COHABITATION

PRELIMINARY DESIGN CONCEPTS



A more connected and accessible network of paths with a diversity of habitats and spaces for both humans and wildlife. Pros:

- Universally accessible permeable pavement
- Diverse seating areas
- Preserves river views
- Centrally located facilities
- Cons:
- Expensive installation
- Permitting
- Long-term maintenance



Maximize local resources to protect riparian zones, create gathering places, demonstrate the aesthetics of native plants, and increase education opportunities.

- Pros:
- Repurposes site materials
- Electricity generation
- Riverfront restoration
- Improved lines of site

Cons:

- Invasive species management may require chemical application
- Reduced views of river
- Reduction of open space for events

Student Research eas

Create innovative educational opportunities with a sustainable focus without compromising key features of the park. Pros:

- Least cost and maintenance intensive
- Cons:



Increases educational components for students
Gathering areas with shaded seating are moved to be more visible Unwanted views are buffered with shrubs and trellises

• No additions or changes to existing garden beds • Could deter visitors who do not go to the park for education

Not for construction. Part of a student project and not based on a legal survey.

SCHEMATIC DESIGN

This schematic design presents the characteristics, challenges, and design criteria associated with different areas, or zones, within the Arboretum and Rachel Marshall Outdoor Learning Laboratory. The different zones shown here include the Main Arboretum, North Arboretum, Southwest Arboretum, and Rachel Marshall Outdoor Learning Laboratory. The design proposals on the following pages seek to create a cohesive experience for visitors to these spaces, while also celebrating the park's unique assets. All design explorations increase educational signage, tree and garden bed labels, and improve access in both the Arboretum and RMOLL.





Rachel Marshall Outdoor Learning Laboratory Criteria:

Improve accessibility and safety along the trail.

Increase shade and seating options on the platform north of the dam. Any structures in these areas will likely need permit-

Mitigate areas of compaction and erosion.

Explore ways to integrate the park with the adjacent parking lot which will eventually be transformed into a public green

Increase shaded and sheltered seating areas that are accessi-

Enhance garden beds in the front by increasing native plant communities, increasing plant diversity (color, size, texture, etc.), and replacing trees that are in fair or poor condition and

Add vegetation to create a greater sense of separation be-

Remove conifers that interfere with lines of sight into the park

Create an ADA accessible path from the accessible parking lot.

Create an accessible entrance point and trail from Starbucks to

Manage pooling water north of the Starbucks parking lot. Limit structures and use within the 50-foot buffer zone to mini-Add vegetation to create comfort and shade

 \bigcirc the Landscape Plannus **Conway**SChOO Graduate Program Designed By: Katherine Holder, Samantha Peikes and Amanda smith 2020 Spring, MASTER PLAN FOR ASHUELOT RIVER PARK FOR THE CITY OF KEENE, NEW HAMPSHIRE SCHEMATIC DESIGN \triangleleft

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FINAL DESIGNS

LEAST INTENSIVE OPTION



Due to its ecological context and history, portions of the Ashuelot River Park are vulnerable to flooding, particularly the northern portion of the Arboretum and the RMOLL. As climate change escalates, the flooding in the park will become worse and more frequent. Instead of trying to prevent flooding in the park, both of these designs employ strategies that will allow park features to withstand flooding, such as increasing vegetation along the riverbanks to stabilize the bank, building elevated structures that remain accessible during flood events, and infiltrating runoff with green infrastructure, such as swales, rain gardens, and dry creek beds. Educational features, such as interactive informative maps and signs, encourage visitors to learn about floodable park features, green infrastructure and native plants.

TRAIL EXTENDED AND WIDENED GATHERING SPACE 00 00000

This option increases comfort, accessibility, and lines of sight in the park, while enhancing overall ecosystem services. Much of the vegetation and garden bed additions could be maintained by volunteers or students, which would ensure less money spent on maintenance and upkeep.

