The background of the entire page is a close-up photograph of grass blades covered in dew. The lighting is soft and warm, creating a bokeh effect with the out-of-focus background. The dew drops are small and glistening, catching the light.

Chapter Four

CIRCULATION

The Villages
Master Planned Development

OVERVIEW

The street system of any town or city directly impacts its character, both visually and functionally. In The Villages MPD, narrower street sections are proposed to calm traffic and provide a pleasant and safe pedestrian atmosphere consistent with the goals of the MPD Ordinance. Streets and their associated landscaping will create neighborhood identity and a sense of place. Street trees and landscape parkways will soften the hardscape, calm traffic, act as a unifying design element. A connected neighborhood street system and a separate non-motorized trail system will increase pedestrian activity and decrease reliance on the automobile.

NON-MOTORIZED COMPONENTS

The Villages encourages alternate modes of transportation including walking and cycling through an integrated system of pedestrian friendly streets, on-street cycling lanes, multi-purpose trails, sidewalks and forest paths. The trail system is described in detail in the Parks, Open Space and Trails section of the MPD.

LOW IMPACT DEVELOPMENT

Low Impact Development (LID) includes concepts such as narrower pavement widths to reduce run off and heat island effect, on site, stormwater infiltration and water conservation. The Villages MPD will limit the amount of mowed turf in roadside parkways, which is a high maintenance and high water use landscape material. Instead, native and drought tolerant plant material will be utilized. These plants have a texture and character that supports the overall vision of the community. Rain gardens and other landscape elements will be used where appropriate in parkway strips and medians to provide biofiltration and infiltration, thus lessening the maintenance burden of stormwater facilities.

STREET NETWORK CONNECTIVITY

All levels of the street network are proposed as an inter-connected grid pattern to disperse traffic. At the city level, the phasing plan shows off-site improvements that are proposed to increase connectivity city-wide. At the community level, the circulation plan shows approximate locations of connections on-site and to adjacent properties. At the development parcel level, neighborhood streets within development parcels will be stubbed to, or connected to, adjacent development parcels and off-site properties where necessary to provide access or increase overall connectivity.

PROPOSED STREET NETWORK

The MPD street network consists of a hierarchy of streets including a Main Street, Community Connector, neighborhood streets and alleys. The Circulation Plan (Figure 4-1) shows the location of proposed Community Connectors and Neighborhood Streets with Bike Lanes. Street sections for each street type are illustrated in Figures 4-2 through 4-17. Pipeline Road is anticipated to become part of the overall network consistent with the City's Comprehensive Plan Transportation Element and its design will be determined at the time it is needed.

While the street standards establish the typical condition, those standards may be modified in particular locations to respond to the topography and natural features on the site. Flexibility in street types also allows for transitions between neighborhoods and flexibility in neighborhood design.

It is anticipated that utilities will be located within road right of ways.

STREET TYPES

Figure 4-1, the MPD Circulation Map, shows the approximate location of streets classified as Community Connector, North Connector, Neighborhood Street with Bike Lanes, and Main Street. All other streets and access will be Neighborhood streets, Private Roads, Autocourt/Shared Drives, Auto/Pedestrian Shared Drives or Alleys and will be designed and located by the applicant during the platting and/or development process associated with each parcel. The Main Street section can be used in lieu of the Neighborhood street section within Mixed Use and Commercial/Office/Retail areas at the discretion of the Master Developer.

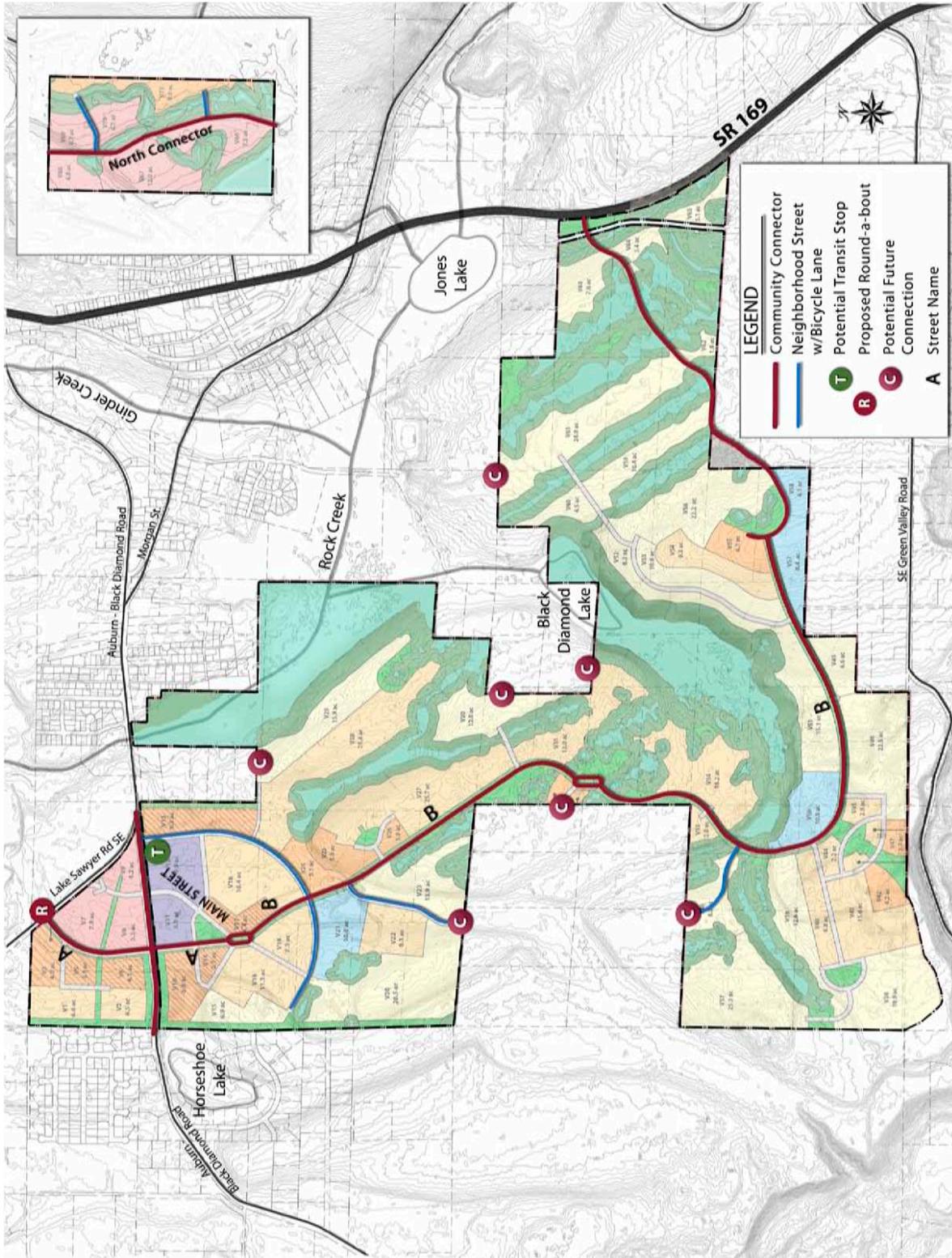


Figure 4-1 Circulation Plan

COMMUNITY CONNECTOR

The Community Connector creates the backbone of The Villages community plan from Lake Sawyer road, across Auburn-Black Diamond Road south through the community, all the way to SR 169.

The Community Connector is the principal street (carrying more than 5,000 vehicles per day) that provides interior circulation through the site and connects the site to the City's street network. The Community Connector connects vehicle trips from neighborhood streets and channels them to the City's external street network. These streets are proposed to connect to the external street system at three locations: Lake Sawyer Road, SE Auburn-Black Diamond Road, and SR 169.

The Community Connector has several variations to respond to design and site conditions. All Community Connectors will be public streets. Light standards are provided every 150' and staggered.

COMMUNITY CONNECTOR A

From Lake Sawyer Road to the first elongated roundabout, the Community Connector consists of two 18' wide paved sections divided by an 18' wide landscaped median within a 56' right-of-way. The paved section contains a vertical curb on the outer and inner edges, 5' wide striped bicycle lane and a 13' wide travel lane. Where required, the median narrows at intersections to 8' wide to accommodate a 10' wide left turn pocket. (Curb returns at Auburn-Black Diamond Road have a 30' curb radius. Curb returns at intersections with other streets have a minimum 20' curb radius.) No on-street parking is permitted. No back-out driveways are permitted.

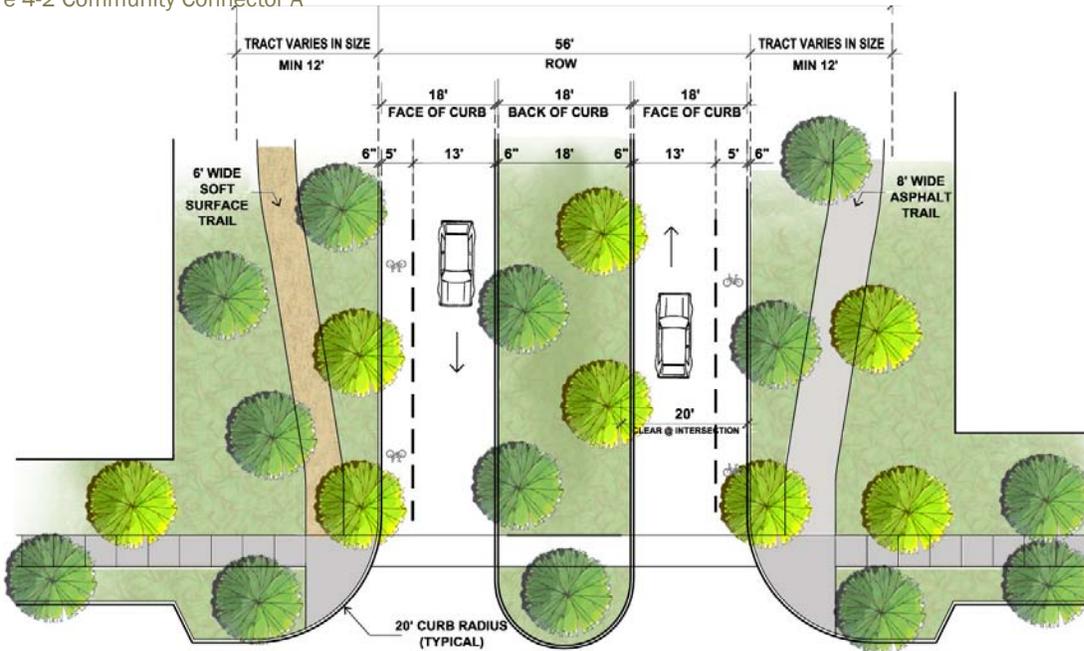
To accommodate casual bicyclists, joggers, pedestrians and equestrians, multi-purpose trails are provided on both sides of the roadway. To buffer pedestrians and casual cyclists from vehicles, the trails meander within landscaped parkways. The trail on one side of the road will be a 6' wide soft surface trail. The trail on the other side will be an 8' wide asphalt trail.

The landscaped parkways and medians will create a strong community identity through the landscape and monumentation concept as well as provide areas for rain gardens and other low impact ways of accommodating storm water. Community monumentation, lighting, landscape furniture and community art are also allowed in the parkways and median.

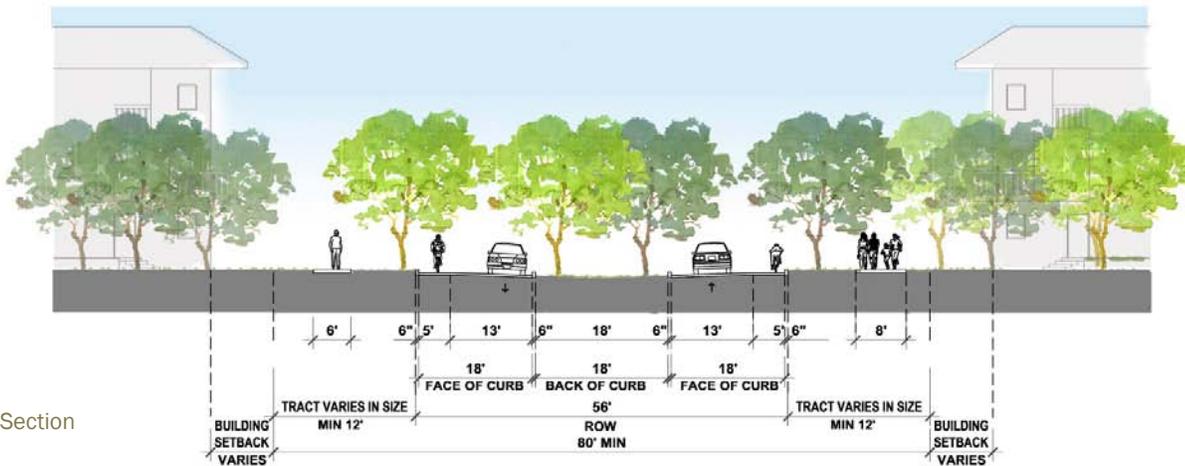


View

Figure 4-2 Community Connector A



Plan



Section

COMMUNITY CONNECTOR B

From the first elongated roundabout south through the rest of the community to SR 169, the Community Connector creates the backbone of the community plan.

Community Connector B consists of a 34' wide road section within a 35' right-of-way. The paved section contains one 12' wide travel way and a 5' wide striped bicycle lane in each direction. The roadway has a vertical curb and gutter and curb returns have a minimum 20' radius. No on-street parking is permitted. No back out driveways are permitted.

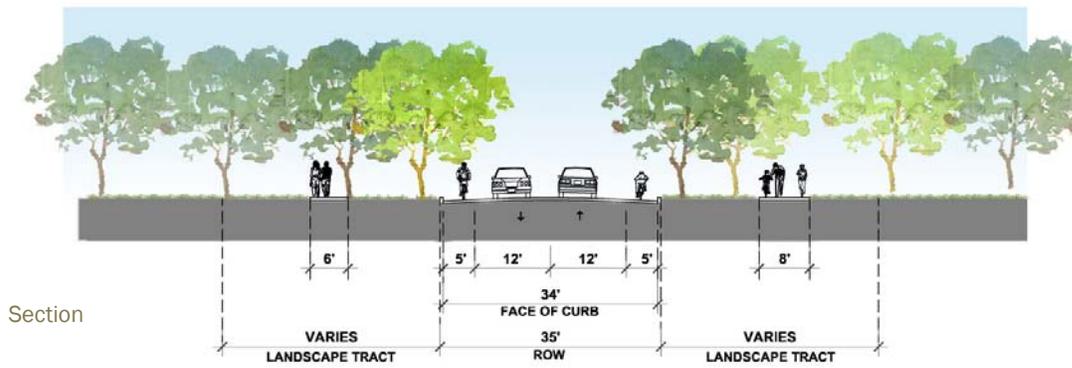
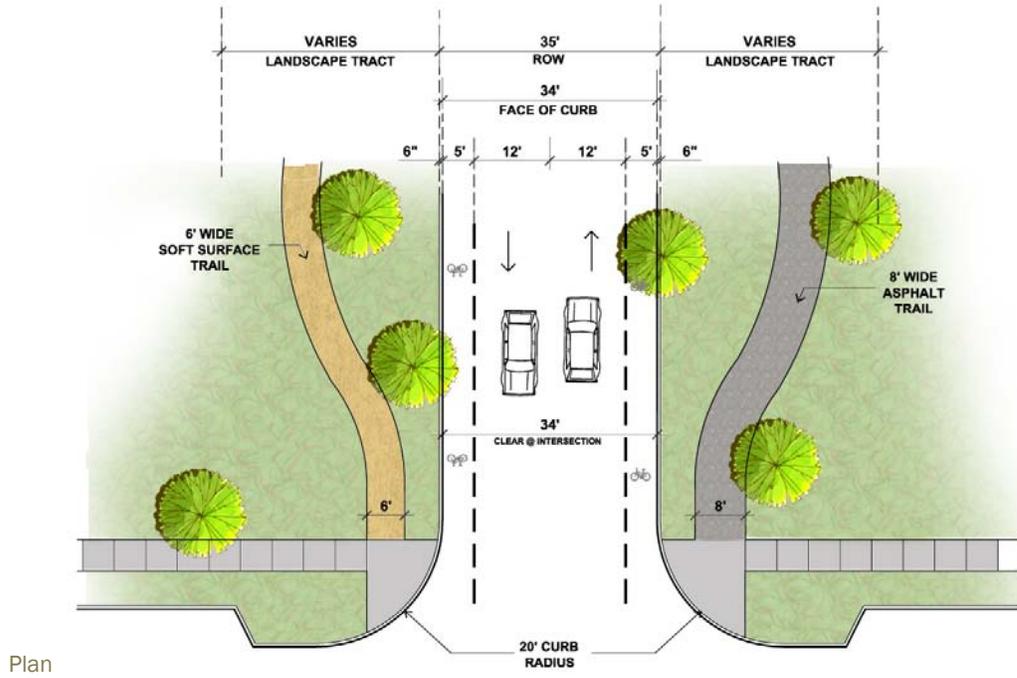
To accommodate casual bicyclists, joggers, and pedestrians, multi-purpose trails are provided on both sides of the roadway within a meandering landscape tract. To buffer pedestrians and casual cyclists from vehicles, the trails meander within wide landscaped parkways. The trail on one side of the road will be a 6' wide soft surface trail. The trail on the other side will be an 8' wide asphalt trail. The width of the parkway will vary in order to respond to site conditions.

The landscaped parkways will create a strong community identity through the landscape and monumentation concept as well as provide areas for rain gardens and other low impact ways of accommodating storm water. Vertical curb and gutter may be modified in locations where these features exist.



View

Figure 4-3 Community Connector B

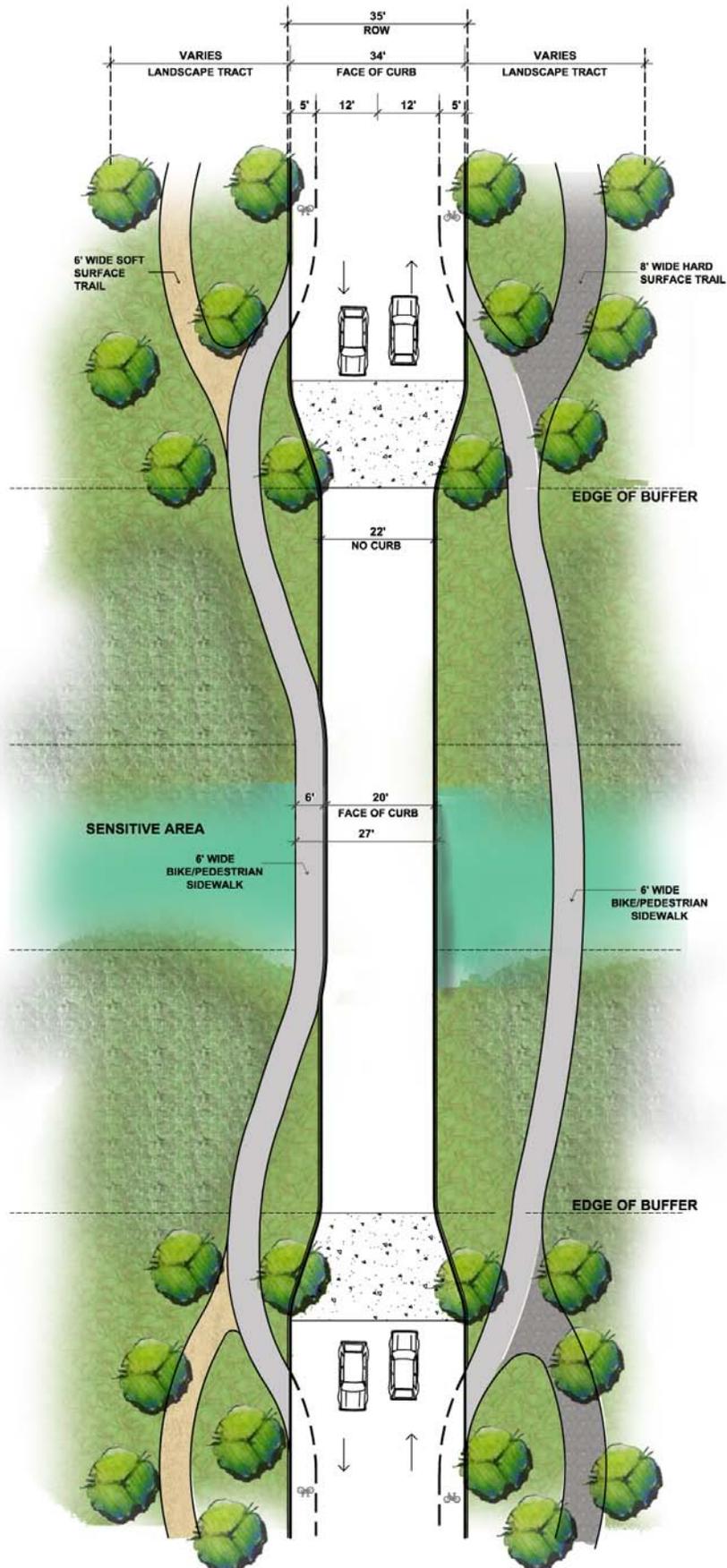


COMMUNITY CONNECTOR AT SENSITIVE AREAS

The Community Connector at Sensitive Areas is a modification to the Community Connector B where it must cross sensitive areas and their buffers. These special circumstances warrant modifications to the roadway to keep it as low impact as possible to the environment and still maintain safety.

As the Community Connector crosses into the buffers for the sensitive areas, the on-street bike lanes transition off the roadway and join with the multi-purpose trails on both sides. Without the on-street bike lanes, the roadway narrows to a 22' wide paved section with vertical curbs on both sides. This transition occurs over a distance and special paving is utilized to slow traffic and alert drivers to the change in width. The 8' wide hard surface multi-purpose trail now narrows to 6' wide. At this point, the multi-purpose trails may either stay separated from the roadway, or become adjacent to the roadway, depending upon the unique circumstances of each crossing, and will both be hard surface trails.

Figure 4-4 Community Connector at Sensitive Areas



NEIGHBORHOOD STREET WITH BIKE LANES

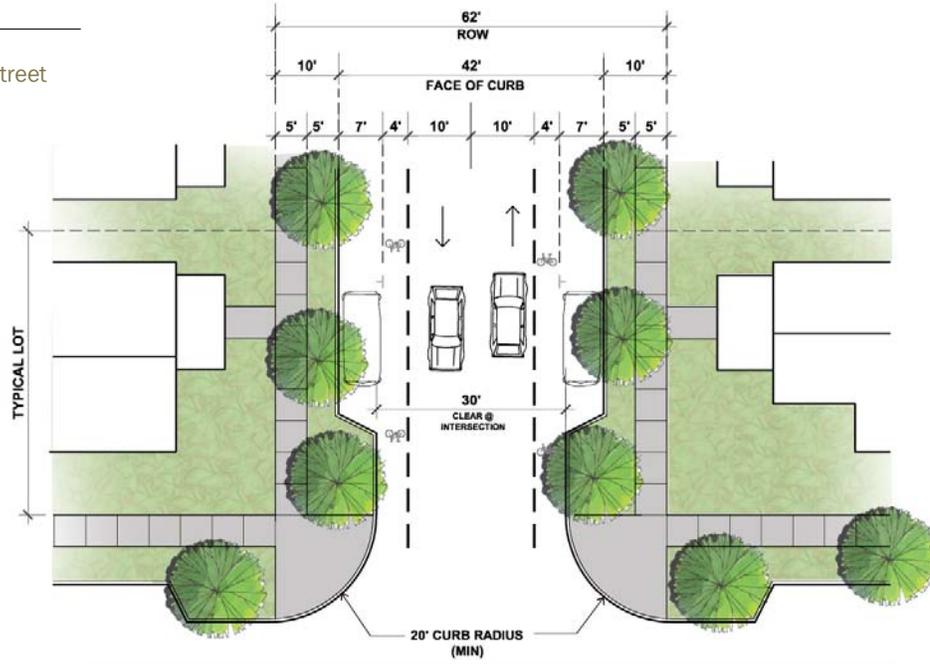
The Neighborhood Streets with Bike Lanes are designed in specific locations to create strong bicycle linkages within the community and are projected to carry more than 650 vehicle trips per day, but less than 5,000 vehicles per day. The paved section includes one 10' wide travel way in each direction as well as 4' wide striped bike lanes on both sides of the travel way. The paved section also allows for 7' wide parking bays on both sides. 5' wide sidewalks are provided on both sides and separated from the parking bays by a 4.5' wide planting strip, all within a 62' right of way. At intersections, the parking bays are eliminated for traffic calming purposes and the roadway width is 30' clear to accommodate the vehicular lanes and the bike lanes. The roadway has a vertical curb and gutter, and curb returns have a minimum 20' radius. Light standards are provided at intersections and as necessary mid-block.

The parkway strips on both sides may contain areas for rain gardens and other low impact ways of accommodating storm water. Vertical curb and gutter as well as parkway strip width may be modified in locations where these features exist. Neighborhood Streets are public streets and may be modified in accordance with the modifications to the street sections portion of this chapter.

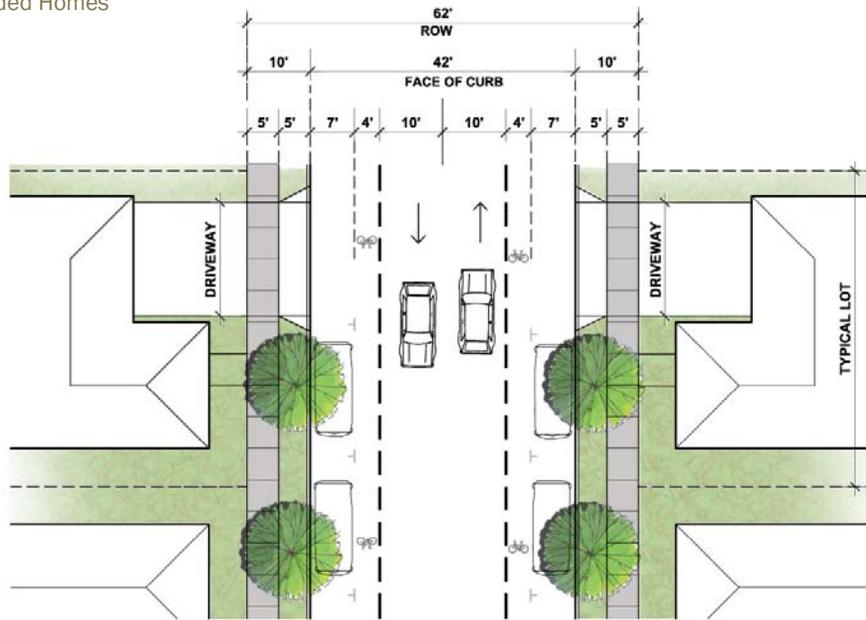


View

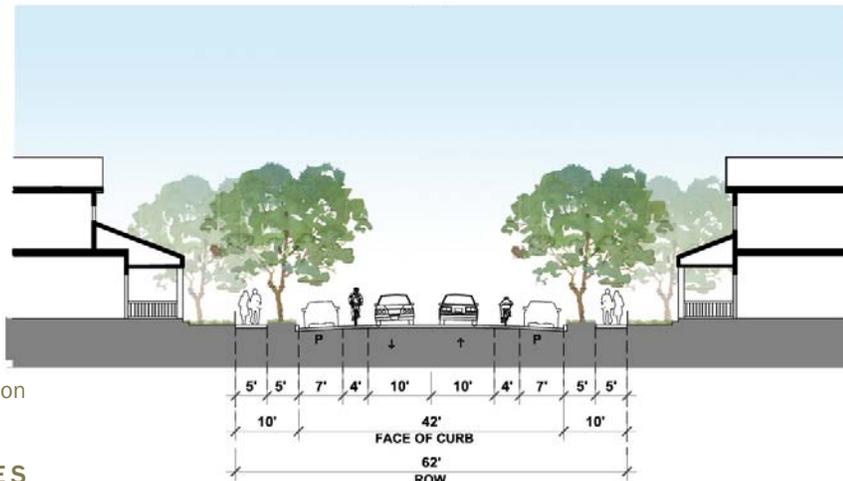
Figure 4-5
Neighborhood Street
With Bike Lanes



Plan With Alley
Loaded Homes



Plan Without Alleys



Section

NEIGHBORHOOD STREET

The Neighborhood Street and its variations make up the majority of the streets within The Villages. Development parcels as well as potential connections to adjacent parcels and off-site properties. These neighborhood streets link individual residences and neighborhoods together, as well as to the Community Connector.

The Neighborhood Street consists of a 34' wide road section within a 54' wide right-of-way. The paved section contains one 10' wide travel way in each direction and allows for 7' wide parking bays on both sides. 5' wide sidewalks are provided on both sides and are separated from the parking bays by a 4.5' wide planting strip. At intersections, the parking bays are eliminated for traffic calming purposes and the roadway width is 22', thus creating a fairly minor crossing for pedestrians. The roadway has a vertical curb and gutter, and curb returns have a minimum 20' radius.

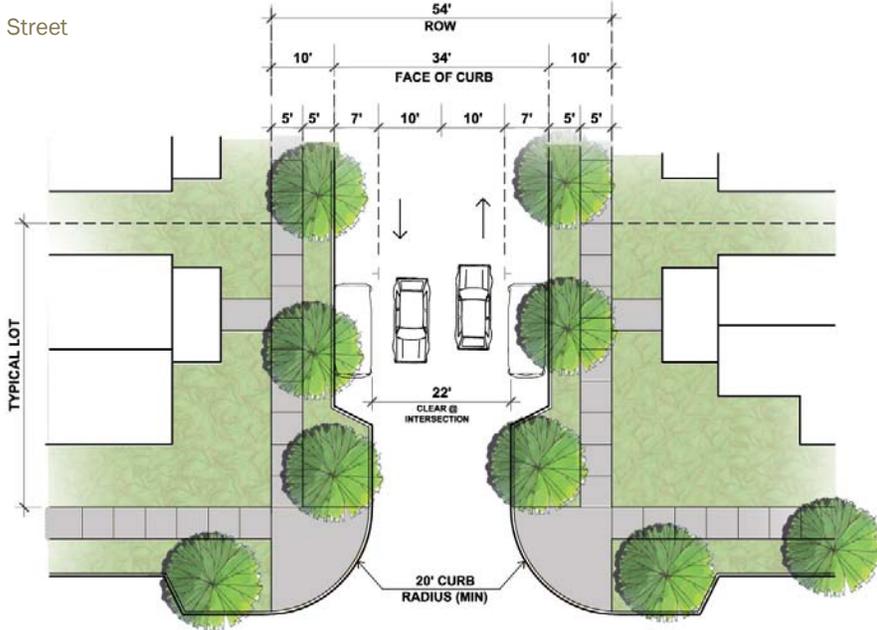
The parkway strips on both sides may contain areas for rain gardens and other low impact ways of accommodating storm water. Vertical curb and gutter as well as parkway strip width may be modified in locations where these features exist. Light standards are provided at intersections and mid-block as necessary.

The Neighborhood Street section may be modified to accommodate specific site and design conditions, such as topography, traffic demand, reduction of impervious surface, etc. Variations could include narrower right-of-way sections with reduced on street parking, narrower landscape strips or sidewalks only on one side or wider right-of-way sections with the width of the planting strips increased to accommodate a double row of trees or for rain gardens.

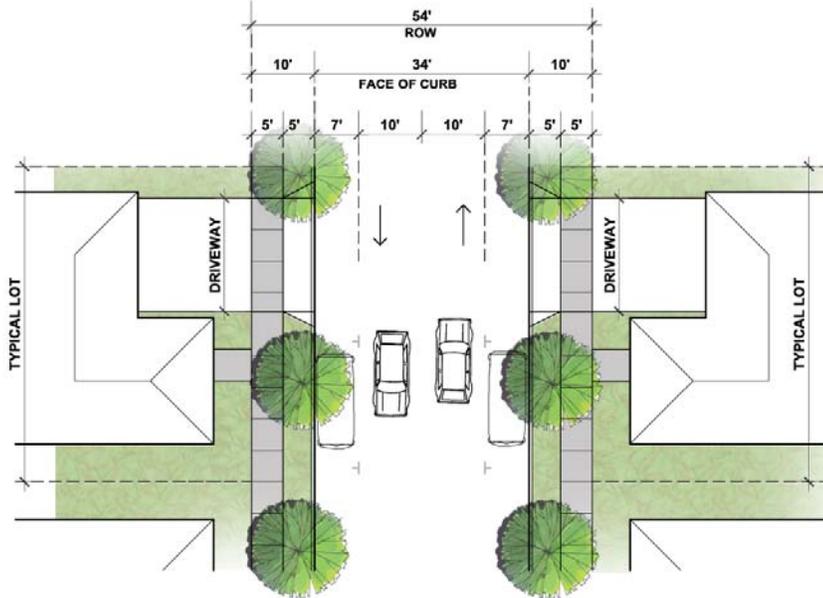


View

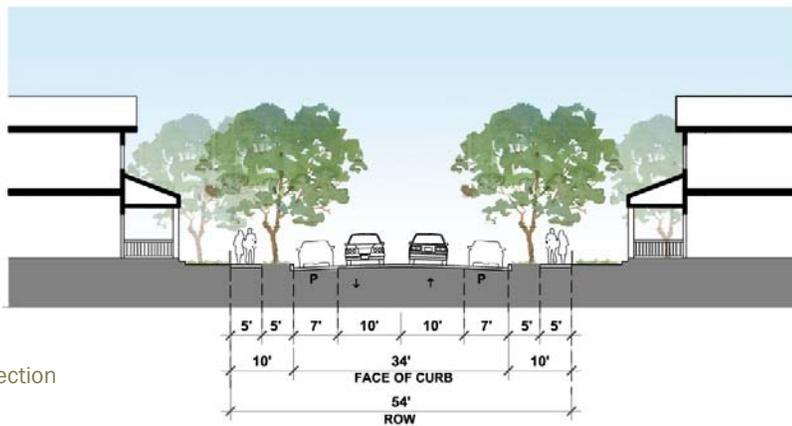
Figure 4-6
Neighborhood Street



Plan With Alley
Loaded Homes



Plan Without Alleys



Section

MAIN STREET

The Main Street contains a unique set of circumstances for one street located within the Town Center of The Villages. It is intended to be a low speed urban street that anchors the retail component of the Town Center. The Town Center circulation system is designed to allow the closing of this street for special events and still have the area function. For this reason it will be a private street.

Main Street consists of a 24' wide road section within a tract that may vary in width. The paved section contains one 12' wide travel way in each direction and allows for 18' deep angled parking bays on both sides. At intersections and at mid-block pedestrian crossings, the parking bays are eliminated for traffic calming purposes and the roadway width is 24', thus creating a fairly minor crossing for pedestrians. The roadway may raise to be level with the sidewalks and be a special paving surface at these locations as well. The roadway has a vertical curb and gutter, and curb returns have a minimum 20' radius.

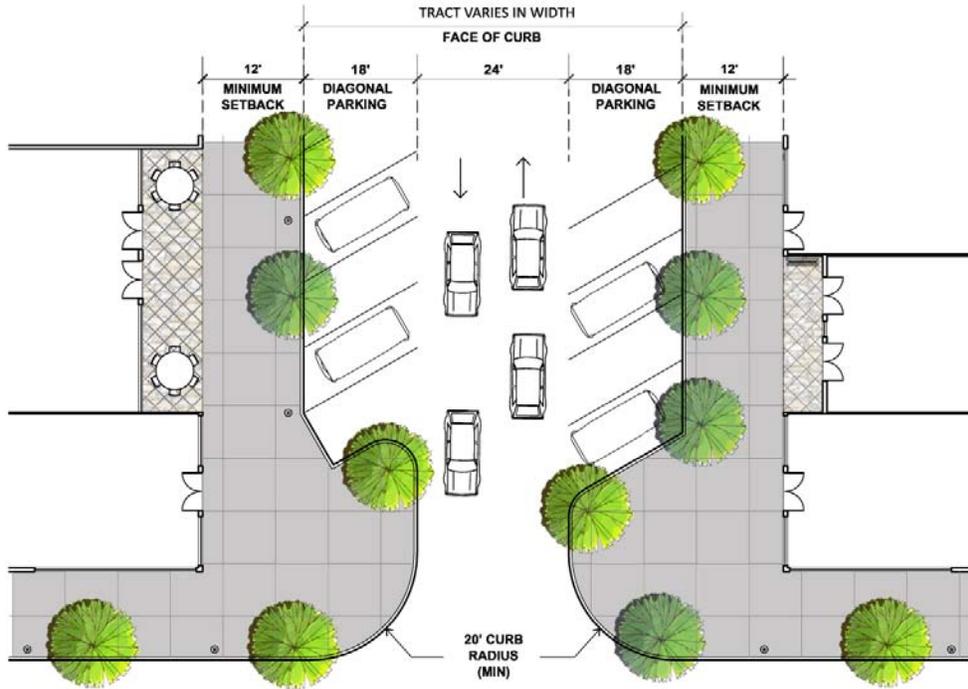
Buildings will be setback a minimum of 12'-0" from the right-of-way with the intention that this setback will vary to create interest in the streetscape and as well as plazas for outdoor dining and gathering.

The Main Street section may be modified to accommodate specific site and design conditions. Variations may include a narrower tract with one side angled and one side parallel parking, parallel parking on both sides, or roadway sections with no on-street parking.

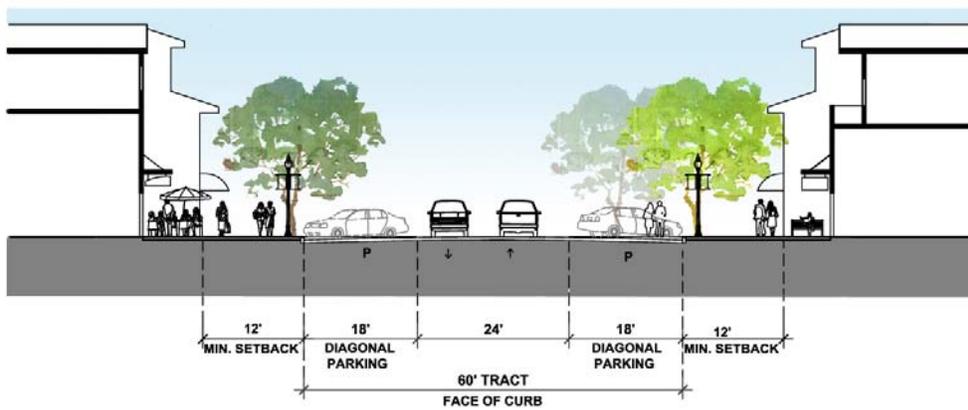


View

Figure 4-7 Main Street



Plan



Section

NORTH CONNECTOR

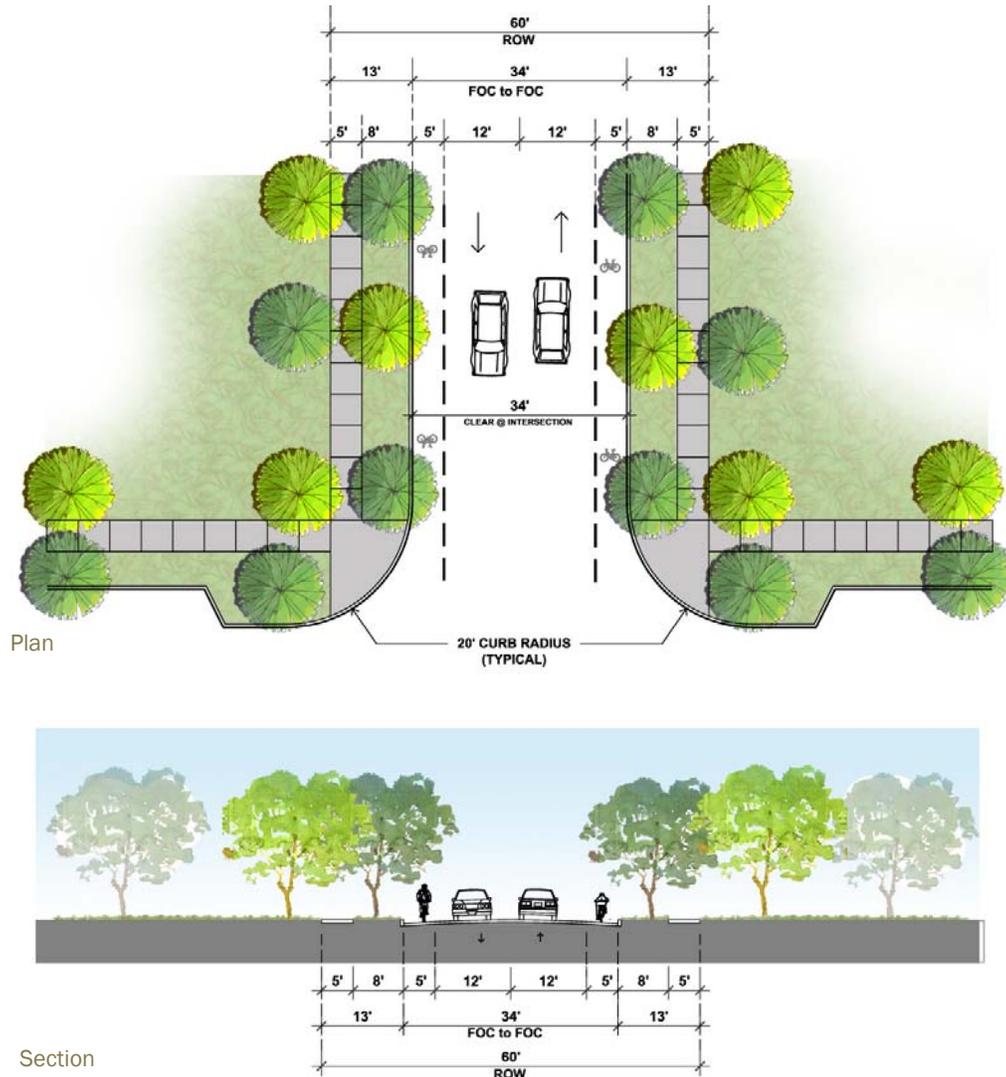
The North Connector connects Parcel B through the North Triangle property to Highway 169.

It consists of a 34' wide road section within a minimum of 60' right of way. The paved section contains one 12' wide travel way and a 5' wide striped bicycle lane in each direction. The roadway has a vertical curb and gutter and curb returns have a 20' radius. No on-street parking is permitted. No back out driveways are permitted.

To buffer pedestrians from vehicles, the sidewalks are detached from the pavement by 7'6" wide landscaped parkways. Sidewalks may be modified as allowed in this section.

The landscaped parkways will create a strong community identity through landscape and monumentation concepts as well as provide areas for rain gardens and other low impact ways of accommodating storm water if underlying soils allow. Vertical curb and gutter may be modified in locations where these features exist.

Figure 4-8 North Connector



AUBURN-BLACK DIAMOND ROAD

Auburn-Black Diamond Road from the western project edge to the eastern project boundary will be a modified boulevard section within a 100' Right-of-Way. The frontage improvements will include roundabouts at the intersection with Community Connector A and at the intersection with Lake Sawyer Road. The Main Street intersection will be signal controlled with turn lanes provided in the north and southbound directions.

The roadway sections will include rain gardens and expanded landscape areas on the outside of the travel and bike lanes and will incorporate a meandering sidewalk for pedestrians.

Specific lane widths and roadway geometry will be developed as part of the preliminary plat and engineering plan approval processes.

