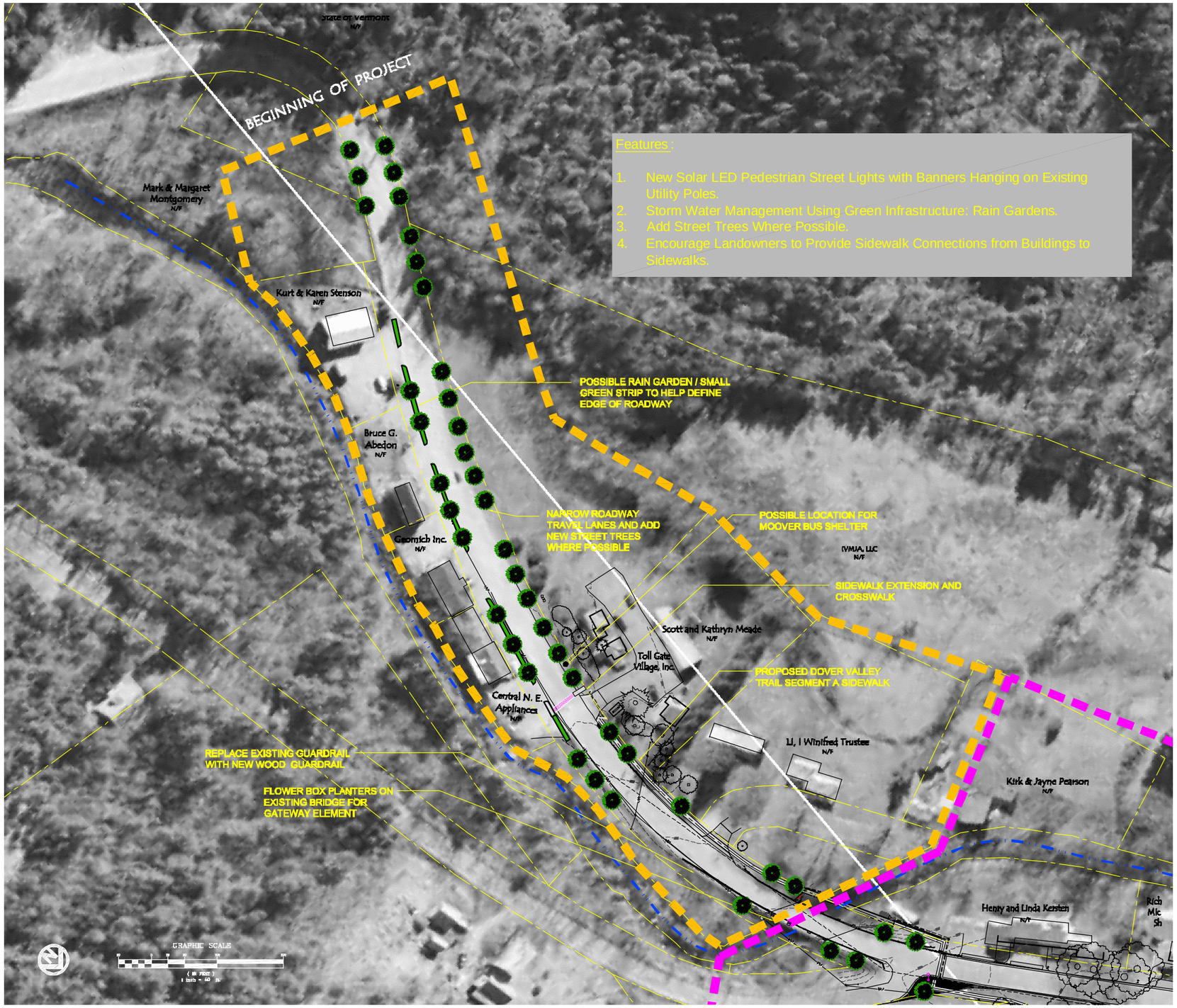
Appendix F

Route 100 Preferred Alternative Plan and Graphic Images



Preferred Alternative: transition zone south - Route 100 Project Area

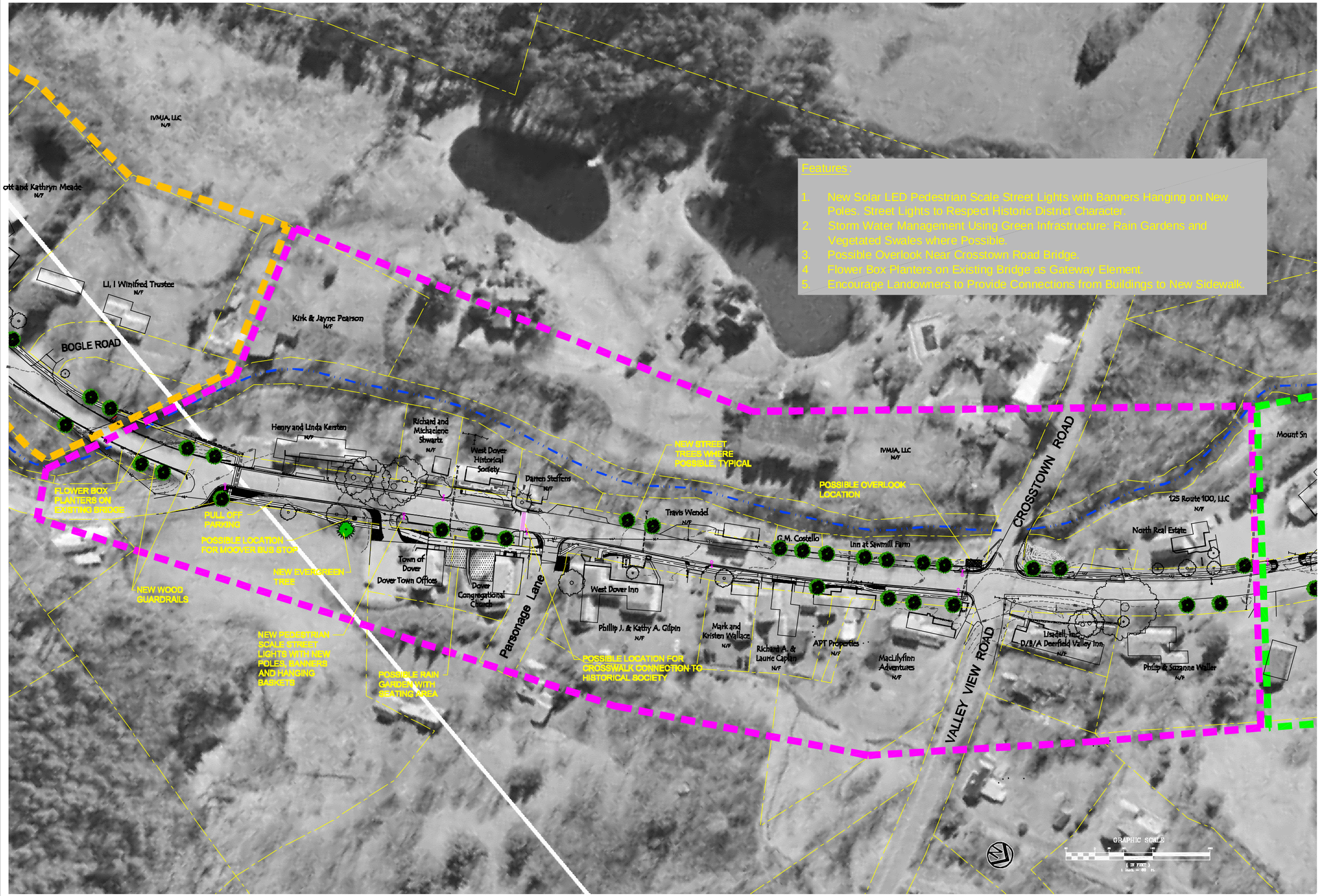
Lamoureux & Dickinson
Consulting Engineers, Inc.
14 Mercer Drive, Essex, VT 05452
802-878-4450 www.LDengineering.com

Dover, Vermont
home of mount snow

Dover Landscape Master Plan Study August 2012

Cynthia Knauf

BROADREACH
Planning & Design



Preferred Alternative: Village Zone - Route 100 Project Area

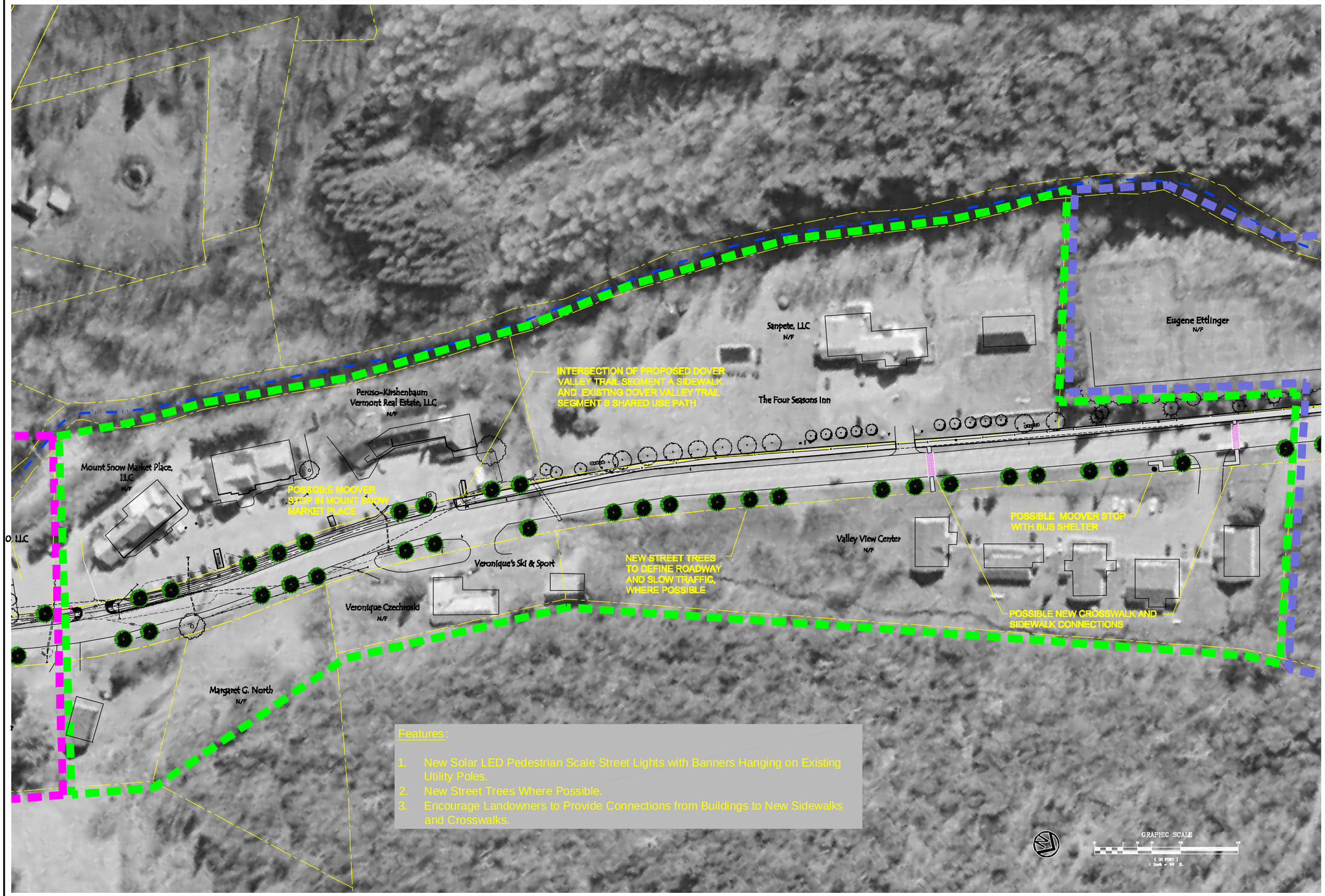
Dover, Vermont
home of mount snow

Dover Landscape Master Plan Study August 2012

Lamoureux & Dickinson Consulting Engineers, Inc.
14 Morse Drive, Essex, VT 05452
802-878-0440 www.LDengineering.com

CYNTHIA ENAUF

BROADREACH Planning & Design



Features:

1. New Solar LED Pedestrian Scale Street Lights with Banners Hanging on Existing Utility Poles.
2. New Street Trees Where Possible.
3. Encourage Landowners to Provide Connections from Buildings to New Sidewalks and Crosswalks.

Preferred Alternative: village transition zone - Route 100 Project Area

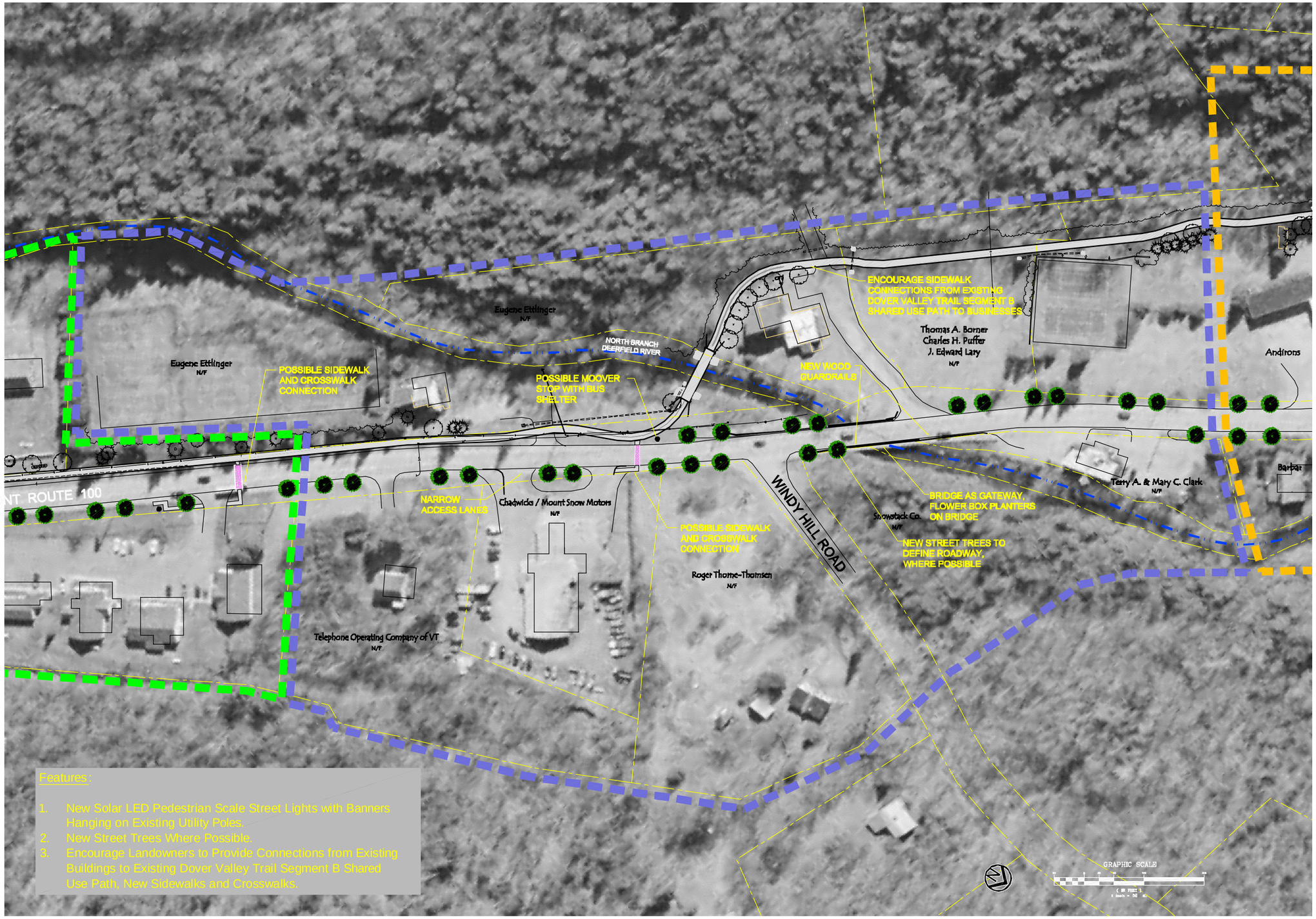
Dover, Vermont
home of mount snow

Dover Landscape Master Plan Study August 2012

Lamoureux & Dickinson
Consulting Engineers, Inc.
14 Mace Drive, Essex, VT 05452
802-878-4450 www.LDengineering.com

CYNTHIA ENAUF

BROADREACH
Planning & Design



Features:

1. New Solar LED Pedestrian Scale Street Lights with Banners Hanging on Existing Utility Poles.
2. New Street Trees Where Possible.
3. Encourage Landowners to Provide Connections from Existing Buildings to Existing Dover Valley Trail Segment B Shared Use Path, New Sidewalks and Crosswalks.

Preferred Alternative: intermediate zone - Route 100 Project Area

Dover, Vermont
home of mount snow

Dover Landscape Master Plan Study August 2012

Lamoureux & Dickinson
Consulting Engineers, Inc.
14 Mercer Drive, Essex, VT 05452
802-878-4450 www.LDengineering.com

CYNTHIA ENAUF

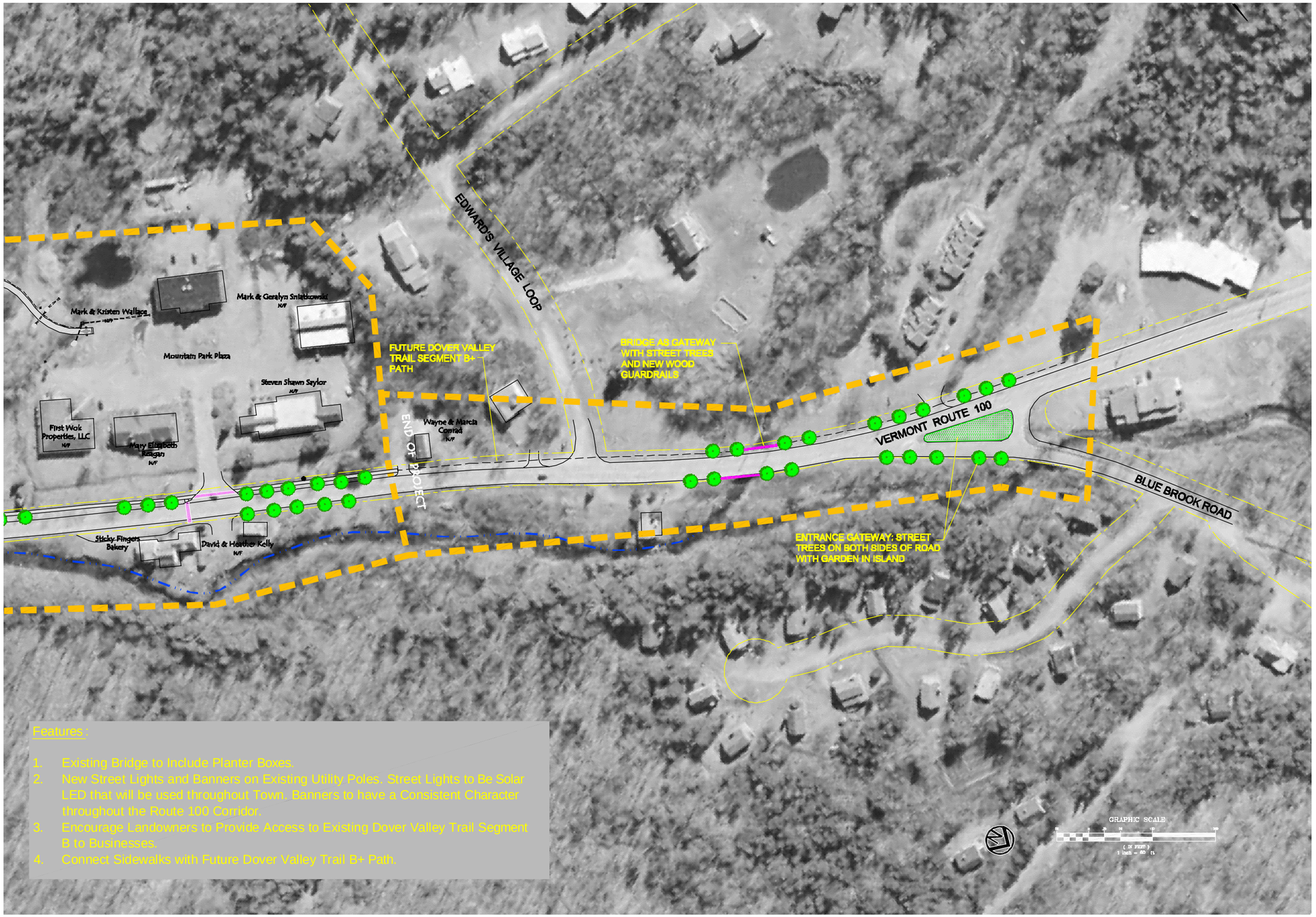
BROADREACH
Planning & Design

Features:

1. New Solar LED Pedestrian Scale Street Lights with Banners on Existing Utility Poles. Street Lights to Match Others used throughout Town. Banners to have a Consistent Character throughout the Route 100 Corridor.
2. Add Off Street Public Parking Where Possible within the Route 100 Right-of-Way.
3. Encourage Landowners to Provide Sidewalk Connections from Dover Valley Trail Segment B to Businesses.
4. Connect Sidewalks with Future Dover Valley Trail B+ Path.

Preferred Alternative: transition zone north a - Route 100 Project Area

Lamoureux & Dickinson
Consulting Engineers, Inc.
14 Mercer Drive, Essex, VT 05452
802-878-4450 www.LDengineering.com



Features:

1. Existing Bridge to Include Planter Boxes.
2. New Street Lights and Banners on Existing Utility Poles. Street Lights to Be Solar LED that will be used throughout Town. Banners to have a Consistent Character throughout the Route 100 Corridor.
3. Encourage Landowners to Provide Access to Existing Dover Valley Trail Segment B to Businesses.
4. Connect Sidewalks with Future Dover Valley Trail B+ Path.

Preferred Alternative: transition zone north b - Route 100 Project Area

Lamoureux & Dickinson
Consulting Engineers, Inc.
14 Mont Drive, Essex, VT 05452
802-878-4450 www.LDengineering.com
CYNTHIA KNAUF
BROADREACH Planning & Design

Route 100 Project Area

Plan Enlargement: Town Office / Church Gardens

WEST DOVER VILLAGE/ROUTE 100 RECOMMENDATIONS

Unless otherwise noted, improvements are located in the right-of-way or on public land

	Transition Zone South	Village Zone	Village Transition Zone	Intermediate Zone	Transition Zone North
FEATURES					
On-Street Parking	No new parking within the public right of way; Existing parking reorganized as part of access management.	New on-street parking intermittently on west side of the road; Pull off for temporary parking north of the Dorr Fitch Road intersection on the east side of Route 100.	None.	Possible in the future	Possible in the future
Off-Street Public Parking	Potential off street public parking at Toll Gate Village parcel.	Existing public parking at Town Offices.	No new public parking.	No new public parking.	Potential off street parking on new Town parcel.
Pedestrian Circulation	Dover Valley Trail Segment A sidewalk from Toll Gate Plaza north on west side of road.	Dover Valley Trail Segment A sidewalk as currently proposed with connections to adjacent buildings; Possible overlook on west side of Route 100 south of the intersection with Crosstown Road.	Dover Valley Trail Segment A sidewalk as currently proposed; New sidewalk on east side for connection to Moover stop and potential connections to existing businesses and buildings.	On existing Dover Valley Trail Segment B shared use path and new sidewalk on east side to link to Moover stops.	On existing Dover Valley Trail Segment B shared use path; On west side of the road by Mountain Park Plazaa; Connections from the Dover Valley Trail Segment B to existing businesses.
Pull-Offs	None.	North of Dorr Fitch Road on the east side of Route 100.	None.	None.	None.
Crosswalks Options	In front of Toll Gate Plaza.	North of Dorr Fitch Road; Between Town Offices and Historical Society Museum; and South of Valley View and Crosstown Roads intersection.	Between the Four Seasons Inn and Valley Center.	Between Dover Valley Trail Segment B shared use path just south of bridge and Chadwicks/ Mount Snow Motors.	North of Country Club Road; Between 7/Eleven Store and Brook House; Between Sticky Fingers Bakery and Mountain Park Plaza.
Access Management	Reduce large curb cuts on east side of road by creating one way roadway links with parallel parking, separated from Route 100 by a small green strip in addition to retaining some pull-in parking in front of the buildings.	Remove large curb cuts on east side of road.	None.	Narrowing of access lanes at Chadwicks / Mount Snow Motors	Narrowing of access lanes at 7/Eleven store; Reduce curb cut south of residents on east side across from Mountain Park Plaza.

WEST DOVER VILLAGE/ROUTE 100 RECOMMENDATIONS

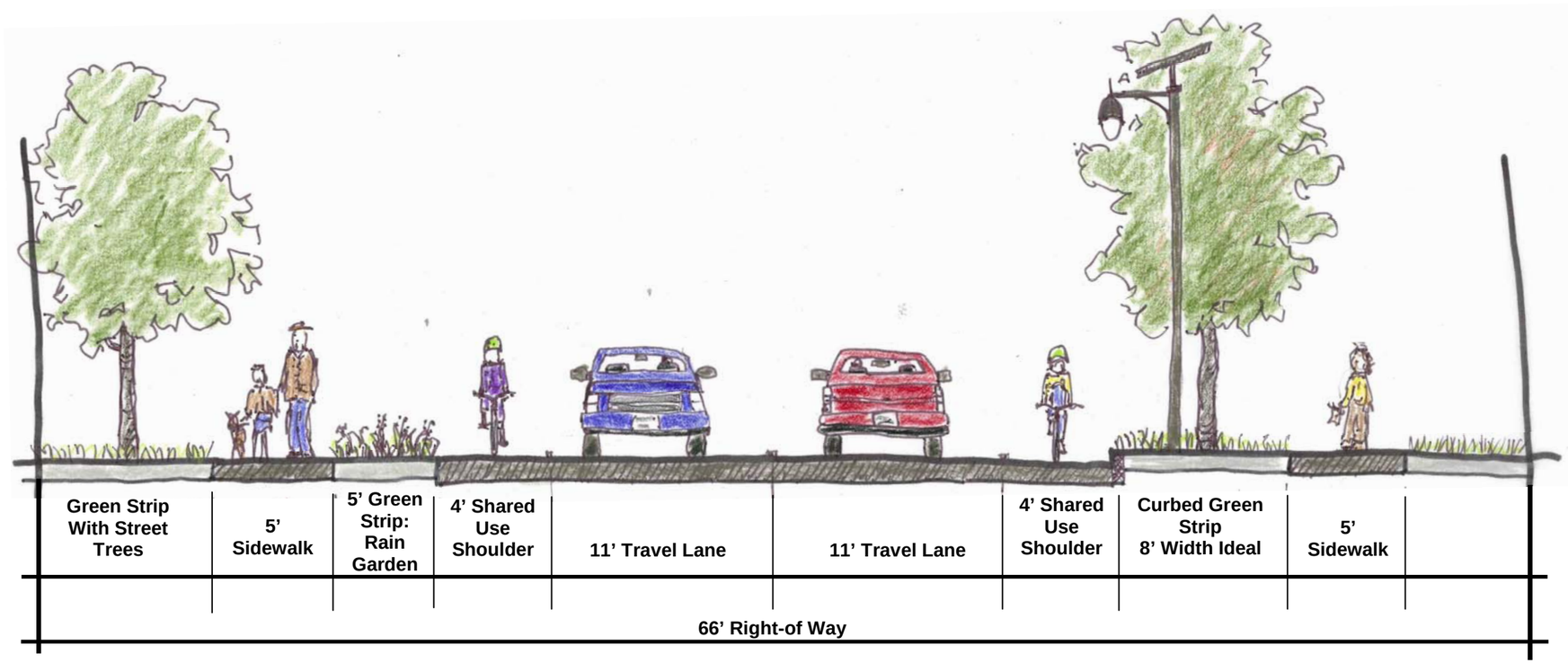
Unless otherwise noted, improvements are located in the right-of-way or on public land

	Transition Zone South	Village Zone	Village Transition Zone	Intermediate Zone	Transition Zone North
Street Trees	Add street trees along the east side of the road in the new green space and on the north side as possible; Choose proper type when under utility lines	Infill existing trees with new street trees as much as possible; Choose proper types for east side under utility lines.	Add as many street trees as possible to fill the sides of the road; Choose proper types for east side under utility lines.	Add as many street trees as possible to fill the sides of the road and to compliment existing evergreens; Choose proper types under the shifting utility lines while not loosing a sense of unity.	Add as many street trees as possible to fill the sides of the road; Choose proper types under the shifting utility lines while not loosing a sense of unity.
Lighting	New Solar LED pedestrian scale lights on existing utility poles.	New Solar LED pedestrian scale lights on new poles.	New Solar LED pedestrian scale lights on existing utility poles.	New Solar LED pedestrian scale lights on existing utility poles.	New Solar LED pedestrian scale lights on existing utility poles.
Traffic Calming	Street trees; Reduced curb cuts; Eleven-foot travel lane.	On street parking; Street trees; Reduced curb cuts; Ten-foot travel lane; Curbs with curb extensions near crosswalks.	Street trees; New curbing; Ten-foot travel lane.	Street trees; Ten-foot travel lanes.	Street trees; Reduced curb cuts; Ten-foot travel lane.
Street Furniture	Benches near end of Dover Valley Trail Segment A sidewalk; Seasonal sponsored banners on utility poles; Information kiosk near end of Dover Valley Trail Segment A sidewalk.	Benches along the sidewalk: Seasonal sponsored banners on new light poles; Flags on existing utility poles; Hanging baskets on new light poles; Bicycle racks near Town Offices and businesses; Electronic information kiosk near Town Offices.	New benches along existing path; hanging baskets on utility poles; Seasonal sponsored banners on utility poles; Bicycle racks near businesses.	New benches along existing Dover Valley Trail Segment B shared use path; Hanging baskets on utility poles; Seasonal sponsored banners on utility poles; Bicycle racks near businesses.	New benches along Dover Valley Trail Segment B shared use path and new sidewalk; Hanging baskets on utility poles; Seasonal sponsored banners on utility poles; Bicycle racks near businesses.
Gateway Opportunities	Special coretan steel & wood guard rails and planter boxes on the sides of the bridge over the North Branch of the Deerfield River; Could include Painted center island on either side of the bridge.	None.	None.	Special coretan steel & wood guard rails; Wood planter boxes on the sides of the bridge over the North Branch of the Deerfield River.	Special coretan steel & wood guard rails; Wood planter boxes on the sides of the bridge at the north end of the zone; Painted center island on eithe side of the bridge; Additional shrubs and tree planting on west side of the Route 100 near the intersection with Blue Brook Road.

WEST DOVER VILLAGE/ROUTE 100 RECOMMENDATIONS

Unless otherwise noted, improvements are located in the right-of-way or on public land

	Transition Zone South	Village Zone	Village Transition Zone	Intermediate Zone	Transition Zone North
ISSUES					
Views	View north of historic village south of bridge and view northwest over the North Branch Dover River on the bridge enhanced.	View south of historic village near Crosstown Road enhanced; Views southwest over North Branch of the Deerfield River to the Inn at Saw Mill Farm enhanced with overlook.	Long views north towards Mount Snow maintained.	Long views north towards Mount Snow maintained.	No highlighted views.
Impact to Existing Trees	None	Minimal	None	Minimal	Minimal
Stormwater Management	Rain Garden in new green space between parking and the roadway on the east side of the street; Vegetated swale in existing ditch on the west side of the road.	Rain garden near Town Offices; Vegetated swales at outfalls for new or upgraded stormwater system; Permeable pavers in front of the Town Offices and Congregational Church.	Rain gardens between Dover Valley Trail Segment B shared use path and the road.	Rain gardens between Dover Valley Trail Segment B shared use path and road; Vegetated swales in existing drainage ditches.	Vegetated swales in existing ditches.
Utility Impacts	No significant impacts	Possible utility pole relocations to accommodate on-street parking.	No significant impacts.	No significant impacts.	No significant impacts.
Historic Impacts	Minimal	Will modify current views of historic village but change should be consistent with the historic character.	Minimal	Minimal	Minimal
Economic Development Potential	Better street presence could help incude more vehicular traffic to stop; Better pedestrian linkages could help tie this zone to historic village zone and create more pedestrian traffic; Visitor center could benefit area.	Easier pedesrtrian circulation and vehicular parking with an enhanced street presence could help incude more vehicular traffic to stop; Visitor center either physical or virtual - could benefit area	Easier pedestrian circulation with an enhanced streetscape and enhanced village feel could help induce more vehicular traffic to stop.	Easier pedestrian circulation with an enhanced streetscape and enhanced village feel could help induce more vehicular traffic to stop.	Easier pedetrian circulation, visible on-street parking with an enhanced streetscape, and enhanced village feel could help induce more vehicular traffic to stop.



Street Physical Layout

Recommendation:

For the Route 100 Project Area, defining the street edge with buildings close to the walkways with on street parking creates a pedestrian friendly environment with access to local businesses. The complete streets approach encourages roadways to be used by all forms of transportation.

Using narrower travel lanes in order to include bike lanes assists bicyclists with navigating the Route 100 corridor. The typical cross section for Route 100 should include a proposed sidewalk on both sides of the roadway where feasible, street trees and street lights with banners.

Several options for Inclusion in the Roadway Streetscape:

- Textured crosswalks and curb extensions where possible for traffic calming measures;
- Creating potential transit/bus stop pull off areas along Route 100 and/or at specific businesses, and
- On street parallel parking for accommodating vehicles.

Recommendation:

Selecting a bench that is warm and inviting in details as well as functionally comfortable is desirable. Using recycled/sustainably harvested materials could be beneficial. Some of the recycled plastic materials can get hot in the sun and natural stone seating can be cold and uninviting in cooler weather. It is recommended to have benches with backs for younger and older people.

Examples of Several Different Style Options

Benches

Bike Racks

Recommendation:

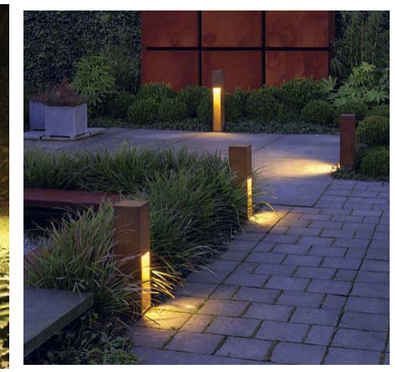
Creating a bike rack that has some local character adde to it is a great way to develop and enhance the streetscape with a local flavor. Several examples shown at the right highlight creative bike rack designs that are distinctive and fun.

Bike racks should be designed to have at least two spots for a bicycle to lean against it. This helps prevent the bicycle from falling over.

Examples of Several Different Bike Rack Design Options

Some Style Options to Consider for Street Lighting:

- The light poles could include distinctive banners announcing the seasons, local activities, etc. In addition, hanging baskets installed on light poles during the summer months can add color and plantings on the street.
- There are new technologies for using in street lighting in crosswalks that can help highlight pedestrians in the roadway, making them more visible to drivers.
- Pedestrian lighting along walkways can be used where overhead lights are not as desirable. Bollards can nicely illuminate a walkway and may be desirable in public gardens and green spaces.



Recommendation:

The trend in outdoor street and public space lighting is to use LED bulbs and solar technology because they are much more energy efficient and less costly to operate and maintain. These options are now readily available with ever increasing design options and better technology. It is recommended to use a fixture that is reminiscent of street lights that will enhance the historic village character and charm of Dover.

Gateway Elements can take various forms to announce arrival into a new area, such as:

- Street trees,
- Overhead structures,
- In road islands with plantings and sculptural elements, or
- Roadside art sculptures or features.

These elements should be reflective of the area or can even be repeated throughout the streetscape or town.

Information Kiosks also come in various sizes and forms. They could be used to announce arrival in and inform pedestrians of places and spaces within the Town Common or West Dover Village, and could be repeated in other areas of the community.

An information kiosk could be designed to reflect the character of the area such as the top could reflect the style of a local church or the Town Hall spire. Offering wi-fi access and scanning of local events and places of interest is another option to consider.

Examples of Gateway Elements, Information Kiosks and Public Art that are Reflective of the Community.

Unifying Elements

Street Trees

The types of street trees planted within the project areas should be appropriate to the physical environment in which they are installed. Choosing street trees that are:

- Hardy in Zone 4,
- Salt tolerant,
- Have sufficient space to grow above ground,
- Include appropriate soil space / under pavement conditions for survival,
- Limbed up to a 5 to 6 foot branching height near sidewalks and bike paths, and
- A minimum of a 3" caliper size when planted,

is important for helping them to grow and thrive in downtown and village settings.

Planting street trees in green belts or green strips that have good topsoil and organic matter in a continuous area provides additional space for the roots to grow in. It is advisable to have plants that can survive extreme temperatures, especially heat, if they are placed in close proximity or surrounded by pavements and buildings.

Recommended Street Tree Species

Trees species that mature at no more than 20 feet should be used under utility lines, such as:

- Hedge Maple (*Acer campestre*),
- Shadbush or Serviceberry (*Amelanchier canadensis* or *Amelanchier laevis*),
- Crabapple (*Malus spp.*), or
- Japanese tree lilac (*Syringa reticulate*).

Where utility lines are not a consideration, trees that mature with a wide, high canopy and are resistant to damages from winter salt are most appropriate. Such trees include:

- Freeman Maple (*Acer x freemanii*),
- Ironwood (*Ostrya virginiana*),
- Pin Oak (*Quercus palustris*),
- Burr Oak (*Quercus macrocarpa*),
- Red Oak (*Quercus rubra*),
- Honey locust (*Gledtsia tricanthos*), and
- Disease resistant American elm (*Ulmus x 'Accolade'*).

Recommended Shrubs and Perennials for Gardens

Shrubs that will become a hedge or a divider between spaces should be planted 3 feet on center, and have a mature height of 4 to 5 feet. The garden spaces should use one or two species of shrubs, such as:

- Winterberry (*Ilex verticillata),*
- Yew (*Taxus x media* or *Taxus canadensis*),
- (*Rhus aromatica x Gro Low*),
- Spirea (*Spiraea prunifolia, or Spiraea x nipponica `Snowmound'),*
- Lilac (*Syringa meyeri `Palibin'),*
- Dwarf Ninebark (*Physocarpus opulifolius `Nanus').*

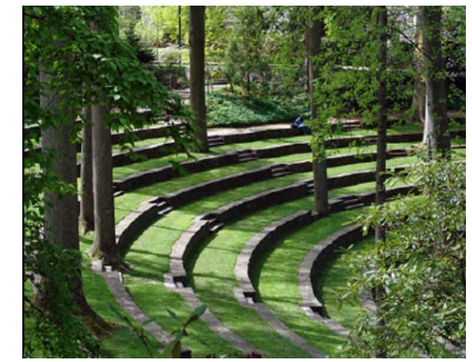
Perennials and ornamental grasses should be planted in masses of a minimum of 5 to 7 plants to have a strong visual effect. Individual shrubs or small tree can be used as an accent in a garden. Ornamental grasses are great additions to a garden space providing color and interest.

Paving Patterns for public spaces such as sidewalks and small 'pocket parks' can bring a richness to the streetscape and help define paved areas. This is also something to consider in areas anticipated to have heavy pedestrian traffic or vehicular use and where maintaining grass would become an ongoing issue.

Clay brick pavers are very durable and come in various red and brown colors. Concrete pavers are also durable and offer a larger range of color and texture options. Natural stone, such as bluestone or granite, are options that could be used in the memorial gardens. Cost is often the limiting factor with stone.

An **Outdoor Classroom** can be used for a variety of informal presentations and hands on educational experiences. This could be an educational resource to be utilized by the future Interpretative Center as well as the Dover Public Library and the day care center at the Town Common area. It could be constructed out of native stone for the natural seating rows. Preserving the existing trees is recommended to provide a natural canopy. Low bollard style lighting could be used along the path leading to the parking areas.

Examples of Public Spaces Defined by Paving Patterns and Structures by using Native Materials such as Stone Walls and Rustic Wood Seating



Rain Gardens

There are a variety of green infrastructure techniques for handling stormwater runoff that are designed to infiltrate back into the soil. One of these techniques is rain gardens.

A rain garden is a shallow depression planted with native plants and grass. It is an aesthetically designed garden that retains stormwater runoff to infiltrate back into the ground. The garden is placed near a stormwater runoff source such as a roadway, driveway or storm pipe, to capture rainwater runoff and slowly soak into the ground, filter contaminants and benefit plants. Capturing rainwater in a rain garden, holding the water for a short time and then slowly releasing it into the soil can help reduce the rush of a large storm and lower the impact of impervious surfaces.

Rain gardens could be incorporated within both project areas to help handle stormwater runoff. Using a variety of shrubs, perennials and ornamental and native grasses, a rain garden is an attractive element in the landscape.

Pervious /Permeable Pavements

Another type of green infrastructure that is being used throughout the country for handling stormwater runoff are pervious pavements. They include permeable pavers, pervious concrete and pervious asphalt. In the Northeast, permeable pavers and pervious asphalt are being used in both urban and rural settings to handle stormwater runoff.