Main Features: Shaded pergola seating nooks are added in the front portion of the Arboretum to allow visitors to admire the garden beds from a comfortable place. The gazebo is removed and the conifer bed is replaced with a low height perennial pollinator garden to open up lines of sight. The two large trees across from the accessible parking lot have been removed to improve access into the park. In the southwest portion of the Arboretum, a path connects from the Starbucks entrance to the main trail hub and a rain garden is added to infiltrate pooling water. In the kayak launch area, coconut coir logs are added to stabilize the riverbanks. Native grasses and wildflowers are planted along the riverbanks extending south from the kayak launch area to the pedestrian bridge. A no mow ground cover replaces some of the lawn areas in the areas in the park. In the Rachel Marshall Outdoor Learning Laboratory, the footpath is extended to create a trail loop, vegetation is limbed up to increase visibility and designated research areas for students are marked.

Improvement and enhancement of distinctive resources and features of the Arboretum and RMOLL is achieved through more intensive planting and the addition of structures. Both volunteers and master gardeners would most likely be needed to maintain the new features.

Main Features: Ground cover, perennials, and shrubs have been added to the garden beds to increase planting diversity. A gazebo has been added along the intersection of the new east-west accessible path and the original north-south path. The entrance from Starbucks has been enhanced with both the new path and the arch and vine trellises to entice visitors. A viewing platform has been added to replace the maintenance shed and provide a location for visitors to enjoy views of the river. In the northern arboretum, an elevated platform, with stumps for children to play on has been added along with a large deck for the kayak launch area. These platforms concentrate human activity to a few locations along the riverbank leaving large stretches of the riverbank in-between are densely vegetated to prevent erosion. The trail along the Rachel Marshall Outdoor Learning Laboratory has been widened and a solar awning has been added to the seating area across from the dam. Not for construction. Part of a student project and not based on a legal survey.

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MAIN ARBORETUM DESIGNS

LEAST INTENSIVE OPTION



Pergola seating areas in the front add shade and comfort, without blocking views into the park. Trees in the conifer bed are limbed up, transplanted, or removed. A path connects from the accessible parking lot to the pedestrian bridge and the other paths. Low ground cover is added to existing plant beds, using plugs to quickly vegetate the gardens.

Resilient Design Elements

Designs increase views into the park from the accessible parking lot and trail entrance by limbing up the pine and magnolia trees and removing large conifers. Accessibility to the park from the accessible parking area is increased by improving the trail extending to the north. In the most intensive alternative, two accessible paths are added to the west and south.

Both plans increase native vegetation in the garden bed areas where there is already mulch and trees are removed. Native plants support native pollinators and are well suited for local climate conditions. A salt tolerant rain garden is installed in the most intensive option by the handicap parking lot where to capture stormwater from the parking lot and trail (snow is also stored here in winter).



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SOUTHWEST ARBORETUM DESIGNS

Resilient Design Elements

Designs look at alternative ways to infiltrate and store water in order to reduce runoff and increase native vegetation in the area of the park north of the Starbucks parking lot. From a more formally designated entrance near this parking lot, a new accessible path provides a direct connection into the Arboretum. In the more intensive design option, coconut fiber rolls and additional edible shrubs are added along the riverbank to decrease erosion, stabilize banks, further increase biodiversity, and provide increased shade and comfort for those who like to sit and admire views of the river.

10 20 40 LIVE STAKES BANK TABILIZATION **REPLACEMENT TREES** 4' ACCESSIBLE PATH COVERED PERGOLA SEATING AREAS **STARBUCKS PARKING LOT**

LEAST INTENSIVE OPTION



A path connects from the Starbucks entrance to the existing gravel trail. Trees in fair condition along the banks (silver maples and the eastern poplar) are removed and replaced. Small shaded pergola seating areas are added for visitors to admire views of the river and dam from a comfortable shaded location. A bioswale infiltrates runoff north of the Starbucks parking lot. