DISCLAIMER

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NORTH

0 0.125 0.25 0.5 Miles

DAVID EVANS
AND ASSOCIATES INC.

PROJECT MEMORANDUM

DATE:	December 19, 2013
FROM:	Claudia Sterling, PE – David Evans and Associates, Inc.
TO:	South Cooper Mountain Beaverton Core Project Team
CC:	South Cooper Mountain Technical Advisory Committee
SUBJECT:	**Stormwater and Water Quality Scenario Summary**
PROJECT:	**South Cooper Mountain Concept and Community Plans**
	City of Beaverton #2752-13B
DEA PROJECT NO:	APGI0000-0002

Executive Summary

This technical memorandum provides an overview of stormwater management systems for the three future growth scenarios being evaluated for the South Cooper Mountain (SCM) Concept Plan. The three scenarios are described in the cover memorandum titled "Scenarios for Evaluation," dated November 5, 2013. The SCM Scenarios for Future Growth (September 12, 2013) report describes the basic approach to stormwater management for South Cooper Mountain.1 Three of the project's guiding principles are applicable to this stormwater evaluation and plan:

- Create a sustainable community
- Prepare a realistic financing plan for infrastructure and feasible implementation strategies
- Provide appropriate protection, enhancement, and access to Cooper Mountain's natural resources and public lands.

For scenario analysis the primary approach for meeting stormwater management goals will be large-scale dry detention ponds, termed Regional Stormwater Facilities (RSFs), in the developing areas in order to manage peak runoff rates to avoid downstream impacts. This approach was chosen because it provides planned, comprehensive flow control in a cost-effective manner and provides the highest level of certainty of meeting the flow management guidelines being established by Clean Water Services (CWS), the agency primarily responsible for regulating stormwater management for urban portions of the planning area.2 This technical memorandum provides a map of potential RSFs in all three project subareas; they have been categorized as neighborhood (smaller scale, local in benefit) or regional (larger scale, broader area benefiting). In addition, major elements of the stormwater conveyance system that directs flow to the RSFs or from the RSFs to area streams are also shown. The RSFs and conveyance are intended to work in combination with elements of the Concept Plan, including:

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[1] The Scenarios report is available at http://www.beavertonoregon.gov/DocumentCenter/View/6489.

[2] CWS builds, maintains and enhances the public drainage system to meet public needs and to comply with water quality regulations set for the Tualatin River drainage area by the Oregon Department of Environmental Quality. The City of Beaverton maintains open and closed conveyance facilities (i.e., ditches or streams, and storm sewers, respectively) adjacent to the eastern and southeastern portions of the study area. The City owns and maintains the systems located within city limits, and will maintain new systems when constructed in the South Cooper Mountain Annexation Area. Once annexed into the CWS service area, CWS will also provide services for the North Cooper Mountain area. Currently that area and the Urban Reserve Area is the responsibility of Washington County.

protection and enhancement of natural resource areas, provisions of parks and other open spaces, and management of stormwater at the site and street scale.

The detention facilities have been tentatively sized given the total upland impervious acres as approximately located. The sizing tool was the Western Washington Hydrologic Model, which matches flow-duration curves for a range of storms pre- and post-development. CWS is in the process of updating its conveyance and detention standards based on a similar approach and intends to have these standards in place in place prior to the start of development in the South Cooper Mountain Annexation Area (SCMAA). Thus these facilities would be reflective of that anticipated standard of care. Fine tuning of the location, upland area, and final RSF size (including buffer and access areas) will be required following the selection of a preferred scenario.

Additional site-specific reviews of opportunities for Low Impact Development Approaches (LIDA) are encouraged as part of development, which may reduce the size of downstream detention facilities. This would be a joint decision of CWS and the City of Beaverton and would need to be decided prior to commitment to size and construct the regional facilities. Once sized, the cost recovery mechanism for CWS to construct the facilities would be established.

Further development in the northern portion of the North Cooper Mountain (NCM) will require managed connections to the existing Clean Water Services Cross Creek, Butternut Creek, and Johnson Creek stormwater conveyance systems to the north and northeast, and connections to existing stormwater conveyances (both closed and open) outside the planning area will need to be examined to prevent downstream problems.

The future development of the Urban Reserve Area (URA), which is largely forest, grassland, farm land and rural homesites today, will need to be carefully managed to minimize stream erosion of the existing channels flowing southwest from the peak of Cooper Mountain to McKernan Creek. The southern portion of North Cooper Mountain is the upland area for the Urban Reserve Area and drains southwest; in this scenario analysis stormwater from this area is assumed to be collected and conveyed to help minimize stream erosion in the small open channels of the Urban Reserve Area.

As the eastern portion of the Urban Reserve Area is developed, managed connections to the City of Beaverton’s Summer Creek conveyance systems to the east and southeast will need to be included.

For The Creeks, Hilltop, Grabhorn Meadow and portions of the URA Lowlands, stormwater management will be required to minimize erosion of the existing stream channels, as well as minimize the impact on the downstream channel of McKernan Creek, a tributary of the Tualatin River. The SCMAA and the eastern portion of URA Lowlands affect either Summer Creek (flows east) or an unnamed tributary of the Tualatin River (flows south). Development in these areas will need conveyance and detention systems that convey flow to the streams without causing channel erosion within the two areas, as well as not adversely impacting downstream conveyance elements.

For purposes of scenario comparison, RSFs were sited and their size and cost were estimated. Sizes ranged from 0.3 to 3.7 acres; costs are as shown below. The sizes of the facilities do not vary much among the scenarios because of the underlying assumption that they will serve the same upland area footprints in each scenario; the impervious surface area upland of the facilities changes with scenario, but the impact on sizing is fairly small. In NCM, where there are homes but no current stormwater facilities, a conveyance system was sized and laid out in anticipation of future annexation into CWS. These vary by scenario due to impervious area differences. All sizes are set for future build out.

Not all of the planning area is encompassed in upland areas to these facilities; therefore, the remaining portion of the area will need to be served solely by additional neighborhood or site-scale detention.

Table 1: Summary of Estimated Regional Stormwater Facility Costs

Area	Number of RSFs	Estimated Scenario 1 RSF cost without land ($)	Estimated Scenario 2 RSF cost without land ($)	Estimated Scenario 3 RSF cost without land ($)
NCM	2	$710,100	$1,330,400	$1,330,400
URA	10	$9,879,300	$9,739,100	$9,817,900
SCMAA	10	$7,898,800	$7,952,300	$7,480,200
TOTAL	**22**	**$18,488,200**	**$19,021,800**	**$18,628,500**

For purposes of scenario comparison, new Stormwater conveyance lines were laid out to direct collect flow from arterials and major developed areas to the facilities, and from the facilities to the streams. The lengths of pipe vary among the scenarios primarily due to the different new roadway alignments proposed for each, and the pathway required to direct flow to the RSFs. Sizes of the pipes were set to provide stormwater conveyance for future build out for each scenario.

Table 2. Major Stormwater Pipe Cost Summary

	Scenario 1			Scenario 2			Scenario 3		
Area	Total Pipe Length (feet)	Pipe Dia-meters (inches)	Capital Cost ($)	Total Pipe Length (feet)	Pipe Dia-meters (inches)	Capital Cost ($)	Total Pipe Length (feet)	Pipe Dia-meters (inches)	Capital Cost ($)
NCM	10,800	12-21	$3,006,100	10,800	12-21	$3,006,100	12,500	12-21	$3,392,700
URA	20,900	12-36	$7,305,000	21,400	12-36	$7,474,000	20,200	12-36	$6,643,300
SCMAA	19,300	15-24	$6,246,600	20,500	12-24	$6,480,100	14,600	12-24	$4,647,600
TOTAL	**51,000**		**$16,557,700**	**52,700**		**$16,960,200**	**47,300**		**$14,683,600**

Introduction

This technical memorandum provides an overview of stormwater management systems for the three future growth scenarios being evaluated for the South Cooper Mountain (SCM) Concept Plan. The three scenarios are described in the cover memorandum titled "Scenarios for Evaluation," dated November 5, 2013. The SCM Scenarios for Future Growth (September 12, 2013) report describes the basic approach to Stormwater management for South Cooper Mountain.[3] Three of the project's guiding principles are applicable to this Stormwater evaluation and plan:

- Create a sustainable community
- Prepare a realistic financing plan for infrastructure and feasible implementation strategies

[3] The Scenarios report is available at http://www.beavertonoregon.gov/DocumentCenter/View/6489.

- Provide appropriate protection, enhancement, and access to Cooper Mountain's natural resources and public lands.

The level of analysis was basic and was intended only to help distinguish consequences to meeting the Guiding Principles among the three scenarios.

Clean Water Services (CWS) builds, maintains and enhances the public drainage system to meet public needs and to comply with water quality regulations set for the Tualatin River drainage area by the Oregon Department of Environmental Quality. The City of Beaverton (City) maintains open and closed conveyance facilities (i.e., ditches or streams, and storm sewers, respectively) adjacent to the eastern and southeastern portions of the study area. The City owns and maintains the systems located within city limits, and will maintain new systems when constructed in the South Cooper Mountain Annexation Area. Once annexed into the CWS service area, CWS will also provide services for the North Cooper Mountain area. Currently that area and the Urban Reserve Area is the responsibility of Washington County.

At the current time, there are no storm water conveyances or treatment facilities managed by either the City or CWS within the SCM study area. The only facilities are culverts and drainage ditches associated with roads and culverts conveying streams under county roads. Previous reports illustrated natural topography, stream corridors, and the existing closed conveyances that serve the areas north and east of the study area that might receive flow from the fringes of the SCM area.

Basis of Development of the Stormwater System Components

For scenario analysis the primary approach for meeting Stormwater management goals will be large-scale dry detention ponds, termed Regional Stormwater Facilities (RSFs) by CWS, in the developing areas in order to manage peak runoff rates to avoid downstream impacts. This approach was chosen because it is consistent with planning in other new areas added to the Urban Growth Boundary; it provides planned, comprehensive flow control in a cost-effective manner; and it provides the highest level of certainty of meeting the flow management guidelines being established by CWS. In addition, these RSFs will meet water quality requirements (capture and treatment of stormwater pollutants) as well as preserving the stream health of the receiving channel (avoids hydrographic modification).

It should be noted that RSFs require a high level of coordinated implementation. Implementation strategies will be determined as part of the Community Plan and implementation work for SCM. It is assumed here that options will be available so that there is some flexibility as how to design and construct facilities to serve individual properties prior to regional facilities being available.

This technical memorandum provides a map of potential RSFs in all three subareas of the planning area. In addition, major elements of the Stormwater conveyance system that directs flow to the facilities or from the facilities to area streams are shown. The facilities and conveyance are intended to work in combination with elements of the Concept Plan, including: protection and enhancement of natural resource areas, provisions of parks and other open spaces, and management of stormwater at the site and street scale.

Detention facilities have been tentatively sized given the total impervious acres upland of the facilities as approximately located. The sizing tool was the Western Washington Hydrologic Model, which matches flow-duration curves for a range of storms pre- and post-development. CWS is in the process of updating its conveyance and detention standards based on a similar approach and intends to have these standards in place in place prior to the start of development in the South Cooper Mountain

Annexation Area (SCMAA). Thus these facilities would be reflective of that anticipated standard of care. Fine tuning of the location, upland area, and final facility size (including buffer and access areas) will be required following the selection of a preferred scenario.

Additional site-specific reviews of opportunities for Low Impact Development Approaches (LIDA) are encouraged as part of development, which may reduce the size of downstream detention facilities. This would be a joint decision of CWS and the City of Beaverton and would need to be decided prior to commitment to size and construct the regional facilities. Once sized, the cost recovery mechanism for CWS to construct the RSFs would be established.

Further development in the northern portion of the North Cooper Mountain (NCM) will require managed connections to the existing Clean Water Services Cross Creek, Butternut Creek, and Johnson Creek stormwater conveyance systems to the north and northeast, and connections to existing stormwater conveyances (both closed and open) outside the planning area will need to be examined to prevent downstream problems.

The future development of the Urban Reserve Area will need to be carefully managed to minimize stream erosion of the existing channels flowing southwest from the peak of Cooper Mountain to McKernan Creek. The southern portion of the North Cooper Mountain area is the upland area for the Urban Reserve Area and drains southwest; in this scenario analysis stormwater from this area has been collected and conveyed to help minimize stream erosion in the small open channels of the Urban Reserve Area.

As the eastern portion of the Urban Reserve Area is developed, managed connections to the City of Beaverton's Summer Creek conveyance systems to the east and southeast will need to be included.

For The Creeks, Hilltop, Grabhorn Meadow and portions of the URA Lowlands, stormwater management will be required to minimize erosion of the existing stream channels, as well as minimize the impact on the downstream channel of McKernan Creek, a tributary of the Tualatin River. The SCMAA and the eastern portion of URA Lowlands affect either Summer Creek (flows east) or an unnamed tributary of the Tualatin River (flows south). Development in these areas will need conveyance and detention systems that convey flow to the streams without causing channel erosion within the two areas, as well as not adversely impacting downstream conveyance elements.

Basic Assumptions

The planning area includes land that is very steep and has narrow stream catchments. Much of The Creeks is high value natural resource land and is not buildable. Placement of infrastructure in sensitive natural areas was avoided unless necessary (e.g. major arterials). Stream crossings were also minimized.

A general approach to sizing pipes and regional facilities was developed for this stage of the planning. Land use for each scenario was developed by the team and disaggregated into large geographic basins. Impervious fractions were assigned to each land use type which resulted in estimated total impervious acres by geographic basin. For each pipe segment or regional facility upland area, the upstream area was estimated as combinations of whole or partial geographic basins and the impervious acreage proportioned accordingly. This technique assumes uniform distribution of land use mixes, which in reality will be quite variable depending on specific site conditions. It is assumed that in the final sizing analysis, the actual impervious area will be recalculated.

Table 3. Scenario Analysis Impervious Area Assumptions

Development Type	Gross Imperviousness (Area-wide) (percent)
Neighborhood Commercial	59-74% (varies by scenario)
Urban Neighborhood	71%
Compact Neighborhood	58%
Single Family Neighborhood	57%
Future Urban 15	57%
Future Urban 10	54%
Single Family Residential Cluster	55%
Single Family Hillside	41%
Very Low Single Family Residential	18%
High School	30%
Elementary School	40%
Park	10%

Detention Facility Location, Sizing, and Costing

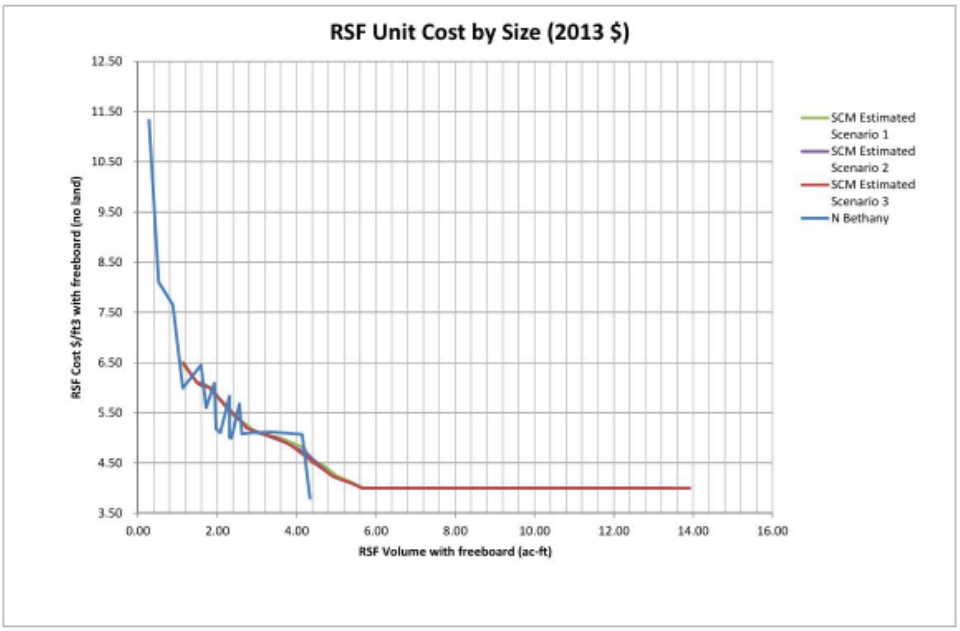
Regional detention facilities were first located primarily based on natural topography, then refined and added after the land use scenarios were developed. For this stage in the planning effort, all scenarios have the same facility locations and upland basin areas; what vary among the scenarios are only the impervious acres served. The locations and sizes (surface area and total constructed volume) will be refined after input from the TAC and CAC and the final land use pattern and roadway alignments are determined.

Regional facilities were located according to the following general guidelines:

- Protection of headwaters of streams where significant development is anticipated in the upland
- Adjacent to streams, lower in the catchment, where topography allows capture of urban flow prior to release
- Basin proportion practical for efficient piping to the facility (distance from top to bottom of basin is generally longer than the width)
- Sizing of facilities to meet flow detention requirements will be such that water quality requirements will also be met

To size the facilities, the Western Washington Hydrologic Model (WWHM) was used. This model sizes detention ponds with controlled outlets to create discharge hydrographs post-development that match the pre-development conditions (in this case, pasture and forest was assumed). The match is made against flow-duration curves, similar to the approach that CWS anticipates adopting by the time the SCM plan is adopted. The flow-duration curves match for stream-forming flows (2-year or less return period) as well as flooding flows (10-, 25-year return periods).

To prepare facility costs for purposes of scenario comparison, the facility costs for the North Bethany project[4] were reviewed and a nomograph prepared to represent the effective cost per constructed volume of pond. The graph below (and attached) illustrates this relationship for North Bethany and the curves used to estimate costs for SCM ponds.



DEA 11/1/2013

Pipe Location, Sizing, and Costing

A system backbone is proposed whose primary function is to capture flow upland of or along roadways and deliver to the RSFs, or to adjacent streams. The system assumes street-level stormwater management systems are installed by developers to connect to the pipe and pond system.

The hydrology of upland areas to the system piping was developed as follows:

- Rainfall 25-year from CWS manual 3.9 in Type 1A SBUH
- Soil Class C
- Impervious area CN 98
- Pervious area CN 77 (=good grass cover)
- Initial Time of Concentration (Tc) 10 min
- Drainage area geographic and roadway boundaries from the map

[4] North Bethany Stormwater Implementation Plan, prepared by Brown and Caldwell for Clean Water Services, October 9, 2013

The simplified model HydroCAD was then used to estimate peak runoff rate from each upland geographic basin that contributed to a pipe.

The hydraulics for pipe sizing was developed as follows:

- Minimum pipe diameter set as 12 inches
- Estimated slope along road using 10 foot contours, visually selecting defining segment of each pipe
- Approximately half the pipes in Scenario 3 were sized using Flowmaster
- A generalized relationship between upland area and resulting pipe diameter was developed from these modeled pipes based on normal flow, pipes flowing full
- Remaining pipes in Scenario 3 and all of Scenario 2 pipes were sized using this relationship

Pipe costs were taken from unit capital costs provided by City of Beaverton for sanitary sewers, adjusted to remove laterals. Generally similar materials were assumed with similar construction techniques. These unit rates can be revised for estimating final costs of the selected scenario.

Table 4. Estimated Unit Storm Pipe Costs

Pipe Diameter (inches)	Total Capital Cost ($/linear foot)	Pipe Diameter (inches)	Total Capital Cost ($/linear foot)
12	$218	21	$335
15	$258	24	$456
18	$296	36	$583

Capital costs include construction, manholes, miscellaneous, contractor overhead and profit, contingency, and engineering. Numbers estimated based on adjusting water/sanitary unit costs provided by CoB.

Summary of Conveyance and Detention Components

At this stage of the planning, 22 RSF general locations have been identified, as shown in the scenario maps. A comparison of the estimated facility sizes by scenario is given in Table 5. The basin area is the shaded area shown in the maps.

Stormwater Detention

Table 5. Regional Stormwater Facility Size Estimates by Scenario

RSF No.	Location	Basin Area (acres)	RSF Surface Area (acres)			RSF Volume (acre-feet)		
			Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3
1	NCM	24.1	0.3	0.6	0.6	1.1	2.0	2.0
2	NCM	32.8	0.4	1.1	1.1	1.5	3.9	3.9
3	URA	64.5	1.4	1.5	1.5	5.3	5.4	5.4
4	URA	47.7	2.4	2.2	2.5	9.1	8.3	9.5
5	URA	21.8	0.5	0.5	0.5	1.8	1.8	1.8

RSF No.	Location	Basin Area (acres)	RSF Surface Area (acres)			RSF Volume (acre-feet)		
			Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3
6	URA	14.7	0.3	0.3	0.3	1.1	1.1	1.1
7	URA	67.0	3.5	3.5	3.7	13.4	13.4	13.9
8	URA	32.8	2.1	2.0	1.7	7.9	7.5	6.4
9	URA	20.3	0.7	0.7	0.7	2.5	2.5	2.5
10	URA	13.1	0.4	0.4	0.4	1.5	1.5	1.5
11	URA	50.2	1.6	1.5	1.5	5.7	5.7	5.7
12	URA	42.2	1.2	1.3	1.3	4.4	4.9	4.9
13	SCMAA	33.5	2.9	2.9	2.8	10.9	11.1	10.5
14	SCMAA	9.2	0.5	0.5	0.5	1.6	1.6	1.6
15	SCMAA	7.4	0.5	0.5	0.5	1.8	1.8	1.8
16	SCMAA	16.7	1.1	1.2	1.2	4.2	4.2	4.4
17	SCMAA	8.8	0.4	0.4	0.4	1.4	1.5	1.4
18	SCMAA	17.0	1.0	1.0	0.8	3.6	3.7	2.9
19	SCMAA	39.1	1.3	1.3	1.0	4.6	4.7	3.5
20	SCMAA	8.1	0.8	0.7	0.7	3.0	2.7	2.3
21	SCMAA	26.3	1.4	1.4	1.4	5.0	5.0	5.0
22	SCMAA	30.0	0.7	0.8	0.8	2.4	2.7	2.7
Total		**627.3**	**25.4**	**26.3**	**25.9**	**94.0**	**97.2**	**94.7**

See maps for location of facilities. The surface area of the detention pond includes the total depth of the facility (three-foot wet depth, plus one foot freeboard) without additional buffer, access, or related features. The volume is the excavated volume for the four-foot deep facility.

A cost comparison of the three scenarios is given in Table 6, using the costing nomograph developed based on the North Bethany ponds (attached figure). For the final analysis, once the roadway and RSF locations are finalized, more precise cost estimates can be prepared.

Table 6. Regional Stormwater Facility Cost Comparison

		Scenario 1		Scenario 2		Scenario 3	
Area	**RSF No.**	**RSF Top Volume (ac-ft)**	**Estimated RSF Cost without Land ($)**	**RSF Top Volume (ac-ft)**	**Estimated RSF Cost without Land ($)**	**RSF Top Volume (ac-ft)**	**Estimated RSF Cost without Land ($)**
	1	1.1	$311,500	2.0	$514,000	2.0	$514,000
NCM	2	1.5	$398,600	3.9	$816,400	3.9	$816,400
	SUBTOTAL	**2.6**	**$710,100**	**5.9**	**$1,330,400**	**5.9**	**$1,330,400**
	3	5.3	$958,100	5.4	$961,200	5.4	$961,200
	4	9.1	$1,585,600	8.3	$1,451,700	9.5	$1,649,600
	5	1.8	$470,400	1.8	$474,000	1.8	$474,000
	6	1.1	$311,500	1.1	$323,500	1.1	$323,500
	7	13.4	$2,334,800	13.4	$2,338,200	13.9	$2,424,900
URA	8	7.9	$1,376,500	7.5	$1,311,900	6.4	$1,106,100
	9	2.5	$588,100	2.5	$593,000	2.5	$593,000
	10	1.5	$398,600	1.5	$396,000	1.5	$396,000
	11	5.7	$993,200	5.7	$984,800	5.7	$984,800
	12	4.4	$862,500	4.9	$904,800	4.9	$904,800
	SUBTOTAL	**52.7**	**$9,879,300**	**52.2**	**$9,739,100**	**52.6**	**$9,817,900**
	13	10.9	$1,899,200	11.1	$1,931,900	10.5	$1,822,800
	14	1.6	$425,100	1.6	$422,200	1.6	$418,700
	15	1.8	$470,400	1.8	$475,000	1.8	$475,000
	16	4.2	$878,200	4.2	$867,700	4.4	$870,600
	17	1.4	$378,100	1.5	$409,700	1.4	$378,400
SCMAA	18	3.6	$784,100	3.7	$798,200	2.9	$651,800
	19	4.6	$901,700	4.7	$897,700	3.5	$764,500
	20	3	$666,500	2.7	$611,100	2.3	$559,600
	21	5	$925,700	5.0	$918,900	5.0	$918,900
	22	2.4	$569,800	2.7	$619,900	2.7	$619,900
	SUBTOTAL	**38.5**	**$7,898,800**	**39.2**	**$7,952,300**	**36.2**	**$7,480,200**
	TOTAL	**93.8**	**$18,488,200**	**97.2**	**$19,021,800**	**94.7**	**$18,628,500**

Stormwater Conveyance

The following discussion highlights the potential needs for stormwater conveyance systems by scenario. Table 7 compares all three scenarios.

Scenario 1

Table 7. Scenario 1 - Stormwater Major Conveyance Improvements

North Cooper Mountain			
Pipe Diameter	**Total Length (ft)**	**Unit Cost ($/LF)**	**Subtotal ($)**
12	1,300	$218	$283,400
15	4,300	$258	$1,109,400
18	3,300	$296	$976,800
21	1,900	$335	$636,500
Subtotal	**10,800**		**$3,006,100**
Urban Reserve Area			
Pipe Diameter	**Total Length (ft)**	**Unit Cost ($/LF)**	**Subtotal ($)**
12	1,400	$218	$305,200
15	3,200	$258	$825,600
18	8,300	$296	$2,456,800
21	3,100	$335	$1,038,500
24	1,400	$456	$638,400
36	3,500	$583	$2,040,500
Subtotal	**20,900**		**$7,305,000**
South Cooper Mountain Annexation Area			
Pipe Diameter	**Total Length (ft)**	**Unit Cost ($/LF)**	**Subtotal ($)**
15	4,900	$258	$1,264,200
18	9,900	$296	$2,930,400
24	4,500	$456	$2,052,000
Subtotal	**19,300**		**$6,246,600**
Total:			**$16,557,700**

North Cooper Mountain

To protect the McKernan Creek tributaries, a stormwater conveyance system is recommended south of the ridge line. Flow would be diverted along Grabhorn Road. This area is not upland of any proposed RSF. Pipe sizes and costs would generally be the same among all the scenarios.

Urban Reserve Area

Pipes along Grabhorn and Tile Flat Roads would capture the majority of flow below the six RSFs recommended west of SW 175th Avenue. This pipe would increase in size along the road as it would accumulate flow along its path. By contrast, the pipe systems along SW 175th Avenue would be short segments devoted to directing flow to the new RSFs. East of SW 175th Avenue, flow would be diverted to Summer Creek or to a new system directing flow to RSF 11. This facility would protect the stream in SCMAA.

South Cooper Mountain Annexation Area

Major lines along the roadways are shown. In addition, a pipeline connecting RSF 12 to RSF 13 is shown. The exact layout of course will depend on development; this line is shown to ensure the outflow from RSF 12 is properly anticipated as SCMAA is developed.

Scenario 2

Table 8. Scenario 2 - Stormwater Mayor Conveyance Improvements

North Cooper Mountain			
Pipe Diameter	**Total Length (ft)**	**Unit Cost ($/LF)**	**Subtotal ($)**
12	1,300	$218	$283,400
15	4,300	$258	$1,109,400
18	3,300	$296	$976,800
21	1,900	$335	$636,500
Subtotal	10,800		**$3,006,100**
Urban Reserve Area			
Pipe Diameter	**Total Length (ft)**	**Unit Cost ($/LF)**	**Subtotal ($)**
12	300	$218	$65,400
15	5,500	$258	$1,419,000
18	10,200	$296	$3,019,200
24	1,400	$456	$638,400
36	4,000	$583	$2,332,000
Subtotal	21,400		**$7,474,000**

South Cooper Mountain Annexation Area			
Pipe Diameter	**Total Length (ft)**	**Unit Cost ($/LF)**	**Subtotal ($)**
12	700	$218	$152,600
15	8,000	$258	$2,064,000
18	6,000	$296	$1,776,000
21	1,300	$335	$435,500
24	4,500	$456	$2,052,000
Subtotal	20,500		**$6,480,100**
Total:			**$16,960,200**

North Cooper Mountain

The system here is largely the same as for Scenario 1.

Urban Reserve Area

The modified roadway system for SW 175th Avenue will require additional lengths of storm conveyance pipe and management of flow intended to be routed to RSFs 3, 4, and 5; and to 16, 17, and 18. Areas east of SW 175th Avenue are the same as for Scenario 1. Flow will be easier to direct to RSF 12.

South Cooper Mountain Annexation Area

The modified connection from SW Scholls Ferry Road to SW Grabhorn Road will increase the length of pipe required from that of Scenario 1. This roadway scenario also has two additional stream crossings.

Scenario 3

Table 9. Scenario 3 - Stormwater Major Conveyance Improvements

North Cooper Mountain			
Pipe Diameter	**Total Length (ft)**	**Unit Cost ($/LF)**	**Subtotal ($)**
12	2,600	$218	$566,800
15	4,700	$258	$1,212,600
18	3,300	$296	$976,800
21	1,900	$335	$636,500
Subtotal	**12,500**		**$3,392,700**

Urban Reserve Area			
Pipe Diameter	**Total Length (ft)**	**Unit Cost ($/LF)**	**Subtotal ($)**
12	1,200	$218	$261,600
15	5,900	$258	$1,522,200
18	7,000	$296	$2,072,000
21	3,100	$335	$1,038,500
36	3,000	$583	$1,749,000
Subtotal	**20,200**		**$6,643,300**

South Cooper Mountain Annexation Area			
Pipe Diameter	**Total Length (ft)**	**Unit Cost ($/LF)**	**Subtotal ($)**
12	700	$218	$152,600
15	3,200	$258	$825,600
18	6,200	$296	$1,835,200
21	1,800	$335	$603,000
24	2,700	$456	$1,231,200
Subtotal	**14,600**		**$4,647,600**
Total:			**$14,683,600**

North Cooper Mountain

The system here is largely the same as for Scenario 1.

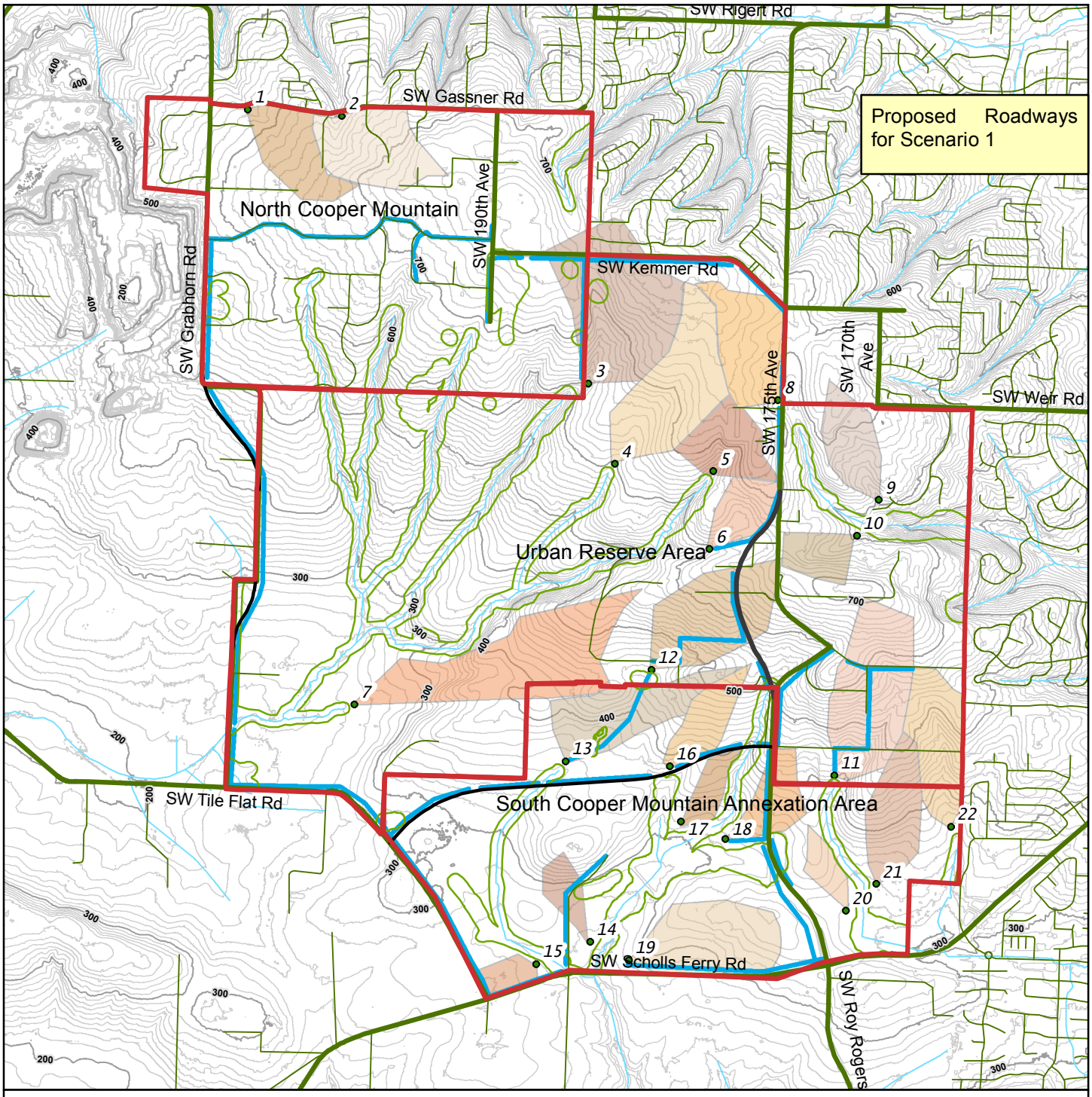
Urban Reserve Area

The new roadway connecting to SW 185th Avenue and the split roadway system to SW 175th Avenue will require additional lengths of storm conveyance pipe. Flow will be easier to direct to RSFs 3, 4, 5, and 6. Areas east of SW 175th Avenue are the same as for Scenario 1.

South Cooper Mountain Annexation Area

Slightly different routing of storm flow may be possible along the new roadway connecting SW Scholls Ferry Road to SW Grabhorn Road. This variation was associated with this scenario in order to provide information on how much this approach might cost.

2100 SW River Parkway Portland Oregon 97201 Phone: 503.223.6663 Facsimile: 503.223.2701



South Cooper Mountain Potential Stormwater System--Scenario 1

Legend

- South Cooper Mountain Study Area
- CWS Vegetated Corridor
- Existing Arterials
- New Arterial
- New Collector
- Streams
- Streets
- Major Contour (100' interval)
- Minor Contour (10' interval)
- Storm Pipes Scenario 1
- Stormwater Ponds

Pond Area

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22

Prepared By: David Evans and Associates, Inc.

Date: 11/1/2013

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

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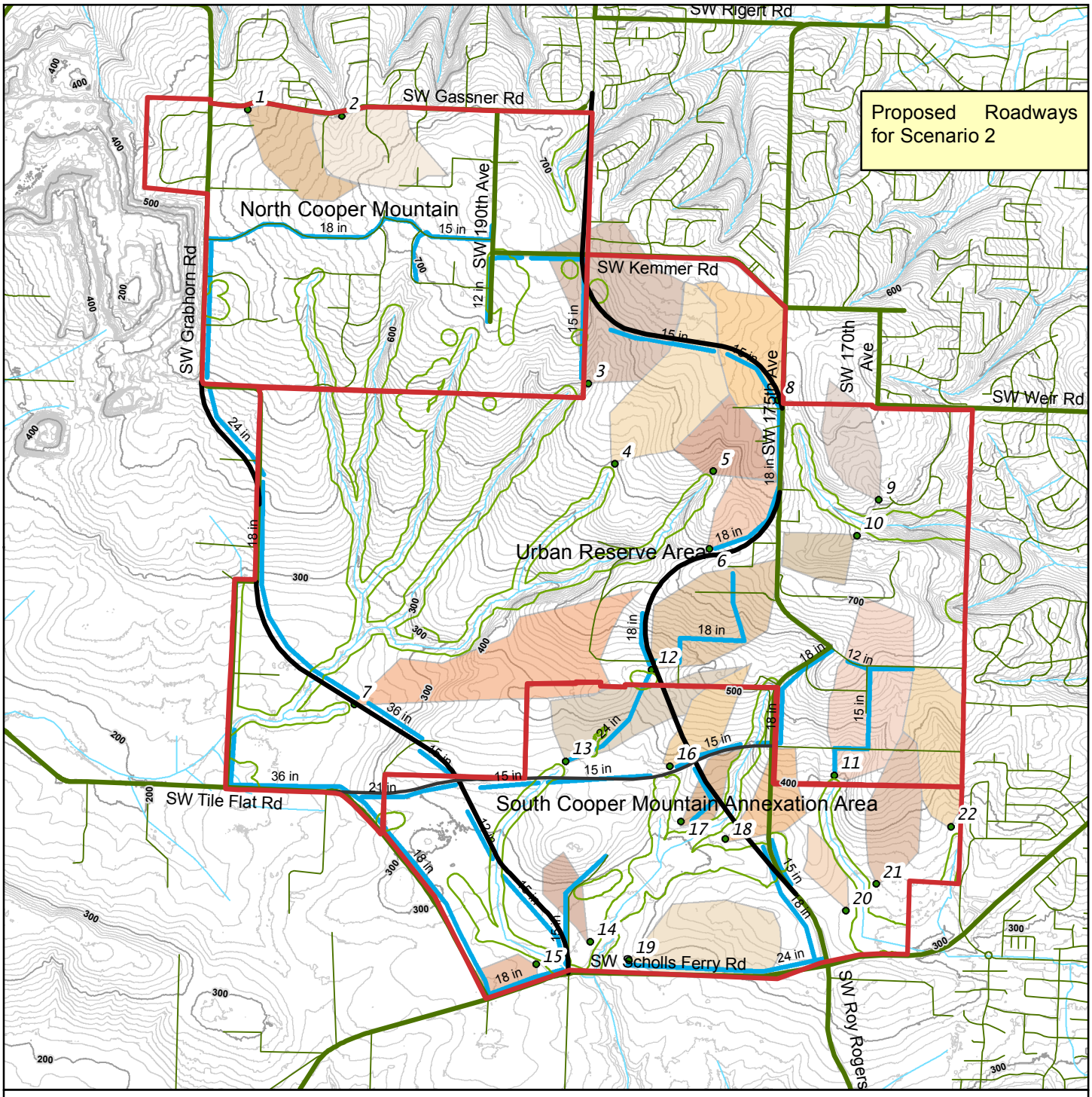

South Cooper Mountain Potential Stormwater System--Scenario 2

Legend

- South Cooper Mountain Study Area
- CWS Vegetated Corridor
- Existing Arterials
- New Arterial
- New Collector
- Streams
- Major Contour (100' interval)
- Minor Contour (10' interval)
- Storm Pipes Scenario 2
- Stormwater Ponds

Pond Area

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22

Prepared By: David Evans and Associates, Inc.

Date: 11/1/2013

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

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NORTH

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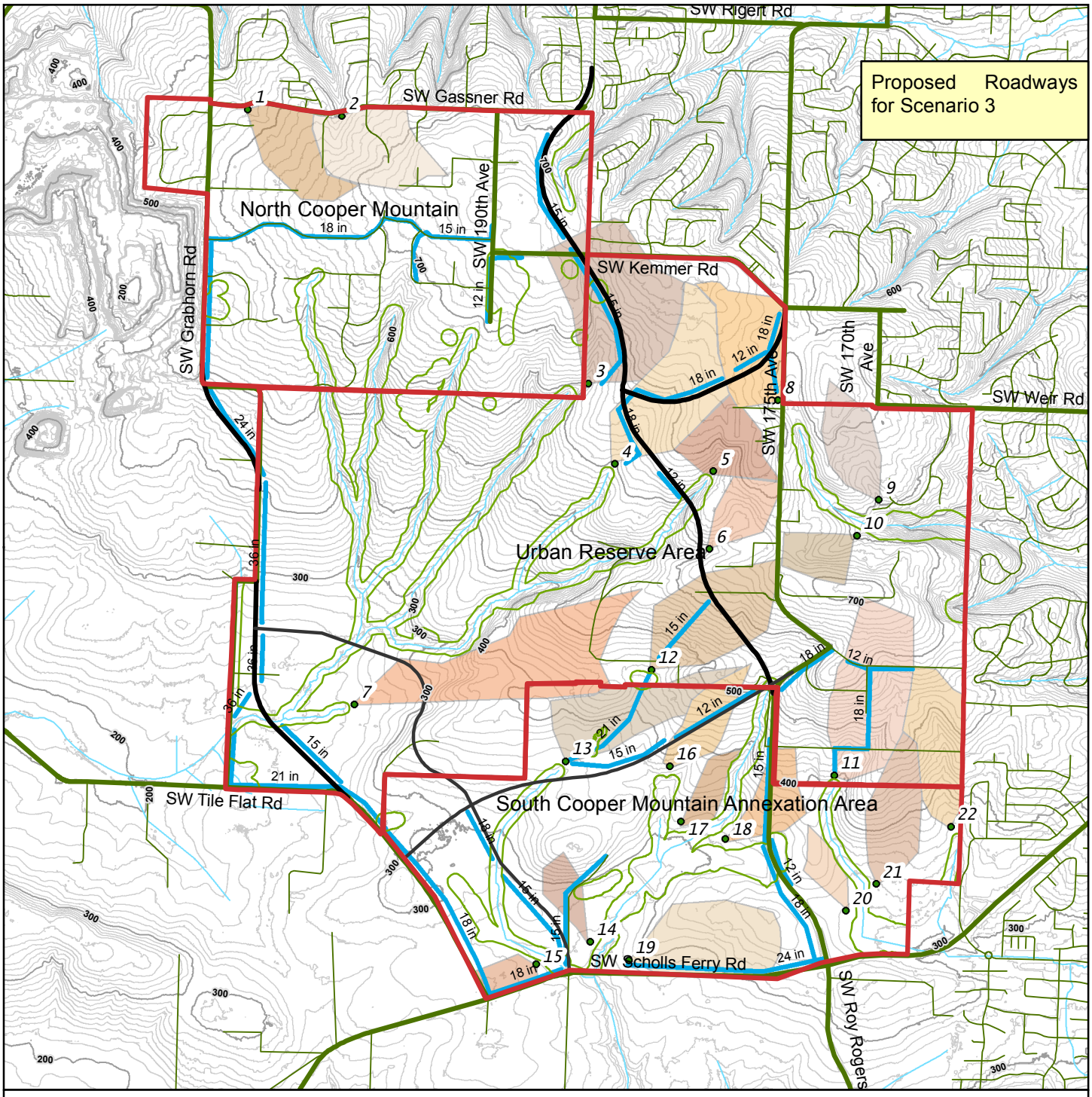

South Cooper Mountain Potential Stormwater System--Scenario 3

Legend

- South Cooper Mountain Study Area
- CWS Vegetated Corridor
- Existing Arterials
- New Arterial
- New Collector
- Streets
- Streams
- Major Contour (100' interval)
- Minor Contour (10' interval)
- Storm Pipes Scenario 3
- Stormwater Ponds

Pond Area

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22

Prepared By: David Evans and Associates, Inc.

Date: 11/1/2013

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

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NORTH

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720 SW Washington St.
Suite 500
Portland, OR 97205
503.243.3500
www.dksassociates.com

MEMORANDUM

DATE: June 27, 2014

TO: South Cooper Mountain Technical Advisory Committee

Cc: South Cooper Mountain Project Management Team

FROM: Carl Springer, Kevin Chewuk

SUBJECT: Transportation Findings for Preferred Scenario P13036-000

This memorandum summarizes the future transportation conditions under the preferred land use scenario and transportation framework associated with the South Cooper Mountain Concept Plan.[1] Included is documentation of the assumptions and methodologies, an analysis of future motor vehicle conditions and an identification of multi-modal improvements needed to support future growth within the South Cooper Mountain Concept Plan area.

FUTURE GROWTH IN SOUTH COOPER MOUNTAIN

Land use is a key factor in developing a functional transportation system. The amount of land that is planned to be developed, the type of land uses, and how the land uses are mixed together have a direct relationship to the expected demands on the transportation system. Understanding the amount and type of land use is critical to maintaining or enhancing transportation system operations.

The 544 acres within the South Cooper Mountain annexation area, coupled with another 1,232 acres in the adjacent Urban Reserve and 510 acres in North Cooper Mountain are being studied together to create a cohesive vision for the area and identify appropriate areas for urbanization, natural resource protection, and trunk infrastructure. Prior to establishing and as a part of adopting the needed zoning to allow for development in suitable areas, the city is required to update all public facilities plans, including the 2035 Transportation System Plan (TSP). Land with the South Cooper Mountain Annexation Area and North Cooper Mountain are within the Urban Growth Boundary (UGB) and will be addressed in community plans that will describe their intended zoning and development implementation. Land in the Urban Reserve is not available for urban development until and unless it is brought into the UGB in the future.

[1] The Preferred Concept Scenario and transportation frameworks are in the memorandum titled "Preferred Concept Plan Scenario for South Cooper Mountain", March 27, 2014, by Angelo Planning Group. The Preferred Concept Plan scenario was endorsed by the City Council on April 8, 2014 in Resolution 4232. The memorandum and resolution are available from the project's webpage: www.beavertonoregon.gov/southcooperplan

The long range build-out of the area (both UGB areas and Urban Reserve) is estimated to include over 7,400 housing units and more than 480 jobs. In addressing changing transportation needs in the area with the Concept Plan growth, the impact of the increased vehicle trip generation on the surrounding transportation system, as a result of full build-out over the long term, will be evaluated through the year 2035.[2] The new information obtained from this system analysis has been used to develop a set of transportation improvements and standards that served to inform the creation of the preferred Concept Plan Scenario, on-going infrastructure funding analysis, and updates to the comprehensive plans and Transportation System Plans for the South Cooper Mountain Concept Plan area.

Estimating Driving Trips

A determination of future street network needs requires the ability to accurately forecast travel demand resulting from estimates of future population and employment for the South Cooper Mountain Concept Plan area, and the rest of the City and Metro region. The objective of the transportation planning process is to provide the information necessary for making decisions about how and where improvements should be made to create a safe and efficient transportation system that provides travel options.

The travel demand forecasting process generally involves estimating travel patterns for new development based on the decisions and preferences demonstrated by existing residents, employers and institutions around the region. Travel demand models are mathematical tools that help us understand future commuter, school and recreational travel patterns including information about the length, mode and time of day a trip will be made. The latest travel models are suitable for motor vehicle and transit planning purposes, and can produce total volumes for autos, trucks and buses on each street and highway in the system. Model forecasts are refined by comparing outputs with observed counts and behaviors on the local. This refinement step is completed before any evaluation of system performance is made. Once the traffic forecasting process is complete, the 2035 volumes are used to determine the areas of the street network that are expected to be congested and that may need future investments to accommodate growth.

Washington County has a travel demand model that is based on Metro's Regional travel demand model. For the South Cooper Mountain Concept Plan, the Washington County travel demand model was refined to reflect the planned land use and roadway network envisioned as part of the Concept Plan.

Land Use and Motor Vehicle Trip Assumptions

As shown in Table 1, the South Cooper Mountain Concept Plan includes about 7,400 housing units and about 480 employees in the Preferred Scenario.

Vehicle trips that would be generated by the Concept Plan area were estimated by applying travel demand model trip generation rates by land use type, which were developed by Washington County staff based on westside trip patterns in the Metro model. Overall, the South Cooper Mountain Concept Plan area is expected to generate about 3,800 motor vehicle trips during the p.m. peak hour of the Preferred Scenario,

[2] Actual build-out will not likely occur by 2035. The portions of the Urban Reserve that would be developed are dependent upon future decisions regarding expansion of the UGB.

which is about 400 more than what would be expected during the p.m. peak hour of the TSP Baseline Scenario (about 3,400 trip ends).

Table 1: Land Use Assumptions for South Cooper Mountain Concept Plan

Scenario	Housing Units	Retail Employees	Other Employees	PM Peak Hour Vehicle Trips Ends
2035 TSP Baseline (Beaverton TSP)*	6,996	70	390	3,378
2035 Preferred Scenario	7,430	46	436	3,790

*Based on the disaggregated Washington County Model

Serving Growth

The starting point for the 2035 performance analysis relied on the list of street system improvement projects contained in the Metro Regional Transportation Plan, Beaverton Transportation System Plan, Washington County Transportation System Plan, and Hillsboro Transportation System Plans. These projects represent only those that have been previously planned, and therefore are not directly related to the growth in the South Cooper Mountain Concept Plan area. Additional transportation projects will be needed to support growth in the South Cooper Mountain Concept Plan area, however, they cannot be assumed for the baseline traffic analysis. The improvements that were assumed include:

- Scholls Ferry Road widening to five lanes from Teal-Horizon Boulevard to west of 175th Avenue-Roy Rogers Road (Washington County)
- Traffic signal installations at the Scholls Ferry Road/Tile Flat Road, Roy Rogers Road/Beef Bend Road, and Roy Rogers Road/Scholls-Sherwood Road intersections (Washington County)
- Extension of Weir Road from 170th Avenue to 175th Avenue (Beaverton TSP)
- Extension of Kemmer Road from 170th Avenue to Nora Road (Beaverton TSP)
- Add a westbound right turn lane at the Murray Boulevard/Beard Road-Brockman Road intersection (Beaverton)
- Widen 209th Avenue-Grabhorn Road to five lanes, north of Leland Drive (Hillsboro TSP/ South Hillsboro Concept Plan)
- Widen Farmington Road to five lanes through the 185th Avenue intersection (Metro Regional Transportation Plan)
- Install a traffic signal at the Roy Rogers Road/Bull Mountain Road intersection (Washington County TSP/ West Bull Mountain Concept Plan)
- Widen Roy Rogers Road-175th Avenue to five-lanes from just north of Scholls Ferry Road to just south of Beef Bend Road (Washington County TSP/ West Bull Mountain Concept Plan)
- Construct a regional shared-use path (Cooper Mountain Regional Trail) between the 175th Avenue/Weir Road intersection, the 185th Avenue/Gassner Road intersection (along the west side of the 185th Avenue extension), and the Grabhorn Road/Gassner Road intersection (Metro Regional Transportation Plan)

2035 MOTOR VEHICLE OPERATIONS

Future traffic forecasts were prepared for 2035 for the following scenarios:

- **2035 TSP Baseline**– this assumes the land use within Washington County's version of Metro's Regional Travel Demand Forecast Model. This scenario includes 6,996 households in the South Cooper Mountain area and is assumed to match the forecast of the current Beaverton Transportation System Plan. It includes the improvement projects listed in the "Serving Growth" section and the traffic volumes shown in Figures 1a and 1b.
- **2035 Preferred Scenario**– this scenario assumes slightly higher amounts of potential development for the South Cooper Mountain area compared to the TSP Baseline Scenario (7,430 households and 482 employees). It also includes the improvement projects listed in the "Serving Growth" section and the traffic volumes shown in Figures 2a and 2b.

In addition, future traffic forecasts were developed for the Preferred Scenario with only the growth in the South Cooper Mountain Annexation Area. For this scenario, no growth was assumed in North Cooper Mountain or in the Urban Reserves as a sensitivity test to evaluate the short term impacts of growth in the South Cooper Mountain Annexation Area.

Metro's Regional Travel Demand Model assumes build-out of these areas through the planning horizon of 2035; however, the project team assumes that this is likely to happen beyond that timeline, if it happens at all.[3] It was found that after assuming no growth in the in North Cooper Mountain or Urban Reserves areas, the associated vehicle trips that would take up the available capacity on adjacent streets is often back-filled with other regional traffic. In other words, future congestion on parallel arterials routes (such as Murray Boulevard, or Highway 217) could potentially cause drivers to re-route to major streets in the South Cooper Mountain Concept Plan area (such as 175th Avenue, Grabhorn Road or Kemmer Road), therefore, the traffic operational results shown in Table 2 are often similar between the South Cooper Mountain Annexation Area Only Scenarios and the Preferred Scenario.

Motor vehicle conditions were evaluated during the 2035 evening peak hour at the twenty-six study intersections (shown in Table 2). The evaluation utilized 2000 Highway Capacity Manual methodology for signalized and 2010 Highway Capacity Manual methodology for unsignalized intersections.

After assuming the street system improvement projects listed in the "Serving Growth" section above, several intersections are expected to exceed mobility targets under each scenario. Many of these intersections were previously forecasted to exceed standards in the Beaverton, and Washington County Transportation System Plans. In fact, the Preferred Scenario improves operations at a few intersections compared to the TSP Base Case Scenario since traffic would be expected to reroute after assuming the improvements needed to support growth within the South Cooper Mountain Concept Plan area.

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[3] Urban levels of development in the Urban Reserve cannot occur unless the Urban Growth Boundary is expanded to include some or all of those lands.

It should be noted that the Metro Regional Transportation Plan, Beaverton Transportation System Plan, Washington County Transportation System Plan, and Hillsboro Transportation System Plans recommend various improvements, including widening of Farmington Road to five lanes at 185th Avenue, widening 209th Avenue to five lanes at the Farmington Road intersection, installing a westbound right-turn lane at the Murray Boulevard/Beard Road-Brockman Road intersection, widening Roy Rogers Road to five lanes, and installing a traffic signal at the Roy Rogers Road/Bull Mountain Road intersection. This updated system analysis re-affirms the need for improvements at these locations.

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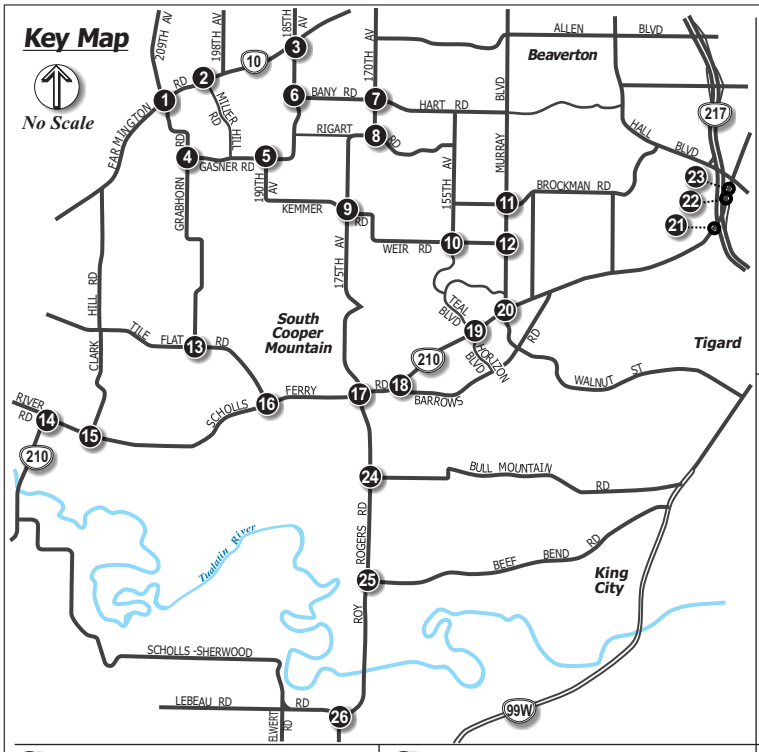
Table 2: Study Intersection Operations (2035 p.m. peak)

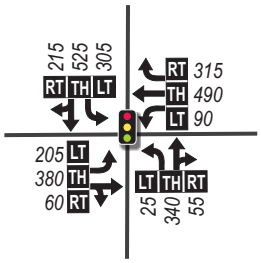
Intersection (traffic control)*	Mobility Target	TSP Baseline		Preferred Scenario – South Cooper Mountain Annexation Area Only		Preferred Scenario		Planned Intersection Solution
		Volume/ Capacity	Level of Service	Volume/ Capacity	Level of Service	Volume/ Capacity	Level of Service	
Farmington Road/ Grabhorn Road-209th Avenue (signalized)	0.99 v/c	0.86	C	0.82	C	0.83	C	Widen 209th Avenue-Grabhorn Road to five lanes
Farmington Road/ Miller Hill Road (unsignalized)	0.99 v/c	0.77	F	0.80	F	0.80	F	N/A
Farmington Road/ 185th Avenue (signalized)	0.99 v/c	0.99	E	0.95	E	0.99	E	Widen Farmington Road to five lanes
Gassner Road/ Grabhorn Road (unsignalized)	0.99 v/c	0.61	D	0.35	C	0.66	E	N/A
Gassner Road/ 190th Avenue (all-way stop)	0.99 v/c	0.64	C	0.52	B	0.57	B	N/A
Bany Road/ 185th Avenue (unsignalized)	0.99 v/c	0.35	F	0.25	D	0.28	E	N/A
Bany Road/ 170th Avenue (signalized)	0.99 v/c	1.05	E	0.93	D	0.98	D	N/A
Rigert Road/ 170th Avenue (all-way stop)	0.99 v/c	1.32	F	0.97	F	1.10	F	N/A
Kemmer Road/ 175th Avenue (all-way stop)	0.99 v/c	>1.50	F	1.19	F	1.35	F	N/A
Weir Road/ 155th Avenue (all-way stop)	45 seconds	0.54	B	0.47	B	0.65	C	N/A
Murray Boulevard/ Beard Road-Brockman Road (signalized)	0.99 v/c	0.89	D	0.88	D	0.89	D	Add a westbound right turn lane
Murray Boulevard/ Weir Road (signalized)	0.99 v/c	0.61	A	0.55	A	0.58	A	N/A
Tile Flat Road/ Grabhorn Road (unsignalized)	0.90 v/c	0.78	D	0.01	B	0.09	B	N/A
Scholls Ferry Road/ River Road (roundabout)	0.90 v/c	0.56	A	0.47	A	0.51	A	N/A
Scholls Ferry Road/ Clark Hill Road (unsignalized)	0.90 v/c	0.70	F	0.41	F	0.45	F	N/A

Scholls Ferry Road/ Tile Flat Road (unsignalized)	0.99 v/c	**1.08**	D	0.84	C	0.73	C	Install a traffic signal
Scholls Ferry Road/ Roy Rogers Road-175th Avenue (signalized)	0.99 v/c	**1.09**	E	0.79	D	0.80	D	Widen Roy Rogers Road-175th Avenue to five lanes; Widen Scholls Ferry Road to five lanes
Scholls Ferry Road/ Barrows Road (signalized)	0.98 v/c	0.76	C	0.74	B	0.68	C	Widen Scholls Ferry Road to five lanes
Scholls Ferry Road/ Horizon-Teal Boulevard (signalized)	0.99 v/c	**1.11**	F	**1.00**	E	**1.06**	F	Widen Scholls Ferry Road to five lanes
Scholls Ferry Road/ Murray Boulevard (signalized)	0.99 v/c	**1.06**	F	**1.02**	E	**1.07**	F	N/A
Scholls Ferry Road/ Highway 217 Southbound Ramps (signalized)	0.85 v/c	0.84	C	0.84	C	0.85	C	N/A
Scholls Ferry Road/ Highway 217 Northbound Off-Ramp (signalized)	0.85 v/c	0.54	B	0.54	B	0.54	B	N/A
Scholls Ferry Road/ Highway 217 Northbound On-Ramp (signalized)	1.10 v/c	0.71	C	0.71	C	0.71	C	N/A
Roy Rogers Road/ Bull Mountain Road (unsignalized)	0.99 v/c	0.68	B	0.87	C	0.84	C	Install a traffic signal; Widen Roy Rogers Road-175th Avenue to five-lanes
Roy Rogers Road/ Beef Bend Road (unsignalized)	0.90 v/c	0.72	B	0.74	B	0.73	B	Install a traffic signal; Widen Roy Rogers Road-175th Avenue to five-lanes
Roy Rogers Road/ Scholls-Sherwood Road (unsignalized)	0.90 v/c	**0.93**	C	**0.92**	C	**0.94**	C	Install a traffic signal

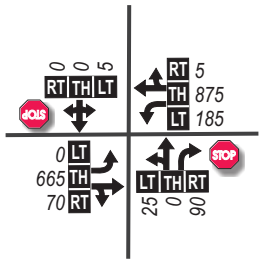
Bolded Red indicates intersection exceeds mobility target
Note: * V/C ratio, LOS and delay reported as the intersection average at signalized locations and worst stop controlled approach at unsignalized locations
** V/C ratio reported for worst movement



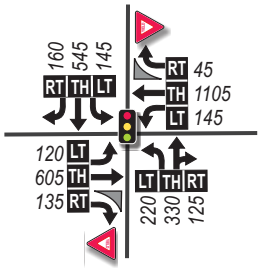
1 Farmington Rd./Grabhorn Rd.-209th Ave.



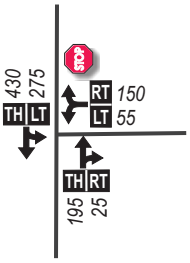
2 Farmington Rd./Miller Hill Rd.



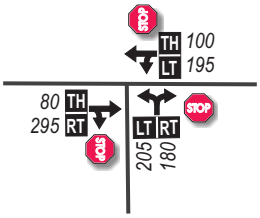
3 Farmington Rd./185th Ave.



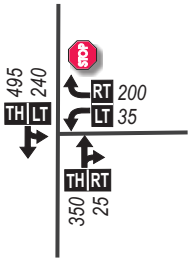
4 Gassner Rd./Grabhorn Rd.



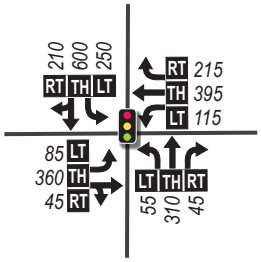
5 Gassner Rd./190th Ave.



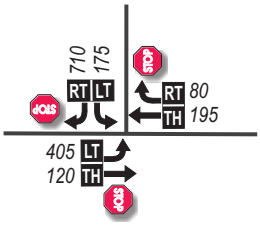
6 Bany Rd./185th Ave.



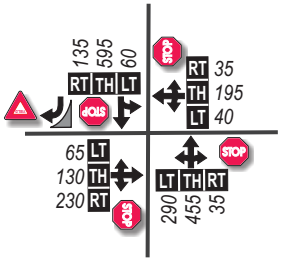
7 Bany Rd./170th Ave.



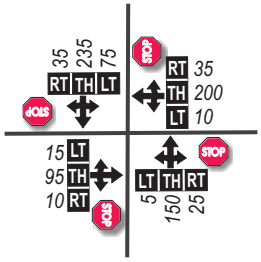
8 Rigert Rd./170th Ave.



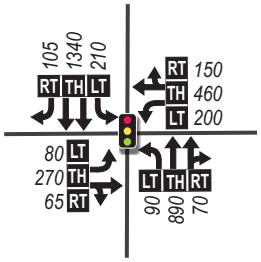
9 Kemmer Rd./175th Ave.



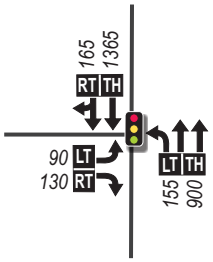
10 Weir Rd./155th Ave.



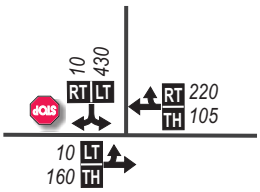
11 Murray Blvd./Beard Rd.-Brockman Rd.



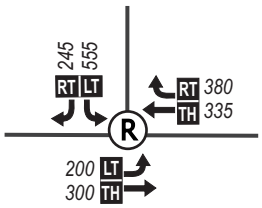
12 Murray Blvd./Weir Rd.



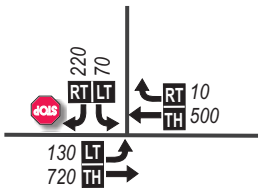
13 Tile Flat Rd./Grabhorn Rd.



14 Scholls Ferry Rd./River Rd.



15 Scholls Ferry Rd./Clark Hill Rd.



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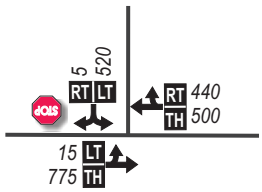


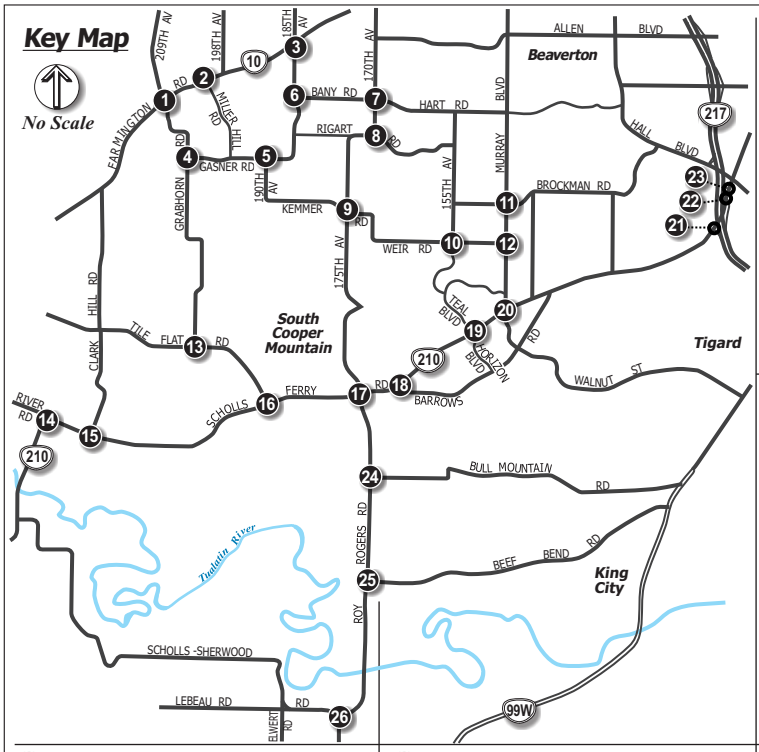
LEGEND

- Study Intersection
- Traffic Signal
- Stop Sign
- Yield Sign
- Roundabout
- Lane Configuration
- 000 - PM Peak Hour Traffic Volumes
- LT TH RT (Left•Thru•Right) - Volume Turn Movement

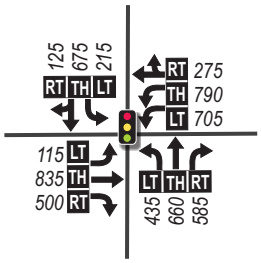
DKS

Figure 1a

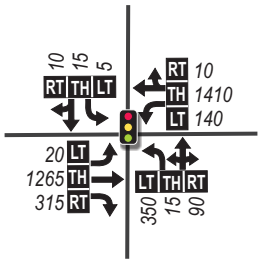
2035 TSP BASELINE SCENARIO TRAFFIC VOLUMES (PM Peak Hour)



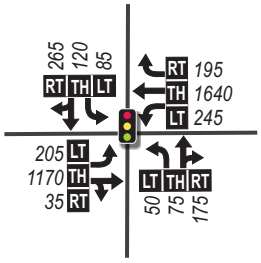
17 Scholls Ferry Rd./ Roy Rogers Rd.-175th Ave.



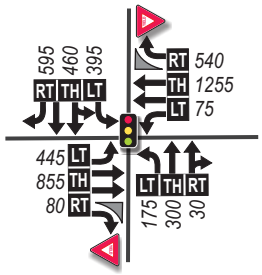
18 Scholls Ferry Rd./Barrows Rd.



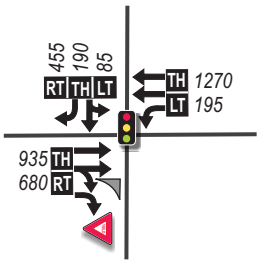
19 Scholls Ferry Rd./ Horizon-Teal Blvd.



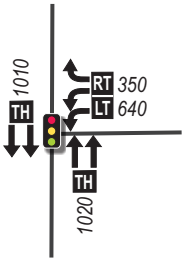
20 Scholls Ferry Rd./Murray Blvd.



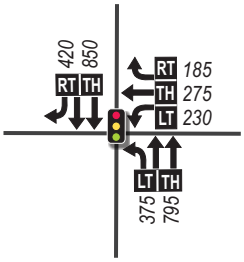
21 Scholls Ferry Rd./ SR 217 SB Ramps



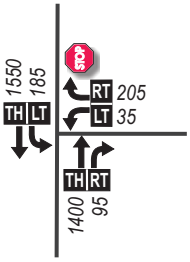
22 Scholls Ferry Rd./ SR 217 NB Off-Ramp



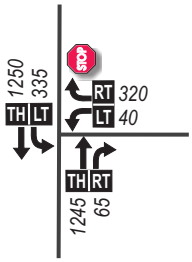
23 Scholls Ferry Rd./ SR 217 NB On-Ramp



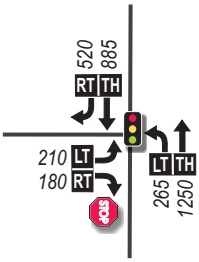
24 Roy Rogers Rd./Bull Mtn. Rd.



25 Roy Rogers Rd./Beef Bend Rd.



26 Roy Rogers Rd./ Scholls-Sherwood Rd.



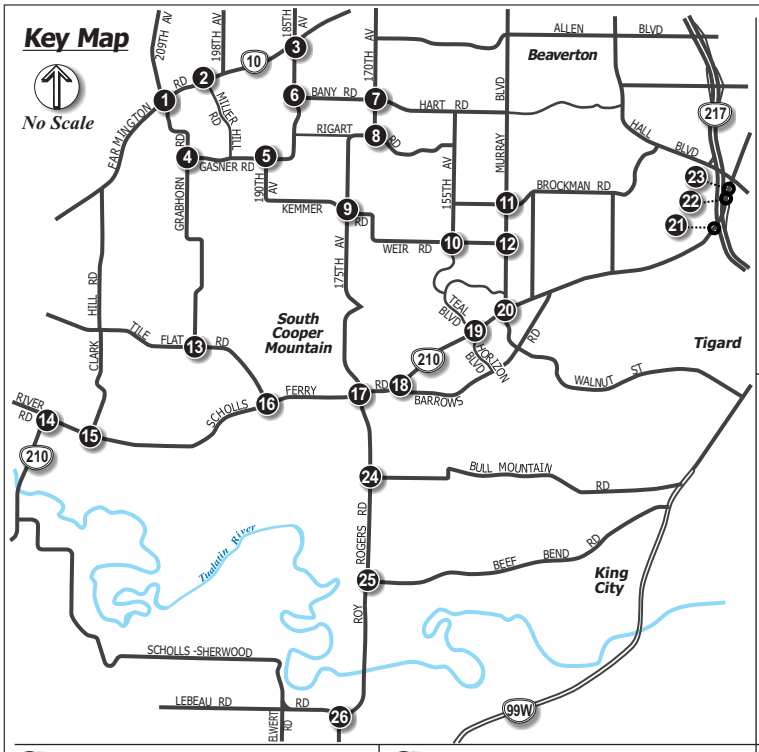
LEGEND

- 0 - Study Intersection
- Traffic Signal
- STOP - Stop Sign
- Yield Sign
- Lane Configuration
- 000 - PM Peak Hour Traffic Volumes
- LT TH RT - Volume Turn Movement (Left•Thru•Right)

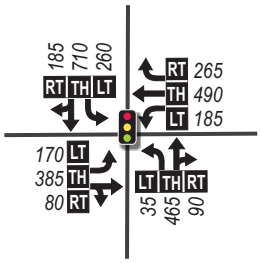
DKS

Figure 1b

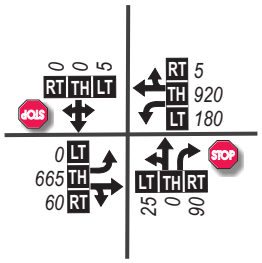
2035 TSP BASELINE SCENARIO TRAFFIC VOLUMES (PM Peak Hour)



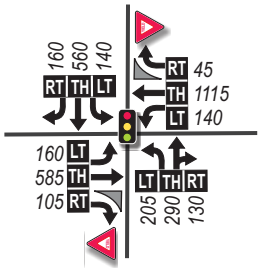
1 Farmington Rd./Grabhorn Rd.-209th Ave.



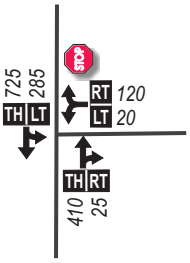
2 Farmington Rd./Miller Hill Rd.



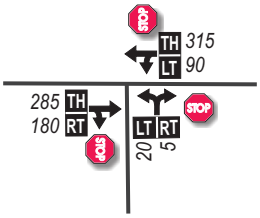
3 Farmington Rd./185th Ave.



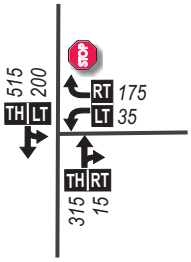
4 Gassner Rd./Grabhorn Rd.



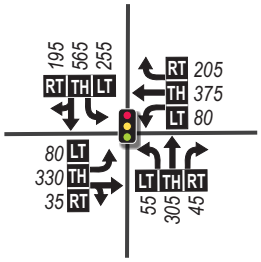
5 Gassner Rd./190th Ave.



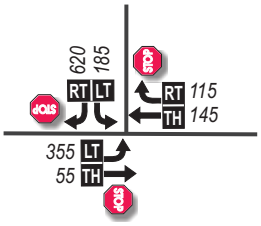
6 Bany Rd./185th Ave.



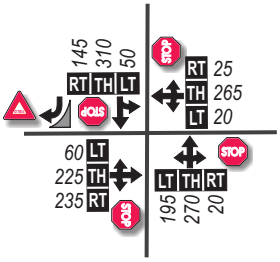
7 Bany Rd./170th Ave.



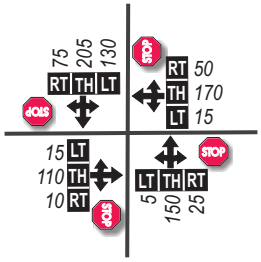
8 Rigert Rd./170th Ave.



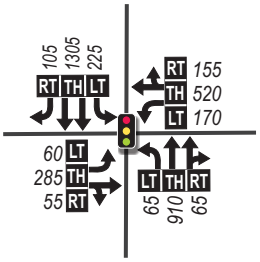
9 Kemmer Rd./175th Ave.



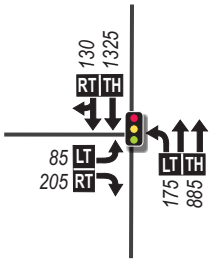
10 Weir Rd./155th Ave.



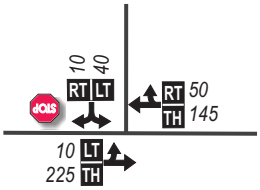
11 Murray Blvd./Beard Rd.-Brockman Rd.



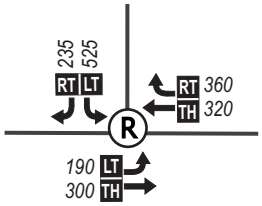
12 Murray Blvd./Weir Rd.



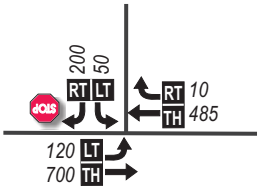
13 Tile Flat Rd./Grabhorn Rd.



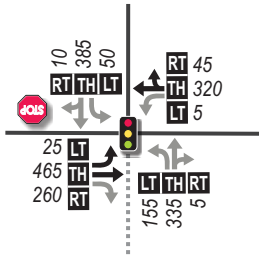
14 Scholls Ferry Rd./River Rd.



15 Scholls Ferry Rd./Clark Hill Rd.



16 Scholls Ferry Rd./Tile Flat Rd.



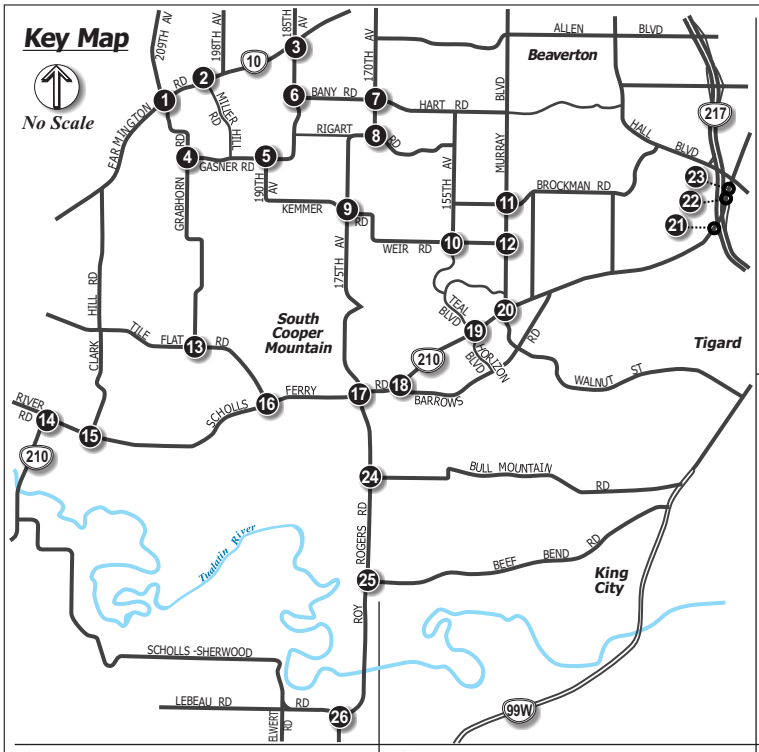
LEGEND

- Study Intersection
- Traffic Signal
- Stop Sign
- Yield Sign
- Roundabout
- Lane Configuration
- 000 - PM Peak Hour Traffic Volumes
- LT TH RT - Volume Turn Movement (Left•Thru•Right)

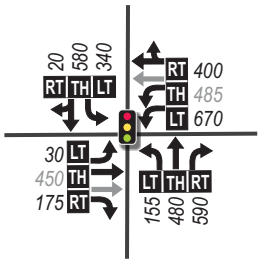
DKS

Figure 2a

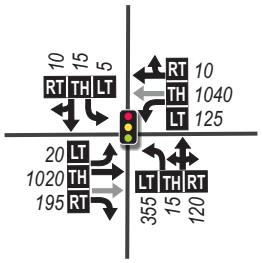
2035 PREFERRED SCENARIO TRAFFIC VOLUMES (PM Peak Hour)



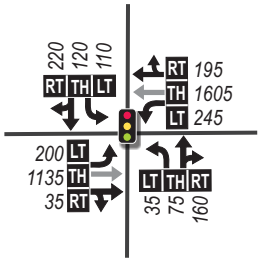
17 Scholls Ferry Rd./ Roy Rogers Rd.-175th Ave.



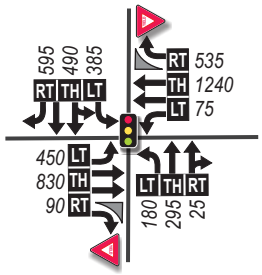
18 Scholls Ferry Rd./Barrows Rd.



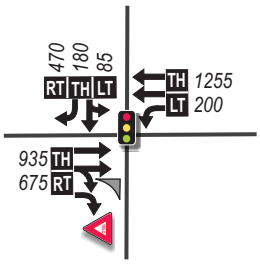
19 Scholls Ferry Rd./ Horizon-Teal Blvd.



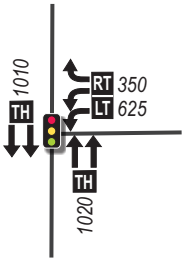
20 Scholls Ferry Rd./Murray Blvd.



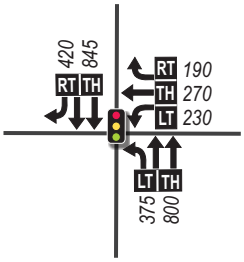
21 Scholls Ferry Rd./ SR 217 SB Ramps



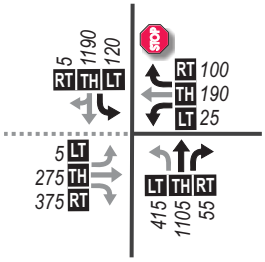
22 Scholls Ferry Rd./ SR 217 NB Off-Ramp



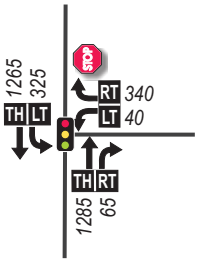
23 Scholls Ferry Rd./ SR 217 NB On-Ramp



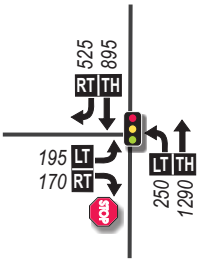
24 Roy Rogers Rd./Bull Mtn. Rd.



25 Roy Rogers Rd./Beef Bend Rd.



26 Roy Rogers Rd./ Scholls-Sherwood Rd.



LEGEND

- Study Intersection
- Traffic Signal
- Stop Sign
- Yield Sign
- Lane Configuration
- 000 - PM Peak Hour Traffic Volumes
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DKS

Figure 2b

2035 PREFERRED SCENARIO TRAFFIC VOLUMES (PM Peak Hour)

STREET FUNCTIONAL CLASSIFICATION

The functional classification of roadways is a common practice in the United States. Traditionally, roadways are classified based on the type of vehicular travel it is intended to serve (local versus through traffic). In Beaverton, the functional classification of a roadway (shown later in this document in Figure 4 for the South Cooper Mountain Concept Plan area) determines the level of mobility for all travel modes, defining its design characteristics (such as minimum amount of travel lanes), level of access and usage within the City and region. The street functional classification system recognizes that individual streets do not act independently of one another but instead form a network that works together to serve travel needs on a local and regional Tlevel. From highest to lowest intended usage, the classifications are arterials, collectors, neighborhood routes, and local streets. Roadways with a higher intended usage generally provide more efficient motor vehicle traffic movement (or mobility) through the City, while roadways with lower intended usage provide greater access for shorter trips to local destinations.

These classifications were designated for the South Cooper Mountain Concept Plan Concept Plan area, including Arterial Streets (including Scholls Ferry Road, 175th Avenue, Grabhorn Road, and Kemmer Road), Collector Streets (including Gassner Road, a new east-to-east route between Loon Drive and Tile Flat Road, and a new north-to-south route between Scholls Ferry Road and Grabhorn Road, east of Tile Flat Road), Neighborhood Routes (including Alvord Lane extension between Tile Flat Road and 175th Avenue), and local streets (most streets in the South Cooper Mountain Concept Plan area). The applicable typical street sections for South Cooper Mountain Concept Plan can be seen in Figures A1, A2, A3, and A4 in the appendix.

WALKING AND BIKING

Residents in the South Cooper Mountain Concept Plan area will be able to safely and efficiently travel between destinations via any number of active transportation modes, such as walking, biking, or skating. A system of on-street sidewalks and bikeways, and shared use paths will provide quality access to key destinations—improving the overall health and livability of the neighborhood.

Walking and Biking Facilities

The proximity to the Cooper Mountain Nature Park and the potential for the development of many smaller neighborhood and larger community parks, is a significant asset for the future of South Cooper Mountain. To better serve the access needs of existing and future residents to these scenic natural and recreational areas, a high quality network of low-stress pedestrian and bicycle facilities is envisioned. Many proposed streets in the South Cooper Mountain area will include large vegetated medians and/or buffers to help maintain a natural, rural feel to the street. In addition to serving a traffic calming function, these streets will also provide informal areas for social activity, recreation, and play. For pedestrians, this means that sidewalks will be provided on all proposed streets—completely separate from the motor vehicle travelway. For bicyclists, dedicated facilities will vary based on roadway classification. Local streets will include shared lane markings to demonstrate where bicyclists should operate on the roadway—outside the parking lane door zone—and alert motorists to expect bicyclists on the roadway. Arterial and Collector streets will have physically separated facilities, such as bike lanes or shared-use paths, or will have accommodations on

adjacent routes. Wayfinding signage should also be developed to highlight key destinations, such as parks and shopping, and the best routes for pedestrians and bicyclists. These signs will improve destination and route finding for residents and visitors alike, encouraging exploration and activity.

Both the trail and on-street pedestrian and bicycle network are context sensitive, addressing the rural character of the South Cooper Mountain area, while also meeting the expressed community desire to have increased opportunities for walking and biking. Moreover, these networks will be fully integrated with the existing trail and bikeway network and the planned active transportation projects in the Metro Regional Trail and Greenways Plan. These measures help ensure that existing and future residents of South Cooper Mountain can access goods and services, without the need for an automobile, within and outside of the area.

Shared Use Paths

Figure 3 illustrates the potential active transportation network for the South Cooper Mountain neighborhood. The emphasis of this network is on connecting residents to existing and future trails, as defined in the Metro Regional Trail and Greenways Plan, as well as key destinations within and near to South Cooper Mountain. Trail access to important viewsheds in the South Cooper Mountain area will also be taken advantage of. For example, several trails will follow creeks (outside of vegetated corridors) through the middle and southern edge of the site, including the McKernan Creek Trail. The types of trails that are provided will vary by context—anything from pervious paver walking paths to concrete shared use paths for pedestrians and bicyclists. On many streets, there is also the potential to designate a path through an adjacent shared-use path. User comfort on these trails will be maximized due to the physical distance and separation from motor vehicle traffic.

On-Street Facilities

For pedestrians, sidewalks are the predominant facility type, and these will be installed on both sides of the roadways with an Arterial or Collector classification (as shown Figure 3). Local streets will be more flexible in their approach and could include pervious pavers or other surface types as a trail or sidewalk. The trails will maintain physical separation, via a landscaped buffer, from motor vehicle traffic, but will help to retain the rural character of South Cooper Mountain.

On Collector and Arterial streets--streets where traffic speeds and volumes are higher, bicyclists will be provided with physically separated facilities, such as a bike lane or shared-use path. However, the majority of streets in the South Cooper Mountain neighborhood will be Local streets, with lower traffic speeds and volumes.

TRANSIT

Based on discussions with Tri-Met officials and Tri-Met's Westside Service Enhancement Plan, the most likely near-term extension of transit service to the planning area is the extension of bus service from Washington Square to the SCMAA along Scholls Ferry Road. This route will likely include a stop at Progress Ridge as well. A future stop to serve the SCMAA could potentially be located at the planned Beaverton School District high school or at the Main Street, if the necessary facilities, including a bus pullout area and access to amenities for drivers (such as restrooms or shops) are available and if there is a logical way for the

bus to turn around. Service would potentially run daily throughout most of the day with fairly frequent service (15 to 20 minute headways) during peak times and half-hour to hour headways during off times.

In the longer-term, limited-stop commuter-oriented transit service could be provided from Sherwood to Hillsboro along Roy Rogers and 175th Avenue through the planning area. Future stops could be located adjacent to higher density nodes along 175th Avenue. Service would likely be limited to peak commute hours, and could be provided in a single direction (north) in the morning and the reverse direction (south) in the evening. This line would likely utilize the connection from 175th to 185th Avenue. Improvements to 175th to eliminate the sharp turn at "the kink" would be required in order to provide bus service on 175th Avenue.

Beaverton
South Cooper Mountain

South Cooper Mountain Concept & Community Plans

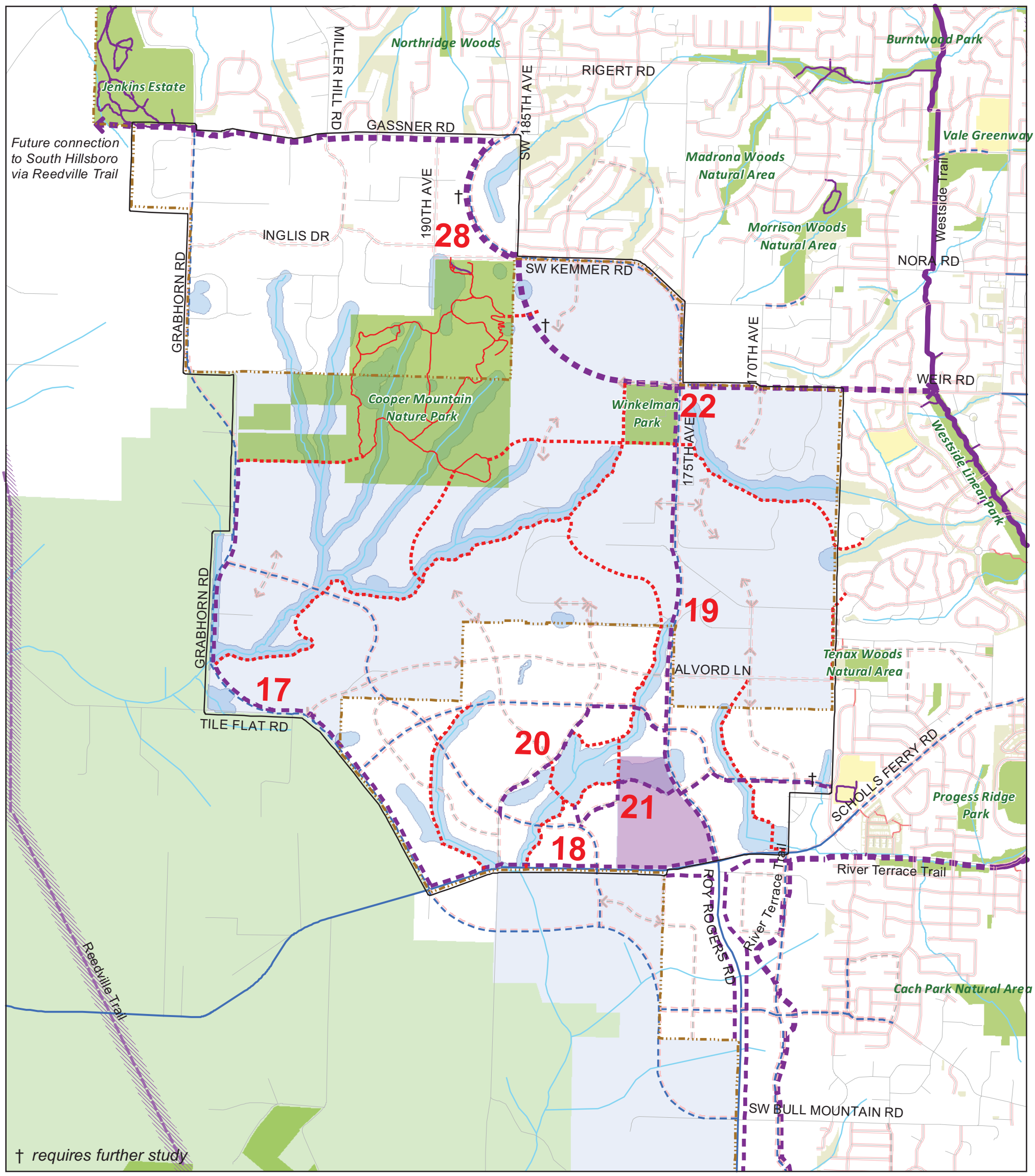

Figure 3: Final Preferred Bicycle & Pedestrian Framework

Type

- Proposed Regional Multi-Use Path
- Proposed Community Multi-Use Path
- Proposed Nature Trail
- Existing Sidewalk (Complete)
- Existing Partial Sidewalks
- Existing Bike lane
- Streets
- Planned Bike Lane
- Planned Sidewalks*
- Regional Multi-use Trails
- Community Multi-use Trails
- Local Multi-use Trails
- Existing Pedestrian-Only Nature Trails
- Private Paths
- Conceptual Future Trails
- Study Area
- Urban Growth Boundary
- # Transportation Improvement ID
- Streams
- Riparian & Wetland Buffers
- Planned High School Site
- Existing Parks and Natural Areas
- Preserved by Home Owners Assns.
- Existing Schools
- Rural Reserve**
- Urban Reserve

As approved by Beaverton City Council, April 8, 2014

*New local streets (not shown) will have sidewalks.
** As amended by HB 4078A.

Prepared By: Angelo Planning Group
This map is intended for informational purposes only.

NORTH

0 500 1,000 2,000 Feet

SUMMARY OF TRANSPORTATION SYSTEM RECOMMENDATIONS

Transportation improvements needed to support future growth and new development within the South Cooper Mountain Concept Plan area are summarized in Table 4. Overall, an estimated $132 million in transportation system improvements are expected to be needed to support the growth conceptually planned for the full planning area (see Table 4). About 40 percent of the total project costs of these improvements (approximately $48.3 million of the $132 million) are expected to be caused by regional traffic growth. Forecasted traffic growth associated with development in the South Cooper Mountain Concept Plan area is expected to drive the need for about $83.7 million worth of the total project costs. Of these total project costs, growth in the South Cooper Mountain Annexation area is expected to cause the need for about $44.4 million, $3.6 million in North Cooper Mountain, and $35.7 million in the Urban Reserves, of the total project costs.

In addition, several projects were identified in previous studies or plans surrounding the South Cooper Mountain Concept Plan area. This updated system analysis re-affirmed the need for improvements at many of these locations. Since the need for these improvements are generally driven by regional traffic issues, and are not entirely caused by growth within the South Cooper Mountain Concept Plan area, they are shown separately in Table 5. Overall, an estimated $88 million worth of improvements were previously identified in the Metro Regional Transportation Plan, Beaverton Transportation System Plan, Washington County Transportation System Plan, and Hillsboro Transportation System Plans. Of these previously planned projects, about $30.8 million worth of the total improvement costs would be driven by growth within the South Cooper Mountain Concept Plan area.

The recommended improvements can be seen in Figure 3 (shown earlier in this document) and Figure 4, with the project numbers corresponding with those in Tables 4 and 5. Not all recommended improvements are required to be in place prior to developing land within the South Cooper Mountain Concept Plan area. The need to upgrade the existing streets will be driven by the multi-modal access needs of the adjacent properties. Many of the street extensions or realignments, including the Tile Flat extension to Bull Mountain Road, and some the curve realignments on Grabhorn Road will be dependent on permitting within their areas.

Tables 4 and 5 provide a general guide for the phasing of recommended transportation improvements. The year of need for each improvement was estimated based on an assumption of even and linear development growth over the planning period. Tables 4 and 5 also illustrate the relative proportion of future traffic growth for the South Cooper Mountain Annexation area, North Cooper Mountain, the Urban Reserves and other Regional Traffic growth, in relation to overall transportation improvement costs. Using the Regional Travel Demand Model, percentages of total traffic volume and/or growth using specific streets or intersections were derived for each of the recommended transportation system improvements. These percentages were used to estimate the share of the improvement costs for the separate areas of the South Cooper Mountain Concept Plan, since they will likely develop to and through the planning horizon of 2035.

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Table 4: Recommended Transportation System Improvements

ID	Project Description	Total Estimated Cost	Concept Plan Share of Total Cost by Area: South Cooper Mountain Annexation Area Share	North Cooper Mountain Share	Urban Reserve Share	Regional Traffic Growth Share	Estimated Year of Need
Projects Constructing or Realigning Streets On-site							
1	Extend 185th Avenue from Gassner Road to Kemmer Road as a 3-lane County arterial.	**$5,760,000**	*$440,000*	*$750,000*	*$1,550,000*	*$3,020,000*	-
2	Realign 175th Avenue between Outlook Lane and Cooper Mountain Lane, as a 3-lane County arterial.	**$5,695,000**	*$805,000*	*$55,000*	*$1,210,000*	*$3,625,000*	-
3	Realign the curve along Grabhorn Road near Stone Creek Drive, as a 3-lane County arterial.	**$4,575,000**	*$695,000*	*$115,000*	*$585,000*	*$3,185,000*	-
4	Realign the curve along Grabhorn Road north of Tile Flat Road, as a 3-lane County arterial.	**$2,930,000**	*$445,000*	*$75,000*	*$375,000*	*$2,040,000*	-
5	Realign Grabhorn Road east to provide a through connection with Tile Flat Road, as a 3-lane County arterial.	**$4,710,000**	*$75,000*	*$150,000*	*$75,000*	*$4,410,000*	
6a	Create a new east-to-west 3-lane City Collector street from Tile Flat Road to the new north-to-south Collector Street.	**$3,255,000**	*$950,000*	*$0*	*$2,100,000*	*$205,000*	
6b	Create a new east-to-west 3-lane City Collector street from the new north-to-south Collector Street to 175th Avenue.	**$10,970,000**	*$3,205,000*	*$0*	*$7,080,000*	*$685,000*	
6c	Create a new east-to-west 3-lane City Collector street from 175th Avenue to Loon Drive.	**$8,530,000**	*$2,490,000*	*$0*	*$5,505,000*	*$530,000*	
7	Extend Tile Flat Road between Scholls Ferry Road and the Roy Rogers Road/Bull Mountain Road intersection, as a 3-lane County arterial.	**$18,780,000**	*$1,355,000*	*$355,000*	*$315,000*	*$16,755,000*	-
8a	Create a new north-to-south 2-lane City collector street between Grabhorn Road and the UGB	**$9,465,000**	*$6,180,000*	*$65,000*	*$960,000*	*$2,260,000*	-
8b	Create a new north-to-south 2-lane City collector street between the UGB and Scholls Ferry Road	**$11,020,000**	*$7,195,000*	*$75,000*	*$1,115,000*	*$2,630,000*	-
8c	Create a new north-to-south 2-lane City collector street between Scholls Ferry Road and the Tile Flat Road extension.	**$1,935,000**	*$1,265,000*	*$15,000*	*$195,000*	*$460,000*	-

	Subtotals (Percent share of subtotal cost)	**$87,625,000**	**$25,100,000 (29%)**	**$1,655,000 (2%)**	**$21,065,000 (24%)**	**$39,805,000 (45%)**	-
Projects Improving Existing Intersections							
9	Improve the Rigert Road/170th Avenue intersection.	**$2,000,000**	*$560,000*	*$50,000*	*$1,160,000*	*$230,000*	2030
10	Improve the Kemmer Road/175th Avenue intersection.	**$2,500,000**	*$650,000*	*$165,000*	*$1,280,000*	*$405,000*	2020
11	Improve the Scholls Ferry Road/ Horizon-Teal Boulevard intersection.	**$500,000**	*$205,000*	*$5,000*	*$155,000*	*$135,000*	2030
	Subtotals (Percent share of subtotal cost)	**$5,000,000**	***$1,415,000 (28%)***	***$220,000 (4%)***	***$2,595,000 (52%)***	***$770,000 (15%)***	-
Projects Upgrading Existing County Streets to Urban Standards							
12	Improve Scholls Ferry Road from Roy Rogers Road-175th Avenue to Tile Flat Road as a 5-lane County arterial.	**$8,165,000**	*$6,815,000*	*$0*	*$360,000*	*$990,000*	N/A
13a	Improve Tile Flat Road from Scholls Ferry Road to the UGB, as a 3-lane County arterial.	**$3,025,000**	*$750,000*	*$125,000*	*$635,000*	*$1,520,000*	N/A
13b	Improve Tile Flat and Grabhorn Roads from the UGB, north of the new east-to-west Collector Street, to the UGB, near Stone Creek Drive, as a 3-lane County arterial.	**$4,170,000**	*$1,035,000*	*$170,000*	*$875,000*	*$2,090,000*	
13c	Improve Grabhorn Road from the UGB, near Stone Creek Drive, to Gassner Road, as a 3-lane County arterial.	**$4,335,000**	*$1,075,000*	*$175,000*	*$905,000*	*$2,175,000*	
14a	Improve 175th Avenue from Scholls Ferry Road to the UGB, north of Alvord Lane, as a 3-lane County arterial, with right-of-way dedications to 5-lane width.	**$3,985,000**	*$2,480,000*	*$0*	*$1,235,000*	*$265,000*	
14b	Improve 175th Avenue from the UGB, north of Alvord Lane, to Kemmer Road as a 3-lane County arterial.	**$3,940,000**	*$2,455,000*	*$0*	*$1,225,000*	*$265,000*	N/A
15	Improve Kemmer Road from 175th Avenue to the 185th Avenue extension as a 3-lane County arterial.	**$2,590,000**	*$270,000*	*$235,000*	*$1,760,000*	*$325,000*	N/A
16	Improve Gassner Road from Grabhorn Road to the 185th Avenue extension as a 2-lane County collector.	**$2,475,000**	*$35,000*	*$625,000*	*$1,625,000*	*$190,000*	N/A
	Subtotals (Percent share of subtotal cost)	**$32,685,000**	***$14,915,000 (46%)***	***$1,330,000 (4%)***	***$8,620,000 (26%)***	***$7,820,000 (24%)***	-
Projects to Construct Community Shared-Use Paths or Enhanced Street Crossings							
17	Construct a community shared-use path (South Cooper Loop Trail) along the east side of Grabhorn Road and Tile Flat Road, between the west side of the Cooper Mountain	**$1,830,000**	*$795,000*	*$105,000*	*$930,000*	*$0*	N/A

	Nature Park and Scholls Ferry Road.						
18	Construct a community shared-use path (South Cooper Loop Trail) along the north side of Scholls Ferry Road, between Tile Flat Road and 175th Avenue.	**$1,000,000**	*$435,000*	*$60,000*	*$510,000*	*$0*	N/A
19	Construct a community shared-use path (South Cooper Loop Trail) along the west side of 175th Avenue, between Scholls Ferry Road and Weir Road.	**$2,725,000**	*$1,180,000*	*$160,000*	*$1,385,000*	*$0*	N/A
20	Construct a community shared-use path, along the south side of the proposed neighborhood route between the proposed north-to-south collector street and 175th Avenue.	**$650,000**	*$280,000*	*$40,000*	*$330,000*	*$0*	N/A
21	Construct a community shared-use path, along the north side of the proposed neighborhood route connecting the proposed north-to-south collector street with the proposed east-to-west collector street, east of 175th Avenue	**$560,000**	*$245,000*	*$35,000*	*$285,000*	*$0*	
22	Install crosswalk and pedestrian activated flasher on 175th Avenue at Weir Road.	**$80,000**	*$35,000*	*$5,000*	*$40,000*	*$0*	N/A
	Subtotals ***(Percent share of subtotal cost)***	$6,845,000	***$2,970,000*** ***(43%)***	***$405,000*** ***(6%)***	***$3,480,000*** ***(51%)***	***$0*** ***(0%)***	-
	Total Costs of Recommended Transportation System Improvements ***(Percent share of total cost)***	$132,155,000	***$44,400,000*** ***(34%)***	***$3,610,000*** ***(3%)***	***$35,755,000*** ***(27%)***	***$48,395,000*** ***(37%)***	-

DKS

Table 5: Projects Identified in Previous Studies or Plans that were Re-Affirmed by the South Cooper Mountain Concept Plan

ID	Project Description	Total Estimated Cost	South Cooper Mountain Annexation Area Share	North Cooper Mountain Share	Urban Reserve Share	Regional Traffic Growth Share	Estimated Year of Need
-	Widen 209th Avenue-Grabhorn Road to five-lanes, north of Leland Drive.	**$27,390,000**	*$3,270,000*	*$1,310,000*	*$3,925,000*	*$18,880,000*	2030
-	Widen Farmington Road to five-lanes through the 185th Avenue intersection.	**$24,000,000**	*$2,850,000*	*$1,140,000*	*$3,420,000*	*$16,590,000*	2015
-	Add a westbound right turn lane at the Murray Boulevard/Beard Road-Brockman Road intersection.	**$240,000**	*$5,000*	*$5,000*	*$40,000*	*$195,000*	2035
-	Install a traffic signal at the Roy Rogers Road/Bull Mountain Road intersection.	**$355,000**	*$50,000*	*$50,000*	*$50,000*	*$205,000*	2015
-	Widen Roy Rogers Road-175th Avenue to five-lanes from Scholls Ferry Road to just south of Beef Bend Road.	**$33,085,000**	*$6,355,000*	*$1,155,000*	*$5,770,000*	*$19,805,000*	2035
23	Construct a regional shared-use path (Cooper Mountain Regional Trail) between the 175th Avenue/Weir Road intersection, the 185th Avenue/Gassner Road intersection (along the west side of the 185th Avenue extension), and the Grabhorn Road/Gassner Road intersection.	**$2,915,000**	*$610,000*	*$85,000*	*$760,000*	*$1,460,000*	N/A
Total Cost of Projects Identified in Previous Studies or Plans		**$87,985,000**	***$13,140,000 (15%)***	***$3,745,000 (4%)***	***$13,965,000 (16%)***	***$57,135,000 (65%)***	-

Beaverton South Cooper Mountain

South Cooper Mountain Concept & Community Plans

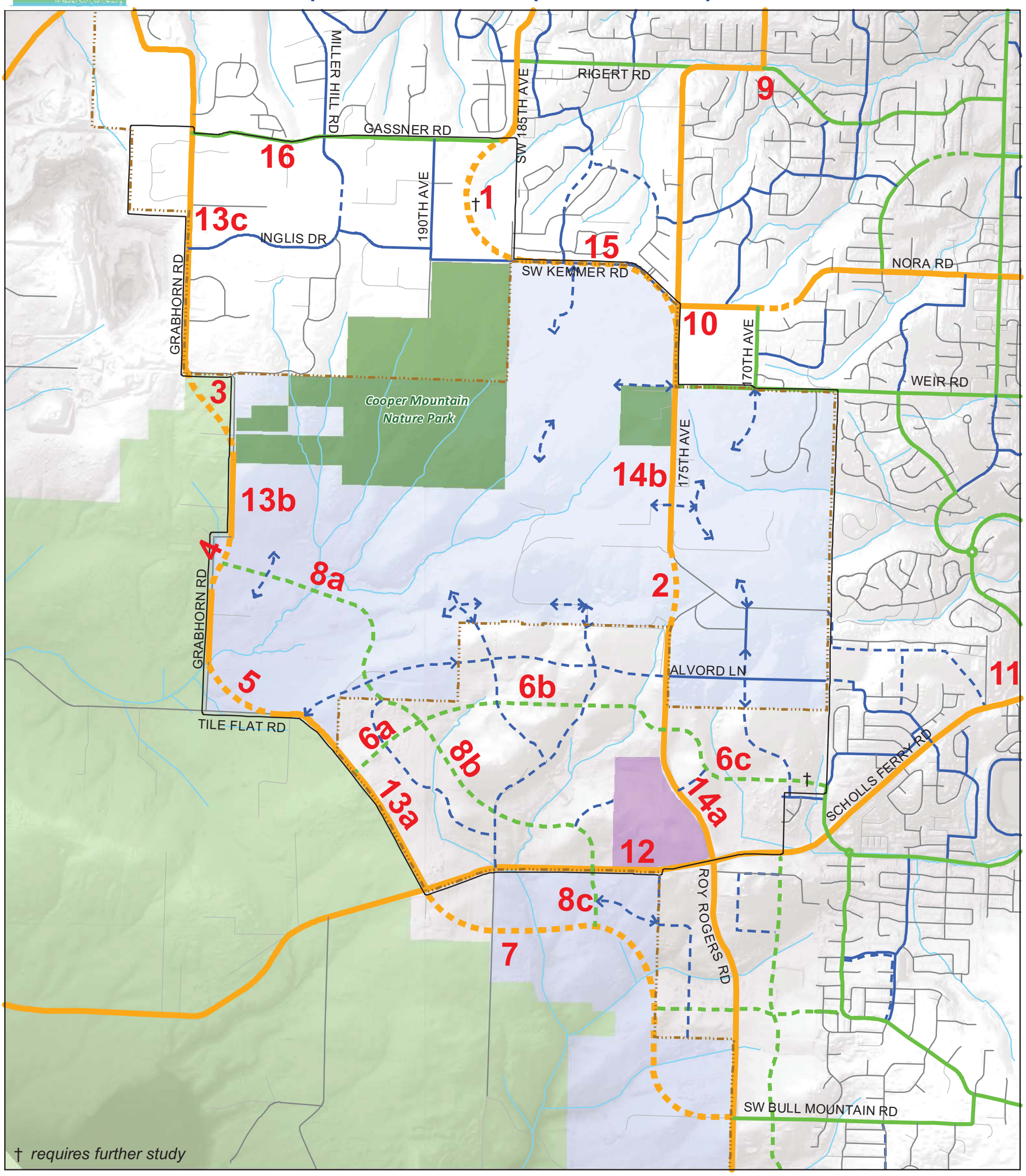


Figure 4: Recommended Transportation System Improvements

Proposed Functional Classification*

- Arterial
- Collector
- Neighborhood Route
- Local
- Private

- Rural Reserve**
- Urban Reserve
- Study Area
- Urban Growth Boundary
- Existing Parks
- Planned High School Site
- Streams
- # Transportation Improvement ID

** Realignments and new roads are shown in dashed lines. New roads east of study area are based on Washington County's Transportation System Plan; new roads within UGB south of study area are based on current River Terrace Community Plan transportation planning. All new road alignments are conceptual.*

*** As amended by HB 4078A.*

Prepared By: Angelo Planning Group

As approved by Beaverton City Council, April 8, 2014

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

DISCLAIMER
This map is intended for informational purposes only. It is not intended for legal, engineering, or surveying purposes. While this map represents the best data available at the time of publication, the City of Beaverton makes no claims, representations, or warranties as to its accuracy or completeness. Metadata available upon request.

NORTH

0 500 1,000 2,000 Feet

720 SW Washington St.
Suite 500
Portland, OR 97205
503.243.3500
www.dksassociates.com

Transportation Findings- Appendix

TYPICAL STREET DESIGNS

The applicable typical street sections for South Cooper Mountain Concept Plan can be seen in Figures A1, A2, A3, and A4. These are based on Washington County and Beaverton minimum street widths.

Figure A1: Typical Section for a Three Lane County Arterial

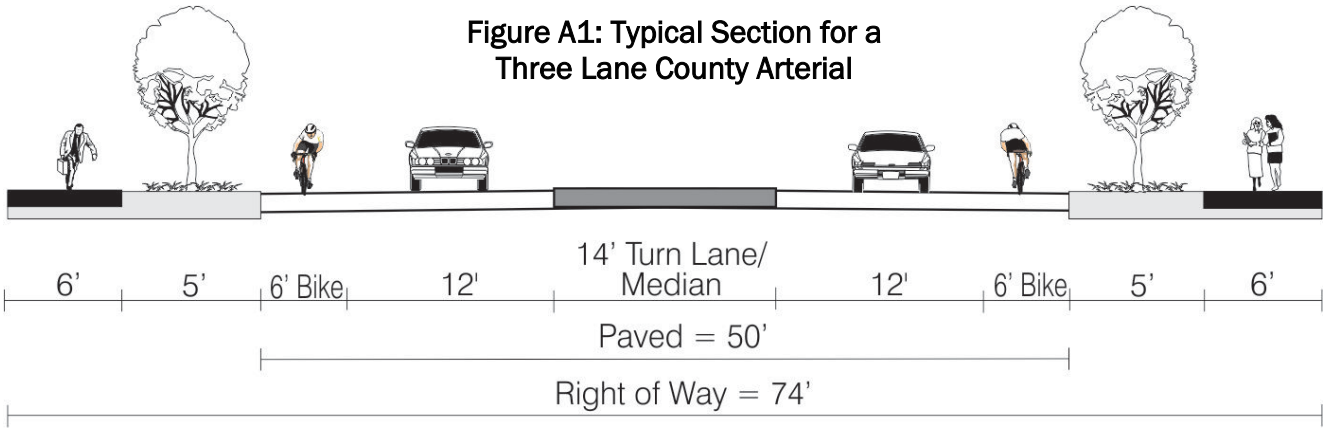


Figure A2: Typical Section for a Three Lane County Arterial with a Streetside Shared Use Path

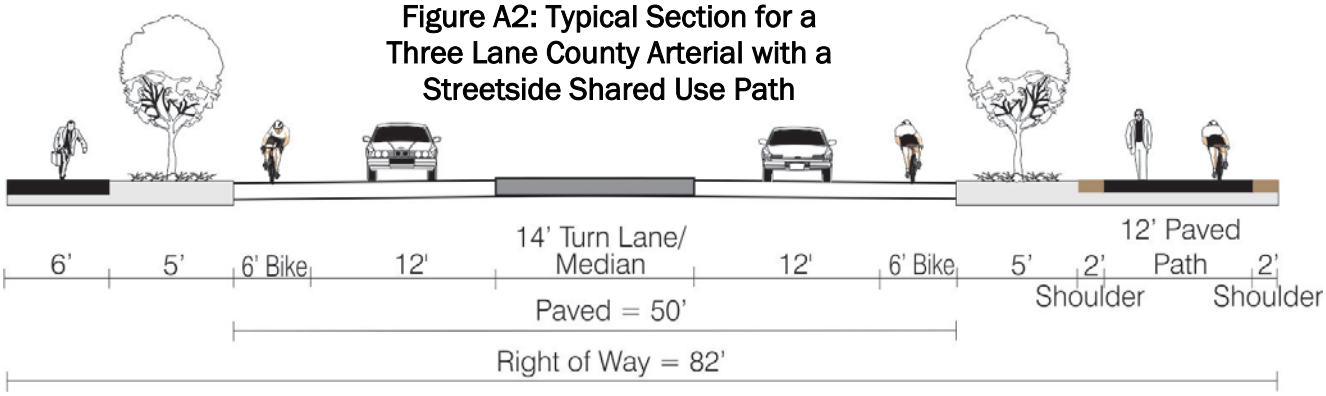


Figure A3: Typical Section for a Three Lane City Collector

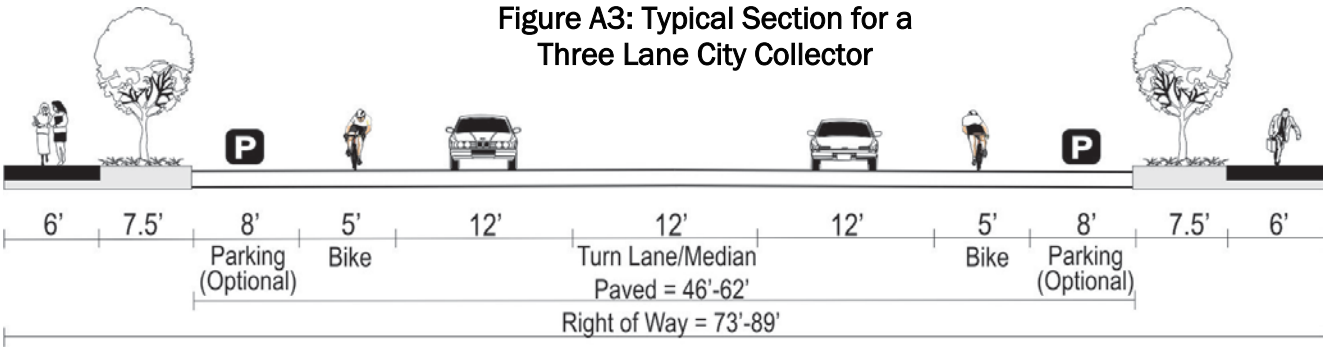
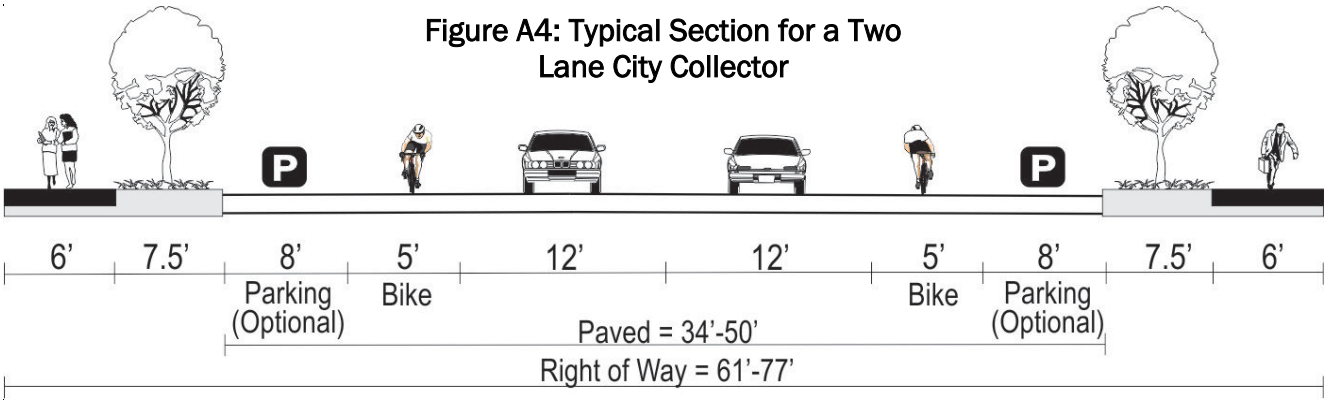


Figure A4: Typical Section for a Two Lane City Collector



Design Elements for Streets

To better represent and strengthen the character of the South Cooper Mountain Concept Plan area, and to further enhance planned driving, walking and biking infrastructure, the following design elements should be implemented as appropriate:

- **Permeable Pavement:** Permeable pavements are paved surfaces that infiltrate, treat, and/or store rainwater where it falls. Permeable pavements may be constructed from pervious concrete, porous asphalt, permeable interlocking pavers, and several other materials.
- **Bioswales:** Bioswales are vegetated, mulched, or xeriscaped channels that provide treatment and retention as they move stormwater from one place to another. Vegetated swales slow, infiltrate, and filter stormwater flows. As linear features, vegetated swales are particularly suitable along streets and parking lots.
- **Stormwater Planter Boxes:** Planter boxes are urban rain gardens with vertical walls and open or closed bottoms that collect and absorb runoff from sidewalks, parking lots, and streets. Planter boxes are ideal for space-limited sites in dense urban areas and as a streetscaping element.
- **Green Parking:** Many of the green infrastructure elements described above can be seamlessly integrated into parking lot designs. Permeable pavements can be installed in sections of a lot and rain gardens and bioswales can be included in medians and along a parking lot perimeter. Benefits include urban heat island mitigation and a more walkable built environment.

An example of permeable pavers

An example of a planter box adjacent to the sidewalk

- **Traffic Calming:** Traffic calming refers to street design techniques used to re-create safe, slow collector, neighborhood route and local streets without significantly changing vehicle capacity and to mitigate the impacts of traffic on neighborhoods and business districts where a greater balance between safety and mobility is needed. Traffic calming seeks to influence driver behavior through physical and psychological means, resulting in lower vehicle speeds or through traffic volumes. Physical traffic calming techniques include:
    - Narrowing the street by providing curb extensions or bulbouts, or mid-block pedestrian refuge islands
    - Deflecting the vehicle path vertically by installing speed humps, speed tables, or raised intersections
    - Deflecting the vehicle path horizontally with chicanes, roundabouts, and mini-roundabouts
    - Narrowing travel lanes and providing visual cues such as placing buildings, street trees, on-street parking, and landscaping next to the street also create a sense of enclosure that prompts drivers to reduce vehicle speeds.

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Appendix D: Acknowledgements

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Beaverton City Council

Cate Arnold

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Denny Doyle, Mayor

Mark Fagin, Council President

Ian King

Marc San Soucie

Beaverton Planning Commission

Mimi Doukas, Vice Chair

Greg Kiene

Jennifer Nye

Kim Overhage, Chair

Ric Stephens

Linda Wilson

Scott Winter

South Cooper Mountain Citizens Advisory Committee

Ed Bartholemy, South Cooper Mountain (SCM) property owner

Ed Chadwick, Bierly Family properties, SCM

Kathy Cobb, Urban Reserve Area property owner

John Cooper, Urban Reserve Area property owner

Mimi Doukas, Chair, City of Beaverton Planning Commission; Kim Overhage (alternate), City of Beaverton Planning Commission

David Dunahugh, Crescent Grove Cemetery Association, SCM property owner

Ron Dyches, Dyches Family LLC, SCM property owner

David Harrison, Beaverton Committee for Community Involvement (BCCI)

Liles Garcia, Washington County Planning Commission, Community Planning Organization 6

Matt Grady, Gramor Development

Dan Grimberg, Arbor Homes/Crescent Grove Cemetery property interest

Barbara Gross, Cooper Mountain Winery, North Cooper Mountain (NCM) and SCM property owner

Alton Harvey, Neighbors Southwest Neighborhood Association Committee (NAC)

Martin Moore, Urban Reserve Area property owner

Jamie Morgan-Stasny, Metropolitan Land Group, SCM property owner

Boyce Smith, NCM property owner; Lori Smith (alternate), NCM property owner

Brian Wegener, Tualatin Riverkeepers

Ramsey Weit, Community Housing Fund

Justin Wood, Homebuilders Association

South Cooper Mountain Technical Advisory Committee

Susan Shanks, City of Tigard

Dyami Valentine, Washington County Department of Land Use and Transportation

Kevin Hanway, City of Hillsboro Water Department; Tyler Wubbena (alternate), City of Hillsboro Water Department

Jeannine Rustad, City of Hillsboro Planning Department; Daniel Rutzick (alternate), City of Hillsboro Planning Department

Anne Debbaut, Department of Land Conservation and Development (DLCD)

Tim O'Brien, Metro

Lidwien Rahman, Oregon Department of Transportation (ODOT)

Tom Mills, TriMet

Carrie Pak, Clean Water Services (CWS)

Aisha Willits, Tualatin Hills Parks and Recreation District (THPRD)

Richard Hoffman, Tualatin Valley Fire & Rescue (TVF&R)

Mark Knudesen, Tualatin Valley Water District (TVWD); Stu David (alternate), TVWD

Dick Steinbrugge, Beaverton School District (BSD); David Etchart (alternate), BSD

Adam Stewart, Hillsboro School District (HSD); Loren Rogers (alternate), HSD

Beaverton
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Finance Task Force

John O'Neill
Martin Moore
Dan Grimberg
David Waffle
Toby LaFrance
Andy Braun
Aisha Willits
David Winship
Jabra Khasho
Dyami Valentine
Matt Wellner
Guests: Wally Remmers, Tom Brian, Kenny Asher, Susan Shanks

City of Beaverton South Cooper Mountain Planning Team

Valerie Sutton, Senior Planner, Project Manager
Steve Sparks, Principal Planner
Leigh Crabtree, Associate Planner / Project Manager
Cassera Phipps, Assistant Planner
Juston Manville, GIS Manager
Sheila Martin, Administrative Assistant

City of Beaverton Core Project Team

Jabra Khasho
Cindy Dolezel
Peter Arellano
Jim Duggan
Lani Parr
Jason Wachs
Jeff Salvon
Andrea Nelson
Kenneth Rencher
Luke Pelz
Wendy Prather
Brion Barnett
David Winship
Andrew Barrett
Mark Boguslawski
Eric Oathes
Geoff Spalding
Alma Flores
Patrick O'Claire
Dave Waffle
Bill LaMarche
Todd Juhasz
Megan Cohen
Randy Ealy

Beaverton
South Cooper Mountain
The Region's Next Great Community

Consultant Team

Angelo Planning Group

Joe Dills, Angelo Planning Group, Project Manager

Becky Hewitt, Angelo Planning Group, Planner and Assistant Project Manager

Cathy Corliss, Angelo Planning Group, Principal

Matt Hastie, Angelo Planning Group, Finance Task Force Facilitator

Andrew Parish, Angelo Planning Group, Planner

David Evans and Associates

Claudia Sterling, David Evans and Associates, Storm Water Engineer

Ethan Rosenthal, David Evans and Associates, Ecologist

Paul Fendt, David Evans and Associates, Storm Water Engineer

Steve Harrison, David Evans and Associates, Engineer

Sara Gilbert, David Evans and Associates, GIS Specialist

DKS Associates

Carl Springer, DKS Associates, Transportation Planner

Kevin Chewuk, DKS Associates, Transportation Planner

ECONorthwest

Nick Popenuk, ECONorthwest, Funding Plan Manager

Lisa Wall, ECONorthwest, Analyst

Anne Fifield, ECONorthwest, Market Analyst

Fregonese Associates

Glen Bolen, Fregonese Associates, Planner

Max Bolen, Fregonese Associates, Scenario Analyst

JLA Public Involvement

Eryn Deeming Kehe, JLA Public Involvement, Public Involvement Advisor

Kalin Schmoldt, JLA Public Involvement, Public Involvement Manager

Walker Macy

Ken Pirie, Walker Macy, Urban Designer

Mike Zilis, Walker Macy, Urban Designer

Nathan Kappen, Walker Macy, Urban Designer

Saumya Kini, Walker Macy, Urban Designer

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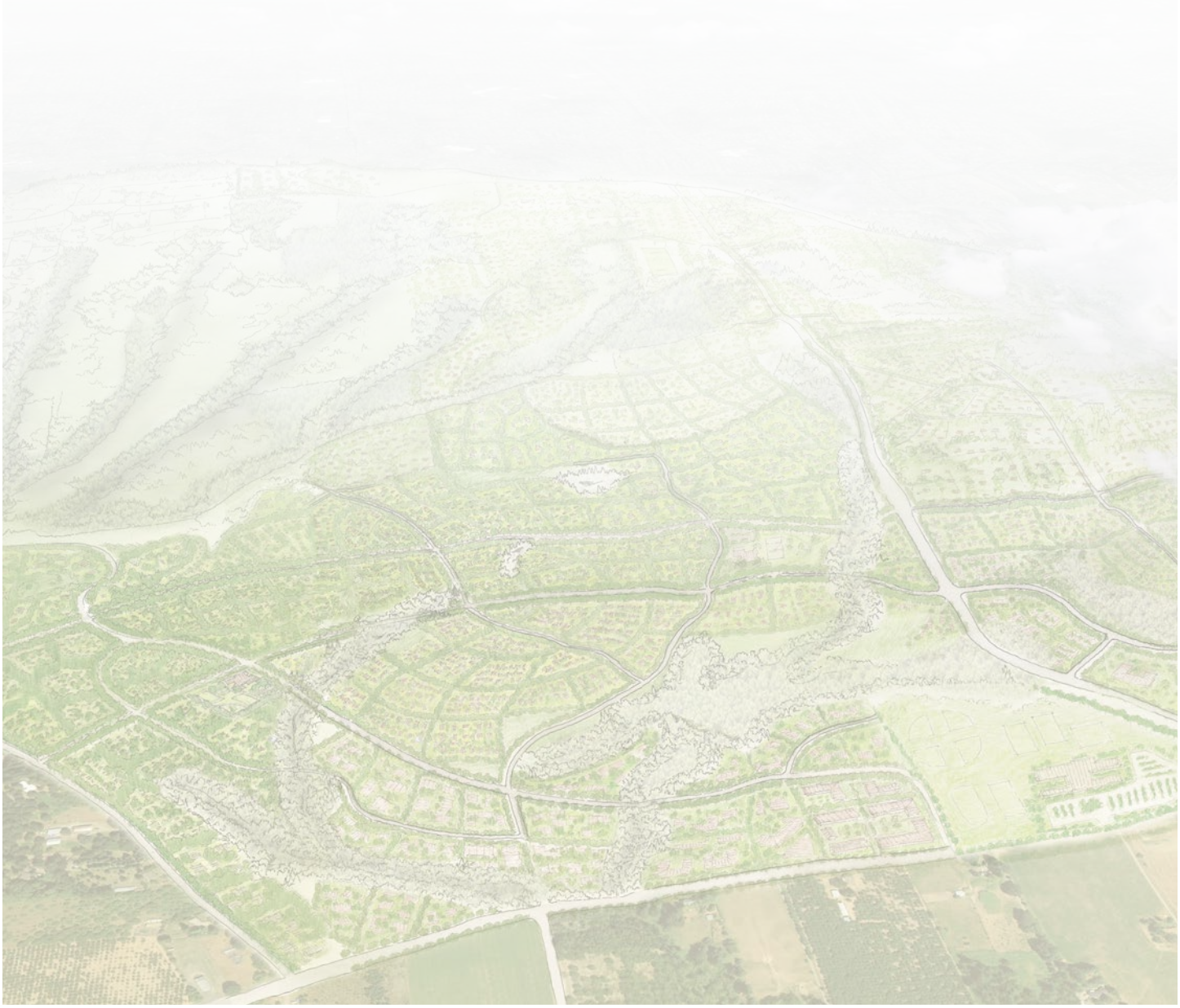
For more information on the South Cooper Mountain Concept and Community Plans, please contact:

Leigh Crabtree
City of Beaverton
Community Development Department
lcrabtree@BeavertonOregon.gov
503-526-2458

www.BeavertonOregon.gov/SouthCooperPlan



Beaverton
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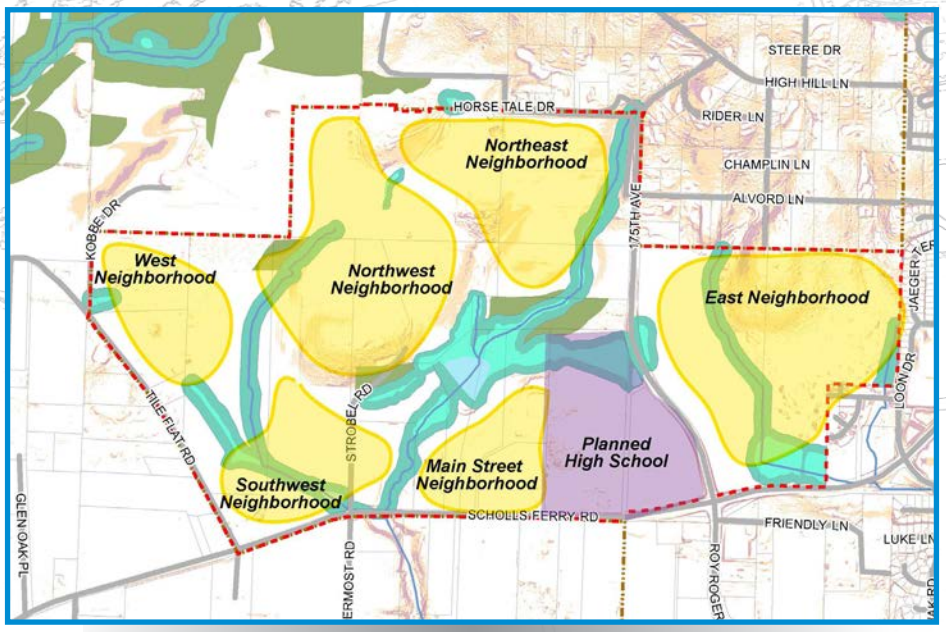
South Cooper Mountain

Community Plan

Draft - July 1, 2014



Beaverton
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ACKNOWLEDGEMENTS

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*Please see **Appendix A** for Project Committees and Team.*

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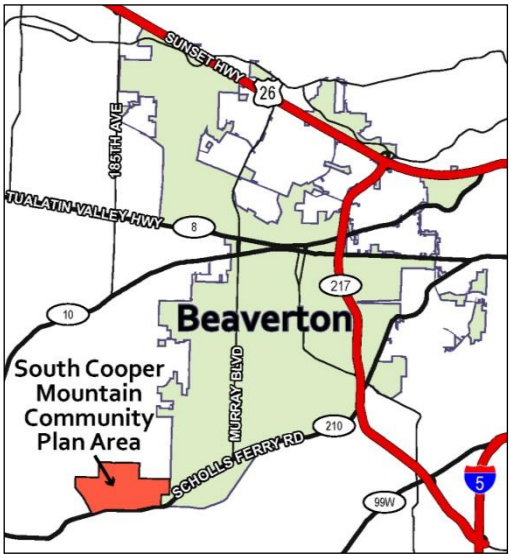
INTRODUCTION

Community Plan Boundary

The South Cooper Mountain Community Plan encompasses approximately 544 acres located at the southwest edge of the City of Beaverton (see Figure 1). This area, referred to in this plan as the Community Plan area, was added to the Urban Growth Boundary in 2011 and was annexed by the City of Beaverton in 2013.[1] The plan area is located generally north of SW Scholls Ferry Road, south of Horse Tale Drive, east of SW Tile Flat Road, and west of SW Loon Drive. The Community Plan area boundary is shown in Figure 2.

Figure 1: Community Plan Context Map



About the South Cooper Mountain Community Plan and Concept Plan

The South Cooper Mountain Community Plan (Community Plan) was created as part of a larger planning effort that produced the South Cooper Mountain Concept Plan (Concept Plan). The Concept and Community Plans were developed through an intergovernmental process with extensive community involvement, described beginning on page 6. The geographic scope and role of each document are summarized below.

South Cooper Mountain Concept Plan

The Concept Plan establishes the overall vision and long range planning strategies[2] for South Cooper Mountain, and guides comprehensive planning for areas within the Urban Growth Boundary (UGB). There are three subareas referenced in Concept Plan:

- The South Cooper Mountain Annexation Area, now referred to as the South Cooper Mountain Community Plan area – the 544-acre area within the UGB and the City of Beaverton that is the subject of this Community Plan;[3]
- The Urban Reserve Area – the 1,242-acre area of land designated as Urban Reserve north of the Community Plan area;[4] and

---

[1] *During much of the process that led to the creation of this plan, this area was referred to as the South Cooper Mountain Annexation Area (SCMAA).*

[2] *The Concept Plan includes near-term recommendations which guide planning and development in the next twenty years, and long-term recommendations intended to guide planning and development in the 20-50 year time frame.*

[3] *This is the subject area of this Community Plan, and is referred to herein as the Community Plan area.*

[4] *The Urban Reserve adjacent to the Community Plan area was called Urban Reserve 6B during the Urban and Rural Reserves designation process. For more on the Urban and Rural Reserves program, visit http://www.oregonmetro.gov/index.cfm/go/by.web/id=26257.*

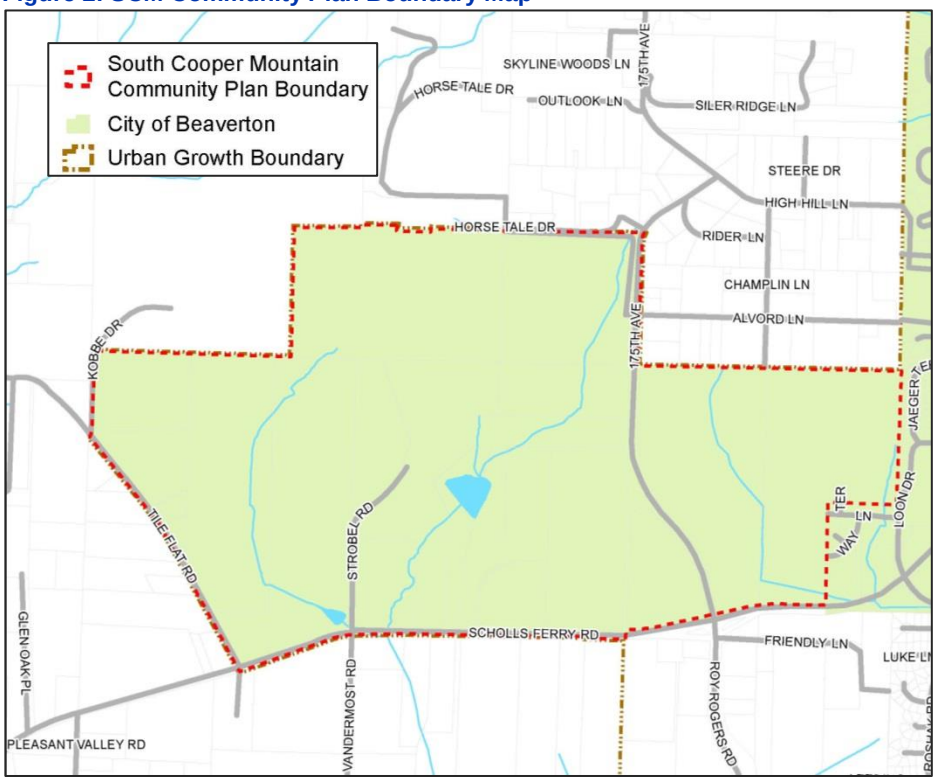
- North Cooper Mountain – a 504-acre area included within the Urban Growth Boundary in 2002 that is within the urban area of unincorporated Washington County.

These subareas are displayed in Figure 3.

Pursuant to Metro Urban Growth Management Functional Plan (UGMFP) Title 11,[5] a concept plan is intended to guide, not bind, amendments to city or county comprehensive plans or land use regulations following addition of an area to the UGB. The SCM Concept Plan lays the groundwork for amendments to City of Beaverton and Washington County comprehensive plans and land use regulations that will implement the plan. The Concept Plan also serves to guide and help coordinate future planning and infrastructure investments by the City of Beaverton and other service providers. The Concept Plan sets the stage for: coordinated and cohesive land use patterns; transportation networks; trails, bicycle and pedestrian networks; natural resource protection; access to Cooper Mountain Nature Park; public services and facilities; and infrastructure funding.

In compliance with Metro requirements,[6] the Concept Plan is inclusive of land within the 1,242 acre

Figure 2: SCM Community Plan Boundary Map



[5] *Metro UGMFP Title 11, section 3.07.1110 Planning for Areas Designated Urban Reserve.*

[6] *Metro Ord. No. 11-1264B, Exhibit B, South Cooper Mountain, condition #1:* "The city of Beaverton, in coordination with Washington County and Metro, shall adopt comprehensive plan provisions and land use regulations for Area 3 to authorize urbanization, pursuant to Metro Code section 3.07.1120. To implement Principle 1 of Exhibit B to the Reserves IGA between Metro and Washington County, the city shall undertake and complete this planning for the whole of Urban Reserve Area 6B, in order to provide appropriate protection and enhancement to the public lands and natural features, and protect and enhance the integrity of Titles 3 and 13 resources in the area. Planning for trail and pedestrian and bicycle travel shall be coordinated with Metro and the county to ensure appropriate access to Cooper Mountain Nature Park."

Urban Reserve Area, as well as the 544-acre area recently added to the UGB and annexed into Beaverton.

The landscape character of the Concept Pan area is illustrated in Figure 4, and the Concept Plan map is shown in Figure 5.

Figure 3: South Cooper Mountain Concept Plan Subareas

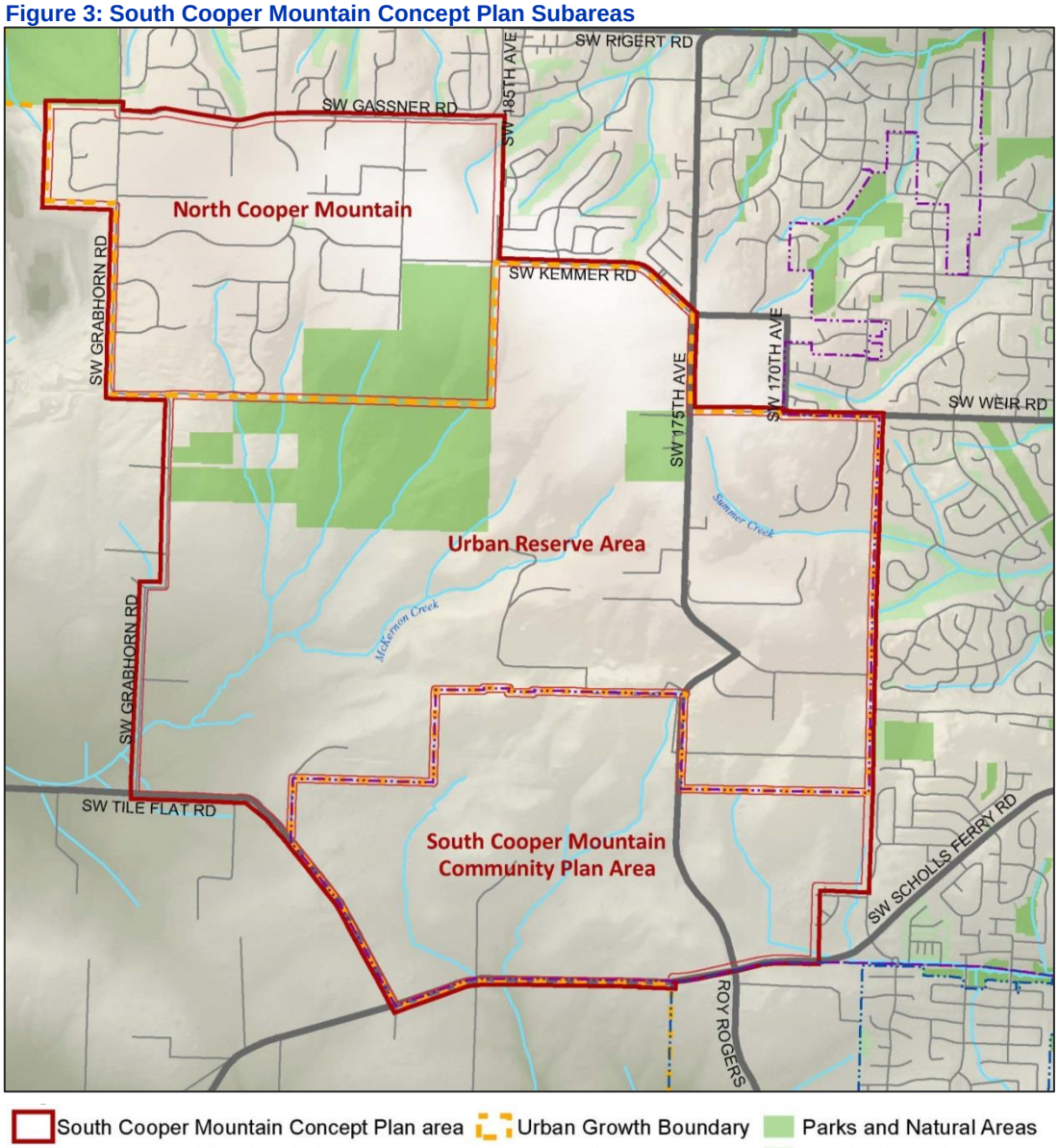


Figure 4: South Cooper Mountain Concept Plan Landscape Character

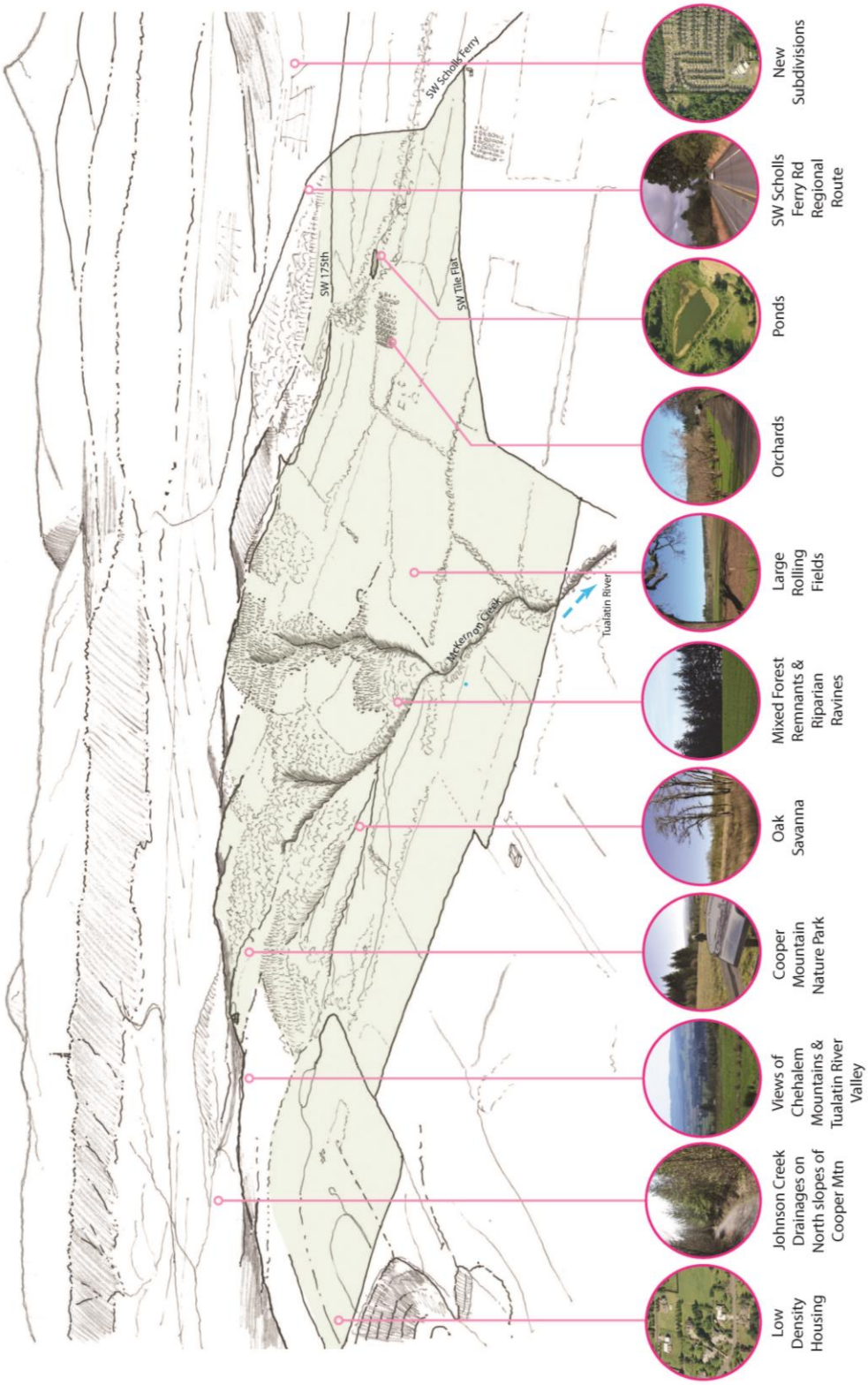
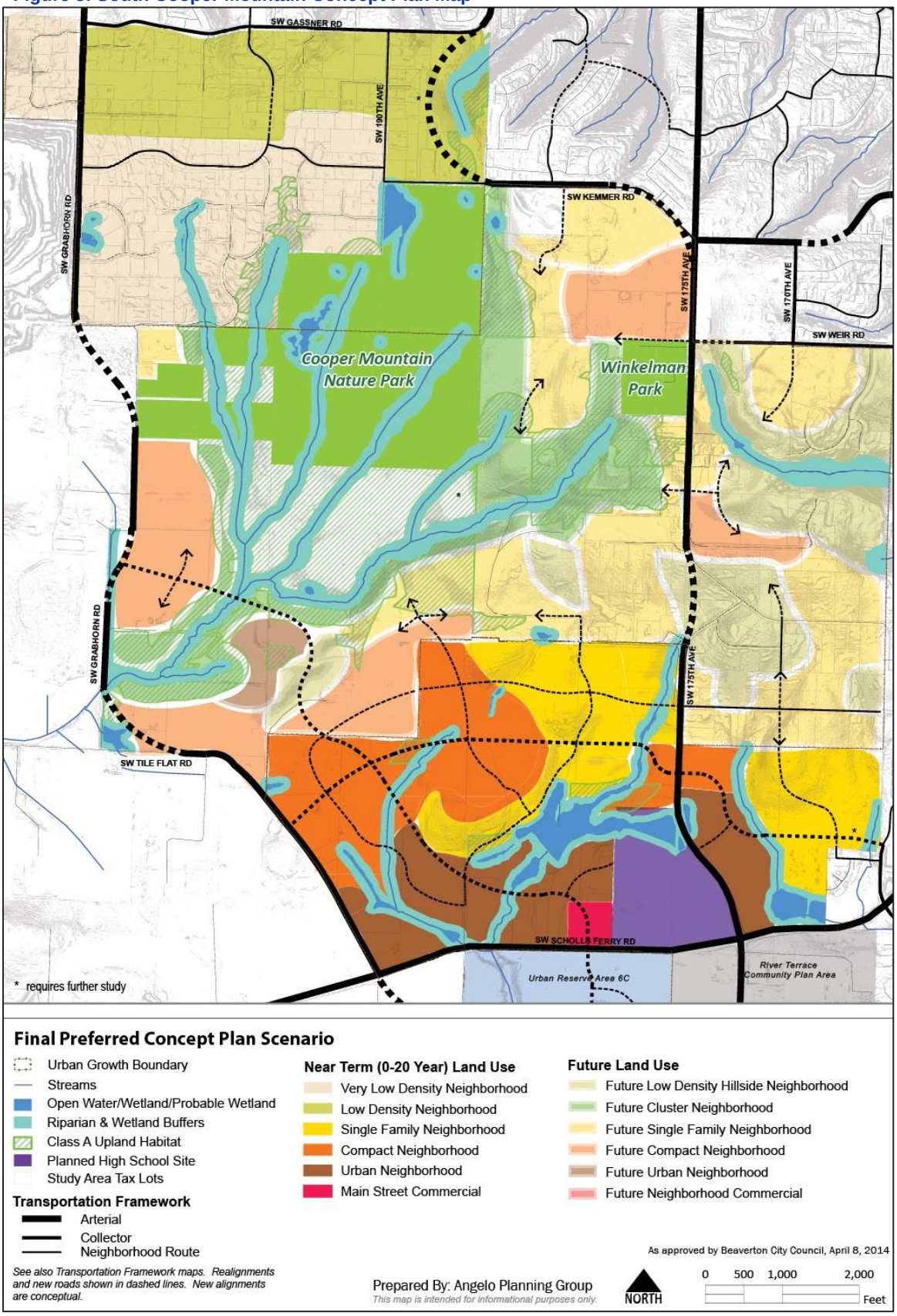


Figure 5: South Cooper Mountain Concept Plan Map



South Cooper Mountain Community Plan

The South Cooper Mountain Community Plan is part of the City's Comprehensive Plan. It provides regulatory policies and maps, along with descriptions and illustrations of the context for those policies and maps. The Community Plan was developed in compliance with Metro's requirements for new urban areas, which are codified in Title 11 of Metro's Urban Growth Management Functional Plan. It addresses only the 544 acres that are within the City of Beaverton, and is intended to implement the vision established by the Concept Plan for the South Cooper Mountain area.

Planning Process

The Concept and Community Plans were developed through an 18-month planning process that included a variety of opportunities for input from stakeholders and the general public. A Technical Advisory Committee (TAC) composed of staff from affected jurisdictions, agencies, service providers and districts, provided input and guidance to the project team about technical aspects of the planning process. A Citizens Advisory Committee (CAC) composed of community representatives including residents, property owners, businesses, developers, city and county planning commissioners, citizen involvement organizations, advocacy groups, and other affected stakeholders provided feedback to the project team throughout the planning process. In addition, the Beaverton City Council and Planning Commission provided direction at key milestones during the planning process. The general public was invited to participate at key points through open houses, online workshops, and community outreach meetings.

> The first phase of the planning process included establishment of Guiding Principles for the project (see page 10) followed by study and documentation of existing conditions and future needs in the planning area. The project team evaluated land use, transportation, the real estate market, water and sewer infrastructure, stormwater, natural resources, parks, and energy as a part of the existing conditions assessment.[7]

The second phase of the project began with a visioning workshop, attended by roughly 60 interested parties, with another 20 people participating through an online version of the workshop. This workshop solicited input on priorities and preferences for future land use and transportation scenarios in the Concept Plan area. Results of this workshop were used to develop three initial Concept Plan "scenarios" addressing future land use and transportation patterns for the planning area.[8] These three scenarios were vetted by the project's TAC and CAC and then fully analyzed to evaluate and compare transportation, infrastructure, park, school, natural resource, and land use implications. Based on the findings from the scenario evaluation, two hybrid scenarios were created that combined the best-performing elements of the three original scenarios. The two hybrid scenarios were discussed by the TAC and CAC and shared with the public at an open house and community outreach meetings. Based on input from those groups, a preferred scenario was developed. That preferred scenario became the basis for the Concept Plan and for the more detailed and refined set of recommendations that are embodied in this Community Plan.

---

[7] *South Cooper Mountain Concept & Community Plans, SUMMARY REPORT: Existing Conditions & Future Needs, June 6, 2013.*

[8] *South Cooper Mountain Concept & Community Plans, Scenarios for Future Growth, September 12, 2013.*

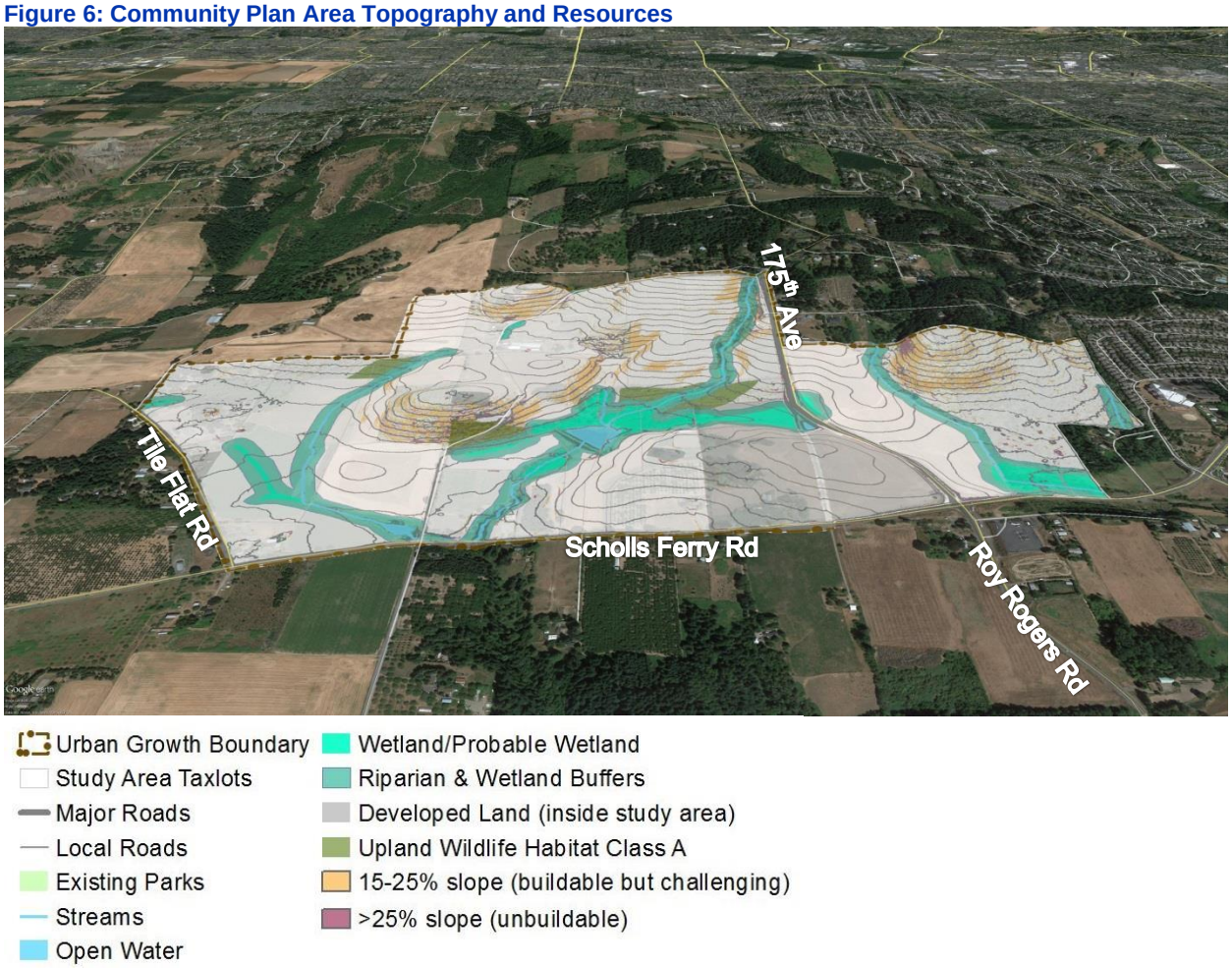
PLANNING AREA CONTEXT

Landscape Setting

The Community Plan area sits at the base of the south slope of Cooper Mountain. The topography gradually climbs up in elevation moving north from Scholls Ferry Road (at approximately 300' elevation), with several small hills and hummocks. There are four distinct high points that present constraints with respect to road connectivity, but also provide opportunities for viewpoints and the shaping of development patterns. Views are primarily to the southwest, capturing the scenic vista of Chehalem Ridge. Views of Mt. Hood to the east are available from the central high point.

The Community Plan area includes three small tributaries of the Tualatin River. The central tributary is surrounded by a chain of linked upland, riparian forest and wetland areas that provide important habitat value. The remaining tributaries have been degraded by farming and forestry activities. All three tributaries are recognized as resource areas under state, regional and local regulations.

Figure 6: Community Plan Area Topography and Resources



Of the 544 total acres in the Community Plan area, roughly 364 acres are considered developable after accounting for natural resource and slope constraints. The 364 acres represent a "gross buildable

acreage", and includes land for future roads, stormwater management facilities, civic uses such as parks and schools[9], and commercial and residential development.

Transportation Context

East-west and north-south connections are limited both within and around the Community Plan area, and several important area roadways that serve regional traffic are nearing capacity. SW Scholls Ferry Road and SW 175th Avenue / Roy Rogers Road in particular carry large volumes of through-traffic. North-south commute patterns between Tualatin / Sherwood / Yamhill County and Washington County employment destinations rely heavily on SW 175th Avenue, despite its terrain, narrow width, and sharp curves. SW Tile Flat and SW Grabhorn Roads presently serve more through-traffic than their current rural nature and sharp curves would suggest. SW Tile Flat Road forms the western edge of the UGB in the Community Plan area.

Roads within the Community Plan area are not currently built to urban standards, and need improvements to resolve safety issues and accommodate new growth. There are no sidewalks or bike lanes at this time because existing roads were designed according to rural road standards.[10] Other existing issues in the vicinity include the "kink" or hairpin turn on SW 175th Avenue at High Hill Lane, the skewed intersection at SW Kemmer Road and SW 175th Avenue, the multiple 90-degree turns on SW Grabhorn Road, and congestion at the intersection of Roy Rogers Road / 175th Avenue and SW Scholls Ferry Road. The closest transit service is available on SW Scholls Ferry Road at SW Teal Boulevard.

Transportation is the most-often cited concern of area residents, including motorist safety, bicycle and pedestrian safety, and traffic congestion.

Services and Service Providers

Service providers for the Community Plan area and the current public facilities and services available to the area are summarized below. Future facilities needed to serve the area are described under "Institutional / Civic Uses" starting on page 15 for schools and parks and under "

Infrastructure Provision" starting on page 30 for water, sewer, and stormwater.

Drinking Water & Sanitary Sewer

The City of Beaverton will provide drinking water to the Community Plan area, although the Tualatin Valley Water District (TVWD) also has water distribution lines adjacent to the northeastern side of the Community Plan area. The City has existing water lines in SW Loon Drive and within the Churchill Forest subdivision to the east of the Community Plan area as well as a new line within SW Scholls Ferry Road as far west as SW 175th Avenue.

---

[9] *The planned Beaverton School District future high school, the location of which has been determined and land has been acquired, is not included in the "developable" acreage.*

[10] *As of the writing of this Community Plan, SW Scholls Ferry Road is being widened by Washington County, including sidewalks and bike lanes within the UGB, with concurrent extension of sanitary sewer and water lines by the cities of Beaverton and Tigard.*

The City of Beaverton will be responsible for providing sanitary sewer infrastructure in the Community Plan area through an inter-governmental agreement (IGA) with Clean Water Services (CWS). The closest existing sewer facilities are located to the southeast of the Community Plan area, including a new line recently extended in SW Scholls Ferry Road as far west as SW 175th Avenue.

Fire and Public Safety

Tualatin Valley Fire & Rescue (TVF&R) provides fire and emergency medical services in the area. The TVF&R station closest to the Community Plan area is Station 69 on SW 175th Avenue south of SW Kemmer Road.

The Beaverton Police Department (BPD) provides law enforcement within the Community Plan area. All BPD public services are provided through the main police department offices in Beaverton City Hall, which is the base of operations for all BPD personnel. In addition, there are inter-governmental agreements in place for emergency response that allow Sheriff's deputies from Washington County to respond to calls within city limits based on proximity, regardless of boundaries.

Schools and Parks

The Community Plan area is divided, with the Beaverton School District (BSD) serving the eastern portion, and the Hillsboro School District (HSD) serving the western portion. BSD is planning to build a new high school within the Community Plan area, at the northwest corner of SW Scholls Ferry Road and SW 175th Avenue. The site is roughly 45 acres, and will include a comprehensive high school along with sports fields and other facilities. The closest existing BSD elementary school is Scholls Heights Elementary, located just east of the Community Plan area on SW Loon Drive. On the Hillsboro School District (HSD) side, the nearest elementary school is Groner Elementary, which is located several miles west of the plan area.

The Beaverton School Facility Plan was updated and adopted as part of the city's comprehensive plan in 2010. The Hillsboro School District last updated Population and Enrollment Forecasts in April 2012. These plans were considered in determining the amount of land and improvements needed for public school facilities to serve the SCM Community Plan area, as required by Metro.[11]

Tualatin Hills Park and Recreation District (THPRD) is anticipated to be the primary park and recreation service provider for the Community Plan area.[12] The city's Development Code currently does not require annexation to THPRD if it can be demonstrated that commensurate parks and recreational facilities can be provided by the developer.[13]

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[11] *Per Metro UGMFP Title 11, 3.07.1120.C.5.*

[12] *THPRD is the designated service provider for the Community Plan area, as well as for the URA to the north; however, property owners are not required to annex into the district.*

[13] *Per Section 40.93 of the Beaverton Community Development Code (Tualatin Hills Park And Recreation District Annexation Waiver), an applicant may request approval of a Tualatin Hills Park and Recreation District (THPRD) Annexation Waiver which would waive the requirement to annex property into the District as a condition of approval of any development as specified in Section 60.33 of the Development Code. A THPRD annexation waiver may only be requested by the property owner(s) for any development proposed outside of THPRD boundaries who wish to provide their own park and recreation facilities and services rather than annex the site to THPRD.*

Libraries

The City, as a member of the Washington County Cooperative Library Services (WCCLS) receives funding to support library services from Washington County. The branch closest to the study area is the Beaverton City Library at Murray Scholls, an approximately 10,500 square foot facility located in the Murray Scholls Town Center. The Murray-Scholls branch library is heavily used and the City is currently looking to lease additional space to expand library services in south Beaverton.

Solid Waste & Recycling

The City of Beaverton Solid Waste & Recycling program regulates seven franchised haulers and sets rates for the collection of garbage, recycling and yard debris from all customers within the city limits. Waste Management (WM) of Oregon is the hauler in the area.

Electricity & Natural Gas

Portland General Electric (PGE) provides electric power to the area in and around the area. There is a new substation located immediately south of the Community Plan area across Scholls Ferry Road.

NW Natural provides natural gas to customers in the vicinity of the Community Plan area. A natural gas transmission pipeline runs down SW Scholls Ferry Road to SW Roy Rogers Road at the southern edge of the Community Plan area and another runs down SW Scholls Ferry Road to SW Pleasant Valley Road southwest of the Community Plan area; a third runs within the power line easement east of the Community Plan area.[14]

COMMUNITY PLAN ELEMENTS

Guiding Principles: Overarching Policies for the South Cooper Mountain Community Plan

Context

The policies listed below are refined policy statements from the SCM Guiding Principles.[15] These policies established the foundation for, and helped shape, the South Cooper Mountain Concept Plan. Developed in 2013, the original Guiding Principles captured ideas from previous planning work and agreements by the City of Beaverton, Metro and Washington County, and, added new vision statements agreed upon by the TAC and the CAC. The principles served as broad criteria for decision making for the entire 2,300-acre SCM Concept Plan area, including the Community Plan area. In this Community Plan, the guiding principles serve as overarching policies.

Overarching Policies

1. *Implement the Concept Plan. Implement the South Cooper Mountain Concept Plan in a comprehensive and proactive manner, through the: Comprehensive Plan; Development Code; land*

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[14] *Pipeline and Hazardous Materials Safety Administration, National Pipeline Mapping System Public Map Viewer: https://www.npms.phmsa.dot.gov/PublicViewer/, accessed 4/30/13. These do not include distribution pipelines serving individual users.*

[15] *Please see South Cooper Mountain Concept Plan for the full text of the Guiding Principles.*

use reviews; infrastructure planning; natural resource planning; coordination with service providers; capital improvement planning; community involvement, and other means as needed.

2. *Create Beaverton's next great community. Create a community that is walkable, family-friendly, livable, and includes quality neighborhoods, great green spaces, community focal points, a Main Street, and well-designed development.*

3. *Create a sustainable community. Create a community that meets the needs of Beaverton and the South Cooper Mountain area today and tomorrow, while minimizing negative environmental, social, and economic impacts. Support low-carbon economies and lifestyles, energy efficiency and security, health and well-being, and ecosystem stewardship; and enable future residents and the broader community to meet their own needs.*

4. *Implement a realistic funding plan for infrastructure. Work closely with the public and private sector to implement the SCM Infrastructure Funding Plan. Coordinate with Tigard, Washington County, and all service providers to plan, fund and deliver the infrastructure needed to implement community plans on South Cooper Mountain.*

5. *Provide housing choices. Provide a variety of housing types and densities to provide options for a range of income levels. Provide housing choices consistent with the overall housing needs of Beaverton.*

6. *Provide transportation options. Provide a well-connected transportation network that promotes options for all modes of travel, and encourages walking, biking and future transit service. Address north-south, east-west, and other regional travel issues in coordination with neighboring cities, Washington County, Metro, Tri-Met and Oregon Department of Transportation.*

7. *Provide appropriate protection, enhancement and access to Cooper Mountain's natural resources and public lands. Avoid and minimize impacts, protect key natural resources, and design new growth so that it is integrated with natural areas and other open spaces. Provide appropriately located access to natural areas and open space.*

8. *Coordinate with regional requirements and plans. Coordinate with Metro, Washington County, Tigard and other governments regarding Urban Growth Boundary expansion areas and Urban Reserves. Coordinate transportation planning with the 2035 Regional Transportation Plan and Regional Transportation Functional Plan. Promote connections from South Cooper Mountain to the area's regional trails and green spaces.*

9. *Coordinate with other planning in the area. Coordinate with the River Terrace and South Hillsboro Community Plans. Coordinate with planning for regional water facilities. As additional planning projects in the area are identified, provide information and promote coordination with the South Cooper Mountain Concept Plan.*

10. *Ensure that the plan complements existing neighborhoods and commercial areas so that South Cooper Mountain is a part of greater Beaverton.*

11. *Plan new civic uses so they are focal points for the community. Ensure schools, parks and other civic uses are centers of community activity. Integrate the planned new high school with neighborhoods and other development within the plan.*

12. *Promote compatibility with adjacent rural areas. Promote compatibility between urban uses and agricultural/forestry uses outside the Urban Growth Boundary.*

Land Use

Land Use Implementation

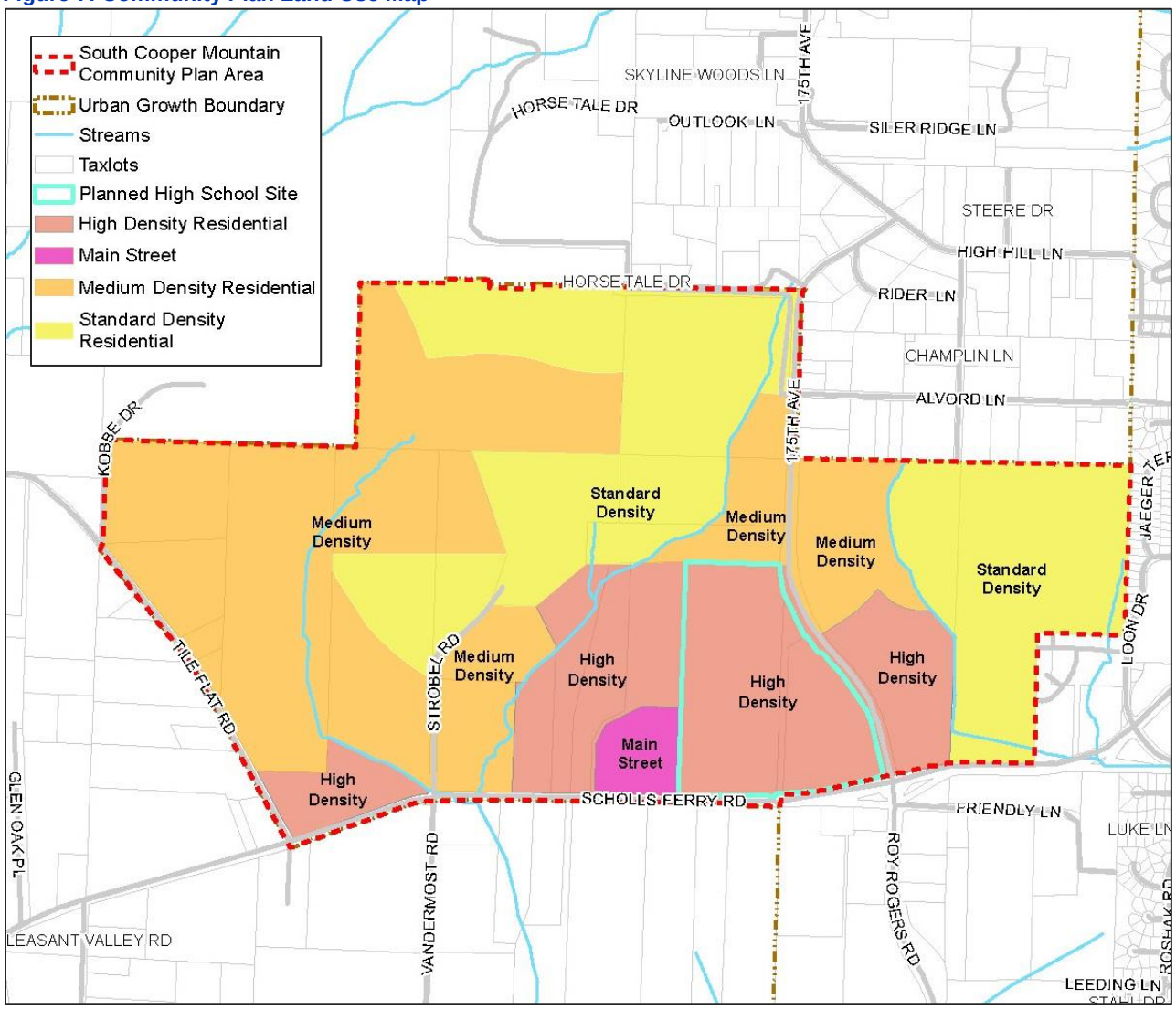
Context

Land Use Designations

Land use designations for the South Cooper Mountain Community Plan area are shown on the Land Use Map (Figure 7). The Land Use Map is the term used for the Comprehensive Plan Map in the City of Beaverton Comprehensive Plan.[16]

The designations on the Land Use Map displayed in Figure 7 serve as the Comprehensive Plan designations for the area. They are implemented by zoning districts as listed in Chapter 3.14 of the Comprehensive Plan and as shown in the Zoning District Matrix included in Table 1 below.

Figure 7: Community Plan Land Use Map



[16] *The Land Use Map published in this document is advisory - the city's official Land Use Map is the controlling map of Comprehensive Plan designations.*

Table 1: Comprehensive Plan and Zoning District Matrix

Comprehensive Plan and Zoning District Matrix: South Cooper Mountain Community Plan		
Comprehensive Plan Designation	Zoning District	Near-Term Land Use Development Type from SCM Concept Plan
Standard Density Residential	R7, R5	Single Family Neighborhood
Medium Density Residential	R4, R2	Compact Neighborhood 50% of Urban Neighborhood
High Density Residential	R1	50% of Urban Neighborhood
Main Street	Neighborhood Service, R1, R2	Main Street Commercial

The Land Use Map and Zoning Strategy – Balancing Certainty and Flexibility

The Land Use Map designations have been applied to implement the South Cooper Mountain Concept Plan. The boundaries of the Land Use designations are intended to reflect key outcomes of the Concept Plan, for example:

- Providing a transition of density from areas of higher density (e.g. along SW Scholls Ferry Road) to areas of lower density (e.g. near SW Loon Drive).
- Coordinating land use with the network of arterial streets, collectors, neighborhood routes, and local streets.
- Protecting natural resource areas and integrating them as amenities for future development.
- Providing a range of residential areas that ultimately result in a variety of housing types, neighborhood framework, and amount of new housing that is consistent with the estimates made in the South Cooper Mountain Concept Plan.

For all of the above reasons, the boundaries of the Land Use designations follow the intended outcomes of the Concept Plan. In some cases, the boundaries follow property lines; in other cases they follow planned roads or logical dimensions between property lines, resulting in more than one designation on a parcel. It is anticipated and expected that refinements to the boundaries of the Land Use designations may be needed as zoning is applied when land use applications are brought forward.

The zoning map for the Community Plan will be created over time through review of development proposals that implement the density of the land use designations. This approach allows for implementation of zoning districts based upon community designs that are sensitive to existing topography and responsive to unknown constraints associated with design and construction of new infrastructure, but still satisfy the density goals of the Community Plan. This approach is intended to achieve a balance of certainty and flexibility. The City's intent is to:

- Implement the vision and concepts described in the Concept Plan;

- Implement the policies in this Community Plan and applicable requirements of the Beaverton Development Code and other regulations; and,
- Provide flexibility for phased development and adjustments needed for site specific conditions, design ideas, and market needs.
- Provide an efficient process for applying new zoning, through use of the City's zone map amendment procedures, where applicable.

The Land Use Implementation Policies describe the steps and requirements that the City will use to achieve a balance of certainty and flexibility for land use in the Community Plan area.

Overall Development Program

The overall development program for the Community Plan area is summarized in Table 2 by Land Use designation, with the projected dwelling unit capacity of each district, and total for the planning area. For the Medium and Standard Density Residential comprehensive plan designations, capacity estimates are provided based on assumptions of the mix of the R-2 vs. R-4 and R-5 vs. R-7 zones, respectively, that are consistent with the Concept Plan. Capacity estimates for all residential zones do not include the land needed for civic / institutional uses. Civic/institutional uses are identified in Table 3 – they are typically conditional uses in residential zones and the assumed acreage for these uses has been deducted from the table below.

Table 2: Land Use Designations and Capacity Estimates

Land Use Designation	Gross Acres[17]	Gross Residential Acres[18]	Net Residential Acres[19]	Assumed Mix of Zones	Estimated Housing Capacity (units)[20]	Minimum Housing Capacity (units)[21]
High Density	122	66	31	100% R-1	1,250	1,080
Medium Density	220	206	111	30% R-2 70% R-4	1,570	1,260
Standard Density	182	170	95	30% R-5 70% R-7	660	530
Main Street	10	0	0	100% NS	N/A	N/A

[17] *Gross acres in Table 2 excludes existing right-of-way, which accounts for the difference from the 544-acre total area of the SCM Community Plan area.*

[18] *Excludes land for civic uses. In the Main Street designation, does not include land assumed to be designated NS. While residential uses are allowed in the NS zone, this area is anticipated to be developed primarily with commercial uses.*

[19] *Net acreage, as defined in the city's development code, excludes street dedications, environmentally constrained lands, and land set aside in separate tracts or dedicated to a public entity for schools, parks, or open spaces.*

[20] *The regulatory maximum capacity under the city's Development Code is calculated based on gross acres, per section 20.25.15 of the Beaverton Development Code. However, this calculation produces an unrealistically high estimate of capacity that is rarely, if ever, achieved in practice. The more realistic estimate of capacity included in Table 2 was based on net acres and the allowed densities in each zone, consistent with the city's capacity estimates for the rest of the city.*

[21] *Minimum residential density is calculated based on net acres rather than gross acres. The minimum number of units is calculated by dividing 80% of the net acres by the minimum land area per unit.*

Land Use Designation	Gross Acres[17]	Gross Residential Acres[18]	Net Residential Acres[19]	Assumed Mix of Zones	Estimated Housing Capacity (units)[20]	Minimum Housing Capacity (units)[21]
Total	534	442	237		3,480	2,870

Institutional / Civic Uses

The need for the following civic uses has been identified through the planning process in order to meet the needs of the new growth. School needs were coordinated with the Beaverton School District and the Hillsboro School District. Park needs were coordinated with the Tualatin Hills Park and Recreation District.

Table 3: Civic Use Land Needs

Use	Estimated Land Need
Neighborhood Parks	Nine to 11 acres (three to four parks)
Elementary Schools	20 acres (two 10-acre school sites)
High School	45 acres (BSD high school site)

It is assumed that the service providers (THPRD and Beaverton and Hillsboro School Districts) will use their standard site selection and land acquisition processes to acquire the land needed for these facilities (BSD is already in possession of the 45-acre high school site). In addition, current development review practices provide for coordination through the requirement to obtain Service Provider Letters indicating that service levels are, or can be made to be, sufficient to support proposed development.

Land Use Implementation Policies

1. *The City shall adopt a Land Use Map as part of the Community Plan that establishes initial comprehensive plan map designations for the South Cooper Mountain Community Plan area.*

2. *Washington County zoning, as administered by the City, shall remain in place until new City zoning is applied. Existing agricultural uses in the Community Plan area shall be allowed to continue until the property owner decides to transition to urban development and submits a development application to the City, at which time the property will be rezoned consistent with the Community Plan.*

3. *Zoning may be applied[22] through initiation by the City or as requested by an applicant. Zoning and development review applications may be requested concurrently. The mix of zones applied to a given property shall be consistent with the assumed mix of zones shown in Table 2.*

4. *Amendments to the boundaries of Land Use Map designations may be proposed as individual requests prior to development, or simultaneously when development is proposed. This policy is intended to provide a means for the Land Use map and zoning to be aligned with site-specific*

[22] *Section 40.97 of the Development Code of the City of Beaverton (Zoning Map Amendment) outlines various applications used in applying City zoning to properties within the City.*

conditions, and the placement of roads, housing densities, parks, schools and other development that will occur incrementally over time.

5. *All Land Use map amendments and will be required to demonstrate consistency with this Community Plan in addition to applicable Comprehensive Plan policies, Development Code requirements, and other applicable regulations. Amendments to the Land Use Map will be required to demonstrate that change does not result in an increase or decrease in minimum residential capacity of the subject property of more than 10%.*

6. *The City will support efforts by THPRD and Beaverton and Hillsboro School Districts to find, acquire and develop appropriate sites for neighborhood parks and elementary schools within the Community Plan area. The following location criteria shall guide the selection of appropriate sites:*

   a. *Neighborhood Parks*

      i. *Two to four acres per neighborhood park of unconstrained, relatively level land for active recreation facilities*
      ii. *Good frontage on a local street or Neighborhood Route with on-street parking*
      iii. *Good connections to trails*
      iv. *Focal points for neighborhoods, with walkable "catchment areas"*
      v. *Co-location adjacent to a school is highly desirable*

   b. *Elementary Schools*

      i. *Eight to ten acres of unconstrained, relatively level land per elementary school*
      ii. *Good access from Neighborhood Routes or Collector roads*
      iii. *Generally not adjacent to an arterial road*
      iv. *Focal points for neighborhoods, centrally-located within walkable attendance areas*
      v. *Opportunities to co-locate schools adjacent to parks should be sought*

7. *As a matter of policy and planning for neighborhood cohesiveness, the City encourages BSD and HSD to work toward an adjustment of the boundary that would result in all of the Community Plan area being served by BSD.*

Neighborhoods and Housing

Context

Neighborhood Framework

Existing topography, natural resources and existing and planned streets provide the backdrop for new neighborhoods in the Community Plan area. Conceptual neighborhood areas have been drawn and are illustrated as yellow subareas on Figure 8. (The purple subarea on Figure 8 is the site of the planned BSD high school.) Each neighborhood is ½ mile or less across, representing a walking distance of about 5 minutes from center of the neighborhood to its edge.

Housing Variety

Providing a variety of housing types can improve the aesthetic character of the neighborhoods by avoiding large, monotonous areas of the same building form. A variety of housing also helps provide different housing types for different income levels.

Table 4 below lists the housing types and supporting uses that are allowed within each of the zones that will implement the Plan Designations of the Community Plan.

Figure 8: Conceptual Neighborhoods

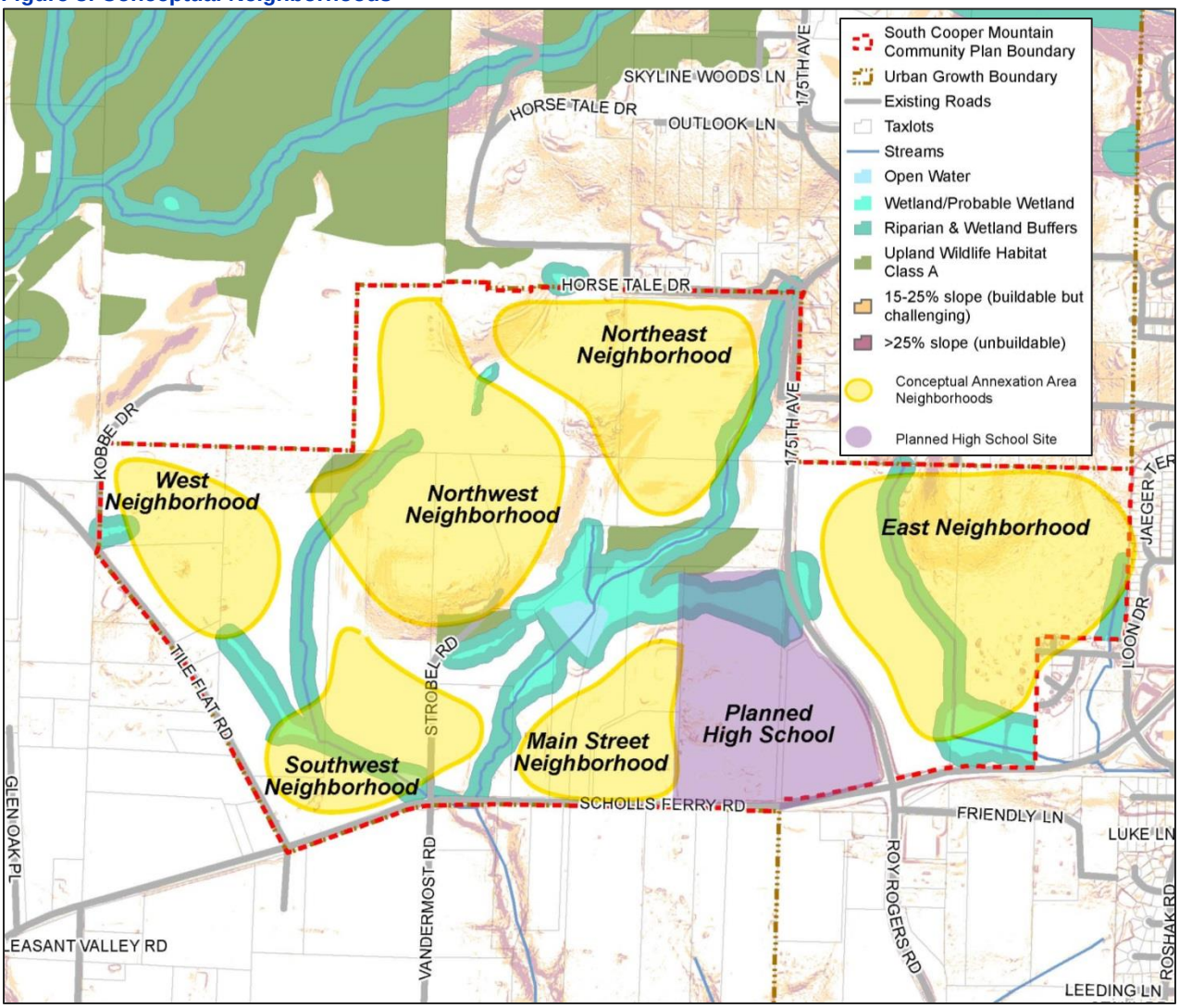


Table 4: Allowed Uses & Housing Types

Zoning District	Uses & Housing Types Allowed
R-1	Attached housing, detached housing allowed outright; schools, parks, churches and certain other commercial & civic uses allowed conditionally
R-2	Attached housing, detached housing allowed outright; schools, parks and, churches certain other commercial & civic uses allowed conditionally
R-4	Detached housing allowed outright, limited attached housing allowed conditionally; schools, parks, churches and certain other commercial & civic uses allowed conditionally
R-5	Detached housing allowed outright, duplexes allowed conditionally; schools, parks, churches and certain other commercial & civic uses allowed conditionally
R-7	Detached housing allowed outright; schools, parks, churches and certain other commercial & civic uses allowed conditionally
NS	Many commercial uses, including retail, service, eating and drinking establishments, and offices allowed outright; attached and detached housing allowed conditionally; schools and parks allowed outright, churches and certain other civic uses allowed conditionally

Housing Affordability

Planning for a mix of housing types and densities allows construction of housing units that are affordable to different income levels. The neighborhood adjacent to the Main Street is an appropriate location for a small affordable housing development because it will be zoned for mixed use and high density, will have local shops, and will be close to future transit. However, the Main Street neighborhood is not the only suitable location. For the Community Plan area, it will be important to provide a variety of options and locations where affordable housing development is possible and can be integrated into neighborhoods as they develop.

The City's existing policies and standards provide incentives for integration of affordable housing into Planned Unit Developments. The City also uses the following tools as affordable housing incentives:

- Tax exemptions for non-profits who provide affordable housing;
- Fee waivers for planning and site review fees;
- SDC waivers and subsidies;
- Use of Community Development Block Grants to fund infrastructure serving affordable housing;
- Acquisition, banking and write-downs of land; and
- Assignment of staff to assist affordable housing projects through the funding, development review and permit process.

The City is also considering a new tool that would defer payment of SDCs until occupancy for housing that qualifies as affordable.

Neighborhood and Housing Policies

1. *Development shall contribute to creating walkable neighborhoods. This policy is implemented by demonstrating consistency with the neighborhood design principles listed below:*

    a. *A variety of at least housing types shall be provided in each of the neighborhoods shown on the Neighborhood Framework Plan (Figure 8). The East, Northeast, Northwest, and West Neighborhoods shall include at least four housing types. The Main Street and Southwest Neighborhoods shall provide at least three housing types.*

    b. *For the purposes of this Community Plan, each of the following are considered a "housing type": (1) Live/work dwelling; (2) Multi-dwelling structure; (3) Single-family attached dwelling; (4) Cluster housing and/or compact detached dwelling; and, (5) Detached dwelling.*

    c. *Clear neighborhood focal points shall be provided. Focal points include but are not limited to: parks, schools, community gathering spaces, neighborhood services (i.e. day care), scenic viewpoints, and/or natural areas that are visually and physically accessible to the public;*

    d. *A network of walkable blocks and trails, consistent with the Transportation Framework Plan, Bicycle Framework Plan, and applicable Development Code standards shall be provided;*

e. The orientation of streets, blocks, development and/or trails shall be planned so that natural areas are not "walled off", but rather are as physically and visually accessible to the public as practicable;

f. The provision of parks and open space shall be consistent with applicable Development Code standards and the Natural Resources Framework Plan. Park and open space shall be coordinated with the Tualatin Hills Park and Recreation District.

2. In addition to the housing variety that must be demonstrated at a neighborhood level, individual developments and PUDs shall provide housing variety consistent with:

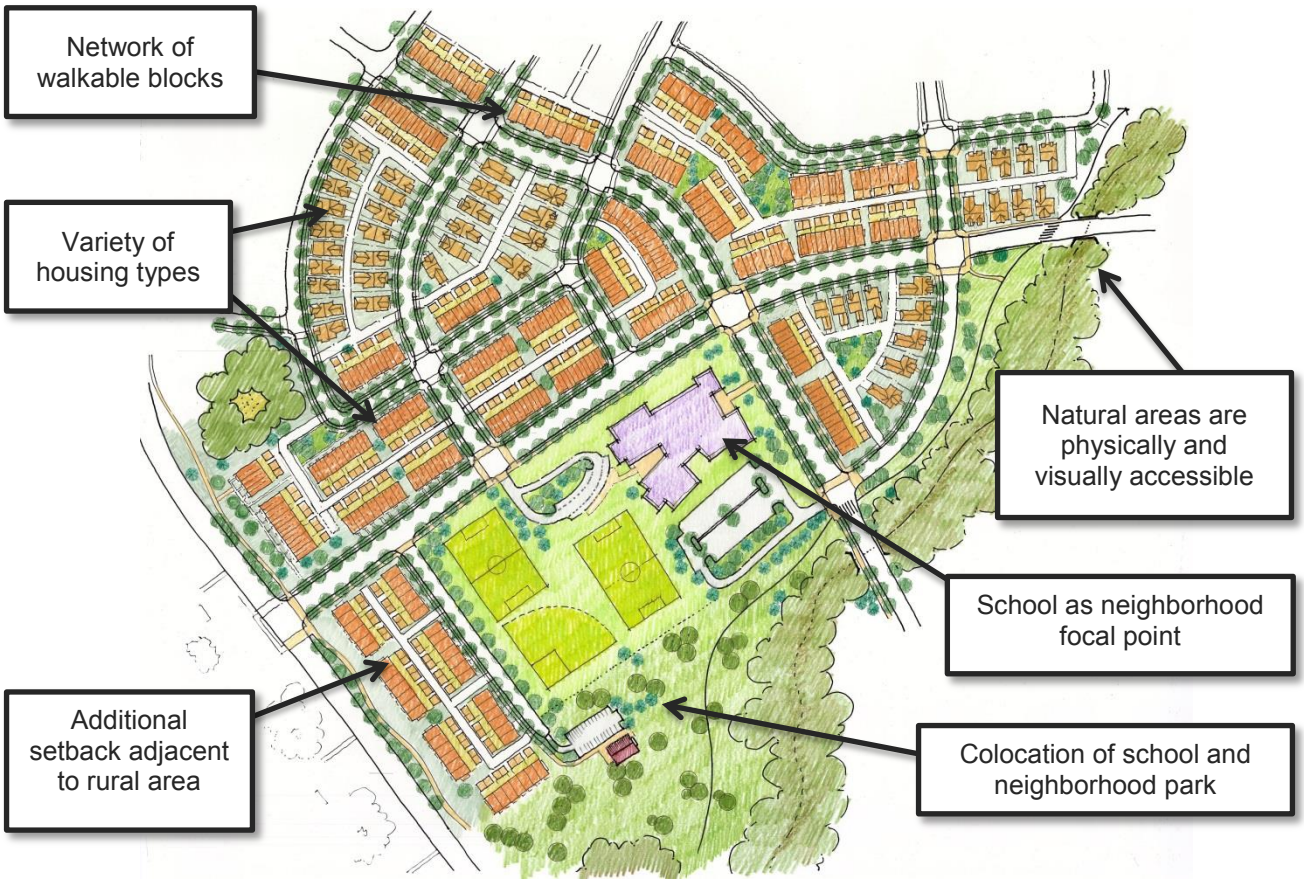
a. Sites 0 to 15 acres (gross) – 1 housing type permitted, but more encouraged.

b. Sites greater than 15 and up to 30 acres (gross) – minimum of 2 housing types required.

c. Sites over 30 acres (gross) – minimum of 3 housing types required although flexibility to housing types can be proposed through the development review process wherein an attractive and varied neighborhood is achieved.

3. The City will support efforts to provide affordable housing in South Cooper Mountain. The City will evaluate the feasibility of pro-active involvement in affordable housing projects and supportive programs benefiting South Cooper Mountain.

Figure 9: Neighborhood Design Principles in a Medium Density Residential Neighborhood



Main Street

Context

"Main Streets" are a "design type" identified in Metro's 2040 Growth Concept. As described in Chapter 3 of the Comprehensive Plan, they are intended to include small-scale retail and services to serve adjacent neighborhoods, along with some medium- to high-density housing, and should have access to transit. The City's goal is to provide Main Street areas with a vibrant mix of neighborhood commercial and residential uses in a pedestrian friendly environment that includes wide sidewalks with pedestrian amenities. They are intended to develop as cohesive communities with design features promoting an urban scale and pedestrian environment. The Main Street Comprehensive Plan designation is implemented by the Neighborhood Service, R1 and R2 zones.

The SCM Main Street is planned to be located adjacent to the planned BSD high school (see Figure 7 and 8), creating a community focal point and potential future transit node. Visibility from Scholls Ferry Road, and proximity to the High School, are key location and site planning criteria for the Main Street. It is planned to have a clear structure of blocks, and direct street and trail connections to the nearby neighborhoods, the high school, and the emerging River Terrace neighborhood located to the south of SCM in Tigard. Strong street, pedestrian and bike connections will support the success of the businesses in the Main Street and reduce reliance on the automobile for future SCM residents to meet their daily needs. The more pedestrian-oriented the Main Street is designed to be, the more it will establish a unique identity and draw community use.

The amount of land designated for a future Main Street was determined based on a market study considering the estimated household expenditures of existing and future residents of the South Cooper Mountain Concept Plan area. Because the portion of household expenditures on neighborhood retail varies widely, based on availability of retail, how accessible it is, and the appeal of the retail to nearby households, there is some inherent uncertainty in how much retail area the market will demand and support at this particular location. The visible location along Scholls Ferry Road and proximity to employees, students and community events at the High School are intended to enhance the viability of the retail on Main Street.

Main Street Policies

1. *Plan the Main Street area to provide local shopping opportunities. Main Street should complement and not compete with larger centers such as Progress Ridge.*

2. *Ensure that the Main Street area is designed as a pedestrian-oriented center that also provides for excellent accessibility by car and bicycle.*

3. *Ensure that the Main Street area is designed to have a complementary relationship with the adjacent High School and associated civic and recreational uses. Access and pedestrian routes should be coordinated. Uses within the Main Street should support the school district's policies for healthy food choices and active lifestyles.*

4. *The design of the Main Street are should follow these principles:*

    a. *Land uses and circulation should be organized into a series of walkable blocks.*

b. *Buildings should be oriented to the street along key routes. The City should consider tailored building orientation standards so that the storefront character is continuous along the most active edges of the blocks.*

c. *Mixed use buildings, 2 stories and taller, are encouraged.*

d. *Future transit should be anticipated and accommodated.*

e. *Public gathering spaces should be accommodated through a plaza, festival street, or parking area that can be converted to Saturday-market type use during community events.*

Transportation

Streets

Context

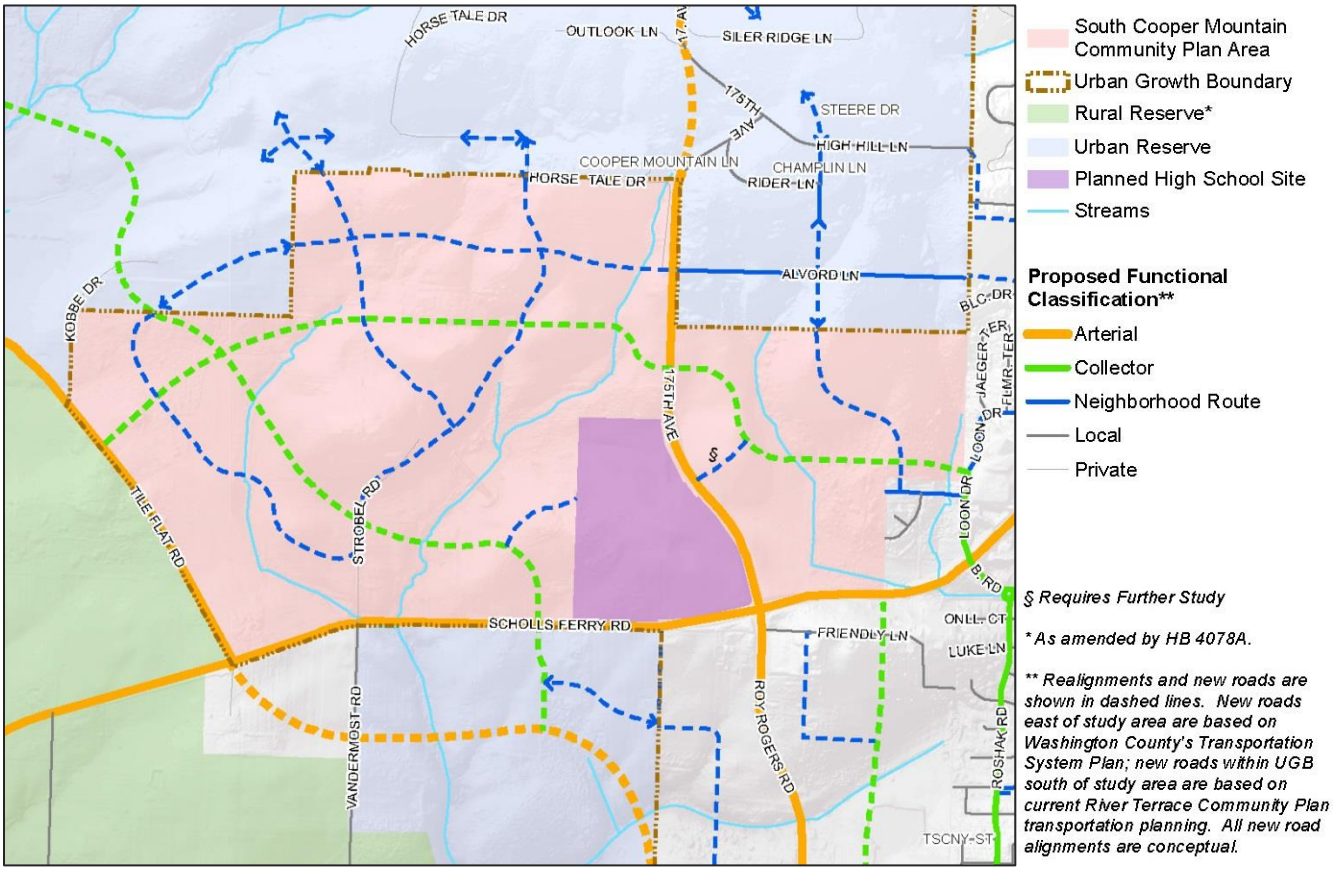
The existing major roadways that flank and run through the Community Plan area – SW Scholls Ferry Road on the south, SW 175th Avenue through the plan area, and SW Tile Flat Road on the west – have evolved over time. Historically they were farm-to-market roads and rural access routes. With the success of employment centers to the north and south, and the urbanization of the suburban communities in the Metro area, they have become even more important for regional commuting and local trips between the nearby communities. These roads will continue to serve as important routes to and through the plan area, as the land use context of south Cooper Mountain transitions from rural to urban. As urban development occurs, these arterials will provide an important new role as streets directly adjacent to urban neighborhoods, schools, and a Main Street. Accordingly, the policies in this section are intended to guide a balanced approach that provides for mobility and pedestrian safety, walking, biking, future transit, and access to urban uses.

SW Scholls Ferry Road, SW 175th Avenue and SW Tile Flat Road are under the jurisdiction of Washington County and are subject to County road standards. The policies of this plan pertaining to those streets are intended to guide selection of appropriate design treatments within the range of options allowed by the County in consultation and close coordination with the City of Beaverton and City of Tigard. A continued partnership approach will help the successful implementation of the planned transportation facilities, and adjacent land uses, in the area over time.

There are few alternatives today to the existing major roads, which all experience congestion during peak commute times. There is a need to supplement the arterial network with a connected network of collectors, neighborhood routes, and local streets to provide continuous routes that are parallel to the arterials and can offer access to and through new neighborhoods as they develop.

With several busy arterial roads bounding and splitting the Community Plan area, and important planned pedestrian destinations adjacent to them (including the future high school site and the planned Main Street area), thoughtfully designed and located pedestrian crossings will be critical to ensuring safe pedestrian access throughout the plan area. Pedestrian and bicycle connections to the planned high school and to River Terrace are particularly important for providing safe routes to school and walking and biking access that connects South Cooper Mountain and River Terrace.

Figure 10: Community Plan Street Framework



Street Policies

1. *The streets planned for the Community Plan area are illustrated in Figure 10. The Beaverton Transportation System Plan and Washington County Transportation System Plans will be updated consistent with Figure 10 and will be the controlling documents for transportation planning.*

2. *Access and circulation serving the high school shall be coordinated between the Beaverton School District, the City of Beaverton, the City of Tigard, Washington County, Tualatin Valley Fire and Rescue and other service providers.*

3. *SW Scholls Ferry Road, SW 175th Avenue, and SW Tile Flat Road are designated as Arterial streets, in recognition of their importance for regional movements. Transportation facility design and land use regulations and review shall recognize and balance the urban mobility needs with the multi-modal urban community functions of these key roadways. Specific policies for the objectives of each street are provided below.*

    a. *SW 175th Avenue within the Community Plan area shall be improved through a coordinated approach between the City, County and adjacent land owners. The City shall proactively initiate this coordination. SW 175th Avenue shall be designed to provide for mobility needs and provide an attractive and welcoming entrance to the area. Safe, protected pedestrian crossing opportunities shall be provided near important pedestrian destinations, such as the future high school site, when a need is demonstrated and such crossings are appropriately and safely designed and located.*

b. *SW Scholls Ferry Road adjacent to the Community Plan area shall be improved to meet Washington County's Urban Arterial road standards. It shall be designed to provide for efficient movement of vehicles, including freight, but shall also provide for safe bicycle and pedestrian facilities, especially in the vicinity of the Main Street. Safe, protected pedestrian crossing opportunities shall be provided near important pedestrian destinations. The city of Beaverton, city of Tigard and Washington County shall explore coordinated access, and a pedestrian crossing, in the vicinity of the high school and Main Street.*

c. *SW Tile Flat Road adjacent to the Community Plan area shall be designed to retain a rural design, particularly on the west side adjacent to land designated as Rural Reserve. All expansions requiring additional right-of-way shall be to the east (urban) side. Safe bicycle and pedestrian movements shall be accommodated by a shared-use pathway adjacent to the road on the east side, with trees and other landscaping to provide a visual buffer to adjacent rural lands.*

4. *A new east-west Collector street shall connect from SW Tile Flat Road to SW Loon Drive, providing a parallel route to SW Scholls Ferry Road that connects through the full width of the Community Plan area. This street shall be designed to provide a safe and comfortable connection for pedestrians and bicyclists as well as cars and to create a clear, direct and convenient route that connects the eastern, northern and western neighborhoods. The City and County shall evaluate options for the connection of the East-West Collector to SW Loon Drive, and how local circulation and local street connections should be coordinated with that connection.*

5. *A new north-south Collector road shall connect from SW Scholls Ferry Road through the Community Plan area.*

   a. *North of SW Scholls Ferry Road, this new collector shall serve as the Main Street area of South Cooper Mountain. The Main Street section of this Collector road shall be designed to be pedestrian-friendly, and designated as a Major Pedestrian Route, with on-street parking, wide sidewalks, pedestrian-scale street lights, "furnishings" such as benches and street trees in tree grates, and curb bump-outs where possible. A reduced design speed shall be pursued for the Main Street section along with features that encourage cars to travel more carefully through the Main Street area.*[23]

   b. *The alignment of the North-South Collector shall account for, and not preclude, future extension to the west to SW Grabhorn Road and south to serve Urban Reserve 6C.*

6. *Within the Community Plan area, new neighborhoods shall be served and linked by a connected network of streets. Neighborhood Route connections shall provide connectivity between neighborhoods. The preferred network is illustrated in Figure 10. The City may permit flexibility to adapt to site specific conditions and ownerships provided the conceptual network in Figure 10, or equivalent, is provided.*

7. *The City shall coordinate with Washington County to evaluate the need for, and feasibility of, any proposed Neighborhood Route connections to Arterial roads.*

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[23] *According to the City of Beaverton's Engineering Design Manual, the City Engineer may approve a lower alternative design speed where it can be shown that the 85th percentile speed of traffic will be lower than the design speed standard during all hours. The design speed is the minimum speed that shall be used in design of safe road geometry. The design speed shall not prohibit the use of traffic calming features or signing, where appropriate, to encourage lower traffic speeds.*

8. *All signalized intersections within and abutting the plan area shall be designed with high-quality pedestrian crossing treatments, such as count-down timers and high-visibility cross-walks.*

Bicycle and Pedestrian Framework

Context

Provision of a diverse and connected bicycle and pedestrian network consistent with regional active transportation goals is one of the great opportunities for the Community Plan area. The bicycle and pedestrian network will provide for local travel on bike and on foot, and support the overarching goal to create Beaverton's next great community. The network also serves to connect to destinations outside of the Community Plan area, such as Cooper Mountain Nature Park, the future Cooper Mountain Regional Trail, and River Terrace's trail system.

While the ultimate trail widths and designs will be determined at time of design and development, the following trail typology is recommended for planning purposes, based on THPRD's 2006 Trails Plan:

- **Community Multi-Use Trails:** These trails link important land uses and areas of interest with one another and connect users to the regional trail system. They are assumed to be paved paths that accommodate pedestrians (including those with disabilities) and bicyclists, recognizing that topographic constraints may be challenging. Within the planning area, it is assumed that multi-use trails that parallel roadways will be separated by a landscaped area. Trail width should be 8 to 10 feet paved width one- to two-foot gravel shoulders.
- **Pedestrian-Only Nature Trails:** These are assumed to be soft-surface trails that are for pedestrians only (though they should be accessible to those with disabilities whenever feasible). They provide connections through and along natural areas, including links to the Cooper Mountain Nature Park trail system. Widths may range from 3 to 8 feet.

A conceptual bicycle and pedestrian framework plan is included in Figure 11, illustrating the plan to achieve the policy objectives listed below.

Bicycle and Pedestrian Framework Policies

1. *<u>On-Street Bicycle & Pedestrian Facilities</u>: All new and improved roadways within the Community Plan area shall have sidewalks.[24] In addition, all new Arterial and Collector streets shall have bike lanes, as identified in the City of Beaverton and Washington County TSPs. More protective bicycle facilities, such as buffered bike lanes, shall be considered for SW Scholls Ferry Road and SW 175th Avenue, due to traffic speeds and, in the case of SW 175th Avenue, grades.*

2. *<u>Stream Corridor Trails</u>: A system of nature trails and multi-use paths shall run along the outer edge(s) of the vegetated corridors adjacent to stream reaches within the Community Plan area, as illustrated in Figure 11, providing a recreational amenity and safe, pleasant pedestrian and/or bicycle connections.*

3. *<u>Trails through Resource Areas</u>: The site specific design and location of providing trail connections across wetland resource areas within the Community Plan area shall be addressed on a case-by-*

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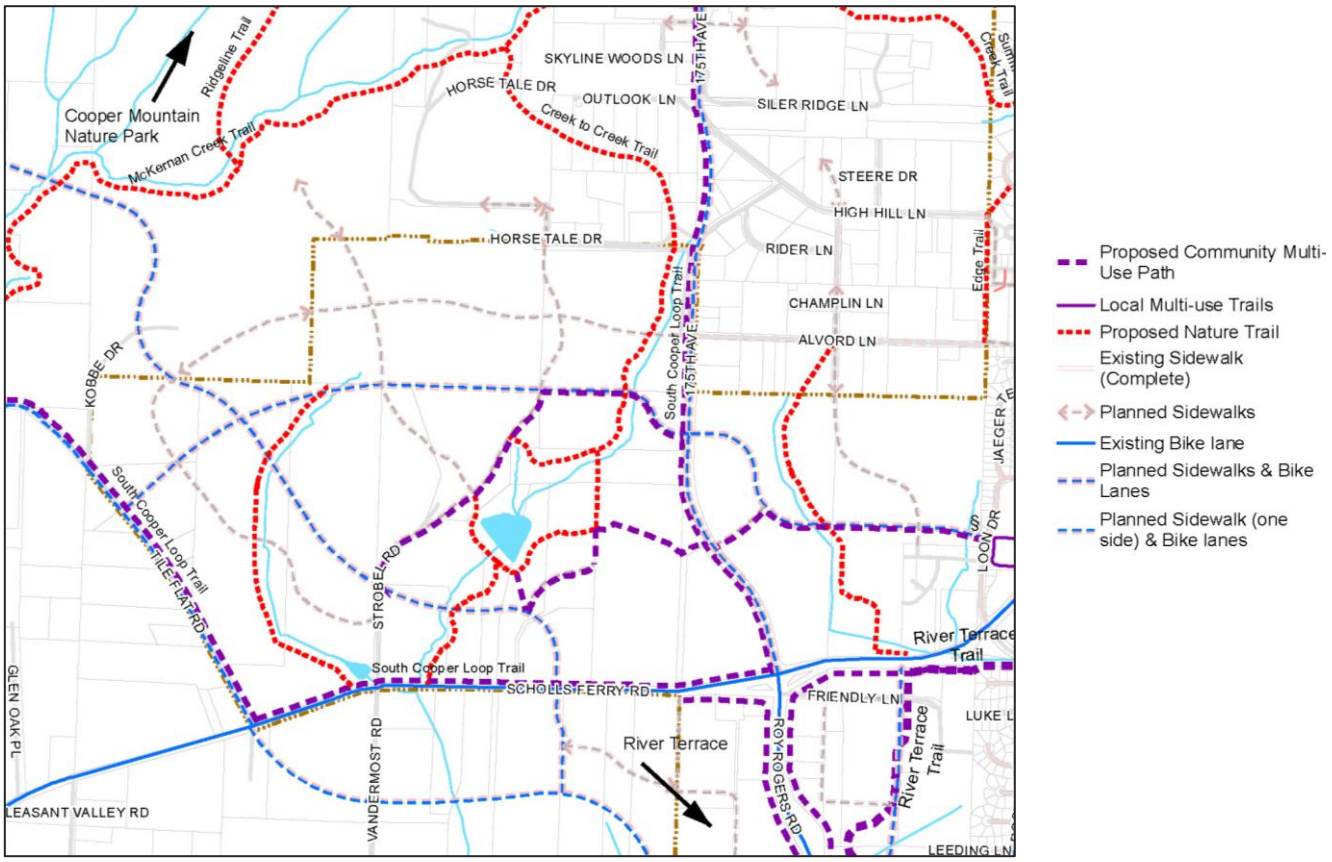
[24] *The exception is SW Tile Flat Road, which is planned to have a multi-use path along the eastern side in place of sidewalks. Another exception a trail that may parallel a street next to a resource area. In this case, the trail may replace the sidewalk on the resource side of the street.*

case basis. There is a need to provide safe and convenient pedestrian and/or bicycle across the central natural resource area located north of the high school and Main Street. There is also a need to provide access to the River Terrace Trail south of SW Scholls Ferry Road. These, and other trails through resource areas, shall be designed to minimize impacts to the natural resources. Maintenance and enhancement of wildlife corridors and connections between resource areas should be considered when designing and locating trails.

4. *<u>School to School Trail</u>**:** A multi-use path shall link from SW Loon Drive at Scholls Heights Elementary school to SW 175th Avenue at the planned high school site. Its alignment shall be coordinated with efforts to extend a "purple pipe" (non-potable water) connection from a Beaverton well site near SW Loon Drive to the high school that could supply irrigation water for playing fields.*

5. *<u>Western Edge Trail</u>: A community multi-use trail shall run along the east side of SW Tile Flat Road within the Community Plan area. This trail shall be extended further north, paralleling SW Grabhorn Road as far as Cooper Mountain Nature Park, when that portion of the Urban Reserve Area is brought into the UGB and developed.*

Figure 11: Community Plan Bicycle & Pedestrian Framework



Resource Protection and Enhancement

Significant Natural Resources & Open Space Edges

Context

The two highest-quality natural areas within the Community Plan area are the central riparian/wetland area and the wetland area in the southeast corner of the plan area. These are shown in Figure 12 and described below.

Central riparian/wetland area: This area contains a diversity of native habitats, including wetland, riparian, and upland habitat. It contains the most intact stream within the Community Plan area; human disturbance throughout this resource area appears to be relatively minimal, with the exception of an existing dam (removal of which should be evaluated for feasibility and environmental impacts). The area is home to a diverse mix of vegetation and frequented by migratory birds. This area includes wetlands identified as W-A and W-C in the Local Wetlands Inventory (LWI) prepared for the Community Plan area, both of which were found to meet locally significant wetland criteria.

Eastern wetland: This wetland area covers roughly 4.5 acres, and is contiguous with wetlands on the Churchill Forest subdivision property that have been protected as part of the subdivision approval. This wetland, identified as W-H in the LWI prepared for the Community Plan area, provides diverse wildlife habitat, and meets criteria for designation as a locally significant wetland.

In addition, the two drainage corridors on the eastern and western sides of the plan area are regulated by Clean Water Services' (CWS) vegetated corridor regulations. Both are currently degraded, but CWS regulations will require restoration of native vegetation upon development approval.

These resources can become amenities for the future neighborhoods if they are appropriately protected and restored.

Natural Resource Policies

1. *Locally significant wetlands and protected riparian corridors within the Community Plan area shall be protected and enhanced, consistent with local, state, and federal regulations.*

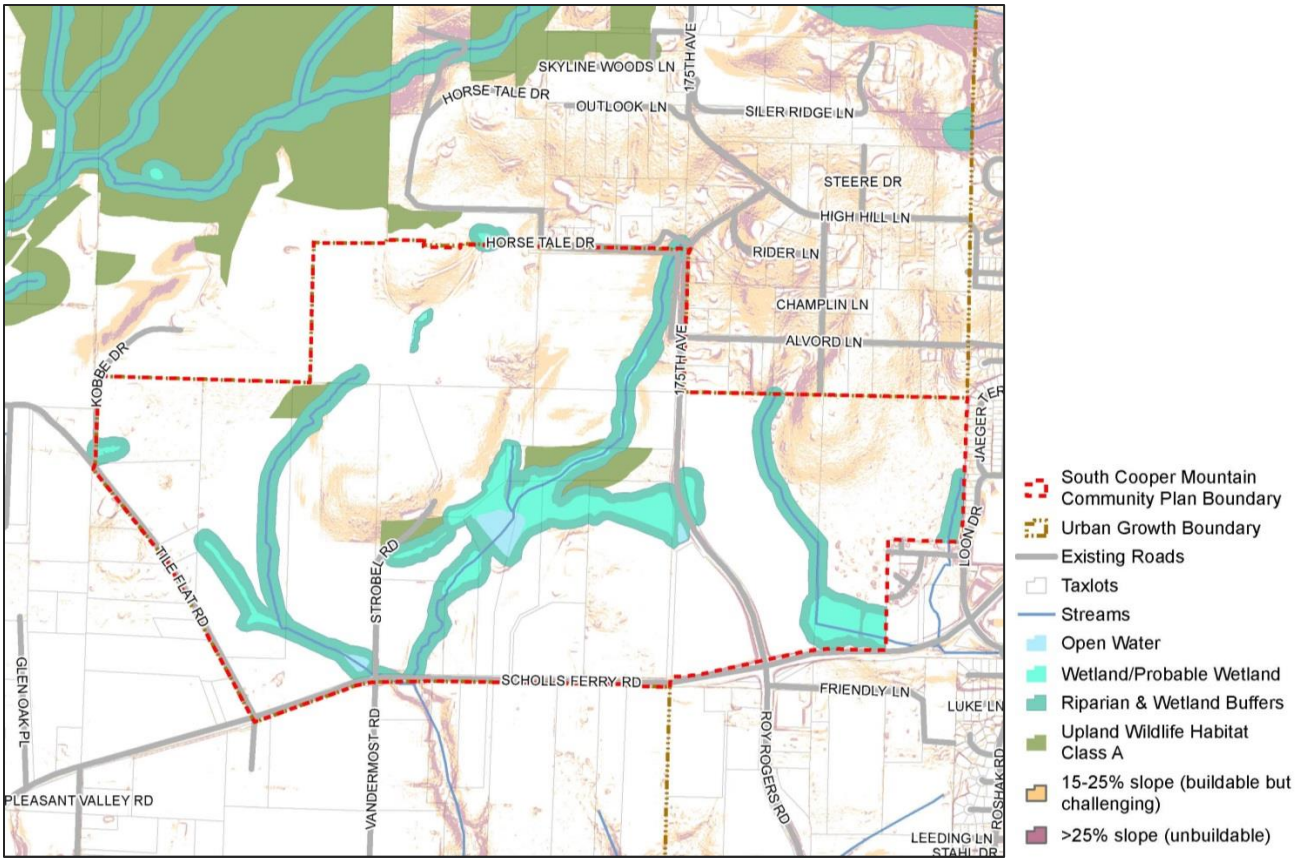
2. *Development adjacent to significant natural resource areas shall be designed to provide visual and/or physical access to the resource area and limit continuous rear lot line edges abutting a significant natural resource through one or more of the following treatments of the open space edge.*

    a. *parallel trail along the edge of the vegetated corridor with access points from adjacent roads and community focal points;*

    b. *local streets that run adjacent to the edge of the vegetated corridor, without development between the street and the vegetated corridor; or*

    c. *neighborhood parks, pocket parks, schools and similar uses that connect to the resource area and provide breaks between developed areas abutting the resource.*

Figure 12: Natural Resources in the Community Plan area



Urban Forestry Management

Context

Trees provide a variety of important environmental services, in addition to offering aesthetic benefits. The environmental services include: contributing to stormwater management by intercepting rainfall; moderating temperature; providing habitat; enhancing air quality; and improving soil stability on sloping terrain. Large stands of mature trees in the Community Plan area were removed prior to annexation to the City of Beaverton and in the interim period during which the SCM Concept Plan and Community Plan were being developed. Efforts should be made to restore and maintain tree canopy throughout the Community Plan area.

Title 13 of Metro's Urban Growth Management Functional Plan requires that local governments protect identified regionally significant upland wildlife areas within UGB expansion areas.[25] Several areas meeting Metro's criteria for designation as "Class B Upland Habitat" have been identified in the SCM Community Plan area, along with more limited areas that meet the criteria for "Class C Upland Habitat".[26] The City of Beaverton has tree protection and mitigation standards for certain types of trees,

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[25] *Metro UGMFP Title 13, section 3.07.1330 Implementation Alternatives for Cities and Counties and section 3.07.1370 Future Metro Urban Growth Boundary Expansion Areas.*

[26] *See DRAFT Natural Resources Memorandum by David Evans and Associates, Inc., June 3, 2013.*

including Significant Individual Trees, Trees within Significant Natural Resource Areas and Trees within Significant Groves.[27]

Urban Forestry Policies

1. *The City shall explore options to encourage and incentivize tree planting and retention of mature trees within the Community Plan area.*
2. *Tree planting already required by City regulations (e.g. landscaped areas, street trees) shall be maximized as a method to increase the tree canopy in the Community Plan area.*
3. *Regionally Significant Upland Habitat within the SCM Community Plan area shall be protected through designation of Significant Groves and application of the City's existing tree protection standards and Habitat Benefit Area provisions, as appropriate.*

Scenic Views

Context

Scenic views are recognized as resources in Chapter 7 of the Comprehensive Plan. There are a number of locations within the Community Plan area that offer scenic views of the Tualatin Valley and Chehalem ridge to the southwest. These views are an integral component of the unique character of the Community Plan area, and are key amenities to be retained and enhanced as urbanization occurs. In addition to aesthetic qualities, scenic viewpoints provide a visual connection between the contemporary growth of the city and rural heritage of the area.

Scenic View Policies

1. *Development on lands that currently offer views of the Chehalem Ridge shall be designed to retain view corridors of at least 30 degrees for the enjoyment of the adjacent neighborhoods and the broader community, using one or more of the following techniques. Viewpoints should provide seating and space for passersby.*

    a. *Streets that "T", stub, or curve at a location offering a viewpoint, with a break between buildings;*
    b. *Neighborhood or pocket parks situated to offer a viewpoint; and/or*
    c. *Gaps between buildings with small seating areas adjacent to the sidewalk (see Figure 13for an illustration of this concept).*

[27] *Beaverton Development Code Chapter 60, Section 60.60. Trees and Vegetation.*

Figure 13: Scenic Viewpoint Visualization

Rural Edges and Transitions

Context

The Community Plan area abuts land outside the UGB, west of SW Tile Flat Road, that is designated Rural Reserve and zoned for Exclusive Farm Use, a rural resource zone. Since this land is assumed to be retained for agricultural use over the next several decades, or until the urban reserves have all been added to the UGB, the border between urban and rural lands should be sensitive to adjacent rural uses. Measures to enhance compatibility between farm/forest lands and UGB expansion areas are also required as a condition of the UGB expansion for the SCM Community Plan area.[28]

Due to urban density targets for the plan area, and the unconstrained nature of the land available for development immediately east of SW Tile Flat Road, it is not appropriate to substantially reduce planned densities adjacent to the rural edge in the interest of an urban-rural transition. Further, even standard single-family neighborhoods can have a visual and spill-over impact on adjacent rural areas if not carefully designed. Therefore, the policies below emphasize a design approach to rural edges and transitions.

Rural Transition Policies

1. *Require a special setback for development abutting SW Tile Flat Road, to be dedicated and improved as a multi-use path. (If the path becomes part of the right-of-way, rear setbacks shall be reduced in order to reduce the impact on the land's development potential.)*

2. *Require that the setback area and path are landscaped with trees and shrubs that provide a visual screen for adjacent rural uses.*

3. *The City shall work with THPRD to explore opportunities to provide Parks System Development Charge (SDC) credits to developers who dedicate and/or improve a trail implementing this objective.*

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[28] *Metro Ord. No. 11-1264B condition #4 for SCM states that "Land use regulations shall include provision – such as setbacks, buffers and designated lanes for movement of slow-moving machinery – to enhance compatibility between urban uses and agricultural and forest practices on adjacent land outside the UGB that is zoned for farm or forest use pursuant to statewide planning Goal 3 or 4."*

Figure 14: Rural to Urban Transition along SW Tile Flat Road

Infrastructure Provision

Context

Drinking Water

As with other planning strategies for South Cooper Mountain, the water system for the Community Plan was conceptually planned during the Concept Plan process and evaluating the area as a whole. The water system expansion into South Cooper Mountain, and the SCM Community Plan area specifically, will be based on the largest single point demand in the area: fire service flow. Although providing domestic and irrigation services to the area is essential, the water system expansion will be developed to provide sufficient fire flow while maintaining a minimum water pressure.

The new 24-inch water line in SW Scholls Ferry Road will extend to SW 175th Avenue and the planned High School site. Additional development to the north and west will require expanded network connections.

A new 24-inch water line is planned to extend along SW 175th Avenue, ultimately connecting to a future five-million-gallon tank to be located near the intersection of SW 175th Avenue/SW Weir Road. By supplementing the existing system with this new five million-gallon storage tank, there will be adequate water storage to serve the entire planning area. It is scheduled to be constructed by 2020.

Other major water lines will be constructed in large loops within the existing or future right-of-ways of SW Scholls Ferry Road (west of SW 175th Avenue), the planned east-west collector roadway through the Community Plan area, the planned north-south Main Street collector roadway, and SW Tile Flat Road. Development occurring within the interior of SCMAA area will connect to one of these mainlines. The conceptual water system plan for the full Concept Plan area is shown in Figure 15. Water line alignments are conceptual and subject to further design and engineering. Water lines outside of Community Plan area are also conceptual and shown only for context and to inform future planning in the area.

A planning-level cost estimate to construct these facilities is approximately $9.1 million for the Community Plan area (including soft costs such as engineering and contingency but excluding the cost of the planned storage tank).[29]

Sanitary Sewer

The SCM Community Plan area will be served by different sewer line locations, as shown in the conceptual sanitary sewer system plan for the full Concept Plan area in Figure 15.

An existing 21-inch gravity sanitary sewer located in SW Scholls Ferry Road can serve some of the area east of 175th Avenue and north of Scholls Ferry Road as well as the planned High School site.

With the exception of the high school area, the areas west of SW 175th Avenue will be conveyed towards the low point in SW Scholls Ferry Road (at the creek crossing near SW Vandermost Road) and eventually be conveyed to the new River Terrace Pump Station. The River Terrace Pump Station will be located within the urban growth boundary along the creeks south of SW Scholls Ferry Road and west of SW Roy Rogers Road. The River Terrace Pump Station is anticipated to be in operation by the end of 2015, and all flows from this proposed pump station will be directed to the intersection of Scholls Ferry Road and 175th Avenue to connect to the 21-inch Scholls Ferry Road Sanitary Sewer Extension and ultimately to the Durham Wastewater Treatment Plant.

Major sewer lines will be extended within future collector road right-of-ways, as well as in SW Tile Flat Road and SW Scholls Ferry Road west of SW 175th Avenue. In addition, the low lying creek will have sanitary sewers on each side to convey waste water to the low point in SW Scholls Ferry Road.

A planning-level cost estimate to construct these facilities is approximately $12.3 million (including soft costs such as engineering and contingency but excluding the cost of the planned River Terrace Pump Station).[30]

The conceptual sewer system plan for the full Concept Plan area is shown in 13. Sewer line alignments are conceptual and subject to further design and engineering. Sewer lines outside of Community Plan area are also conceptual and shown only for context and to inform future planning in the area.

Stormwater

Conceptual storm water management planning was conducted during scenarios phase of the Concept Plan. The work identifiedr: (1) A preference by the City of Beaverton and Clean Water Services (CWS) for an approach that uses Regional Stormwater Facilities (RSFs); (2) Recognition that there are challenges to implementing RSFs, and flexibility is needed to apply site-scale storm water management instead of, or in combination with, RSFs; and (3) Changing water quality regulations merit further planning for South Cooper Mountain, including the creation of a Storm Water Management Plan for the

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[29] *Details of the cost estimates and planned water system are available in the Water System Concept Plan – Summary Findings and Planning Level Cost Estimates memorandum prepared by David Evans and Associates, Inc., June 11, 2014.*

[30] *Details of the cost estimates and planned sewer system are available in the Sanitary Sewer Concept Plan – Summary Findings and Planning Level Cost Estimates memorandum prepared by David Evans and Associates, Inc., June 11, 2014.*

Community Plan area. The description below summarizes elements of the work that was prepared for the Concept Plan.[31]

The preferred approach for implementing Overarching Principles 3 (sustainability), 4 (funding plan), and 7 (natural resources) is to plan for large scale dry detention ponds, termed Regional Stormwater Facilities (RSFs) by CWS, in order to manage peak runoff rates to avoid downstream impacts. This approach is preferred because it is consistent with planning in other new areas added to the Urban Growth Boundary; it provides planned, comprehensive flow control in a cost-effective manner; and, it provides the highest level of certainty of meeting the flow management guidelines being established by CWS. In addition, RSFs will meet water quality requirements (capture and treatment of stormwater pollutants) as well as preserving the stream health of the receiving channel by avoiding hydrographic modification.

It should be noted that RSFs require a high level of coordinated implementation. Options should be available so that there is some flexibility as how to design and construct facilities to serve individual properties prior to regional facilities being available.

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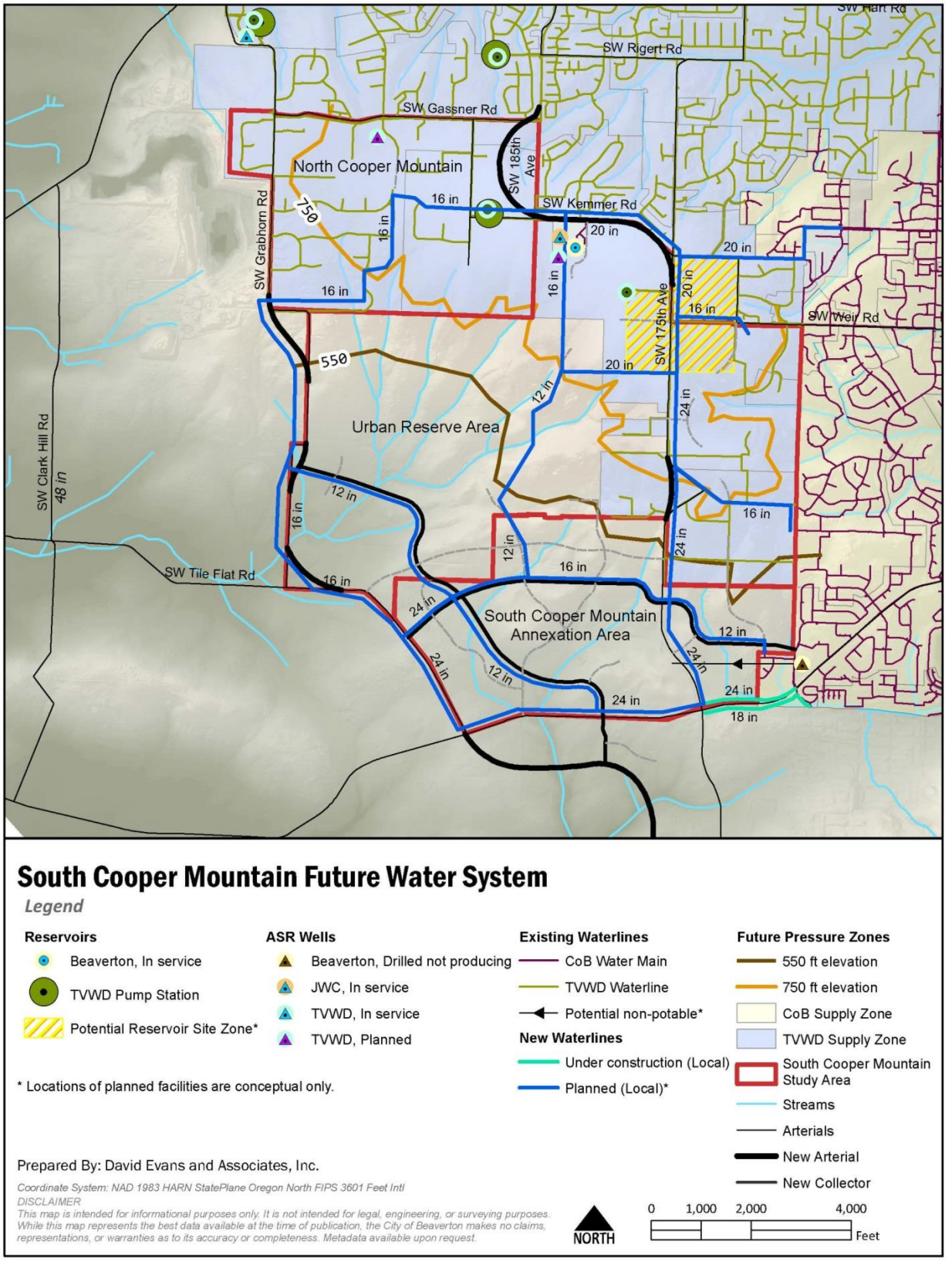
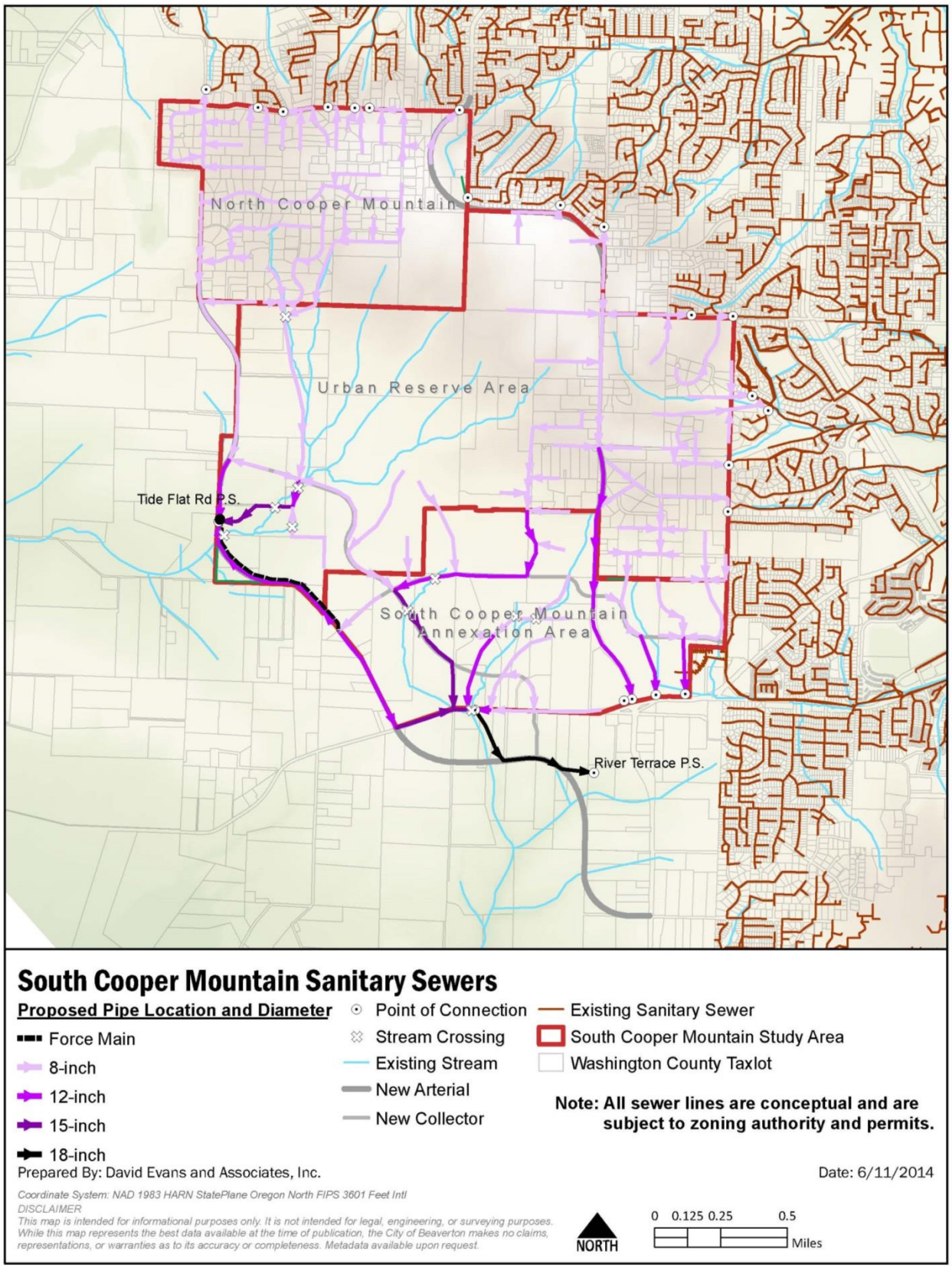
[31] *For the scenario level evaluation, please see Stormwater and Water Quality Scenario Summary, David Evans and Associates, December 19, 2014.*

Figure 15: Conceptual Future Water System for SCM Concept Plan Area



Date: 6/11/2014

Figure 16: Conceptual Future Sanitary Sewer System for SCM Concept Plan Area



In the scenarios phase of the Concept Plan, RSFs were tentatively sized and located based on estimates of impervious area upland of the facilities. The sizing tool was the Western Washington Hydrologic Model, which matches flow-duration curves for a range of storms pre- and post-development. CWS is in the process of updating its conveyance and detention standards based on a similar approach. Thus the work prepared during the Concept Plan was an approximation of that anticipated standard of care. Fine tuning of the location, upland area, and final facility size (including buffer and access areas) will be required as future planning and development occurs.

Additional site-specific reviews of opportunities for Low Impact Development Approaches (LIDA) are encouraged as part of development, which may reduce the size of downstream detention facilities. This would be a joint decision of CWS and the City of Beaverton and would need to be decided prior to the commitment for any particular facility.

No matter what specific storm water management facilities are planned, it is essential that the detention ponds and conveyance work are planned and designed in combination with other elements of the Community Plan, including: protection and enhancement of natural resource areas, provision of parks and open spaces, and management of stormwater at the site and street scale.

Infrastructure Policies

1. *Urban development shall not be allowed until urban services, including water and sewer, are available to the subject property.*

2. *The City shall work with service providers and property owners to extend urban services in a coordinated and efficient manner.*

3. *The City of Beaverton will coordinate closely with the City of Tigard on the final location and timing of the River Terrace Pump Station.*

4. *The City shall use the South Cooper Mountain Infrastructure Funding Plan as the basis of financing decisions for public facilities and services in the SCM Community Plan area.*

5. *The City shall develop memorandums of understanding with service providers to implement the South Cooper Mountain Infrastructure Funding Plan.*

6. *The City shall work with Clean Water Services to develop a Stormwater Management Plan for the SCM Community Plan area.*

APPENDIX A: PROJECT COMMITTEES AND TEAM

South Cooper Mountain Technical Advisory Committee

Susan Shanks, City of Tigard

Dyami Valentine, Washington County Department of Land Use and Transportation

Kevin Hanway, City of Hillsboro Water Department; Tyler Wubbena (alternate), City of Hillsboro Water Department

Jeannine Rustad, City of Hillsboro Planning Department; Daniel Rutzick (alternate), City of Hillsboro Planning Department

Anne Debbaut, Department of Land Conservation and Development (DLCD)

Tim O'Brien, Metro

Lidwien Rahman, Oregon Department of Transportation (ODOT)

Tom Mills, TriMet

Carrie Pak, Clean Water Services (CWS)

Aisha Willits, Tualatin Hills Parks and Recreation District (THPRD)

Richard Hoffman, Tualatin Valley Fire & Rescue (TVF&R)

Mark Knudesen, Tualatin Valley Water District (TVWD); Stu David (alternate), TVWD

Dick Steinbrugge, Beaverton School District (BSD); David Etchart (alternate), BSD

Adam Stewart, Hillsboro School District (HSD); Loren Rogers (alternate), HSD

Finance Task Force

John O'Neill

Martin Moore

Dan Grimberg

David Waffle

Toby LaFrance

Andy Braun

Aisha Willits

David Winship

Jabra Khasho

Dyami Valentine

Matt Wellner

Guests: Wally Remmers, Tom Brian, Kenny Asher, Susan Shanks

APPENDIX A: PROJECT COMMITTEES AND TEAM

City of Beaverton
South Cooper Mountain Planning Team

Valerie Sutton, Senior Planner, Project Manager

Steve Sparks, Principal Planner

Leigh Crabtree, Associate Planner

Cassera Phipps, Assistant Planner

Juston Manville, GIS Manager

Sheila Martin, Administrative Assistant

City of Beaverton Core Project Team

Jabra Khasho

Cindy Dolezel

Peter Arellano

Jim Duggan

Lani Parr

Jason Wachs

Jeff Salvon

Andrea Nelson

Kenneth Rencher

Luke Pelz

Wendy Prather

Brion Barnett

David Winship

Andrew Barrett

Mark Boguslawski

Eric Oathes

Geoff Spalding

Alma Flores

Patrick O'Claire

Dave Waffle

Bill LaMarche

Todd Juhasz

Megan Cohen

Randy Ealy

APPENDIX A: PROJECT COMMITTEES AND TEAM

Consultant Team

Angelo Planning Group

Joe Dills, Angelo Planning Group, Project Manager

Becky Hewitt, Angelo Planning Group, Planner and Assistant Project Manager

Cathy Corliss, Angelo Planning Group, Principal

Matt Hastie, Angelo Planning Group, Finance Task Force Facilitator

Andrew Parish, Angelo Planning Group, Planner

David Evans and Associates

Claudia Sterling, David Evans and Associates, Storm Water Engineer

Ethan Rosenthal, David Evans and Associates, Ecologist

Paul Fendt, David Evans and Associates, Storm Water Engineer

Steve Harrison, David Evans and Associates, Engineer

Sara Gilbert, David Evans and Associates, GIS Specialist

DKS Associates

Carl Springer, DKS Associates, Transportation Planner

Kevin Chewuk, DKS Associates, Transportation Planner

ECONorthwest

Nick Popenuk, ECONorthwest, Funding Plan Manager

Lisa Wall, ECONorthwest, Analyst

Anne Fifield, ECONorthwest, Market Analyst

Fregonese Associates

Glen Bolen, Fregonese Associates, Planner

Max Bolen, Fregonese Associates, Scenario Analyst

JLA Public Involvement

Eryn Deeming Kehe, JLA Public Involvement, Public Involvement Advisor

Kalin Schmoldt, JLA Public Involvement, Public Involvement Manager

Walker Macy

Ken Pirie, Walker Macy, Urban Designer

Mike Zilis, Walker Macy, Urban Designer

Nathan Kappen, Walker Macy, Urban Designer

Saumya Kini, Walker Macy, Urban Designer

Valerie Sutton

City of Beaverton

Senior Planner, South Cooper Mountain Project

PO Box 4755

Beaverton, OR 97076

Re: 17811 SW Scholls Ferry Rd.

Tax Lot: 2S1060000700

Dear Valerie:

As I mentioned in the CAC meeting on July 10th, since we started showing the draft commercial zoning on this property, I've done a considerable amount of due diligence on the feasibility of this site as a commercial development. I've talked with several experts who have spent quite a bit of time doing some conceptual layouts of the site and they have brought up some serious concerns as to the feasibility of a commercial development at this site.

1 - The topography. Although the site doesn't appear to have a lot of topography, there is actually 27' of elevation difference (7%) from the street to the back of the property. Typically commercial sites do not like to exceed 3%. It is very difficult to step a commercial building on a hillside because different tenants uses change and typically a commercial use would not want a step in the middle of their building. It's much easier to step apartments on unit lines because the size of the apartments never change.

2 - The experts who I talked with think it is imperative that the commercial site be on a signalized intersection. At the last CAC meeting Arbor homes said that they had been approved for a signalized intersection a few hundred feet to the east of this location for their development on the south side of Scholls Ferry Rd. (see attached map). I believe that it would be very unlikely that the County would allow another signalized location so close to the other one.

3 - The experts who I talked with brought up serious concerns as to a commercial development next door to a school. Conflicts that they have experienced in the past include ability to get a liquor license for restaurant establishments and sighting liquor stores and 24-hour uses such as fitness centers and coffee shops.

Alternate 1 - a commercial sight located on Scholls Ferry Rd. and Strobel Rd./Vandermost Rd. has less than 3% elevation change, has exposure to Scholls Ferry Rd. and is further away from existing commercial uses and hopefully the County would allow it to be signalized (see attached drawing).

Alternate 2 - a commercial sight located at Scholls Ferry Rd. and Tile Flat Rd. has all the same benefits as Alternate 1 except that it already has the signal light and with Tile Flat Rd. being extended to the south, this would be an excellent commercial location.

We believe that the commercial sight should be moved to one of the alternative locations, especially if there is an issue with the traffic signal or conflicts with typical commercial uses and the school. Alternatively we believe that this would be an excellent apartment sight with pedestrian access to the school.

Concerning transportation - whether this is a commercial sight or an apartment sight, we believe that it makes sense for the collector to be centered on the property line between this sight and the school sight to the east (see attached drawing) and rather than the road sweep to the west, we suggest a round-a-bout. The round-a-bout could be used to access the school site, properties to the north and the collector going to the west. The round-a-bout is also an excellent place for large vehicles such as buses to turn around.

Thank you for your consideration.

Sincerely,

Ed Bartholemy

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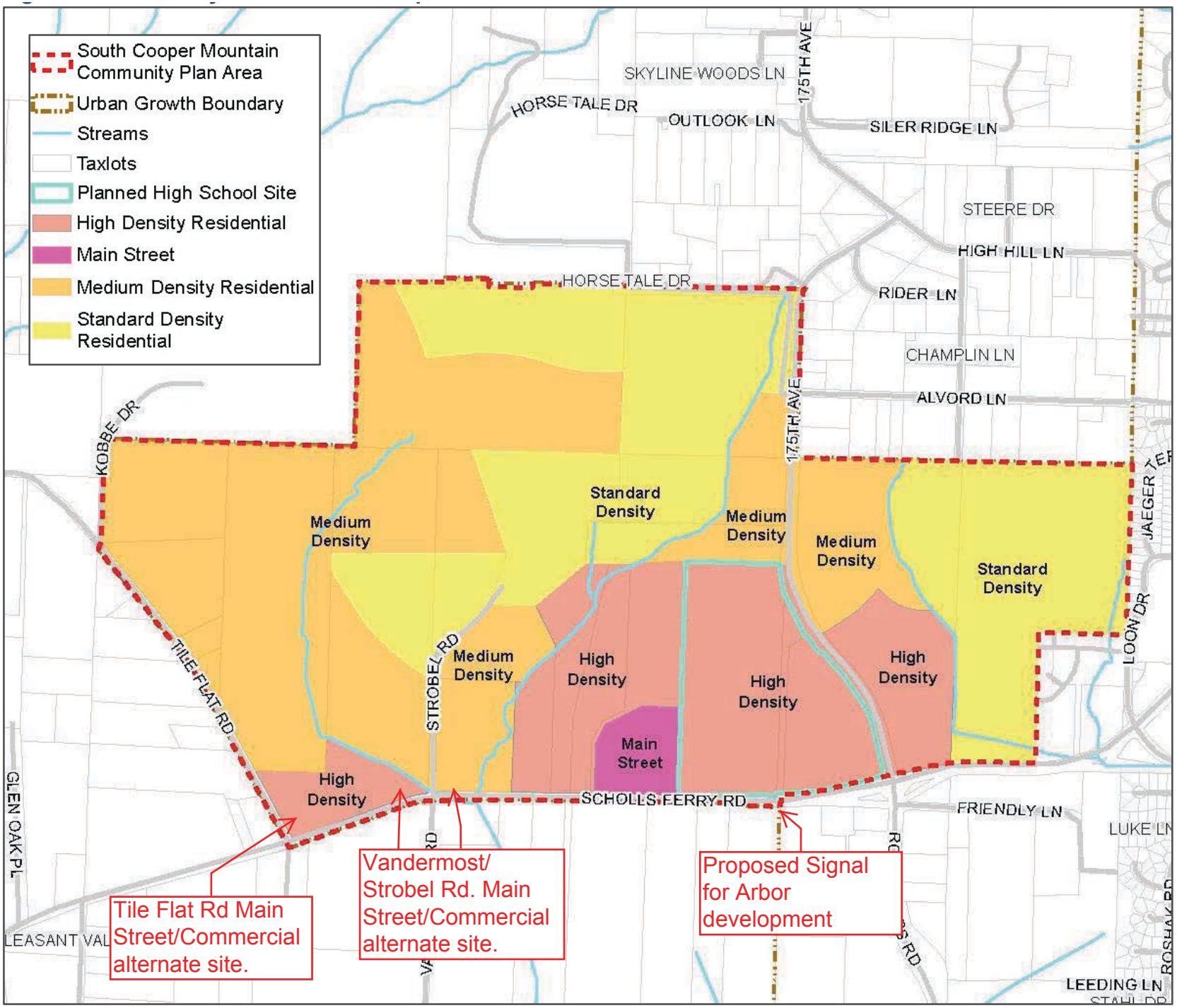
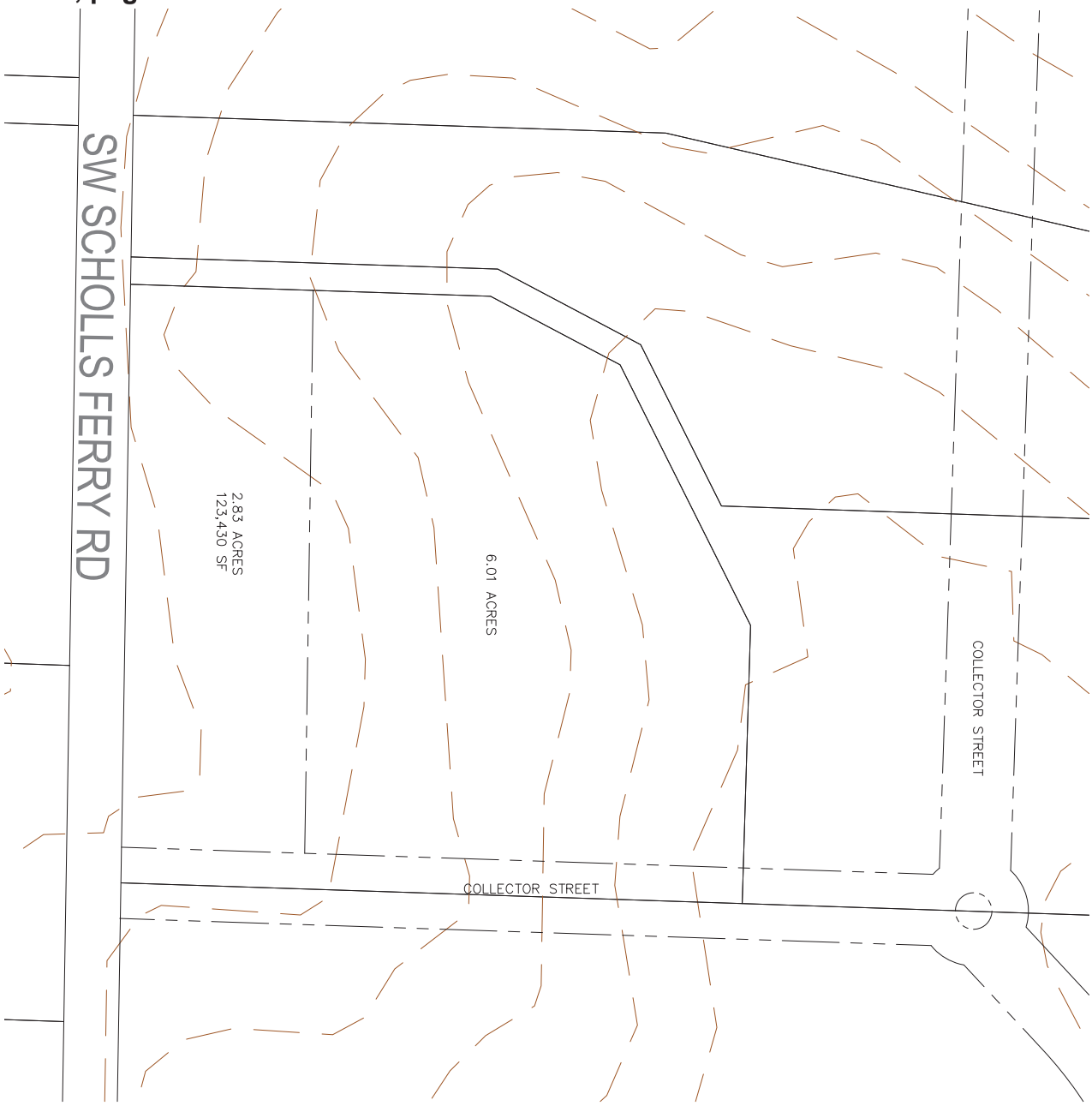

South Cooper Mountain Community Plan Area
Urban Growth Boundary
Streams
Taxlots
Planned High School Site
High Density Residential
Main Street
Medium Density Residential
Standard Density Residential
SKYLINE WOODS LN
175TH AVE
HORSE TALE DR
OUTLOOK LN
SILER RIDGE LN
STEERE DR
HIGH HILL LN
RIDER LN
CHAMPLIN LN
ALVORD LN
KOBBE DR
TILE FLAT RD
STROBEL RD
SCHOLLS FERRY RD
FRIENDLY LN
LUKE LN
JAEGER TER
LOON DR
GLEN OAK PL
LEASANT VAL
LEEDING LN
ROSHAK RD
Medium Density
Standard Density
High Density
Main Street
Tile Flat Rd Main Street/Commercial alternate site.
Vandermost/ Strobel Rd. Main Street/Commercial alternate site.
Proposed Signal for Arbor development

Exhibit 6-1, page 4



RECEIVED
OCT 23 2014
City of Beaverton
Planning Services

October 21, 2014

Planning Division
Community Development Dept.
City of Beaverton
PO Box 4755
Beaverton, OR 97076-4755

RE: South Cooper Mountain Community Plan, Case File No. CPA2014-0011, CPA2014-00012, TA2014-0002

Dear Planning Division:

We are writing to comment on the proposed east-west 3 lane city collector road through the SCMAA, from SW 175th to SW Loon (see page 39 of Draft SCM Concept Plan, September 2014). Currently, the plan is to locate the eastern connection point of this collector road on SW Loon across from the Scholls Heights Elementary athletic fields, south of the existing homes in the Sterling Park subdivision, and north of SW Oystercatcher Lane which provides access to the Churchill Forest subdivision.

As homeowners on the north side of SW Oystercatcher Lane and the parents of two children, we are very concerned about living with a busy, noisy road right behind our house. We used to live off of SW Barrows, a collector road, and one of the reasons prompting our family to move to Churchill Forest 11 months ago was to get away from the traffic and noise in that area. Now we are shocked to find that our family may end up in a worse location than where we were before moving, and that we may not be able to sell our house for as much as we recently paid for it because of this proposed road.

While we understand that more roads need to be built for access into the area, we fail to see why such a busy road must be built right behind an existing subdivision already buffeted by SW Scholls Ferry, especially given all the vacant land in the SCMAA. As parents with a child attending Scholls Heights Elementary, we also fail to see the benefits of building a high traffic road that brings more cars into a school zone and over - what many in our neighborhood were led to believe would be - protected green space (located behind the homes on the north side of SW Oystercatcher Lane toward SW Loon).

We recently asked why the city couldn't reclassify the proposed collector road as a neighborhood route and was told that county policies do not allow connection of streets classified as neighborhood routes to streets classified as arterials. If so, then we don't understand how SW Loon, SW Blackbird or SW Alvord can be neighborhood routes when the first two streets connect to SW Scholls Ferry and the third to SW 175th. Neighbors we talked to about this were also puzzled.

Given the adverse effects of such development on existing homeowners in the Churchill Forest subdivision and the safety issues that would be created for Scholls Heights Elementary, we urge the city to reconsider the classification/location of this proposed road.

Sincerely,

Theresa and Sam Rejab
16725 SW Oystercatcher Lane
Beaverton, OR 97007

Exhibit 6-3, page 1

OCT 24 2014
City of Beaverton
Planning Division

Project Name: South Cooper Mountain Community Plan

Case File No.: CPA2014-0011, CPA2014-00012, TA2014-000

Dear Planning Commission Members,

We are the residents of Sterling Park an established community of 262 homes and Churchill Forest a community of 40 homes both located on South Cooper Mountain. Our neighborhoods as well as residents of Alvord Lane, Murray Ridge, and Cooper Mountain 175th Neighborhood Association are affected by this plan. Our residents would like to see South Cooper Mountain meet its goal of becoming Beaverton's next great community, while maintaining livability for established residents. The residents have strong objection to two of the transportation projects:

Project: Extending Alvord Lane to the east to connect with existing roads (Siskin and Blackbird) that link to Scholls Ferry Road.

Project 6c: Connecting the East-to-west collector road from 175th to Loon Drive

On September 8th over 50 residents attended a meeting with Senior Planner Leigh Crabtree and Transportation Engineer Jabra Khasho, to discuss our concerns. Our neighborhood roads may not be suited to handle cut-through traffic for arterial roads. Our neighborhood roads have steep grades, blind corners, and homes facing the roads with very small buffer. We want to see natural resources in our area protected and the integrity of the hillside that protects our homes currently supported by retaining walls, from the threat of landslides. Most importantly, residents are concerned about school safety. We are a neighborhood of families with young children who moved to this community to be in close proximity to Scholls Heights Elementary. Each school day families walk their children to school throughout the neighborhood.

As residents who live and drive these roads daily, we feel we can provide valuable input on shaping these roads. We appreciate the time City employees have taken to address our concerns and communicate the plan and we want to continue working cooperatively with the City of Beaverton to find mutually beneficial solutions. Attached is a summary of our concerns and proposed solutions with photo documentation, which we feel would more effectively satisfy the South Cooper Mountain vision, traffic requirements and tax payer expectations.

Sincerely,

Scott Anderson
Sara Anderson
Jesse Nemec
Ken Applin
Krista Stoker
Andrew Bonard
Andrea Bonard

Planning Division, Community Development Department
City of Beaverton, PO Box 4755
Beaverton, Oregon 97076-4755

Alan & Ashetra Prentice
16550 SW Alvord Ln
Aloha, Or 97007

RECEIVED
OCT 24 2014
City of Beaverton
Planning Services

October 23rd, 2014

Ref Case File: CPA2014-0011, CPA2014-00012, TA2014-0002
Project Name: South Cooper Mountain Community Plan

Regarding the proposal to adopt the South Cooper Mountain Community Plan for the South Cooper Mountain Annexation Area, we continue to be concerned with the lack of structure and definition of the proposed traffic implications to the current residents within the planned area.

The proposed plan for higher density residences, up to 43 units per acre, will dramatically impact and add to the current traffic on the roads surrounding the Annexation Area. While some recent improvements have been made to Scholls Ferry Rd, the remainder of the roadways appear to be entirely inadequate for the increase in volume which will surely follow with development of the annexation area.

Furthermore the plan identifies potential future traffic mitigation plans which, when viewed critically, lack sufficient detail on their impact to the current residents and properties within the area. While we are concerned generally with all proposed traffic proposals, specifically we are referring to the proposal regarding the use of Alvord Lane as an East/West connector road. This proposal lacks any effort to address the reduction of the current Tenax Woods Nature Reserve, which would surely occur with the proposed extension of Alvord Lane to the east. Again, with lack of any definitive engineering assessments and detailed analysis of existing topographical grades in the area, we as residents to the lane are left with no way to understand, or be able to access, implications of the proposals on our property. The increased traffic such a connector road would bring will significantly impact our rural community.

We are concerned as to why connections such as an East/West connection from Snowy Owl lane west to High Hill Lane, which currently exists as an emergency fire access and had been

considered as a connector route a few years ago, has now been totally omitted in favor of a proposal which is undoubtedly higher in cost and presents a greater impact to the surrounding community.

These are our initial concerns which we can already envision based on the proposed plan. However, as stated earlier, without any definitive engineering plans and environmental impact studies, we are raising a general notice of concern given the lack of definition to the proposal, and that we are on record as to the lack of defined surrounding property impact, such that we are not precluded from any future appeals to the Land Use Board of Appeals pertaining to the comprehensive planning of South Cooper Mountain Area.

Sincerely,

& Ashetra Prentice

Alan and Ashetra Prentice

Beaverton
South Cooper Mountain
The Region's Next Great Community

South Cooper Mountain Concept & Community Plans

Public Open House #3 Meeting Summary

OVERVIEW

The third and final public open house for the South Cooper Mountain (SCM) Concept and Community Planning process was held on Thursday, July 24, 2014 from 6:30 p.m. to 8:30 p.m. at Scholls Heights Elementary School in Beaverton. This meeting was intended to:

- Present the Draft Concept and Community Plans to the public;
- Collect feedback to help inform additional refinements to the plans; and
- Provide a transition in the public process from the end of the Draft Concept and Community Plans Phase to the Hearings and Adoption Phase.

More than 84 people attended the meeting. The open house was publicized through an article in Beaverton's July/August "Your City" newsletter; media coverage in the Oregonian (July 17, 2014); a postcard mailing to approximately 3,400 households in and within ½ mile of the planning area; and an email to over 2,200 people on the Beaverton Neighborhood Association, CPO6, CPO10, CPO4B and project email lists. The open house was also publicized on the City of Beaverton project website.

Open House Structure

The public meeting was designed so that visitors could review information from earlier in the project before they reviewed and provided comments on the draft Concept and Community Plans. After viewing the stations, visitors were encouraged to provide feedback using larger tabletop maps and to fill out comment forms with more detailed comments. The stations at the open house included:

- **Welcome** – Attendees were greeted and encouraged to sign in. Staff provided informational handouts, copies of the plan documents, and comment forms (see Appendix B).
- **Background/About the Project** – Staff explained the open house layout and order of stations while directing visitors to staff and stations that addressed specific questions or areas of interest. Boards at this station included: a project overview, a list of the project goals, documents and news articles from prior steps in the planning process, a project schedule, a list of current committee members, and information about upcoming events.
- **Plan Recommendation Stations** – There were four primary station areas that described the draft plan recommendations. These included: Land Use Recommendations; Transportation and Bike/Ped Framework; Schools, Parks and Natural Resource Frameworks; and Infrastructure. The stations featured maps, conceptual drawings, and visuals from the draft plan documents. Staff recorded public comments and questions on flipcharts (see Appendix C).
- **Subarea Maps** – Tables were set up with aerial maps of each project subarea: North Cooper Mountain, the Urban Reserve Area, and the SCM Annexation Area. These tables were intended to allow for more in-depth discussion of location specific questions. Staff answered questions and prompted visitors to mark the maps with important locations, questions, and feedback (see Appendix E).
- **Comment Station** – Comment forms (see Appendix B) were available at the welcome table and inside the open house. The form questions were also available in a concurrent online survey.
- **Refreshments** – Light refreshments were provided at the meeting.

Staff – The public meeting was attended by **City of Beaverton staff**: Leigh Crabtree, Jabra Khasho, Sheila Martin, Ken Rencher, David Winship, and Valerie Sutton; **Washington County**: Dyami Valentine, Theresa Cherniak, and Stephen Shane. Members of the consulting team included: **Angelo Planning Group:** Joe Dills, Becky Hewitt; **Walker Macy Landscape Architects**: Ken Pirie and Saumya Kini; and **JLA Public Involvement**: Kalin Schmoldt. Several members of the Citizens' Advisory Committee (CAC) and the Technical Advisory Committee were also in attendance.

Attendance – The public meeting was attended by a relatively even distribution of residents from within the planning area and adjacent neighborhoods. Residents from the Sterling Park Neighborhood immediately surrounding Scholls Heights Elementary were particularly well represented. (See Appendix A: Meeting Attendance Map.)

COMMENT SUMMARY

Five comment forms were submitted during the public open house event and four were submitted through the online form. Questions on the physical comment form were identical to the online version. The following summary is based on all comments received at the open house and through the online survey, including flip-chart notes and map feedback.

Land Use Recommendations

Several participants expressed concerns about the proposed higher densities. Some commenters cited the perceived impacts of higher density on traffic and intersections along Scholls Ferry Road and more specifically at 175th and Tile Flat. Commenters equated lower density with habitat protection and better quality of life. One comment did indicate support for keeping higher densities focused along Scholls Ferry Road.

One commenter suggested that density should be no lower than R6 in all areas and that residential lots larger than 6,000 ft^2 should be taxed at a higher rate if they are not active farms. One comment suggested that all developed areas in North Cooper Mountain should receive CM1 zoning regardless of their proximity to sewers.

Transportation and Bike/Ped Recommendations

There were several comments describing existing transportation facilities as being inadequate, with commenters expressing frustration with the already high traffic demands on Scholls Ferry Road and 175th, especially during rush hour. The existing "country" roads in the area were felt to be inadequate for existing commuter traffic and unsafe for cyclists. Respondents felt that there are no viable transit alternatives and several called for improved bus or light rail service to the area.

Several comments explored ways to slow down traffic within neighborhoods as well as along Grabhorn, Kemmer, Gassner, and 175th. Suggestions included adding speed bumps to neighborhood routes, reducing speed limits, or leaving the 175th "kink" in place to keep speeds low.

Several comments expressed skepticism about whether the proposed capacity improvements are feasible and affordable considering the topographic constraints and environmental sensitivities in the area, particularly along 175th. One comment suggested that density should remain low until infrastructure improvements made.

Other comments described concerns about livability and construction related impacts that new roads would have on existing neighborhoods. The conceptual roads present uncertainty for existing landowners. One commenter encouraged additional citizen involvement to more concretely define where future roads will go.

Topic specific comments:

- **Hilltop** – Commenters expressed concerns about adding vehicle trips to an area that is often subject to travel impacts during the winter. Suggested improvements to Kemmer Road included: adding a wide buffer between bike/ped users and the neighborhood; adding a roundabout at 175th to slow down traffic; and addressing existing access problems. One commenter opposed the conceptual connection between SW 176th and SW 182nd to the north of the project area.

- **North Cooper Mountain** – One commenter supported the extension of Miller Hill. One expressed concern about the private property impacts from the proposed connection between Kemmer Road and Gassner; they suggested improving the existing route via 190th. Another suggested expanding the proposed alignment radius of this connection west to 190th.
- **Grabhorn / Tile Flat Road** – Commenters noted the lack of bike facilities on Grabhorn and Tile Flat. A commenter noted that the realignment of Grabhorn to the west could impact a wetland. Several comments identified the section of Grabhorn Road between Gassner Road and Farmington Road (outside the project area) as a gap in north-south movement that should also be addressed.
- **Sterling Park Neighborhood** – Two commenters raised concerns about the proposed connector roads that could enable cut through traffic to Scholls Ferry, particularly the connection between Alvord Lane and Siskin Lane. One commenter described the neighborhood streets as steep, narrow, and winding with some impaired visibility. Increased traffic near to the elementary school was also worrisome. If these new connections are approved, commenters recommended safety improvements (stop signs, parking restrictions) to these neighborhood routes. Commenters said that they would prefer a connection from Alvord Lane to Scholls Ferry that minimizes impacts to the neighborhood. One commenter was glad that the new connectors would facilitate safer access to schools and parks while avoiding larger roads.
- **Bike/Ped Comments** – One commenter noted that the proposed transportation changes in the Urban Reserve appear to favor speeding up car traffic without requiring commensurate improvements to bike/ped safety or new off street paths as in the Annexation Area. This could make bike travel less safe than it is today. Several commenters encouraged more substantially separating cars, bikes, and pedestrians so each can use separate routes.

Other Comments

There were several comments regarding the need to improve the intersection of Rigert and 175th (outside the project area). On comment suggested not allowing a left turn from 175th onto Rigert. One commenter requested a bike path connection connecting Kemmer Road to Rigert Road along 175th Ave.

There was one comment about improving the intersection of Snap Dragon and Uplands Drive in the River Terrace neighborhood.

Parks, Schools, Natural Resources Framework Recommendations

Schools – Several commenters addressed the existing school district boundaries which do not align with city limits and would prevent Annexation Area residents from attending their neighborhood high school. Commenters urged that this issue be addressed soon. One commenter encouraged a sustainable building site and design for new schools. One said that they were excited for the new parks and schools.

Natural Resources – Several comments called for the preservation of old growth and significant trees, as well as protection of seasonal wetlands and ephemeral creeks. Recommended resource conservation strategies included: using green streets and reserving wetlands to manage stormwater; implementing an urban forest management plan similar to Tigard's; tree conservation incentives for builders; a future development holding zone with tree protections; and wider stream buffers with more effective transitions to residential areas.

Several comments sought clarification on the natural resource maps. Two suggested performing a new resource inventory and updating maps with stronger protections. One commenter was not clear if the south side of Cooper Mountain near the Nature Park will be designated for future reserve or future development.

Several comments expressed concern about how new roads could impact natural resources. One suggested that a connection between Kemmer and Gassner would degrade the area. Another said that there will need to be considerations of wildlife crossings, particularly where new roads cross existing wildlife corridors.

Infrastructure Recommendations

One commenter said that they were excited about the new Main Street.

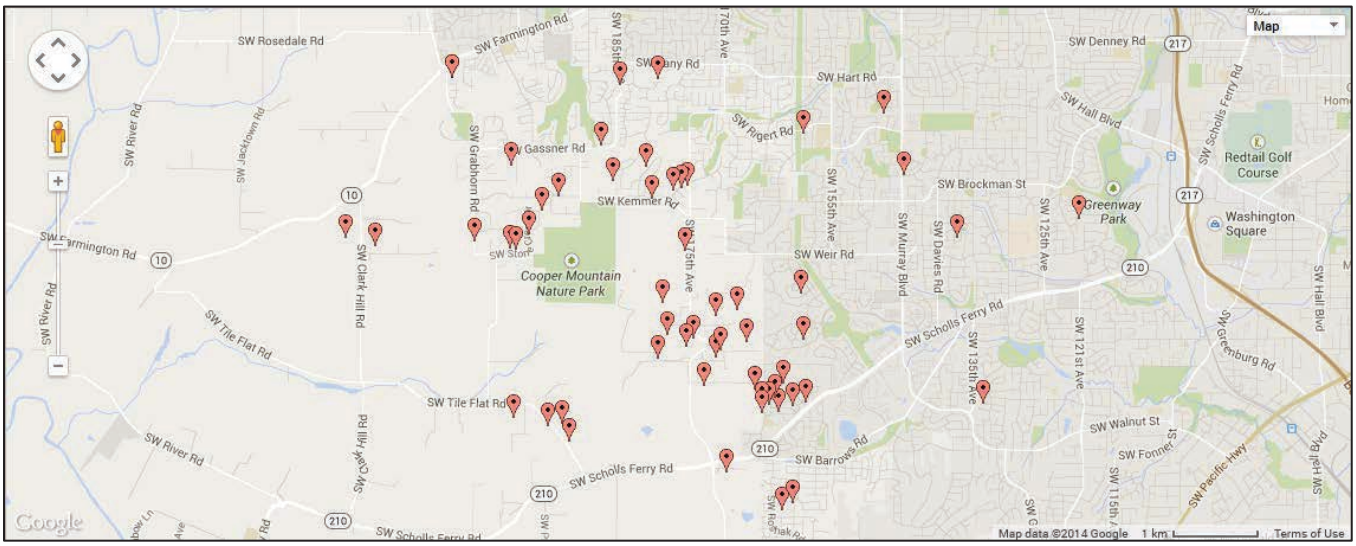
Feedback on the Process

One commenter specifically complimented Project Manager Val Sutton as doing a good job, another complimented “City of Beaverton Planners” for being willing to answer questions and make the process open to the public. Another said that they felt that the concerns from Kemmer View Estates had been heard.

One commenter perceived that there had not been any opportunity to provide public testimony about the project so far. Two comments said that it was not clear how (or if) comments were being used since many of the suggestions did not appear to have been implemented.

One commenter said that they had heard some conflicting information from TAC members at the open houses and that their lack of certainty about future changes (particularly regarding the location of roadways) is worrisome. It was not made clear how or if potentially affected homeowners can participate in these future decisions. The commenter suggested holding additional small group meetings with potentially affected neighbors to address their concerns.

Appendix A – Meeting Attendance Map



(Map of addresses volunteered at the sign in table. = Mailing address.)

Appendix B – Comment Forms

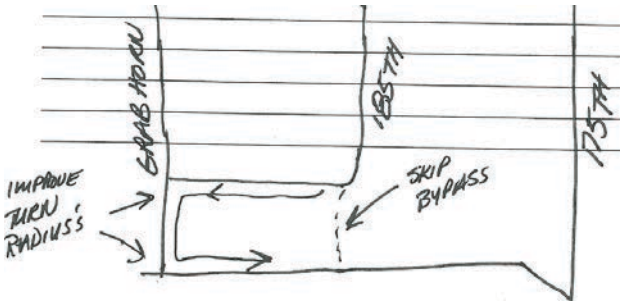
QUESTION 1: Do you have any comments regarding the land use recommendations?

- The townhouse residents and other homeowners next to Winkelman Park and Kemmer Road are going to have bad weather conditions to meet at the 700+ ft level for going to work, school, and back home again. School buses will not make it up the hill in bad weather.
- High density housing planned for 175th near Winkelman Park is going to post a traffic problem during inclement weather and cause congestion on a narrow existing road - 175th.
- I support a minimum of R6 in all areas. R6 6000 sq ft is plenty area for any home. Any bigger that is not active farm should taxed by hi rate. Also support Miller Hill extension.
- The existing transportation infrastructure is at capacity with a level of service at D and F. Scholl Ferry is the main route for the proposed development and it is at capacity with no practical means to increase capacity. Local roads serving the area like Tile Flat, 175th, Clark Hill, Grabhorn, Kemmer, and River Road are all farm roads never intended for modern commuter traffic. The addition and widening of roads over Cooper Mountain appears to ignore the grades and sacrifice of natural areas required for the roads. Therefore, based on observation of past development, I suspect these roads will never be constructed and the additional traffic will be imposed on the local roads without regard for the safety and serviceability. There is possibly no worst place in the metro area for access to transit and transportation.
- I have concerns with the traffic plan that connects Alvord LN to Siskin. The Sterling park neighborhood experiences higher levels of traffic/speeds with the current construction on Scholl Ferry RD. This is already a safety issue for Scholl Heights Elementary school students. Having more traffic using these roads as primary arteries exacerbates the problem. I would like to see a plan that ensures the primary artery traffic from Alvord avoid the Sterling Park neighborhood.
- I would prefer plans that include more low density or medium density housing.

QUESTION 2: Do you have any comments regarding the transportation and bike/ped recommendations?

- Much more planning is needed for ways to slow down traffic because residents are already struggling to get into and out of neighborhoods off Kemmer Road and SW 175th. / I don't like the "Neighborhood Route" planned to connect to SW 176th and SW 182nd streets. Speed bumps will be a must!
- Please seek to develop roads towards undeveloped land (west of 175th Ave) rather than east of 175th Ave (currently developed and partly in urban reserve) & active residents :)
- When widening Kemmer Road a wide berth for bicycle/ped use should be provided from the existing residents of Kemmer Road. This is necessary to protect from noise and pollution. Please provide bike path from Kemmer Road to Rigert along 175th Ave.
- Concerned about N. Cooper Mtn 185th bypass to Kemmer Road. Proposed bypass crosses my property at 18640 SW Gassner. Traffic demand does not warrant expense to pay for bypass.

Bypass is close to wetland too. Suggest just improving existing commute route via 185th along Gassner to 190th then to Kemmer. See below:



- Tile Flat, 175th, Clark Hill, Grabhorn, Kemmer, and River Road are all farm roads never intended for modern commuter traffic. We often ride these roads and aggressive drivers and high traffic volumes have made 175th and River Road unsafe for bicycles. / The proposed plan involves routing bikes off of the roads on sidewalks and paths in the growth area, but there are no guaranties these will be build and there will be no improvements to the rural farm roads that do anything but speed up traffic making it more dangerous for everyone. The proposed development will deny access to bikes and pedestrians to county roads that they currently use.

- We NEED to have a meeting of the homeowners most directly impacted by "fixing the kink" in 175th and the Planning engineers AS SOON AS POSSIBLE. There are several options and, while this is "just a line on a map," the quality of life for many families is being greatly impacted. The TAC members showing up at the Open House have been dispassionate and provided conflicting information on this topic to-date which makes the public very anxious. Do homeowners have any power/voice in the decision? It’s actually very scary for some - and uncertainty for too long a time (can't someone put some boundaries on this potential roadway so people will know what's happening with the homes they've lived in for many years? eg timeframe, general Right-of-Way, etc.)

- I live in the Sterling Park neighborhood off Scholls Ferry Rd. I have concerns about the new connector roads planned through our neighborhood. The neighborhood route from Alvord to Blackbird via Siskin would direct traffic through our neighborhood to Scholls Ferry. I am concerned this will become a popular cut through to avoid congestion on the main roads. Our preference would be to have Alvord go straight though to Scholls Ferry. Our streets are very steep, windy, and narrow in some parts. We have concerns regarding speed, blind spots, and have requested additional stop signs and no parking signs from the City. We have additional responsibly to create safer streets for the many school children who attend Scholls Heights Elementary. If this connector road and the one on Loon are approved, I request The City make safety improvements to the existing roads in our neighborhood, especially along Blackbird and at the top of Loon where it winds into Bobolink (school bus route, very congested and steep). We understand roads would be extended for future development, I would just like to ensure, we preserve the quality and safety of our neighborhood. On a positive note, I am happy the plans include safe routes for kids to travel to the new high school and parks, avoiding the main roads.

QUESTION 3: Do you have any comments regarding the park and school framework recommendations?

- I am excited about the new High School and primary schools planned. I am also excited about the possibility of new parks. I think there is a huge need for new parks and playgrounds in our area. We are really excited about the new THPRD property off Siskin and Alvord.

QUESTION 4: Do you have any comments regarding the natural resource recommendations?

- Protect existing old growth trees to the greatest extent.
- Yes. Pristine area on top of Mt. 185th bypass would degrade the area.
- The old Cooper Mountain Nature Park showed the south side of Cooper Mountain as Future reserve. Now it looks like future development.
- The N-S wildlife corridor connecting Outlook Woods to the Southern section of Cooper Mountain runs right adjacent (too close) to where the TAC plans to straighten the "kink" in 175th! There needs to be allocation/bridge for large mammals to travel safely south to the Tualatin River - or there will be major road kill and accidents there. Seems someone forgot to allow for the removal of the "kink."
- The more land reserved for wildlife the better. I also appreciate land reserved for water runoff and wetlands. Our property is in Sterling Park at the top of the SCM Annexation area and we get tons of standing water and have had to add additional drainage. I would also like to see incentives to builders for saving larger trees.

QUESTION 5: Do you have any comments regarding the infrastructure recommendations?

- There are no transit alternatives provides for this area.
- I am excited about Main Street idea.

QUESTION 6: Do you have any other comments to share about the draft concept and community plan documents?

- The noise level and access to neighborhoods along arterials and collectors are very difficult to residents when planning calls for much higher traffic volume next to them. Know that! Acknowledge that! Do all you can to make life l-i-v-e-a-b-l-e for them. We love our neighbors and neighborhoods; they are the life blood of our city and county!
- There is possibly no worst place in the metro area for access to transit and transportation.
- Generally speaking, Val Sutton has done a very good job. Wish more homeowners understood how valuable their inputs are.
- I have been really impressed with the City of Beaverton Planners in their willingness to answer questions and make the process open to the public.

QUESTION 7: Do you have any feedback on the public involvement process for this project? What could we have done differently?

- You've done your job and listened to Kemmer View Estates' concerns. Thank you!
- Please demonstrate how you are utilizing comments (suggestions provided by residents). There seems to be a lot of resistance for many of the changes suggested by you but no changes appear to have been implemented.
- As someone who works both sides of public involvement I understand that it is just appeasement and no substantive changes or opposition will come of it.
- Some of the homeowners in my close proximity are very upset about the uncertainty of on project and we will be gravely impacted. They feel they are helpless and can see no means of contesting - they are even talking about getting a lawyer. While there were Open Houses, there haven't been places for TESTIMONY until NOV 14th when the whole plan will be presented. This is distressing. Too bad we could not have met in a smaller group first and pre-staffed - maybe come to a consensus beforehand.

Appendix C – Flip Chart Notes

Land Use

- High density inappropriate @ Tile Flat & Scholls Ferry corner
- Keeping high density on Scholls Ferry is a good idea
- North Cooper Mtn existing developed areas should also receive "CM1" zoning, regardless of proximity to sewers.
- High density & traffic impact @ Scholls/Tile Flat… Scholls/175th → Consider traffic to Sherwood. Presently waits/delays @ intersections.

Transportation & Bicycle/Pedestrian

- Bike shoulder on Tile Flat
- Traffic density too great at Scholls/175th & 175th/Kemmer-Wier especially during rush hour. Many cars to/from Sherwood... Long waits.
- What happens on Grabhorn Rd between Farmington to Gassner?
- Wetland on west side of Grabhorn
    - Potential impact/mitigation with realignment (Northern)
- Consider measures to slow traffic down on Grabhorn & Kemmer Rd.
- Consider leaving kink in 175th to slow traffic
- Leave wide berth between traffic & homes on Kemmer Rd & 175th
- Consider separating peds/bikes/cars
- Enforce speed limits on Grabhorn
- Separate ped and slow bike traffic from car and fast bike traffic by 2 city blocks (different route)
- Need to calm traffic on 175th it goes too fast to access safely from driveways & side streets
- Fix Rigert & 175th intersection. Left-hand turn going North on 175th is dangerous.
    - Make no left turn from 175th → Rigert
- Need roundabout at Kemmer & 175th – calms traffic
- Less density till infrastructure can be paid for
- Tell Tri-Met to extend MAX out Scholls Ferry Road
- Extend Tri-Met service for Cooper Mtn currently only special needs people get services
- Major constraints to improve 175th from Alvord to north SCMAA UGB
    - Both topographic and sensitive area
    - Concern that cost estimate does not adequately reflect constraints
    - What about the homes on Grabhorn & their driveways – traffic flow, no bike access to Grabhorn
- Gassner Road speed limit is too high today, it should be reduced to 30 mph until road is improved
- Snap Dragon & Uplands Dr. – intersection improvements needed (River Terrace)

Schools, Parks & Natural Resources

- Use “green streets” as part of SW management
- Build roads first
- Wildlife & resource
    - New inventory (before development regulations)
- School district boundary abutting the new HS on the west makes no sense for those living just on the west
- Seasonal wetlands in backyard/behind house should be protected & rehabilitated
- Prioritize sustainable site and building design for schools
- Having Hillsboro & Beaverton school districts in this concept plan homeowners may be concerned about being bused all the way to Hillsboro if there is a school in their neighborhood
- School districts need to work with the state and legislators to align school boundaries with city boundaries, i.e., Tigard address – Tigard schools… Let’s get this done sooner rather than later.
- Prioritize interim and long term protection of significant existing trees (see Tigard’s urban forest management plan for precedent)
    - Future development holding zone w/ tree protections
    - Protection for Oaks?
- Designation of significant trees should be part of this process
- The new high school needs to be in the center of Beaverton District, not on a boundary of Hillsboro school district. Work with State Board to fix this.

North Cooper Mountain Comments

- Support for R-6 zone
- Makes sense to connect Miller Hill Road
- No zone should be less dense than R-6
- 209th/Grabhorn Rd – gap in N-S movement that needs to be addressed.
    - Currently an elevated road from Farmington to Leland
- 185th extension to Gassner needs further refinement/analysis (+1 support for this comment)
    - Potential impacts to wetlands
    - Cost-benefit: cost/per minute saved may not warrant extension
- R-1-CM desired near ham tower
    - Habitat protection benefit
- R-1 N Less traffic… quality of life

Reserve Area

- Wants protection of ephemeral creek west of Jaeger Terrace
- Proposed alignment of 175th expand the proposed alignment radius west to 190th (& onto Kemmer)
- Need for wider stream buffers & more effective transition areas to residential
- “round out” the proposed alignment between Kemmer & 185th on the South end
- Significant natural resource maps need to be updated w/ stronger protections for wildlife and more effective buffers throughout stream corridors

Dear Kim Overhage, Mimi Doukas, Greg Kiene, Jennifer Nye, Ric Stephens, Scott Winter and Linda Wilson

Cc: Mayor Denny Doyle, Leigh Crabtree, Jabra Khasho and other members of the Beaverton SCM Planning Team

This package is to introduce the testimony of *Cooper Mountain 175th Avenue Neighborhood Association* (http://www.save175th.org/), made up of the homeowners and neighbors who live along, and must use, 175th Avenue from Scholls Ferry Road to Rigert Avenue as their only road to the outside world.

There are approximately 400 homes immediately affected and we have 144 signatures thus far representing 95 households along this road in complete support of this enclosed package.

OUR MISSION:
The reasonable preservation of 175th as a functional route for existing residents.

CONTEXT:
The full distance of 175th from Scholls Ferry to Rigert is 2.6 miles. It is covered in several sections of the full South Cooper Mountain Concept (SCM) Plan. The enclosed package will present a complete overview of the full length of the road for context. The section of the road within the 500-acre Beaverton SCM is from Scholls Ferry to Alvord Lane (.8 miles). Below is our request for your consideration regarding those aspects that are specifically within your realm of decision-making.

OUR REQUEST OF THE BEAVERTON SCM PLANNING COMMISSION:

1. Awareness of the safety and livability concerns on 175th
2. Ensure that High Density *access* is not along an unsafe road and grade – ensure the access is along the road that just had major upgrades (Scholls Ferry); including proposed school access
3. Slow the SCM development to follow the infrastructure:
   - give Washington County Transportation (WCT) the time to make safety changes on 175th
   - give WCT the time to build the safe alternative around the mountain
4. Allow us to work cooperatively and collaboratively with transportation planners to find mutually-beneficial transportation solutions

RECEIVED
OCT 24 2014
City of Beaverton
Planning Services

Thank You,
Fran Warren

On Behalf of Cooper Mountain 175th Avenue Neighborhood Association

www.save175th.org

I. Who We Are

Cooper Mountain 175th Avenue Neighborhood Association (http://www.save175th.org/), made up of the homeowners and neighbors who live along 175th Avenue from Scholls Ferry Road to Rigert Avenue.

What We've Done To-Date

- Several of our members attended the Visioning Workshops and Open Houses and we did have representation on The Citizens Advisory Committee.
- We formed the 175th Neighborhood Association in August 2014 and immediately began to contribute skills and knowledge in a productive manner to help make 175th a safer and more livable road through cooperative dialogue and information dissemination.
- We have had very cooperative meetings with County Commissioners, Roy Rogers and Andy Duyck as well as with Leigh Crabtree, Jabra Khasho and Dyami Valentine.
- We have held 2 Open Meetings with the residents living on 175th – attendance was 35 people at the first meeting and 29 at the second meeting.
- We set up a website to disseminate accurate information to the residents to help educate – to calm their concerns and reduce misinformation. We carefully check our facts with the official Planning groups before posting any information. We consistently advocate cooperation and collaborative planning with the agencies responsible for the Concept Plan and Washington County Transportation Planning.

II. Problem Statement

- 175th is a rural arterial and is being misused "...to accommodate significant amounts of urban-to-urban through-traffic..." and an inappropriate route through a rural neighborhood.
- 175th Avenue currently is an overtrafficked country road, and is not suited to be an arterial due to: steep grade, active landslide, blindspots, curves, school bus stops, mailboxes across the road from residents' homes, private driveways opening directly onto the road, and now Winkleman Park, with very active traffic for the dog park
- Portions are outside the UGB and subject to Oregon Land Conservation and Development Commission criteria which adds to the complexity of balancing the solutions
- 175th cannot be feasibly modified to handle the projected 2035 traffic from an economic nor safety standpoint

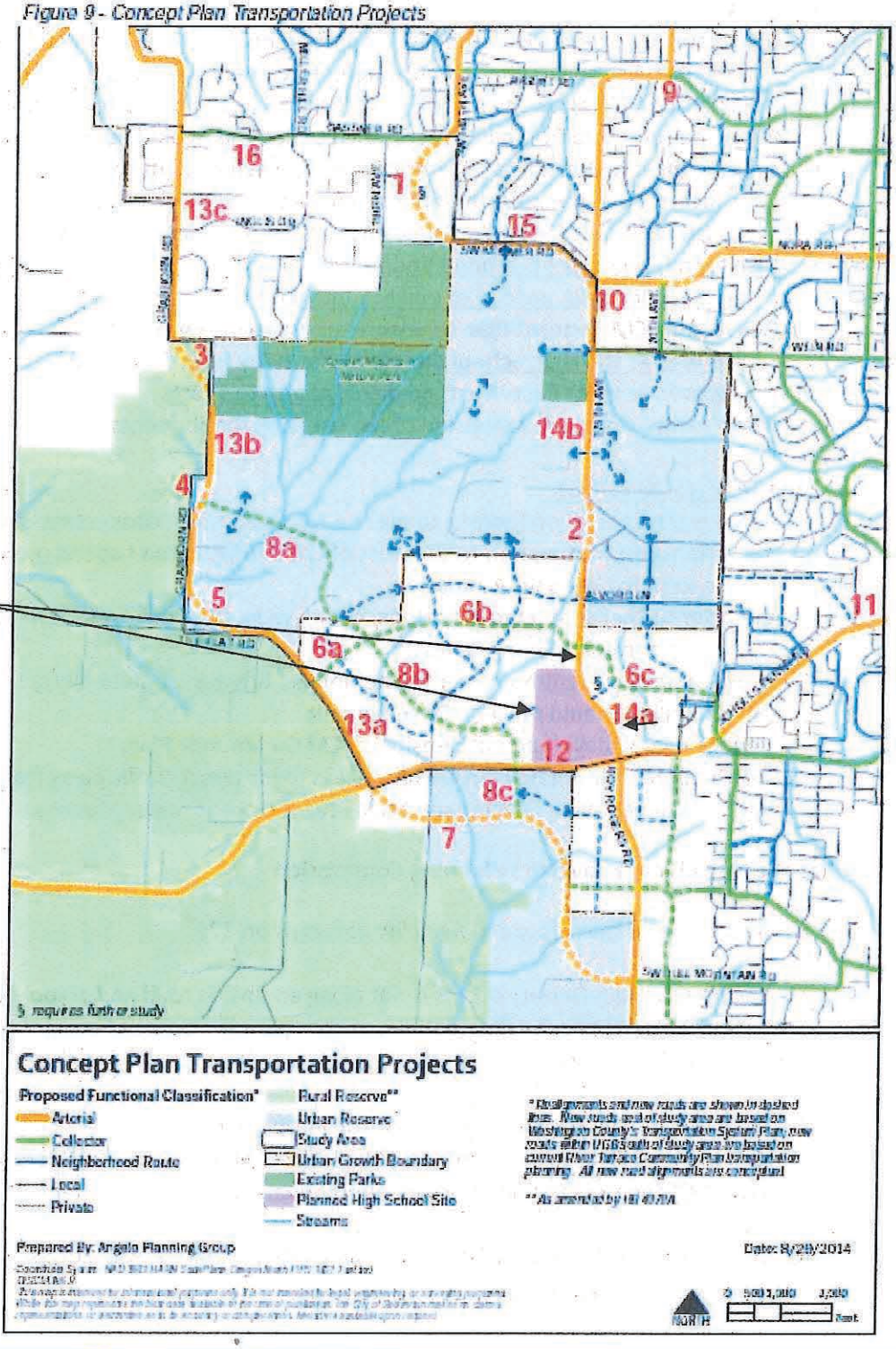
Projected traffic increases along 175th:
Per City of Beaverton Transportation Consultants: =>
it will double 2013 – 2035; tripling** vs 2008 (** with metric caveats)**

2008	2013	2035
6K cars/day**	8.5K cars/day**	17/18K cars/day**

III. Map

Figure 9 - Concept Plan Transportation Projects

Divert access to Scholls Ferry and Tile Flat - away from 175th



IV. Proposal

Short Term: (0-2 YEARS)

- Adjust speed limit on top of the hill as appropriate (ODOT – with help from WCT) and increase speed limit monitoring/enforcement (ODOT, Sheriff)
- No"Jake" BRAKES allowed and NO THRU TRUCKS (only if not arterial) (Sheriff)
- Plan for a safer solution than the stop sign at Kemmer (could be nothing at all)
- **Add the most beneficial safety improvements such as signage**; especially at Rigert Rd. at the bottom of the steep hill where 175th has a sharp blind curve; eg. NO LEFT TURN, rumble strips; turtles &/or other lane reminders.
- Plan for a future arterial around Cooper Mountain to the west (and north) eg. Beef Bend Rd. instead of Bull Mountain Rd.
- **Beaverton SCM Concept Plan to ensure access roads for high density housing as well as the High School directs traffic away from 175th and onto Scholls Ferry or East-West; no direct access to 175th.**
- Move mailboxes to the same side of the street as the residents

Long Term: (5-20 YEARS)

- Refocus transportation funding to make a North-South & connecting East-West transportation option to the west of Cooper Mtn; **Don't spend money on 175th except for key safety initiatives.**
- Consider further safety modifications, but leave in, the "kink" on 175th at High Hill Ln. as a traffic calming device.
- Don't remove current homes or further impact private property along 175th.
- **Infrastructure should precede Development**
- **Reduce overall development density in SCM Community Plan**
- North Cooper Mountain Plan ensure access roads direct traffic away from 175th
- Reduce Concept Plan development density for Upper Cooper Mountain areas.

- **What We Need From Beaverton Planning Commission**

1. Awareness of the safety and livability concerns on 175th

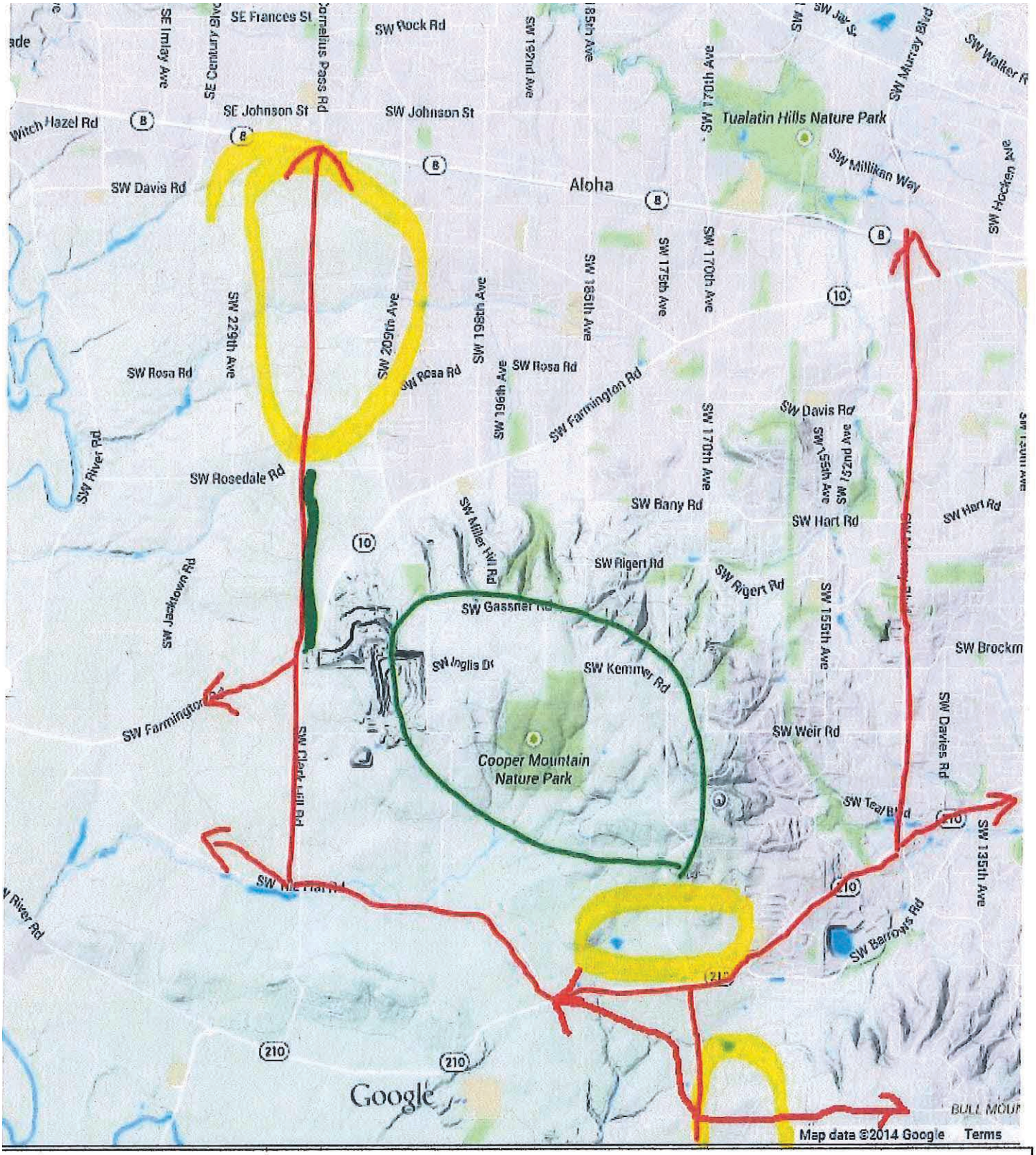
2. Ensure that High Density *access* is not along an unsafe road and grade – ensure the access is along the road that just had major upgrades (Scholls Ferry); including the proposed school access

3. Slow the SCM development to follow the infrastructure:
   - give Washington County Transportation (WCT) the time to make safety changes on 175th
   - give WCT the time to build the safe alternative around the mountain

4. Allow us to work cooperatively and collaboratively with transportation planners to find mutually-beneficial transportation solutions

Note: We recognize that only the highlighted items are within Beaverton jurisdiction.

Exhibit 6-6, page 5

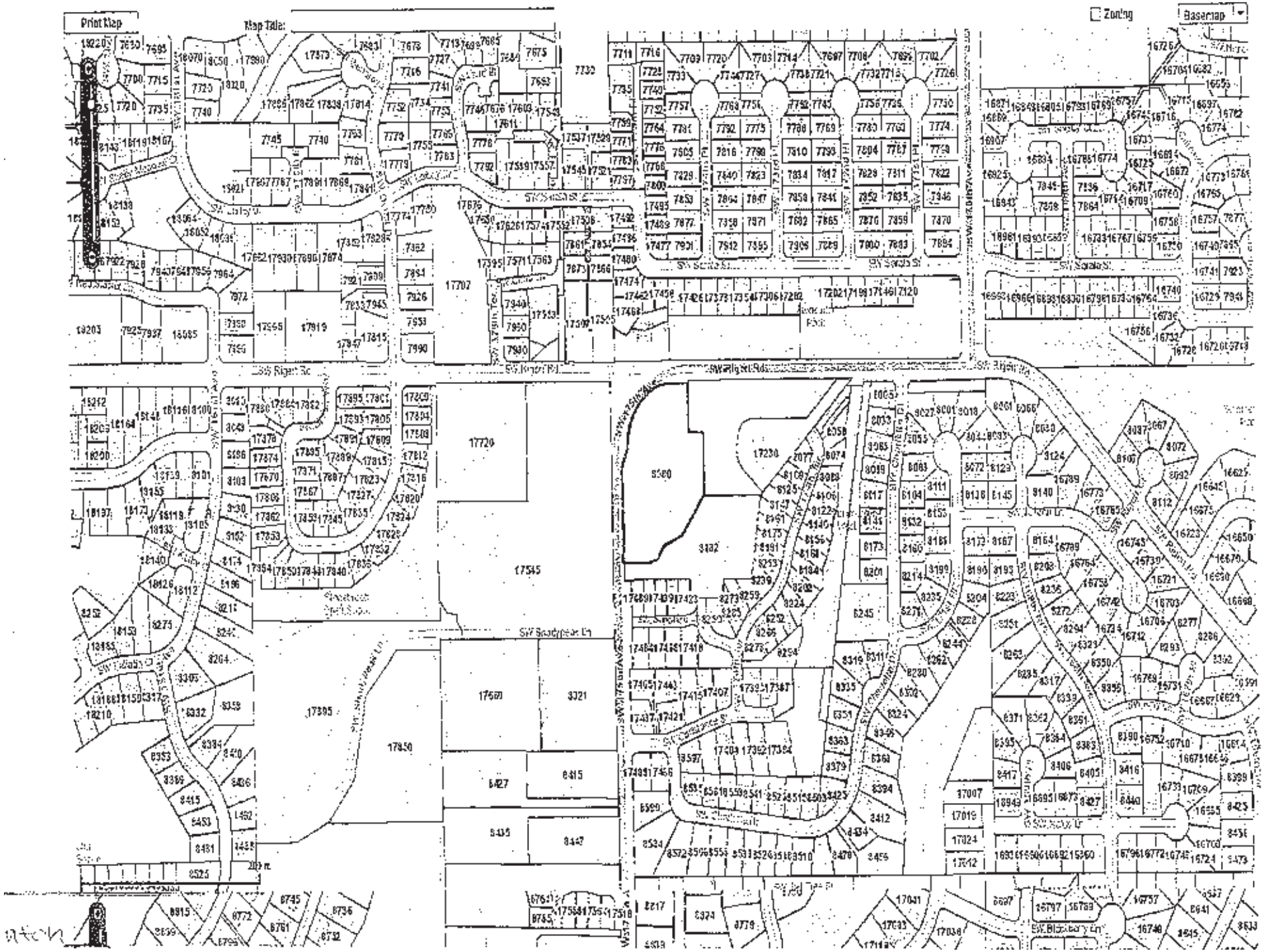


LONG TERM:

LOOK AT THE TOPOGRAPHY

GO AROUND THE MOUNTAIN

www.save175th.org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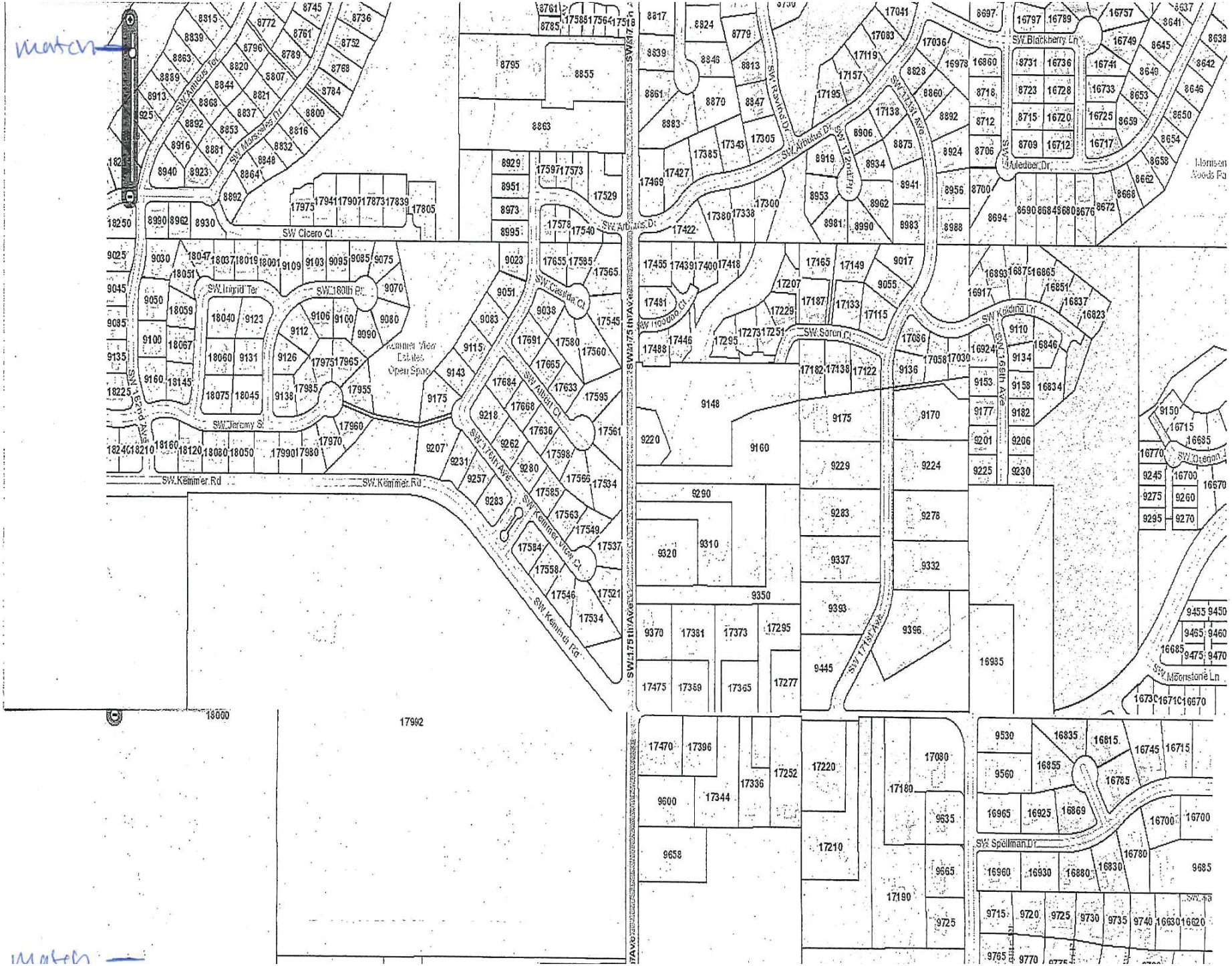
Zoning
Basemap
SW Rigert Rd
SW Rigert Dr
SW Rigert Pl
SW Scholls Ferry Rd
SW Scholls Dr
SW Blackberry Ln


match
SW Cicero Ct
SW Jeremy St
SW Kemmer Rd
SW 180th Pl
SW 175th Ave
SW 176th Ave
SW 168th Ave
SW Arbutus Dr
SW Blackberry Ln
SW Soren Ct
SW Spellman Dr
SW Moonstone Ln
Kemmer View Estates Open Space
17992
match

match
match
SW 175th Ave
SW 170th Ave
SW Weir Rd
SW Spellman Dr
SW Red Rock Way
SW Ledgestone Dr
SW Mount Adams Dr
SW Mount Hood Dr
SW Reuber Ct
Tualatin Valley Fire & Rescue
Windleman
COOPER MOUNTAIN
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17190
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16780
SW Horse Tale Dr
11490
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16690
17172
17100

Exhibit 6-6, page 10

http://webags.co.washington.or.us/Intermapprint/print_intermap.html?TLNO=&xmin=-1367... 10/22/2014

Signatures of Support withheld for web posting purposes

VIA HAND DELIVERY

July 10, 2014

Advisory Committees Members
CAC-TAC Meeting
Beaverton Community Center, Community Room

Re: Preferred Concept Plan Scenario for North Cooper Mountain

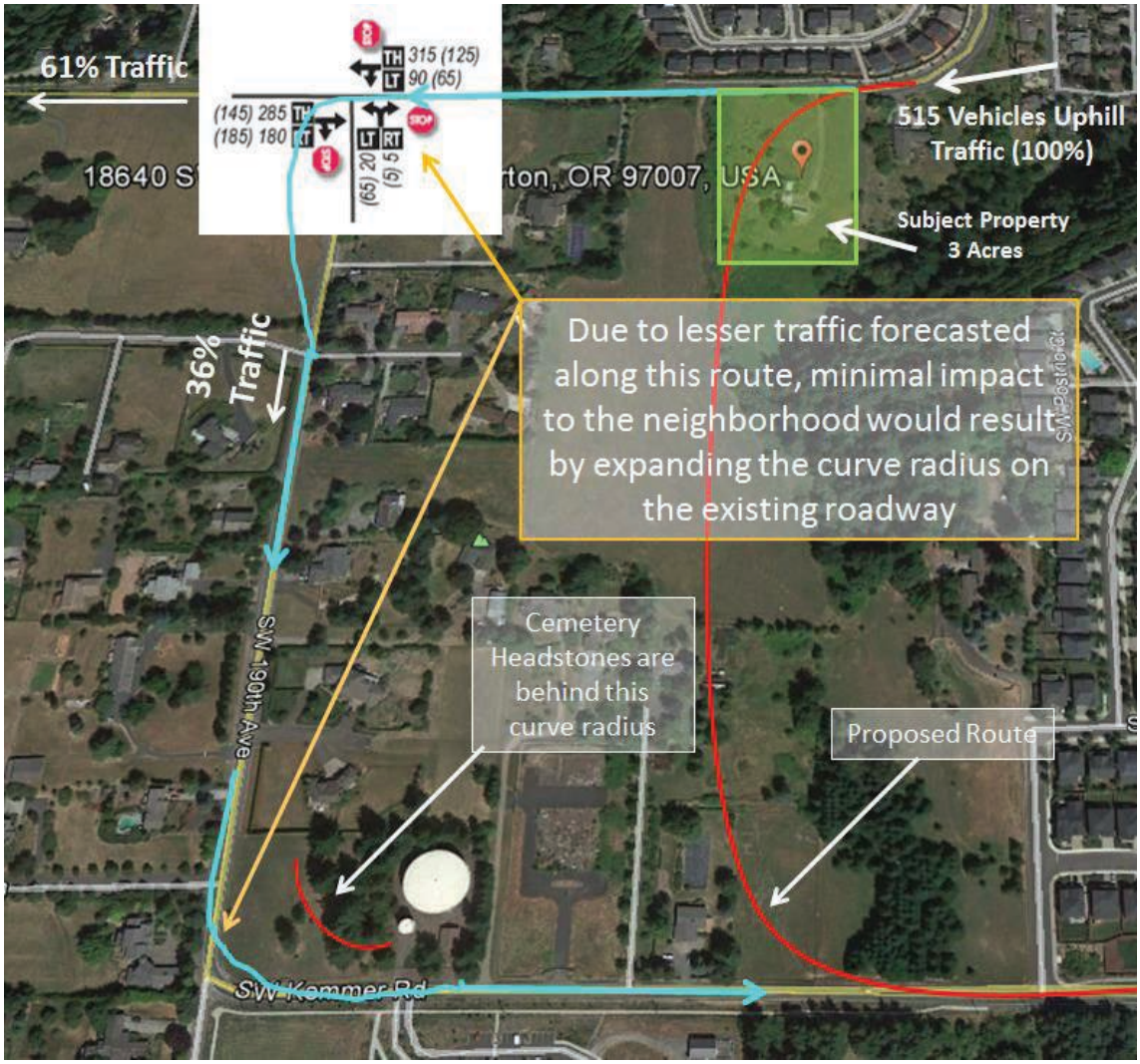
Dear Members of the Citizen Advisory Committee,

This memo concerns my objection to the planned re-alignment of the 185th arterial through my property located on Cooper Mountain. The planned alignment goes right through a terrain ridge located on my property. I have had plans to build a retirement home there as soon as final zoning gets established. I have no plans to make this into a high density area. The property consists of 3 acres located at 18640 SW Gassner Road. At most, I wanted to divide this into three 1 acre parcels to give to 2 of them to two of my sons. The bypass road will make this impossible.

I have gone on record questioning the validity of the traffic study that shows that there is a need to create a bypass from 185th north to Kemmer Road. This bypass would save no more than 1-2 minutes of a commuter's time who wanted to commute from 185th to Kemmer Road verses using the existing route that is in place today. The tax dollars and expenses needed to construct this bypass do not warrant saving 1-2 minutes of commute time. Let alone the negative impact this will have to pristine property on the hill top.

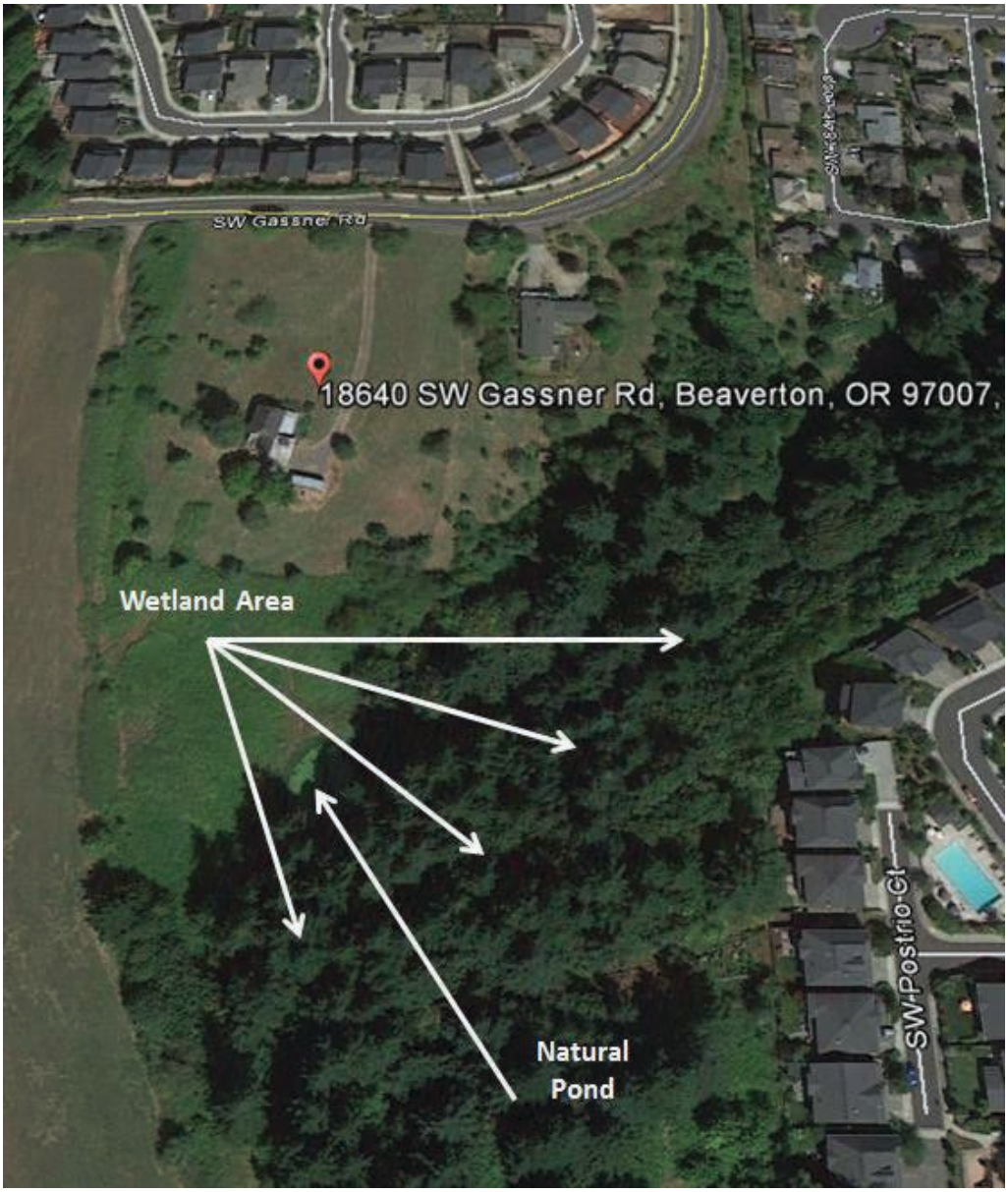
I encourage you to propose improving the existing road way instead of creating a 1-2 minute bypass. This will have little impact to the neighborhood and is a less costly solution. This scenario is shown in the following pictorial diagram on the next page below.

Taken from the traffic study data, notice that only 36% of the traffic that flows north on 185th is forecasted to traverse through to Kemmer Road. The majority of the traffic (61%) continues to head West on Gassner.



Finally, there is a wetland area just SE of my subject property. This is shown on the following picture on the next page. Any construction whether it be a bypass or a bridge will certainly disturb this pristine area. Wildlife including deer inhabits this area.

I have been in contact with other Engineering firms who strongly recommend sanctioning a detailed wetlands study of this area before proceeding further with any plans. I encourage you to ask that a study be done.



To Summarize:

- Please reject the 185th to Kemmer by-pass, based on:
- Little commute time is saved
- Dollars are more efficiently spent to upgrade and improve existing roadway
- Cost of constructing a by-pass is expensive
- The matter of the wetland is still an unknown as any construction will negatively impact all wildlife in the area > Sanction a Wetland Study

I would be attending this meeting in person. But, unfortunately I am out of town. Thank you for taking the time to read this letter.

Please place a copy of this letter into the record.

Sincerely,

Ken Seymour

cc: Val Sutton via electronic mail
Dorothy Cofield via electronic mail

ACQUISITION DEVELOPMENT CONSTRUCTION

October 24, 2014

City of Beaverton
Planning Commission
4755 SW Griffith Drive
Beaverton, OR 97005

Re: Metropolitan Land Group (MLG) – South Cooper Mountain Concept, Community and Finance Plan Comments and Concerns

Dear Chair Overhage and Members of the Commission,

Thank you for this final opportunity to provide comments regarding the Draft Concept, Community and Finance Plans for South Cooper Mountain.

For the purpose of the record I have attached three letters that we have submitted to the City throughout the South Cooper Mountain planning process. Summarized below are our requests for further consideration.

Concept Plan

- **Transportation – Include Connection to Scholls Ferry Road at Strobel Road**

  The Transportation Framework, included on p.37 as Figure 7 within the Concept Plan Document, has included a neighborhood route connection at Strobel Road and Scholls Ferry Road throughout the planning process, but was removed without discussion in the updated Concept Plan. This connection is essential for neighborhood circulation and north/south connectivity. ***We request that you add the Strobel Road connection back into the plan.***

Community Plan

- **Land Use Map & Zoning Strategy – Need for Flexibility**

  We appreciate the team's approach in applying comprehensive plan designations without specific zones being assigned, however, we feel that the 70/30 split of zoning designation requirement is too restrictive and does not allow for efficient implementation of the plan. Understanding that minimum density requirements must be met, ***we ask that the 30% requirement for R-2 within the Medium Density and R-5 within the Standard Density Residential be considered a minimum, and that a project be allowed to exceed that minimum without requirement for a Planned Development or a Comprehensive Plan Map Amendment.***

V 503.597.7100 | F 503.597.7149
17933 NW Evergreen Pkwy, Ste. 300
Beaverton, OR 97006
CCB 181393

METROPOLITAN LAND GROUP MLG

- **Planned Development Code – Need for Flexibility**

  We also request that the Planned Development Code be revised to be less onerous on the applicant so that it can be utilized to help implement the vision of the South Cooper Mountain Community Plan. We would be happy to participate in this process to provide input on improving the Code.

- **Housing types – Diversity**

  Diversity in housing types has been identified as a critical component of this plan, however current medium density zones do not allow cluster housing. ***We ask that Cluster housing, such as Courtyard, Patio or Cottage development be an allowed outright use in the R-4 and R-2 zones*** and be added to the respective sections of Table 4, Page 17 of the Community Plan Document.

Finance Plan

- **Collector Roads – 100% SDC Creditable**

  We request that all collector roads, specifically Roads 6 and 8, be 100% SDC creditable. These collector roads will serve as the spines of the annexation area and will carry a tremendous amount of traffic. Since their use will serve a community wide need they should be 100% creditable.

- **TDT – 100% Applied to *South Cooper Mountain Annexation Area***

  We request that 100% of the TDT funds collected in the SCMAA be applied to improvements in the SCMAA. The applicability of TDT funds to North Cooper Mountain and the Urban Reserve Area can be determined at a later date.

- **Funding Sources - Street fee for capital Improvements local to South Cooper Mountain**

  There is a need for an additional funding source, such as a street fee, to provide the additional funds necessary to implement the Finance Plan for the South Cooper Mountain Area. ***We ask that a South Cooper Mountain specific Street Fee (similar to what is being considered in River Terrace) be included in the finance plan to help fill the funding gap for capital improvements.***

- **Alternative Funding Sources for Regionally Significant Projects**

  Due to the anticipated limited availability of MSTIP funds, ***we strongly recommend that the City work with other jurisdictions such as Tigard and Washington County to explore additional funding sources for Regionally Significant Projects.***

- **Timeline**

  We agree that a supplemental Transportation SDC will be needed as a part of the total funding package for South Cooper Mountain, however we are concerned that the schedule for adoption of the SDC will likely result in the loss of an entire building season. We've been working for many years towards progress in South Cooper Mountain and as a community we can't afford to

let another season pass without seeing some on the ground progress. ***We respectfully request that the timeline be revisited and accelerated if possible to ensure against the loss of a building season.***

We are very supportive of the South Cooper Mountain Plan Package and are excited to be a partner in implementing these plans to create a beautiful and exciting community. The City's commitment to this effort is apparent and we hope that our involvement has been and continues to be helpful to the discussion.

We ask that you please consider our concerns identified above.

Thank you for your consideration.

Sincerely,

Jamie Stasny

Metropolitan Land Group

ACQUISITION DEVELOPMENT CONSTRUCTION

September 5th, 2014

City of Beaverton
Attn: Leigh Crabtree, Associate Planner
4755 SW Griffith Drive
Beaverton, OR 97005

Re: Metropolitan Land Group (MLG) – Finance Plan Comments and Concerns

Dear Leigh,

Thank you for this opportunity to provide comments regarding the draft Finance Plan for South Cooper Mountain. The Financial Task Force group has been expertly led by both city staff and consultants from Angelo and Eco Northwest and we greatly appreciate the opportunity to participate.

The updated draft Finance Plan document, dated September 2nd, 2014, addresses our major remaining concerns. However, we want to reiterate a couple of key points regarding these concerns for further consideration.

Collector Roads – 100% SDC Creditable

As outlined on page 16 of the draft Finance Plan, we have requested that the *collector roads, specifically Roads 6 and 8, be 100% SDC creditable*. These collector roads will serve as the spines of the annexation area and will carry a tremendous amount of traffic. As per the City of Beaverton Transportation System Plan document, "Collectors ... distribute trips onto neighborhood routes and local streets". We all recognize the value and necessity of the collector function, as well as the plan wide significance of these particular facilities which support the need for them to be 100% creditable.

Funding Sources

The draft Finance Plan document includes the possibility of an additional transportation funding source for the area, such as a supplemental transportation SDC. While we are in support of this mechanism, we think there is a need for an additional funding source such as a special service district as mentioned on page 16 of the updated draft. *We strongly recommend that the city pursue a special service district to provide the additional funds necessary to implement the Finance Plan.*

Finally, we ask the city to continue to explore alternate funding sources for projects of regional significance. MSTIP funds are limited and will be highly sought after especially by the jurisdictions planning new expansion areas (including South Cooper Mountain, River Terrace and South Hillsboro). Because of the limited funds, it is even more essential that the city and county explore different funding sources to help construct these regionally significant projects.

v 503.597.7100 | F 503.597.7149
17933 NW Evergreen Parkway, Ste. 300
Beaverton, OR 97006
CCB 181933

METROPOLITAN LAND GROUP MLG

We are very supportive of the South Cooper Mountain Finance Plan and are excited to see forward progress. The City's commitment to this effort is apparent and we hope that our involvement has been and continues to be helpful to the discussion.

We ask that you please address our concerns identified above.

Thank you for your consideration.

Sincerely,

Jamie Stasny

Metropolitan Land Group

ACQUISITION DEVELOPMENT CONSTRUCTION

July 23rd, 2014

City of Beaverton
Attn: Valerie Sutton, Senior Planner
4755 SW Griffith Drive
Beaverton, OR 97005

Re: Metropolitan Land Group (MLG) – Community Plan Comments and Concerns

Dear Valerie,

I would like to congratulate you and your team on the tremendous effort you have put forth to plan South Cooper Mountain (SCM). You have done an excellent job with a very difficult task and have produced a balanced proposal for the development of South Cooper Mountain. We greatly appreciate all of your efforts and are proud to be a contributing member of the Stakeholders Work Group.

That said, I would like to provide some comments and recommendations for the South Cooper Mountain Community Plan document. As you are aware, MLG owns approximately 63 acres along the northerly edge of the SCM Annexation Area.

South Cooper Mountain - Community Plan

Land Use Map & Zoning Strategy – Balancing Certainty & Flexibility

1. By applying comprehensive plan designations and allowing zoning to be applied at the time of development the city will be providing an advanced level of flexibility as compared to other local urban expansion areas. While we greatly appreciate staff's efforts to create a plan that can respond to market conditions we are also concerned about the zoning mix requirement under each comprehensive plan designation.

   According to Land Use Implementation Policy #3 on page 15 of the South Cooper Mountain Community Plan, "The mix of zones applied to a given property shall be consistent with the assumed mix of zones shown in Table 2". Table 2 on page 14 shows that properties developed under the Medium Density designation must be developed with a mix of 30% R-2 and 70% R-4 and those developed under Standard Density shall be required to develop at 30% R-5 and 70% R-7.

   As previously discussed, property owners need the ability to respond to market demands at the time of development, and require maximum flexibility to do so.

   We ask that the 30% requirement for R-2 and R-5 be considered a minimum, and that a project be allowed to exceed that minimum without requirement for a Comprehensive Plan Map Amendment.

V 503.597.7100 | F 503.597.7149
17933 NW Evergreen Parkway, Ste. 300
Beaverton, OR 97006
CCB 181933

METROPOLITAN LAND GROUP MLG

2. The need for flexibility and ability to respond to market demands can also be achieved through a Planned Development, however as previously discussed with staff the City of Beaverton Planned Development process is onerous and without much benefit to the applicant.

   We ask that the city modify the Planned Development code to help implement the vision of the South Cooper Mountain Community Plan with emphasis on providing a high level of flexibility and the ability to respond to market demand.

3. *Correction - Table 2 on page 14 cites that the Estimated Housing Capacity for High Density is 1,250 units, by our calculations that number should be 1,350 based on the regulatory maximum capacity established in section 20.25.15.*

Housing types

1. We have discussed with staff the possibility of developing courtyard/common green cluster housing in the Medium Density Residential Zone. Currently cluster housing is included as an allowed use in the SC-MU and SC-HDR zones, but not in the standard residential zones.

   As the plan states on page 19, housing variety is essential on both a neighborhood and individual level, however within certain comprehensive plan designations the allowed housing types may be limited. Adding cluster housing as an allowed outright use in the medium density zones would contribute to providing the variety in housing that is desired.

   We ask that Cluster housing, such as Courtyard, Patio or Cottage development be an allowed outright use in the R-4 and R-2 zones and be added to the respective sections of Table 4, page 17 of the South Cooper Mountain Community Plan.

Infrastructure

1. **South Cooper Mountain Future Water System – Figure 15**

   Development in the SCM Annexation Area will be phased in over time; because of this we want to ensure that our parcel will have available fire flows and reasonable domestic water pressure and delivery, and that we will be able to avoid a sprinkler requirement for our structures.

   Additionally, in the case where an adjacent parcel is not ready to develop, we want to verify that the city will be amenable to a dead end water line until such time that the adjacent parcel develops and the loop can be completed.

   We would like the opportunity to discuss these concerns in more detail with planning and engineering staff.

2. **South Cooper Mountain Future Sanitary Sewer System – Figure 16**

   Our group has been working with surrounding property owners to develop an optimal sanitary alignment. We have engaged an engineer to perform a basin study and he has generated an exhibit detailing the specific location of a main line that can serve the central portion of the annexation area. This exhibit is attached herein.

   We would like the opportunity to discuss our plan in more detail with planning and engineering staff.

3. **South Cooper Mountain Future Storm System**

   The Stormwater Master Plan for South Cooper Mountain is yet to be drafted, and is therefore not included as part of these documents. Staff has informed us that the plan will be drafted at a later time pending the development of the new stormwater facility sizing tool that Clean Water Services is working to develop. Staff has assured us that development of this tool will not delay development and that at such time that development is ready to occur, the city will utilize whatever standards and tools are currently in place at Clean Water Services.

   We want to affirm our previous comments to staff that we appreciate their dedication to a timely development schedule in South Cooper Mountain. While we understand that Clean Water services is working diligently to develop this new tool, we feel that the implementation process for the tool itself will not be completed in time for development to occur on South Cooper Mountain and we would not want this process to cause delay in our ability to develop.

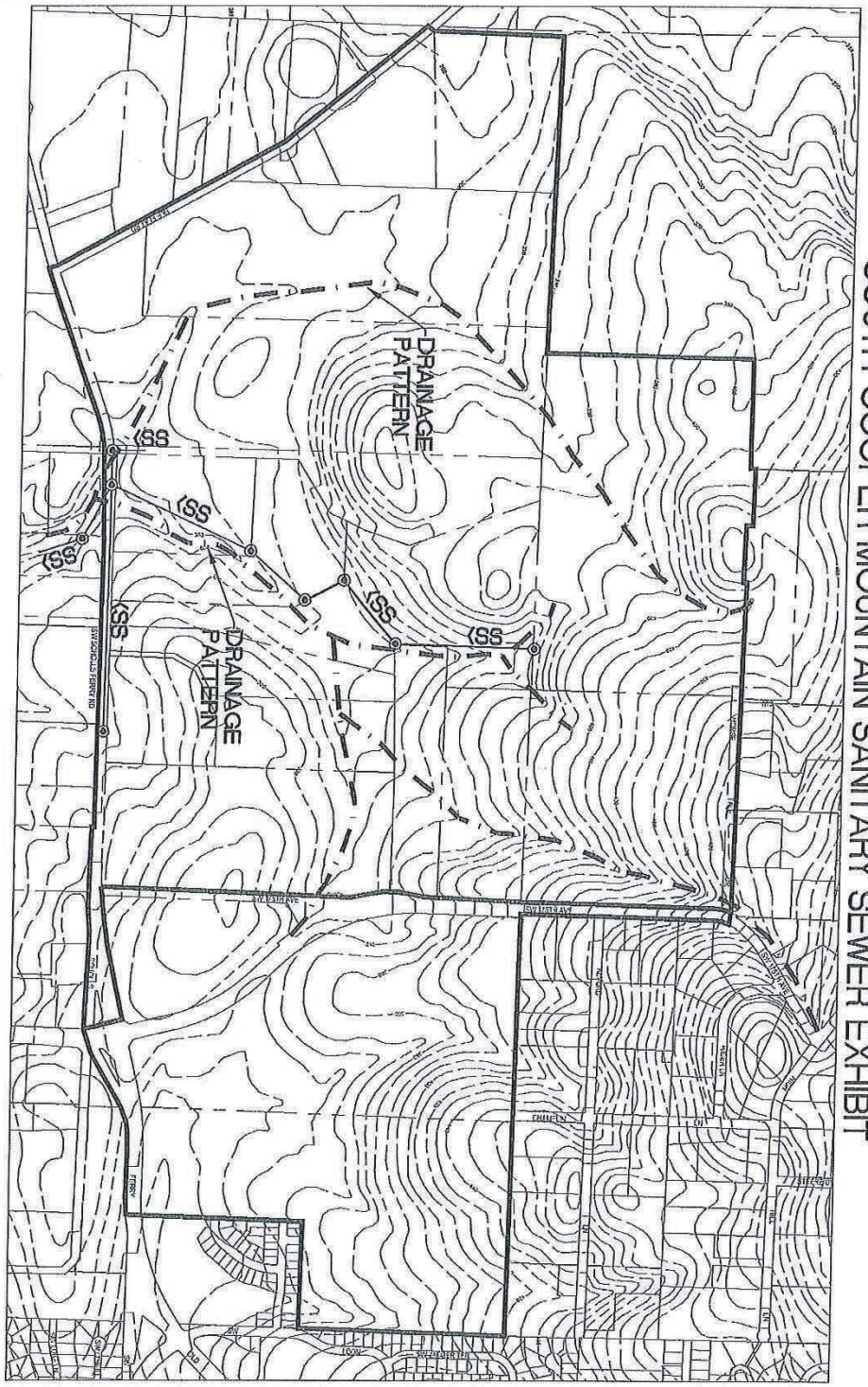
We are very supportive of the direction that South Cooper Mountain is headed and are excited to see some on the ground progress. The City's commitment to this effort is apparent and we hope that our involvement has been and continues to be helpful to the discussion.

We ask that you please address our concerns identified above. Thank you for your consideration.

Sincerely,

Jamie Stasny

Metropolitan Land Group


DRAINAGE PATTERN
DRAINAGE PATTERN
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SW 198TH AVE
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SW 3868TH AVE
SW 3871ST AVE
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SW 3877TH AVE
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SW 3889TH AVE
SW 3892ND AVE
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SW 3943RD AVE
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SW 3961ST AVE
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SW 3973RD AVE
SW 3976TH AVE
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SW 4006TH AVE
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SW 4066TH AVE
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SW 4072ND AVE
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SW 4600TH AVE
S

ACQUISITION DEVELOPMENT CONSTRUCTION

January 14, 2014

City of Beaverton
Attn: Valerie Sutton, Senior Planner
4755 SW Griffith Drive
Beaverton, OR 97005

Re: Metropolitan Land Group (MLG) – Site Specific Concept Plan Scenario Concerns

Dear Valerie,

Since our last CAC meeting it is clear that a tremendous amount of work has been done by you and your team on the planning of South Cooper Mountain (SCM). Before getting too far down the road, we wanted to voice our concern about some specific plan elements relative to our property. As you are aware, MLG owns approximately 63 acres along the northerly edge of the SCM Annexation Area. The following represents our primary concerns with the current Concept Plan Scenarios and the supporting infrastructure documentation that we received for CAC Meeting #4.

- **Concept Plan Scenario Elements – Land Use Designations**
  - Specific to our property we are supportive of the land use designations identified in Concept Plan Scenario B.
  - We are not at all supportive of the Hillside Neighborhood designation shown in Scenario A, affecting our property. We do not consider this to be an appropriate designation at this specific location. We recognize that there is a sloped area in the north central portion of our site. However, the steeper slope is found in an isolated area in the center of the property, below the existing residence. The bulk of the Hillside Neighborhood designation is found at the top of the slope in an area with existing grades around 10%. This is the primary basis of our support for Concept Plan Scenario B.
    - Potential option #1 – Amend the Hillside Neighborhood designation on our property to reflect the Single Family Neighborhood designation.
    - Potential option #2 – Mirror the zoning designations on our property as shown in Scenario B.
  - Looking outside of our specific property boundaries, we are generally supportive of either scenario, but would lean toward Scenario A with the inclusion of an adjustment as discussed above.

- **Concept Plan Scenario Elements – Transportation Framework**
  - Specific to our property, we are concerned about the presence of the neighborhood route shown along our site's northerly boundary. We do not expect that this road will be necessary until future development occurs in the Urban Reserve Area, which could be decades away. Although this may be an important future east/west connection, we are not supportive of it being a development requirement of our project. The two

V 503.597.7100 | F 503.597.7149
17933 NW Evergreen Parkway, Ste. 300
Beaverton, OR 97006
CCB 181933

METROPOLITAN LAND GROUP MLG

properties that front this road segment within the SCM Annexation Area will both benefit from direct access to a collector road as shown in both scenarios. Therefore, we ask that the neighborhood route shown along this north edge be shifted to the north of the SCM Annexation Area.

- Without seeing a cost comparison, it is difficult to say right now whether we prefer Transportation Framework Scenario A or B. However, we are generally supportive of the alignments shown in Scenario A.
- It is critically important (especially for neighborhood routes) to allow adequate flexibility in the future alignment of these roads. Today, we have at best an intermediate understanding of the actual on-the-ground challenges that we will ultimately face at the development stage. We should identify reasonably flexible beginning and end points for these mapped transportation facilities and describe the intent of each facility between those points. The establishment of a rigid street network will only impede development opportunities, especially in an area where existing grades and a multitude of resource crossings will already make permitting and construction a challenge.

- **Housing Capacity and Density**
  - North Cooper Mountain – It appears that with either scenario, the density identified in the North Cooper Mountain area was designed to capture the majority of the anticipated costs specific to that area. However, we want to continue to emphasize the need for this area to stand on its own, both fiscally and for the plan adoption process.

- **Schools Framework**
  - Although we recognize that the Schools Framework map is intended to show potential school locations based upon specific suitability factors, we are not supportive of this map identifying a school site on our property. We anticipate, consistent with both scenarios that our property will be zoned for residential development.

- **Parks Framework**
  - Obviously, any great community requires adequate park facilities. However, we believe it to be the responsibility of the applicable park provider to acquire and develop land under the same competitive circumstances that we are all subjected to. We are not supportive of a program that would require park facilities as a condition of development, even at fair market value. Our basis for this position is that fair market value fluctuates and the land owner could find themselves in a circumstance where they are forced to sell at a price less than what they purchased the property for, simply to move forward with development. We do not consider this to be a fair circumstance for acquisition. We are also completely opposed to a park dedication requirement associated with new development, unless of course it is an optional program tied to incentives. Similar to the Schools Framework map, we recognize that the Parks Framework map is intended to show potential park locations based upon specific

suitability factors. However, we are concerned that these "suitable" locations may evolve into fixed or even floating locations with their acquisition made a requirement of development. All new development in SCM will pay substantial park SDC fees; it should not also be the responsibility of new development to accommodate their location as a requirement.

- **Potential Stormwater System**
  - Given that the future of the Urban Reserve Area is largely unknown we should not be planning for stormwater facilities in the SCM Annexation Area to accommodate for areas that may not be developed for decades.
  - The SCM Annexation Area is primarily occupied by large tract ownerships and there is not a tremendous amount of parcelization. As a result, development of these parcels will already have the financial motivation to limit the number of stormwater facilities within a given project. Larger master plan designs affecting individual ownerships will have the affect of limiting construction costs as well as future maintenance costs. Obviously, basin areas largely drive where stormwater can be conveyed. However, these large tract ownerships should also play a key role in this analysis. Many of these large tract projects should be able to address their individual stormwater issues within the applicable requirements without needing to rely upon a neighboring property to commence development.

We are very supportive of the direction that South Cooper Mountain is headed and are greatly excited to see some on the ground progress. This City's commitment to this effort is apparent and we hope that our involvement has been and continues to be helpful to the discussion.

We ask that you please address our concerns identified above. Thank you for your consideration.

Sincerely,

John O'Neil
MLG

BEAVERTON SCHOOL DISTRICT
16550 SW Merlo Road • Beaverton, Oregon 97006
ph: 503.591.4395 • fax: 503.591.4484

Ron Porterfield
Deputy Superintendent
email: ron_porterfield@beaverton.k12.or.us
www.beaverton.k12.or.us

WE EXPECT EXCELLENCE WE INNOVATE WE EMBRACE EQUITY WE COLLABORATE

October 3, 2014

Leigh Crabtree
Associate Planner
Community Development
City of Beaverton
12725 SW Millikan Way
PO Box 4755
Beaverton, Oregon 97076

Dear Leigh,

The Beaverton School District appreciates the opportunity it has had to serve on the Technical Advisory Committee for the South Cooper Mountain Concept and Community Plan. The process has been collaborative and transparent and has developed a plan that will result in a new community that will be an asset well into the future. We congratulate the City on their outstanding technical and community engagement process that has led to this plan.

As you know, the District has been planning a new high school at SW 175th Avenue and SW Scholls Ferry Road – with an opening date of September 2017. Continued student enrollment growth in the District has created the need for the additional student capacity the new high school will provide. Given the need to have the new high school operational by September 2017, we are currently developing the site plans, architectural plans and land use applications necessary to meet this date. The design development and site construction schedule requires that we submit for land use review in early 2015.

South Cooper Mountain Community Plan Request

The South Cooper Mountain Community Plan has recommended that the new high school site be designated on the Comprehensive Plan as High Density Residential (HDR).[1] We are in agreement with this Comprehensive Plan designation. The Community Plan goes on to note that the implementing zoning for the HDR Comprehensive Plan designation is R1 – no other zoning district is identified to implement the HDR Comprehensive Plan designation.[2] However, the SCM Community Plan does not apply the R1 zone to the new high school site as a part of this adoption process. In fact, the current SCM Community Plan adoption will not apply zoning to any property within the community planning area and, instead, defers applying specific zoning to individual properties to the development review process. As noted in the Land Use Implementation Plan section of the SCM Community Plan, this would need to be accomplished through a zone change request that would be submitted concurrently with a development application.[3] Land Use Implementation Policy 3 states…"Zoning may be **applied through initiation by the City** or as requested by the applicant." (Emphasis added)

[1] New high school site is designated as High Density Residential on Figure 7: Community Land Use Plan Map. The designations on the Land Use Map displayed in Figure 7 serve as the Comprehensive Plan designations for the area.

[2] See SCM Community Plan Table 1: Comprehensive Plan and Zoning District Matrix
[3] See SCM Community Plan: Land Use Implementation Policies (page 13)

The Beaverton School District recognizes the diversity and worth of all individuals and groups. It is the policy of the Beaverton School District that there will be no discrimination or harassment of individuals or groups based on race, color, religion, gender, sexual orientation, gender identity, gender expression national origin, marital status, age, veterans' status, genetic information or disability in any educational programs, activities or employment.

BEAVERTON
SCHOOL DISTRICT
16550 SW Merlo Road • Beaverton, Oregon 97006
ph: 503.591.4395 • fax: 503.591.4484

Ron Porterfield
Deputy Superintendent
email: ron_porterfield@beaverton.k12.or.us
www.beaverton.k12.or.us

Because of the District's need to move expeditiously and efficiently through the City's land use review process, we are requesting that the Planning Commission and City Council apply the High Density Residential Comprehensive Plan designation and the R1 Zoning designation to the new high school site together as a part of the adoption of the SCM Community Plan. We offer the following findings in support of this request:

1. Throughout the SCM Concept and Community planning process the 45-acre site at SW 175th and SW Scholls Ferry Road was consistently identified as the site of a "Planned (or Future) High School". Ownership of the site by the District was clear. Participants in the SCM planning process, including the broader community through the Open Houses, were well aware of the ultimate use of this property.

2. The new high school site is under a single ownership – the Beaverton School District. No other property owner would be affected by the application of the R1 zone to the site as a part of the SCM plan adoption.

3. The Community Plan notes that the implementing zoning for the HDR Comprehensive Plan designation is R1. No other zoning district is identified to implement the HDR Comprehensive Plan designation (SCM Community Plan Table 1: Comprehensive Plan and Zoning District Matrix) – there is no discretion as to the appropriate zone to apply to this property.

4. The Institutional / Civic Uses section of the SCM Community Plan notes that ... "School needs were coordinated with the Beaverton School District and the Hillsboro School District" and that "BSD is already in possession of the 45-acre high school site". Table 3: Civic Use Land Needs calls out the 45 acre BSD High School site as a land need.

5. This action would be consistent with this Community Plan in addition to applicable Comprehensive Plan policies, Development Code requirements, and other applicable regulations.

We appreciate your consideration of this request and we will attend the Planning Commission and City Council SCM Concept and Community Plan adoption hearings to support this request. If you have any questions regarding our request, please give me a call.

Again, thank you for providing the District the opportunity to work with Technical Advisory Committee on the SCM Concept and Community Plans.

Sincerely,

Ron Porterfield, Deputy Superintendent
Beaverton School District

District Goal for 2010-2015: All students will show continuous progress toward their personal learning goals, developed in collaboration with teachers and parents, and will be prepared for post-secondary education and career success

The Beaverton School District recognizes the diversity and worth of all individuals and groups. It is the policy of the Beaverton School District that there will be no discrimination or harassment of individuals or groups based on race, color, religion, gender, sexual orientation, gender identity, gender expression national origin, marital status, age, veterans' status, genetic information or disability in any educational programs, activities or employment.

WASHINGTON COUNTY
OREGON

October 24, 2014

To: Leigh Crabtree, City of Beaverton Project Manager
From: Dyami Valentine, Senior Planner
RE: South Cooper Mountain Finance Strategy

We have reviewed the proposed South Cooper Mountain Funding Strategy as discussed by Beaverton staff at the October 21 Finance Strategy Task Force. It is our understanding based on discussions at the Task Force meeting that a number of revisions have been made to the Funding Strategy since the September 2 draft and that the Beaverton staff's recommendation to the Planning Commission includes increasing the proposed supplemental system development charge to an average of $6,000 per dwelling unit, assuming MSTIP contributions of $8.1 million, and increasing the assumed capture rate of TDT revenue from 75% to 80%. In our view, the primary reason for completing a Transportation Funding Strategy with new measures is to generate additional revenue to serve the mobility needs of the community. We believe the City has done a good job in balancing those needs. We generally support the revisions to the Funding Strategy stated above. However, we have a couple of comments and revisions for your consideration.

175th Avenue

The proposed South Cooper Mountain Funding Strategy identifies a list of transportation projects to be funded with existing and new measures. We generally support the projects identified with one modification – revising project 14a to improve 175th Avenue from Scholls Ferry Road to the UGB, north of Alvord Lane, as a 5-lane County arterial. 175th Avenue is a critical north-south route that serves a significant regional mobility function and modeled forecasts show the need for a 5-lane arterial. Revising project 14a as suggested would result in an additional $3 to $5 million project cost.

It is important to note that factoring in any assumptions about future MSTIP contributions must be done in light of the programs guiding principles, and does not assure future funds will be available for any specific project or within any indicated timeframe as other priorities may take precedence. As has been previously mentioned, MSTIP is a discretionary allocation of the county general fund and has been intended to address existing capacity and safety deficiencies. As such, it is subject to the policy direction of future Boards of County Commissioners (Board), including the potential of being used for non-transportation purposes.

Department of Land Use & Transportation • Planning & Development Services
155 N. First Avenue, Suite 350-14, Hillsboro, OR 97124-3072
phone: (503) 846-3519 • fax: (503) 846-4412

Adopting Zoning

The currently proposed adoption timeline, as communicated at the October 21 Finance Task Force meeting, has the City adopting zoning for the Beaverton School District High School property before the adoption of the new measures necessary to implement the funding strategy. The South Cooper Mountain Community Plan and Funding Strategy are both decisions that will affect the community for many years. Development of new finance measures (such as the proposed system development charges) may be subject to appeal and perhaps other factors outside the city's control. Given the long term nature of these decisions and the possibility of factors outside city's control, we recommend adoption of zoning designations to follow adoption of the measures necessary to implement the funding strategy.

CC:

Andrew Singelakis, Director, Washington County Department of Land Use & Transportation

RECEIVED
OCT 20 2014
City of Beaverton
Planning Services

October 16, 2014

City of Beaverton
Planning Commission
PO Box 4755
Beaverton, OR 97076
Re: 18485 SW Scholls Ferry Rd.
Tax Lots 2S1060000301/302

Dear Chair Overhage and Members of the Commission,

In the July 1st draft of the South Cooper Mountain Community Plan I noticed a discrepancy in the land use maps. The concept plan located on Page 5, appears to have implemented housing densities according to topography, whereas the land use map located on page 12 it is unclear as to how the density boundaries were determined. These lines do not follow the topography at all. The idea would be to have higher density on the flatter ground and lower density where there is steeper topography. The lines shown on the Concept Map on page 5 follow the contours more accurately. I have made some adjustments to the drawing on page 12 that I think will work better with the existing topography, see attached map on page 4.

We respectfully request your attention to this error and make adjustments to your maps. Thank you very much.

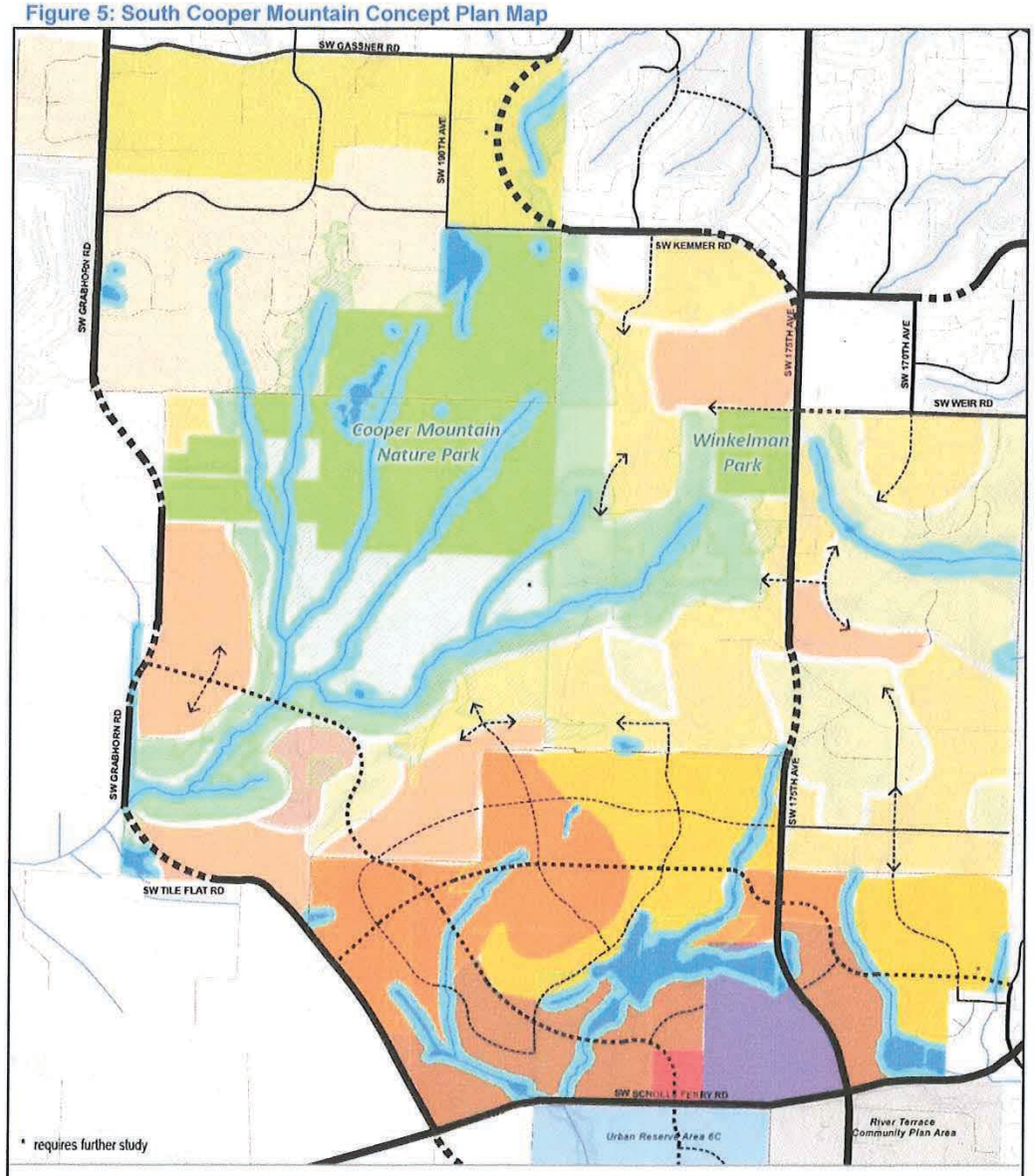
Sincerely,

EB

Ed Bartholemy
18485 SW Scholls Ferry Rd.
Beaverton, OR 97007

Beaverton
South Cooper Mountain

Figure 5: South Cooper Mountain Concept Plan Map



Final Preferred Concept Plan Scenario

- Urban Growth Boundary
- Streams
- Open Water/Wetland/Probable Wetland
- Riparian & Wetland Buffers
- Class A Upland Habitat
- Planned High School Site
- Study Area Tax Lots

Transportation Framework

- Arterial
- Collector
- Neighborhood Route

See also Transportation Framework maps. Realignments and new roads shown in dashed lines. New alignments are conceptual.

Near Term (0-20 Year) Land Use

- Very Low Density Neighborhood
- Low Density Neighborhood
- Single Family Neighborhood
- Compact Neighborhood
- Urban Neighborhood
- Main Street Commercial

Future Land Use

- Future Low Density Hillside Neighborhood
- Future Cluster Neighborhood
- Future Single Family Neighborhood
- Future Compact Neighborhood
- Future Urban Neighborhood
- Future Neighborhood Commercial

As approved by Beaverton City Council, April 8, 2014

Prepared By: Angelo Planning Group
This map is intended for informational purposes only

NORTH

0 500 1,000 2,000 Feet

Beaverton
South Cooper Mountain

Land Use

Land Use Implementation

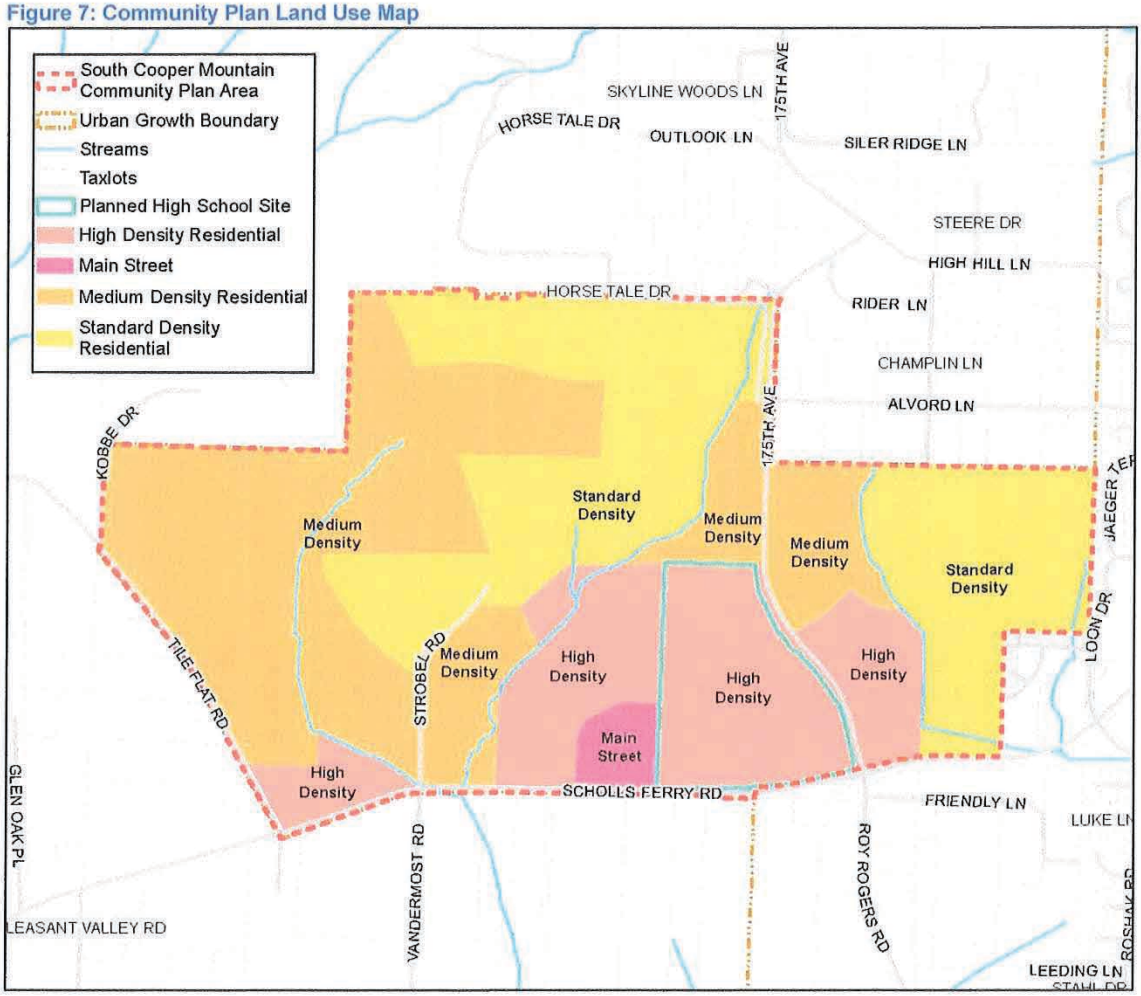
Context

Land Use Designations

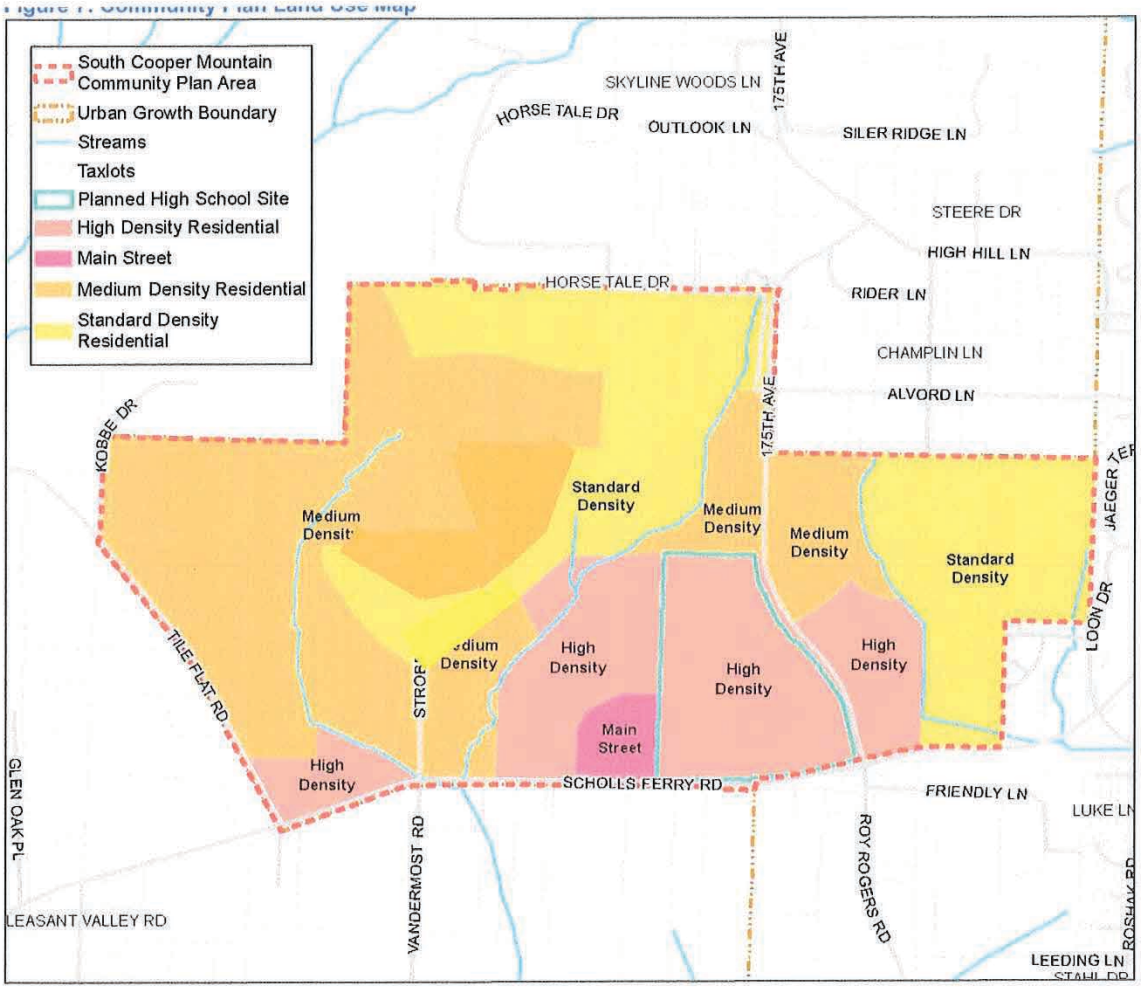
Land use designations for the South Cooper Mountain Community Plan area are shown on the Land Use Map (Figure 7). The Land Use Map is the term used for the Comprehensive Plan Map in the City of Beaverton Comprehensive Plan.[16]

The designations on the Land Use Map displayed in Figure 7 serve as the Comprehensive Plan designations for the area. They are implemented by zoning districts as listed in Chapter 3.14 of the Comprehensive Plan and as shown in the Zoning District Matrix included in Table 1 below.

Figure 7: Community Plan Land Use Map



[16] *The Land Use Map published in this document is advisory - the city's official Land Use Map is the controlling map of Comprehensive Plan designations.*


South Cooper Mountain Community Plan Area
Urban Growth Boundary
Streams
Taxlots
Planned High School Site
High Density Residential
Main Street
Medium Density Residential
Standard Density Residential
SKYLINE WOODS LN
175TH AVE
HORSE TALE DR
OUTLOOK LN
SILER RIDGE LN
STEERE DR
HIGH HILL LN
HORSE TALE DR
RIDER LN
CHAMPLIN LN
ALVORD LN
KOBBE DR
175TH AVE
JAEGER TER
Standard Density
Medium Density
Medium Density
Medium Density
Standard Density
LOON DR
TILE FLAT RD
High Density
High Density
High Density
High Density
Main Street
High Density
SCHOLLS FERRY RD
FRIENDLY LN
LUKE LN
GLEN OAK PL
VANDERMOST RD
ROY ROGERS RD
LEASANT VALLEY RD
LEEDING LN

July 17, 2014

Valerie Sutton

Senior Planner, South Cooper Mountain Project Manager

PO Box 4755

Beaverton, OR 97076

Re: 18485 SW Scholls Ferry Rd.

Tax Lots 2S1060000301/302

Dear Valerie:

In the July 1st draft of the Community Plan I noticed there had been a change in the lines delineating the different housing densities on my property (see page 12 of the Community Plan). These lines don't follow the topography at all. The idea would be to have higher density on the flatter ground and lower density where there is steeper topography. The lines shown on the Concept Map (page 5) follow the contours more accurately. I have made some adjustments to the drawing on page 12 (see attached) that I think will work better with the existing topography.

Could you please make these adjustments to your maps. If there are any problems with making these adjustments, please let me know.

Thank you very much for your help.

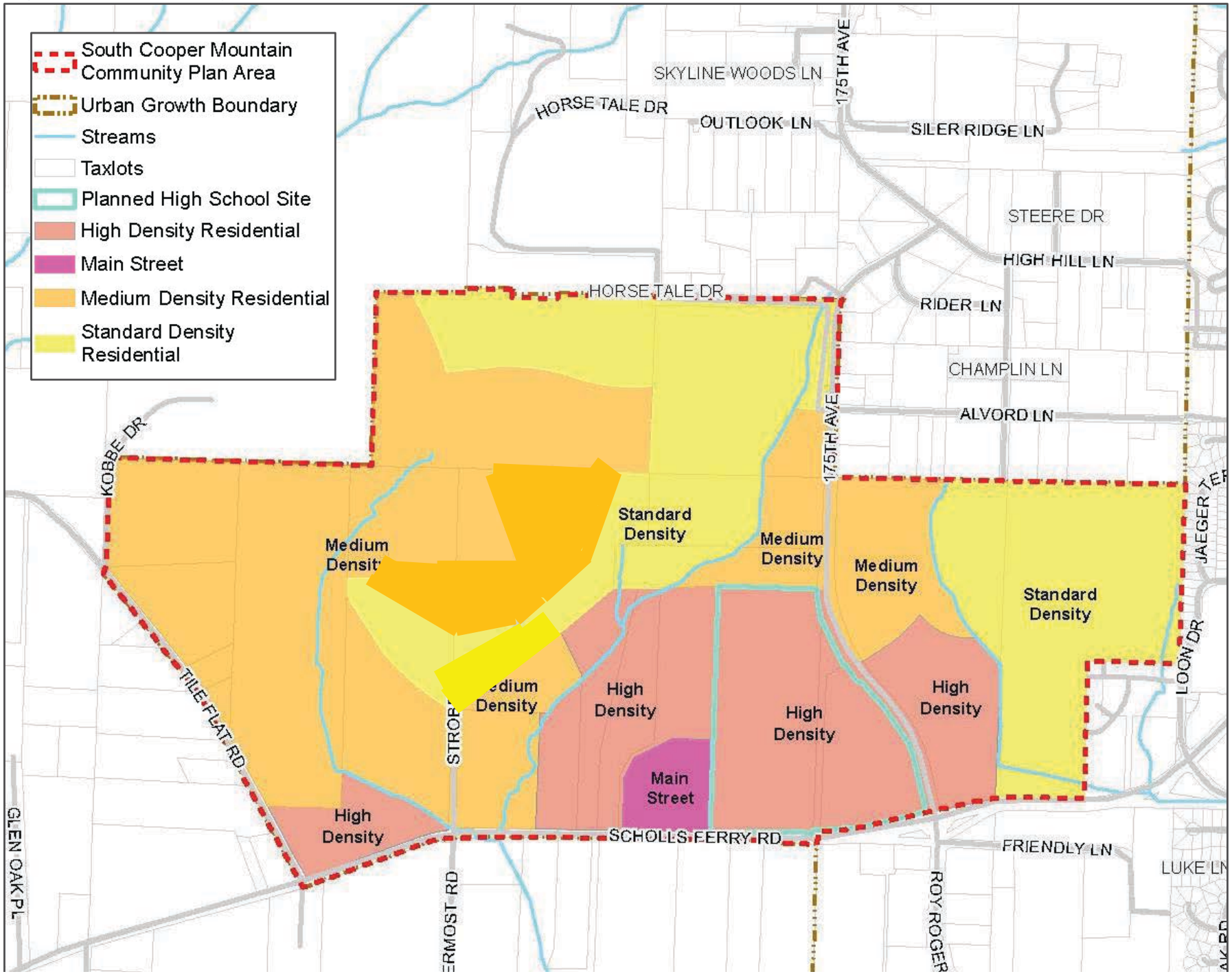
Sincerely,

Ed Bartholemy

18485 SW Scholls Ferry Rd.

Beaverton, OR 97007

Figure 7: Community Plan Land Use Map



October 24, 2014

Leigh Crabtree, Associate Planner
City of Beaverton
Via Email Only
lcrabtree@beavertonoregon.gov

Re: Request to modify land use designations in a portion of the South Cooper Mountain Community Plan (with attachments) and comments regarding Finance Plan

Dear Leigh, Please provide this letter request and attached exhibits to the Planning Commission and include in the public record.

On behalf of Arbor Homes we are submitting the following comments regarding the Draft South Cooper Mountain Community Plan and Finance Plan.

- **Land Use Density Allocations in the East Neighborhood**

  We would like to address a concern with the proposed land use density of the area east of and immediately adjacent to SW 175th Avenue within the East Neighborhood of the Draft Community Plan (the Crescent Grove Cemetery property). Specifically, we agree with the intent of the Urban and Compact Neighborhoods as delineated on the South Cooper Mountain Concept Plan Map, as well as the Comprehensive Plan and Zoning District matrix (Table 1) in the draft Community Plan. We also agree with the assumed mix of zones as described in Table 2: Land Use Designations and Capacity Estimates. Our concern lies with the delineation of the High Density Residential land use within the Urban Neighborhood east of and immediately adjacent to SW 175th Avenue, as shown on the Community Plan Land Use Map.

  As delineated on this map, the High Density Residential land use comprises almost two-thirds of the Community Plan Urban Neighborhood in this area (19.46 ac. of 30.64 ac.). Based upon the density ratios proposed in the Community Plan factored for net acreages, this would result in almost 70% of the housing units on the Cemetery property being High Density Residential. We believe that this is out of balance with the goals of the Community Plan, with too much high density housing.

  The current Plan designation pushes potential multi-family development onto steeper slopes, making it difficult to develop at a minimum density of 40+ units per net acre. The current plan locates this high density housing adjacent to the narrowest portion of the

resource area separating this area from the lower Standard Density housing proposed by the plan for the property to the east, reducing the opportunity for an effective transition between housing densities.

Our proposed High Density Residential Area (attached Exhibit A) describes a smaller area by shifting the northern boundary south, off of the steeper slopes. This proposal also shifts a portion of the eastern boundary to the west, allowing for additional Medium Density housing as a transition to Standard Density housing to the east (attached Exhibit B). This proposal assumes a different alignment of the neighborhood route, which would still form the boundary of the land use district (see attached exhibit).

It appears that the northern boundary of the High Density residential area was drawn to correspond to the conceptual alignment of roads illustrated in the Community Plan. We recognize that the alignment of the short neighborhood route that forms the northern boundary of the High Density Residential is subject to further study. We understand, based on conversations with City Staff, that road alignments are flexible as long as the required "point A to point B" connections are achieved.

This proposal retains high density housing adjacent to 175th and Scholls Ferry to take advantage of transit opportunities.

This proposal allows for a more balanced variety of housing opportunity and improved buffering and density transitions while preserving the spirit of the plan. Our proposal would result in an overall reduction of approximately 150-200 housing units on the Cemetery property. We understand that adjustments to land use boundaries may be made as part of the Community Plan but believe that our proposed modification would exceed the 10% threshold for density and would be more easily achieved prior to adoption of the Community Plan.

We respectfully request that the City modify the above described density allocations accordingly.

- **Planned Development Code**

  In addition, we would like to express our concerns with the current Planned Development Code as an implementation tool of the South Cooper Mountain Community Plan. We believe that the open space standards of the current code do not reflect the open space goals of the Community Plan and place an excessive burden on development in the Community Plan area. We look forward to the opportunity to provide input on revising this section of the code.

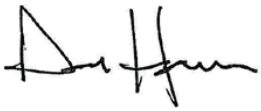
- **Finance Plan**

  We request that all collector roads be 100% SDC creditable. These roads will serve the entire annexation area and the community beyond.
  We request that 100% of the TDT funds collected in the South Cooper Mountain annexation Area be applied to improvements in that area.

Recognizing the need for additional funding sources to implement the plan, we would request that a potential, specific Street Fee be considered for inclusion in the Finance Plan. We also urge the City to work with the City of Tigard and Washington County to identify additional funds for regionally significant projects with the Plan area.
We would also request that the timeline for adoption of the SDC ordinance for the South Cooper Mountain Community Plan Area be accelerated if at all possible. Land owners and developers should be allowed to submit land use engineering plans and receive approvals while the Finance Plan is being finalized. The City could withhold, at its discretion, final development and construction permits until the Finance Plan is adopted.

We respectfully request that the City consider our concerns on these matters.

Sincerely,

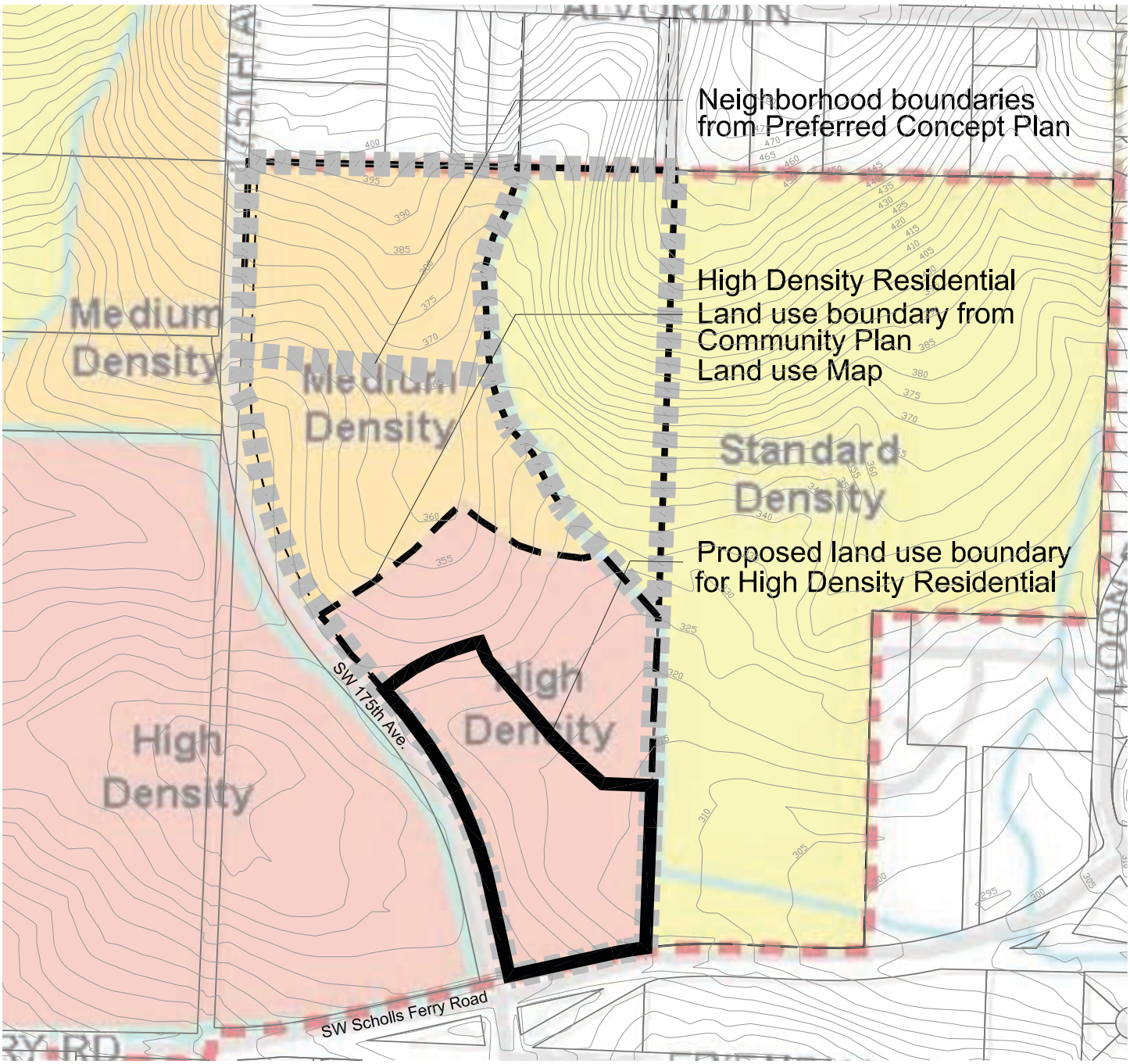


Don Hanson
Otak
On behalf of Arbor Homes

DH/js

Attachments

cc: Dan Grimberg, Arbor Homes



Proposed Modification to
High Density Residential
Land Use Designation

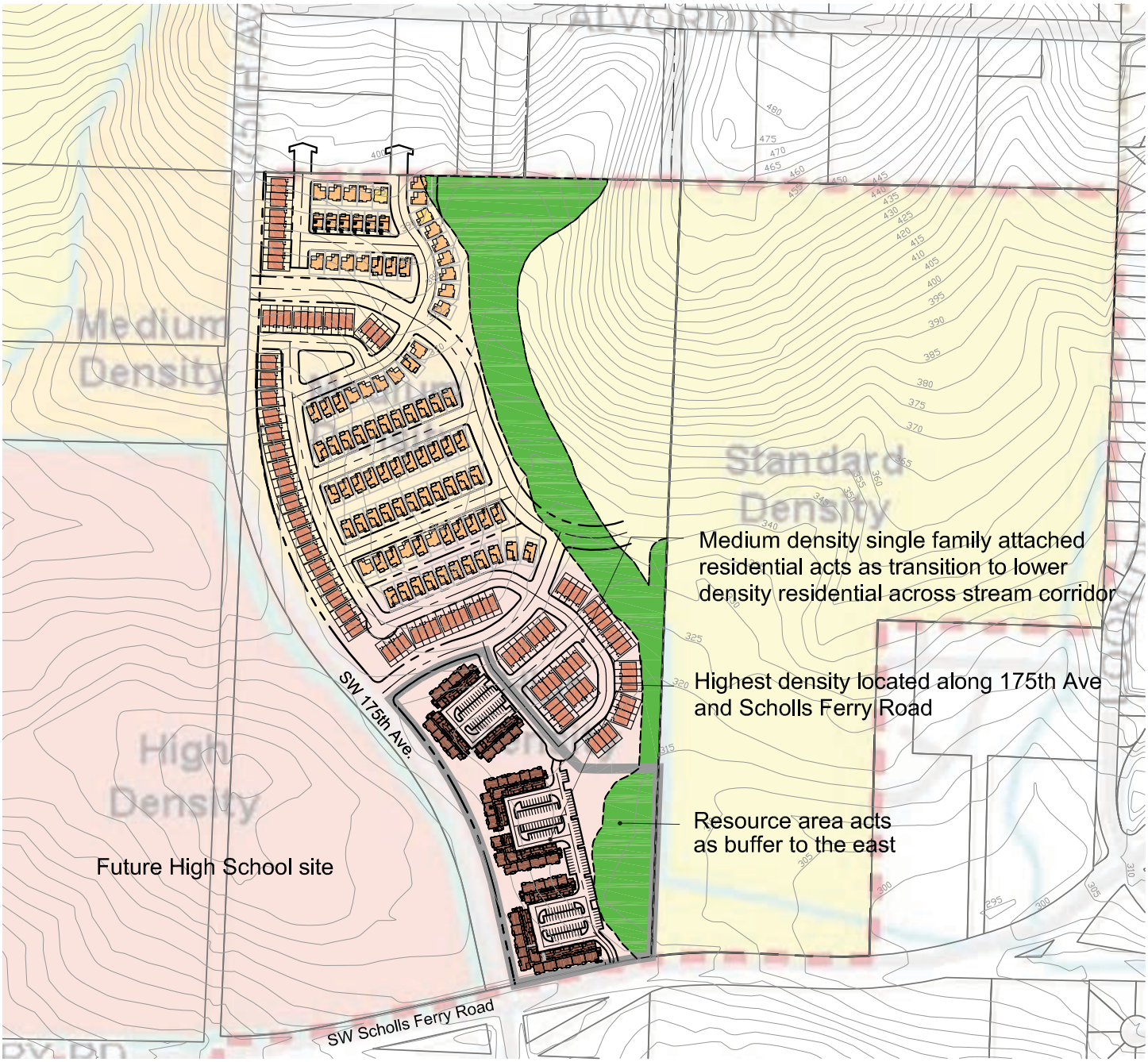
Exhibit A

0 200 400

West Hills Development
South Cooper Mountain

otak
HanmiGlobal Partner

10/23/2014



Development Concept
High Density and Medium Density Residential Land Use Designations

Exhibit B

0 200 400

West Hills Development
South Cooper Mountain

otak
HanmiGlobal Partner

10/23/2014

July 27, 2014

To: Valerie Sutton and South Cooper Mt. CAC

From: Boyce and Lori Smith

We are writing this letter to suggest a change in the proposed zoning in a relatively small area adjacent to the southern 2/3 of NCM. The area is about 10-12 acres east of Grabhorn Road and south of Stonecreek Drive. It is currently proposed to be future very low density. We believe the argument for very low density is to provide a transition from the R1-CM zoning planned for the southern 2/3 of NCM. We believe there is no need for the transition as the next block of land south is the Metro Nature Park. So, our proposal is to add the land to the southern 2/3 of NCM and have it zoned as part of the R1-CM. This proposal would maintain the look and feel of the neighboring area.

In addition, if the proposed realignment of Grabhorn Road to soften the 90 degree curves actually gets built, we believe the land to the east of the new alignment near Stonecreek Drive should be added to the R1-CM zoning area.

Regards,

Boyce and Lori Smith
9851 SW Stonecreek Drive

August 28, 2014

From: Youssef El-Mansy
To: The Beaverton Planning Commission
Re: Preferred Concept plan for South Cooper Mountain

My name is Youssef El-Mansy and I, and my family own five homes at the southwest corner of SW Gassner Rd and SW 190th Ave. I also own an 18 Acre property (parcel 1S225AD00100, see attached county tax map)that extends from SW Gassner Rd to SW Kemmer Rd which is affected by all the scenarios outlined in the concept plan for south Cooper mountain, specifically the proposed connection between SW 175th Ave to SW 185th Ave under all scenarios goes through that property.

The purpose of that letter is to let you know that I acknowledge and accept that a section of the connection will go through my property. However I would like to point out that I am strongly opposed to the proposed preferred route section in my property for the following reasons (please refer to the attached document by the Angelo group dated March 27, 2014):

1. The preferred scenario A will have the same number of turns and bends as the already existing route from north to south (SW 185th, SW Gassner, SW 190th, SW Kemmer, SW 175th) which destroys a lot of land and encroaches on many residences for very little extra benefit for safe and smooth traffic flow.
2. In contrast. Scenario B which was not selected provides the most straight and safe connection from SW 185th to SW 175th. Even though this uses more of my property, I would strongly advocate selecting that route section through my property. I realize the study shows that it costs more, but I suspect that the higher cost is not related to the north cooper mountain section of the road but rather to the south cooper mountain.
3. I bought that property in 2001 as a green belt around my house (and my family) and I have no plans to develop it, so needless to say putting a major arterial that close to our homes destroys our living environment and our significant investment in that land and in our homes which were built over the past 10 years.

In conclusion, I would urge you to reconsider the preferred scenario and pick scenario B for that section of the road in my property. I would be prepared to offer the land needed for the road under this scenario at very favorable terms to defray some of the costs in the plan.

I am prepared to meet with the commission for further elaboration and detailed explanations.

Respectfully,

Youssef El-Mansy
18820 SW Gassner Rd

From: Soren Petersen [mailto:soren.petersen.or@gmail.com]
Sent: Monday, July 21, 2014 8:15 PM
To: Valerie Sutton
Subject: Regarding the Cooper Mountain Development

Dear Valerie,

I understand from the neighbors around us, that it is our last chance to submit input on the development.

I think I can speak on behalf of the vast majority of the thousands that currently reside in the proximity of the development, that appreciate your many good traits, but we are left with an awful taste in our mouth.

I think we have to discern a difference between current residents and future residence. Current residents are the ones getting the change. Whoever buys into the area are buying what they see at the time of their purchase. The planning seems to always be focused on the future with little regard to those that already own land here. The reasons we invested time and money on this area is dwindling away under the impact of development, making us feel like the unknown future resident is more important than the known current residents.

Although much effort has been used to influence consideration for existing residents, very little has changed. This makes us all think, why is the city asking residents when nothing is implemented. Of course, this bodes badly for any support for what the city or county will do in the future.

We now spend our evening meals outside SHOUTING TO EACH OTHER because of the "freeway" behind our house. And the future is bringing more vehicles. Where did planning go? Normally you send traffic AROUND residential areas, not through it! Normally the government works for the good of the residents!!! These were the proposals residents had. All ignored.

That being said, even if the plan was acceptable, most of us know, that the funding for transportation is lacking. This will ultimately mean that development happens and transportation improvements will be lacking. So the core of this is, that we don't like the plan, but we really don't like that the only thing that will make it tolerable, has no funding. With such development as the proposed, the roads need to be better, safer, slower and accessible. Roundabouts with yield (not stop) like the one at Carman and Meadows Drive in Lake Oswego help slow traffic and saves gas because of not stopping cars.

It's hard to enter traffic between 7 and 9 AM without a dragster and for those of us that choose a slower gas efficient car, we have to "gun" it to get a spot in the long and winding row of cars. Reducing speeds around residential areas to 30-35 MPH will help. Intersections at 176th and 182nd will also help get out of our neighborhood.

Please, have some consideration in your planning for current residents. Have the county and city treat current residents as they would want to be treated themselves. There is still an opportunity to make this palatable and have the residents feel like the government cared. We know you do, but please influence those around you to make current residents a little more happy. It will pay great dividends!

Soren

Soren Petersen
Cell: 503.515.8569
Office: 503.259.3030
Please do not read, copy, or disseminate this communication unless you
are the intended addressee. If you have received this in error, please notify me.

To: Leigh Crabtree & Steve Sparks, Sept. 10, 2014
Community Development Dept. City of Beaverton

CC: Kim Overhage, Chair, Beaverton Planning Commission

From: Wendy Kroger

Please see below written comments for the record regarding the South Cooper Mountain (SCM) Concept Plan.

SCM CONCEPT PLAN COMMENTS:

The Big Ideas are great. The Plan doesn't seem to nail them down and carry many of them forward to the next level. I have several concerns, but will concentrate my comments in the areas of natural resources, transportation, infrastructure, and funding.

The Plan is the link between Metro requirements with future Community Plans. Metro calls upon the City to provide appropriate protection and enhancement to the public lands and natural features of Cooper Mountain as the planning process moves forward. Within the Concept Plan, especially for natural resources and trails, there are several laundry lists of nice things that might be considered. What are needed instead are clear statements as to what will be required. Those clear statements are the framework for Community Plans that follow and provide certainty to developers and the public alike.

NATURAL RESOURCES:

Cooper Mountain's natural resources are the keystone to the area. The vision for Cooper Mountain calls on our community to ensure "an enduring legacy of natural resource protection and connections." Hedging that desire with limp language such as "as much as is feasible," "should be encouraged," "should be considered," "is intended to provide," "promote," weaken the document and waters down future regulatory ability.

For example, instead of stating: "Mechanisms to protect and to encourage enhancement of natural resources MAY include… (Page 55), the sentence should read: "WILL/SHALL include…."

And, "Measures to encourage preservation of upland habitat…and prevent tree removal in the interim period between UGB expansion and adoption of city zoning COULD include… (Page 56) should read: "WILL/SHALL include…."

Additional measures need to include incentives for landowners and developers as well as clear penalties/required mitigation upon the first land use action within the City of Beaverton (COB), should trees have been cut or other natural

resources taken or degraded within a year of application. Explore how to place an agricultural overlay zone to COB standards.

The Plan itself must protect streams and other sensitive natural areas on Cooper Mountain before even more damage is done. It can do this by putting in place an immediate protective overlay, e.g., a Resource Conservation Overlay Zone or a Tree Preservation/Sensitive Area Overlay Zone (see Lake Oswego for an example). If specific protections are not provided in the Concept Plan, what is the legitimacy for including them in a later Community Plan? When streams are called "tributaries" and "streams" and "headwaters" but are not identified as "perennial," they are not protected by the State. If the State doesn't protect them, there is no Clean Water Services (CWS) requirement for buffers, either. Drainage areas of less than 10 acres have no CWS protection. Upland areas and wildlife habitat have few protections, and as it stands now, there are no regulatory triggers to protect most if not all of the natural resources in the Cooper Mountain area. So the Plan must.

The Plan should specify how "priority wildlife connections" will be made and protected.

On the "Concept Plan Natural Resources Framework map, (Page 54) it is unclear how, exactly the streams will be connected to the Tualatin River. So, how will they be?

The Concept Plan needs to call for the establishment of an immediate baseline of Goal 5 Resources on Cooper Mountain. (It can be done in large part with aerial photos and with landowner permission.)

The Plan needs to require avoidance, minimization, and mitigation of Natural Resources for all infrastructure/transportation construction. Someone needs to look at a multiple overlay of streets/roads with trails and natural areas. Where do they cross? Are they crossing in the best location for the resource? Are there any fatal flaws?

The Plan should specify who will own, operate and maintain natural areas and viewsheds.

TRANSPORTATION:

The introduction to the Transportation section (page 36) has been removed. It needs to be put back in with the following changes:

"South Cooper Mountain has a rural road network that serves urban transportation needs.... and the vision to provide *low impact, sustainable construction methods and multiple* transportation options...

In any agreement with Washington County regarding streets and roads, roads should be constructed and maintained to COB standards.

Highlighted area "Provide a Great, But Practical, Pedestrian and Bicycle Network" (page36) needs to be reworked. Take out "But Practical" to start with. Add in wording about alternative transportation routes – regional and some community trails – and call the trails trails, not paths. Including trails as part of the transportation network, instead of relegating them to recreational status, allows access to additional funding streams for construction. Do not start the discussion with "there will be no money for eons."

Construction of infrastructure, including streets, should itself be "sustainable" and "green." "Smart" streets and low impact development, including infiltration trenches around infrastructure and swales along streets to detain and treat runoff, should be required. Storm water runoff from streets should be carried under the streets. This is already being done in Washington State.

Incentives should be made available to developers who use green construction methods.

The Plan should indicate where mid-block crossings will be necessary – where trails cross streets between intersections.

Construction of regional and community trails which parallel streets and roads should occur at the same time the road is either built or widened. This would lessen construction impact on natural areas as well as overall construction costs, and make alternative transportation routes available sooner to commuters.

Regarding being "transit-ready," surely we can consider more than the Rolling Road Blocks called buses. Why not consider a plaza in the Main Street area near Scholls Ferry that can accommodate a MAX stop much like the one at The Round?

TRAILS:

Under #7, Guiding Principles, (Page 8) add Tualatin Hills Park & Recreation District (THPRD) for trails.

The following should be written in the Concept Plan (thus trickling down to Community Plans and incorporated into the Comprehensive Plan) text and shown on a map, incorporated either directly or by reference:

All trails will be constructed to THPRD trail standards. Cross sections, which meet THPRD standards, will be shown in the Concept Plan. Include the following in the Plan:

1. A Regional Trail (South Cooper Mountain Loop) paralleling 175th, Scholls Ferry, Tile Flat and Grabhorn Roads, linking SCM to Cooper Mountain Nature Park, Jenkins Estate and the Westside Trail on the west sides of Cooper Mountain Nature Park and Jenkins Estate. Cross sections will include ROW for the road, bike lanes and sidewalks on both sides, a buffer with trees, and a multi-use trail built to THPRD"s most current Regional Trail standards, including a 16' wide trail ROW. Trail ROW will be purchased at the same time as the road-widening ROW.

2. A Regional Trail (Cooper Mountain Regional Trail) linking the Westside Trail at Weir Road, to Winkleman Park, Cooper Mountain Nature Park and Jenkins Estate. Cross sections shall include ROW for the road, bike lanes and sidewalks on both sides, a buffer with trees, and a multi-use trail built to Regional Trail standards, including a 16' wide trail ROW. Trail ROW will be purchased at the same time as the road-widening ROW.

3. A series of Community Trails to connect the SCM community, primarily off-road. If the community trail is adjacent to the road, the cross section will include ROW for the road, bike lanes and sidewalks on both sides, a buffer with trees, and a multi-use trail built to Community Trail standards, including a 12' wide ROW. Trail ROW will be purchased at the same time as the road ROW.

4. A limited number of Nature Trails will be used only in CM's most sensitive natural areas, as determined by THPRD and built to THPRD standards. (Page 41) Nature trails are not appropriate for access to, only within, natural areas. It is impossible to navigate any wheeled vehicle (chair, walker, etc.) on them. Either suggesting or allowing a 3' wide trail under any circumstances is ludicrous. Don't even put it in.

5. All buffers between roads and trails will include low impact development swales… to be operated/maintained by Washington Co., CSW, COB or THPRD to be determined when they finalize construction documents.

6. All trails will be shown and named on the Map.

Please meet again with THPRD reps. There's a new Comp Plan, and new functional plans for trails, natural areas and parks are coming soon. Standards will change.

CIVIC USES

(page 48) All civic uses, not just schools and parks, should be spelled out: urban public spaces, trails, viewsheds, green and open spaces, and a Main Street focal point that should be large enough to accommodate a future MAX stop.

STORM WATER

The conclusion that using "large scale dry detention ponds" or "Regional Stormwater Facilities" is somehow "sustainable" is unclear. Building the infrastructure at Cooper Mountain should show the way to being green and sustainable. This doesn't do it. Meeting the density requirements in the Concept Plan will be a challenge in the best of times, and wasting a lot of space on a big sterile pond is the wrong way to go.

There are many different ways to treat storm water runoff from buildings. Give incentives to contractors for coming up with a better way. Street runoff is dirty. It needs to go into a swale (see transportation comments). Storm water runoff that gets into streams pollutes and permanently changes the base flow of streams, adversely impacting fish and insects dependent upon those streams.

FUNDING:

How is Table 2, Page 45, different from the July 30th,Transportation Funding Plan in Appendix A?

Why is there no plan to coordinate the building of a regional trail as roads are built/expanded? They are proposed next to one another. At least land for the ROW for the trail should be purchased at the time the road is funded and built. Why can't Transportation projects 12 and 18 be done together? The same question goes for Projects 14a and 19, as well as Projects 13a and 17.

How does the "trail improvement project" proposed to be funded by THPRD/Metro grants in Years 10-20 become Project 11: "Improve Scholls Ferry/Horizon-Teal Boulevard intersection?"

QUESTIONS:

Where are Guiding Principles #1 and #2?

Where are the Lowlands? in the SCMAA or URA?

July 8, 14

TO: Valerie Sutton and the South Cooper Mt CAC

FROM: Nancy and Ralph Nagel

RE: Bike/Pedestrian Trail on top of Cooper MT

We own 4.8 acres between Cooper Mt Nature Park (230 acres) and the City of Beaverton's water district (10 acres). All three of these parcels front Kemmer Road. Currently, the conceptual plan map shows the Bike/Pedestrian Trail going diagonally through our property (including through or next to our house and barn). Budget wise, it would be far less costly to place the trail on land already owned publicly, either on the inside eastern boundary of Cooper Mt. Nature Park, or through the Water District property. I realize that Cooper Mt. Nature Park has a "soft trail" policy, however by placing the trail on the inside edge of the eastern park boundary it would still be able to retain the inner park (230 acres) with minimal disruption to the park, and would only be a few feet west from the trail as shown on the current conceptual plan map. The trail would still meet up with and cross Kemmer Road to connect with the trail on the north side of Kemmer when placed on either the Cooper Mt Nature Park land or the Water District property We realize that the trail plan is for sometime in the future, however the impact on our land value will be significant as soon as a trail going through our property is shown on a planning map. For these reasons, we request the CAC to consider the placement of the trail on existing public land, rather than on privately owned land.

Thank you for your consideration of this request.

RECEIVED
OCT 2 2 2014
City of Beaverton
Planning Services

Planning Division
Community Development Department
City of Beaverton
P.O. Box 4755
Beaverton, Oregon 97076-4755

RE: Case File : CPA2014-0011, CPA2014-00012, TA2014-0002
Project Name: South Cooper Mountain Community Plan

To Whom It May Concern,

We have studied your plans to develop the South Cooper Mountain and, with the exception of building the new high school, we are vehemently against it. As residents who live very close to SW Loon Drive and to Scholls Heights Elementary, we do not want another road so close to where we live. The added congestion is a safety concern for our neighborhood and for the (elementary) school. SW Scholls Ferry Road was widened this year, in order to accommodate the (existing) traffic. Further development of the South Cooper Mountain area will create more traffic, more than what can be accommodated on the recently widened road. As Americans, we are "married to our cars" and increasing access to Tri-Met and bicycle lanes does not mean they will be used.

We are concerned about how this development will affect both Scholls Heights and Groner Elementary schools. Scholls Heights Elementary has been forced to use portable classrooms for many years, and the increased population will stress an (already) full school. Even if Groner Elementary is not full, one cannot expect that school to be able to meet the needs of a larger population. Does this mean more development will be proposed? What about meeting the needs of the children in middle school? Will more development be needed to address that student growth, too? When does this stop? We do not see an end to this stopping. This plan is starting to make Beaverton look like communities in California: too much development with too few resources.

We do not see how creating a "sustainable community" of the size proposed is sustainable. Destroying the land and increasing the need for resources is hardly sustainable. Sustainable would be redevelopment of an area that needs it. If we wanted to live in a high density high congestion area we would live in Portland. If you really care about the opinions of the citizens you would put this plan on the ballot and let us vote.

Sincerely,
Michael and Trisha Copeland
12160 SW Jaeger Terrace
Beaverton, OR 97007

SOUTH COOPER MOUNTAIN COMMUNITY AND CONCEPT PLANS
BICYCLE AND PEDESTRIAN FRAMEWORK PLANS

To: City of Beaverton Planning Commission
From: THPRD Trails Advisory Committee Tom [illegible], Chair
Date: 10/27/2014

The THPRD Trails Advisory Committee (TAC) has reviewed the "Bicycle and Pedestrian Framework" plans in the draft South Cooper Mountain (SCM) Concept Plan and SCM Community Plan. The TAC is appointed by the Board of Directors to advise on planning, developing and operating trails within the district. THPRD is the trails provider for the City of Beaverton. The Community Plan framework proposes trails within an area annexed by Beaverton. The Concept Plan framework proposes trails north of the annexed area that likely will be annexed by THPRD. Thus it is appropriate that the TAC review and comment on the Bicycle and Pedestrian Frameworks contained in the two SCM Plans.

In general, the TAC recommends that all plans and other documents relating to trails be subject to THPRD's review and approval before any ROW (Right of Way) is acquired or construction is undertaken. Such documents should include, but not necessarily be limited to, the Concept and Community Plans, future conceptual and preliminary planning documents as well as final construction documents.

The TAC echoes community support for a comprehensive and interconnected network of off-street trails on Cooper Mountain. Based on its review of the Plans, the TAC is concerned by an incomplete, insufficient, and inadequate bicycle and pedestrian framework as it relates to trails.

- **Trail Standards**

  All trails should be designed and built in accordance with the most recent THPRD standards. To avoid misunderstandings during negotiations with developers, dimensioned cross sections conforming to THPRD standards should be shown on all current and future Plans relating to SCM trail development. For trails next to roads, cross sections and descriptions should include ROW for the road (traffic lanes, bike lanes sidewalks and landscaping on both sides, etc.) plus a landscaped buffer with trees and/or shrubs, and the trail itself.

  It should be made clear in the SCM Concept and Community Plans that the term "multi-use path" always pertains to a Regional or Community Trails as defined in the THPRD Trails Plan.

- **Regional Trails**

  Regional Trails connect residents within the Park District to adjacent communities and regionally significant features. These trails are built within their own ROW. Regional Trails are at least 10 to 12 or more feet wide with paved surfaces and gravel shoulders, and are routed to minimize conflict with motorized vehicles. The trails are designed to meet ADA and other Federal and State standards. Such standards ensure eligibility for State and Federal funding. On Cooper Mountain at least two Regional Trails are needed:

1. Cooper Mountain Regional Trail connected to Westside Trail at Weir Road on the east, linking the Westside Trail to new communities on SCM, Winkelman Park, Cooper Mountain Nature Park, Jenkins Estate and points west. An alignment for this Regional Trail is shown in the SCM Concept Plan framework. However, the TAC recommends instead following the alignment shown in the current THPRD Trails Plan. That alignment provides more off-street trail as well as direct access to Cooper Mountain Nature Park from both east and west.

2. Upgrade Cooper Mountain Loop Trail to a Regional Trail. The trail is now shown as a Community Trail in the SCM Concept Plan framework. This trail parallels but is separate from 175th, Scholls Ferry, Tile Flat and Grabhorn Roads. The western leg of Cooper Mountain Loop Trail should connect to Cooper Mountain Regional Trail. These Regional trails would, thereby, provide important links between SCM and Westside Trail, Cooper Mountain Nature Park, Jenkins Estate and other points north and west, including South Hillsboro, as well as River Terrace Trail and development south of Scholls Ferry Road. Thus, Cooper Mountain Loop Trail would clearly function as a Regional Trail and should be constructed to THPRD Regional Trail standards. The TAC further recommends the trail include off-road switch-backs where needed to keep trail grades within ADA limits.

- **Community Trails**

According to THPRD standards, Community Trails should be 8 to 10 foot wide, multi-use paved paths, and usually located off street. Community trails link important land uses and areas of interest. There needs to be a series of primarily off-road Community Trails within the annexed area as well as areas to the north that will be developed in the future, including relatively central and direct access for residents of South Cooper Mountain to Cooper Mountain Nature Park.

The TAC recommends that nearly all the trails designated "Nature Trails" be changed to "Community Trails". These include, but are not necessarily limited to, McKernan Creek, Creek to Creek, Summer Creek and Edge trails. If a trail follows a "riparian and wetland buffer" it should be outside the buffer to minimize environmental impact. If the trail must cross or penetrate a buffer/sensitive habitat THPRD Natural Resources staff should be consulted to ensure the trail design minimizes any impacts. Boardwalks often minimize such impacts and standards for these facilities are set forth in the THPRD Trails Plan.

- **Nature/Natural Trails**

The TAC recommends that Nature/Natural Trails be limited to SCM's most sensitive habitats. Such trails should be determined by THPRD and built to THPRD standards. Soft surface natural trails are not appropriate outside sensitive habitats. It is difficult to impossible to navigate any wheeled vehicle (wheel chair, stroller, walker, etc.) on them. Furthermore, the minimum width should be 6 feet for any Nature/Natural trail. A six foot wide trail is required for many typical trail users to pass comfortably in opposite directions; examples are joggers, dog walkers and parties of more than one person, especially with small children. To propose that a trail should only be 3 feet wide, as implied in the SCM Plans, is a recipe for disaster.

- **Coordination of Trails With Roads and Other Development**

  The TAC recommends that trails adjacent to roads that will be widened, such as 175th, Scholls Ferry, Tile Flat and Grabhorn Roads, be funded and constructed at the same time that these roads are improved. In like manner, all trails within the area annexed to Beaverton should be funded and constructed as the area is developed This same process, coordinating purchase of ROW and trail construction with other development, should also be employed as the more northerly areas of SCM are developed.

  All purchase of ROW and plans for trail development should be subject to THPRD's prior approval.

In conclusion, the THPRD Trails Advisory Committee asks that the recommendations and comments described above be incorporated into the SCM Community Pan and SCM Concept Plan before these Plans are approved by the Beaverton Planning Commission.