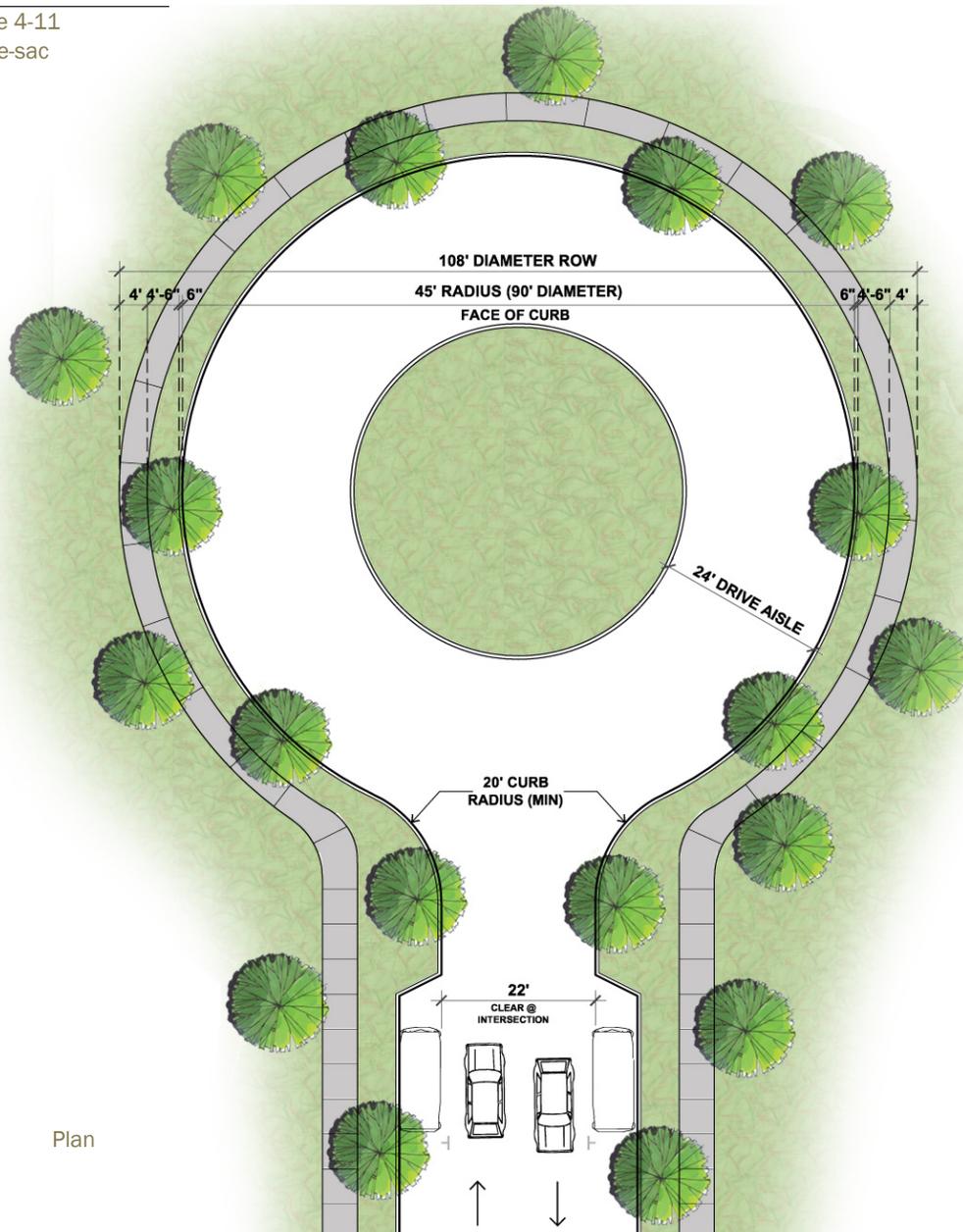
CUL-DE-SAC

The cul-de-sac will be used at the end of neighborhood streets primarily to serve as a turn around.

The bulb of the cul-de-sac is located within a 108' right of way. The cul-de-sacs will have an inside radius of 21' and an outer radius of 45' to face of curb. The bulb will contain a 24' wide travel lane along the exterior edge with a center island.

There may be a 4' sidewalk around one side of the cul-de-sac where it can connect to the community trail system. Where there is no connection to the trail system, this portion of sidewalk may be eliminated. The central islands will be landscaped and may be used for rain gardens or for collecting storm run-off. Parking may be allowed where it would not conflict with driveways.

Figure 4-11
Cul-de-sac

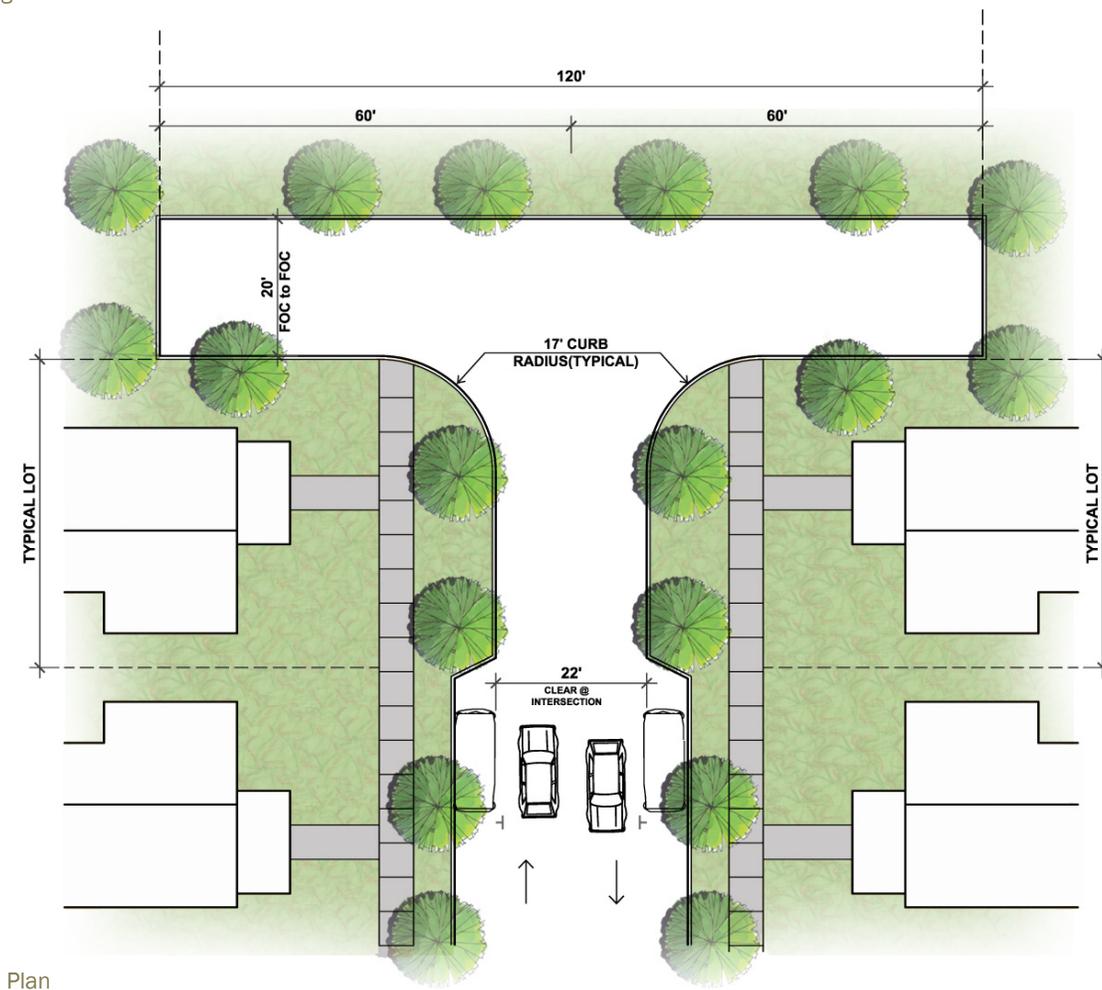


HAMMERHEAD

The hammerhead will be used at the end of neighborhood streets and alleys primarily to serve as a turn around and uses less land than a standard cul-de-sac.

The hammerhead has a paved driving surface that is 120' long by 20' wide. The curb returns are a minimum of 20' and no parking is allowed in the hammerheads. No sidewalks are required. Hammerheads may also utilize alleys as their 20' wide driving surface. The hammerhead is not required to be at 90 degrees, it can be reconfigured to a "Y" or right angle to meet site constraints.

Figure 4-12 Hammerhead



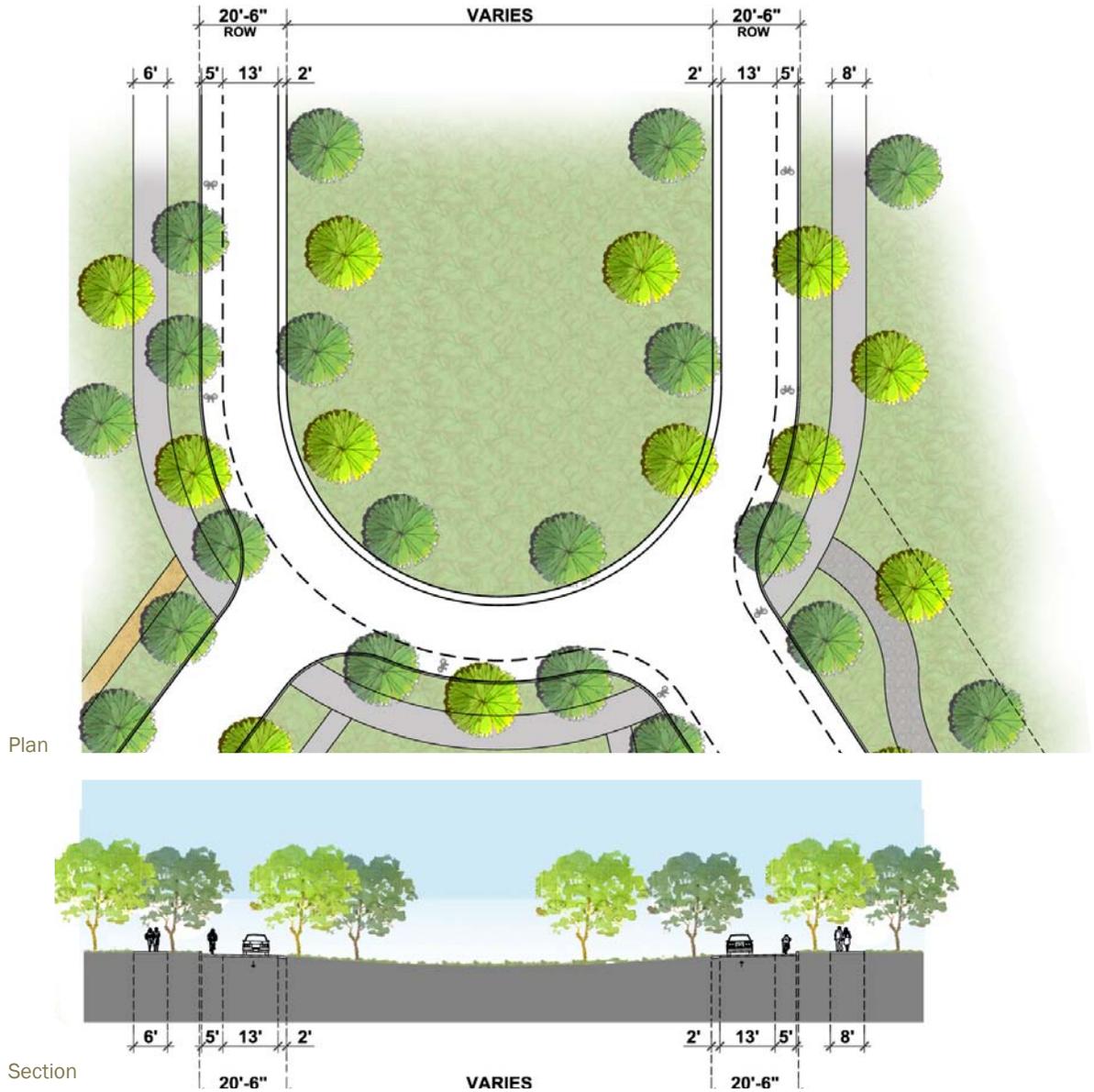
ELONGATED ROUNDABOUT

The Elongated Roundabout is an important part of the circulation framework and serves as the transition from the more formal Community Connector to a more organic Community Collector B.

The paved section contains a vertical curb, 5' wide striped bicycle lane, 13' wide travel lane in each direction within a 19' wide right-of-way. No on-street parking is permitted. No back out driveways are permitted.

To accommodate casual bicyclists, joggers, and pedestrians, multi-purpose trails are provided on both sides of the roadway within a landscape tract. To buffer pedestrians and casual cyclists from vehicles, the trails are separated by a minimum of 7'-6" wide planting strip. The trails are portions of those on both sides of the Community Connector.

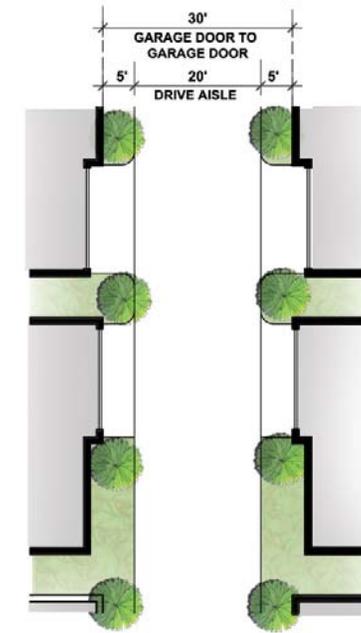
Figure 4-13 Elongated Roundabout



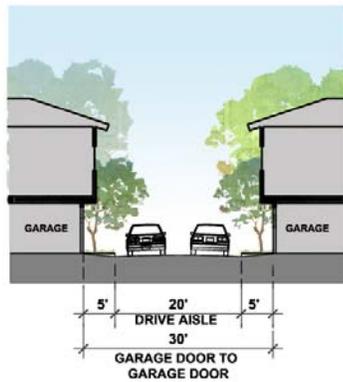
RESIDENTIAL ALLEY

Residential Alleys are located behind residential lots, and the purpose is to provide vehicular access to garages. Alleys will have a 20' paved surface. Garages will be setback a minimum of 5 feet from the edge of the driving surface and a minimum of 15 feet from the centerline of the pavement. No resident or guest parking is allowed within the alley way except in designated parking spaces.

Figure 4-14
Residential Alley



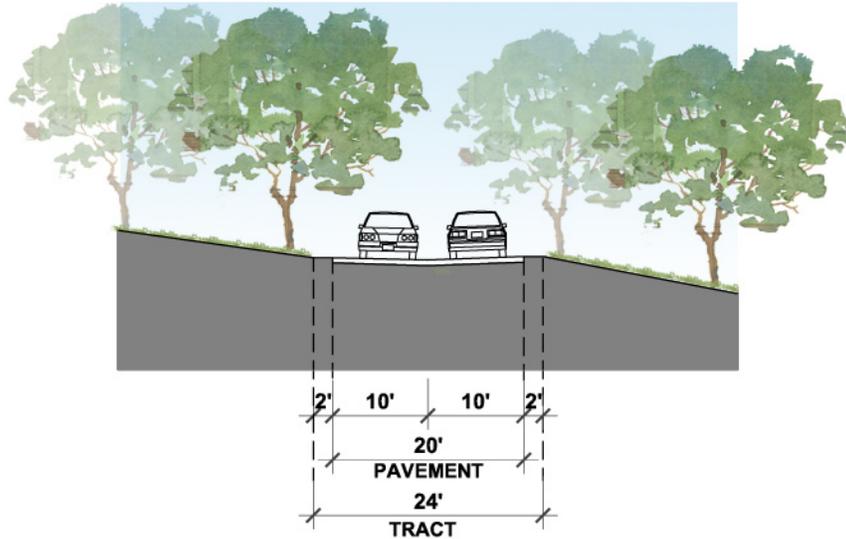
Plan



Section

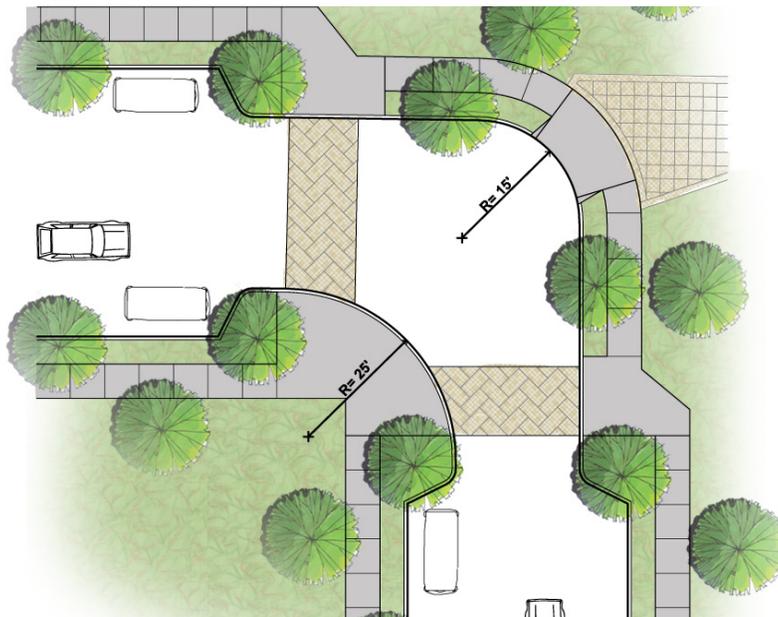
PRIVATE ROAD/ACCESS ROAD

Private Roads/access roads are used to provide access to individual parcels where no through connection is needed to the existing or future public street system. They are also used internally within individual parcels. The maximum length of a private road is 150 feet without a turnaround. They consist of two 10 foot travel lanes within a 24 foot wide tract.



90 DEGREE INTERSECTION

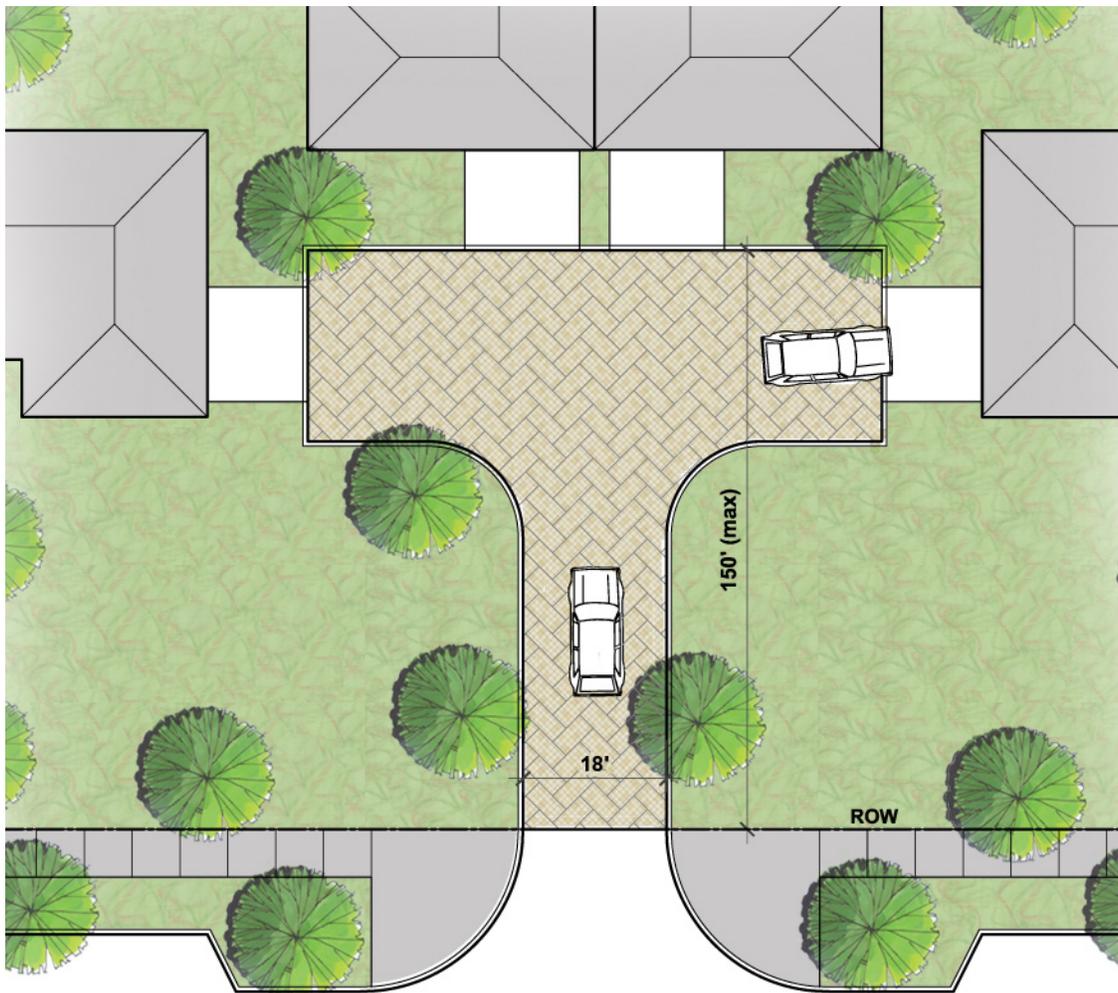
The 90 degree intersection elbow will be used with neighborhood streets to reduce traffic speeds, discourage through traffic and provide access to individual residences within implementing projects. Parking will be eliminated within the 90 degree intersection elbow from pedestrian crossing to pedestrian crossing. The planting strip will be eliminated along the inside of the corner. Pedestrian crossings will be provided on both sides of the intersection and painted, textured or of a different material to be visible to the approaching traffic. The inside corner shall have a minimum 25 foot radius along the face of the curb. The outside corner will have a minimum radius of 15 feet along the face of the curb.



AUTOCOURT/SHARED DRIVE

An autocourt or shared drive is a limited (generally never serving more than 10 different addresses for an autocourt; or 4 residences for a shared drive) private access way used to serve primarily residential uses. This street type provides vehicular access to the structures while reducing the number of driveways on a residential street. Special paving or landscaping should be used to designate these facilities as serving only the adjacent buildings, and not part of the community vehicular network. The shared drive differs from the autocourt in that there is no turnaround necessary.

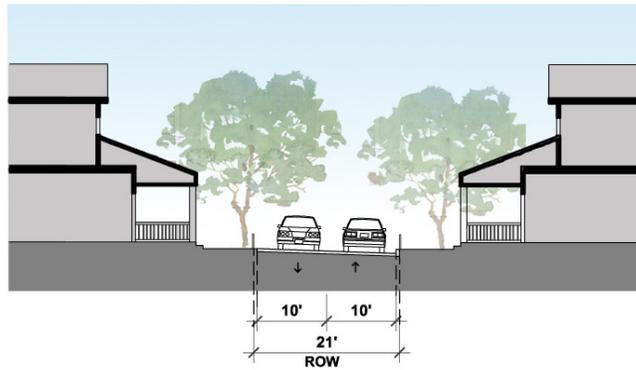
4-15 Autocourt/Shared Drive



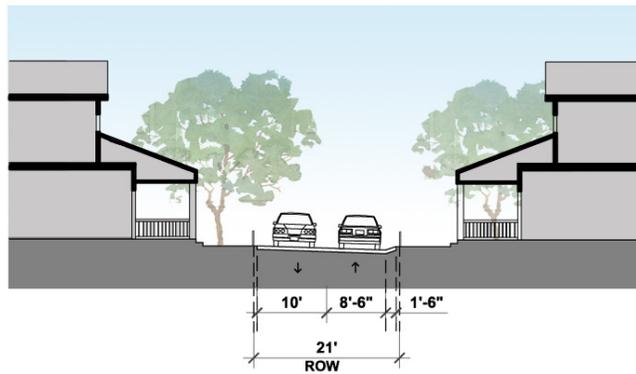
AUTO/PEDESTRIAN SHARED DRIVE

Auto/Pedestrian shared drives are local access roads that are intended to be used by both pedestrian and vehicles. Typically these will be private driveways or parking areas serving a limited number of residences or multi-family buildings and will have low vehicular traffic volumes. Scored or patterned pavement will be used to differentiate the function of the shared drive from adjacent streets. Variation of the alignment and width along the drive is encouraged to create interest, slow traffic and promote pedestrian activity and safety.

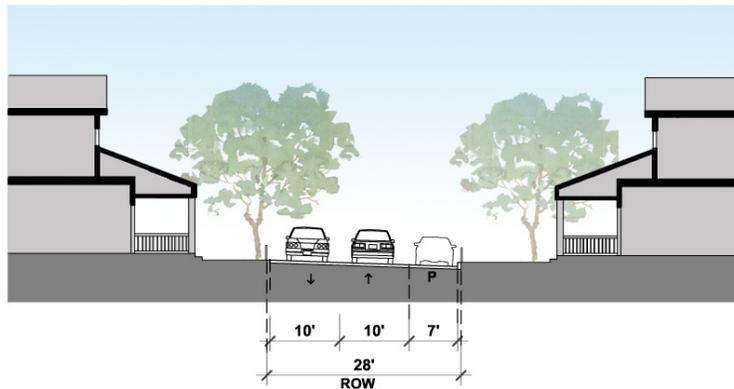
4-16 Auto/Pedestrian Shared Drive with curb and gutter



4-17 Auto/Pedestrian Shared Drive without curb and gutter



4-18 Auto/Pedestrian Shared Drive with parking



MODIFICATION TO STREET SECTIONS

Street sections may be modified to best fit the character of the proposed neighborhood and to respond to natural site features. Modifications to street sections related to on-street parking, bicycle lanes, planter strips and/or sidewalks must meet the following guidelines:

- On-street parking is required within a development to the extent necessary to satisfy any on-street or guest parking requirement for the development. This means that some streets within a development may have street parking and some may not.
- Bicycle lanes are only required to be included in street sections that are classified higher than a neighborhood street. Bicycle lanes may be eliminated if an adequate off-street facility is provided as a replacement.
- A sidewalk may be eliminated where access to any occupied use (e.g. residential) is not provided. For example, if a street does not have any residences on one side, the sidewalk may be eliminated on that side.
- A sidewalk may be eliminated if a separated trail section is provided as a replacement. For example, where a paved multi-use trail is provided along the road (it may be separated), the sidewalk may be eliminated on one or both sides.
- A sidewalk on one side may be eliminated in cul-de-sac or hammerhead type of street ends where minimal residences are proposed. For example, where a number of residences take access from either a cul-de-sac or hammerhead street, if less than five residences are on each side, a sidewalk may be eliminated on one side.
- Planter strips may be reduced or eliminated within or adjacent to a critical area or buffer; along the side of a street that is adjacent to a park or open space area; in commercial/office and mixed-use areas; or where the planter strip would create a threat to public safety (for example, sight distance or pedestrian visibility). In commercial/office and mixed-use areas, tree wells may be provided instead. Planter strips may be reduced or eliminated in street sections that are traversing slopes in order to minimize or avoid construction of walls. Where planter strips are reduced or eliminated due to topography, planted areas and trees should be provided at the back of the sidewalk to produce the same affect.

PROPOSED OFF-SITE IMPROVEMENTS

A traffic study is being conducted through the EIS process to determine the on-site and off-site improvements necessary to maintain Level of Service 'C' on impacted roads. Off-site intersection improvements are shown and described in the MPD Phasing Plan.

INTEGRATION OF MPD WITH EXISTING STREET NETWORK

The Villages street network will be functionally integrated with the existing street network by ensuring that intersections between the new and existing system align or are re-aligned, by placement of roundabouts or traffic signals, and by widening of adjacent existing streets to accommodate new vehicle trips. Visual integration of the new network will be accomplished with street sections that include landscape strips, rain gardens, bioswales, and street trees similar to existing City design standards. Improvements at multiple off-site intersections will maintain the function of the existing system. In addition, The Villages MPD includes several of the minor arterials shown on Figure 7.3, page 7-23 of the Transportation Element of the City of Black Diamond:

- Community Connector A is located and sized to function as “Annexation Road” and the “South Connector”
- The North Connector Roadway is proposed through Parcel B
- Neighborhood Street with Bike lanes “D” is located and sized to function as a portion of the “Lake Sawyer Road Extension”

The Villages MPD site is located in a large undeveloped area within the City of Black Diamond with limited interface between its proposed street network and the City’s existing network. The areas north and south of SE Auburn-Black Diamond Road, and south and west of Lake Sawyer Road are the only portions of the site that are adjacent to and have access to the City’s existing street network. Connectivity of the site with the surrounding City network is limited by the Rock Creek corridor and Jones Lake. This limited connectivity will protect the majority of existing neighborhoods from through traffic.

The Villages main property street network will connect to the existing external street system at three points on SE Auburn-Black Diamond Road, two points on Lake Sawyer Road, and one point at Green Valley Road. The southern portion of Lake Sawyer Road is proposed to be vacated and relocated on The Villages MPD site aligning with Main Street. Community Connector A will intersect with SE Auburn- Black Diamond Road and the intersection will be signalized or otherwise controlled.

The Villages Parcel B street network has no direct connection to the existing street network. It will connect indirectly to SR 169 through the Lawson Hills North Triangle and indirectly to Lake Sawyer Road via the future Pipeline Road.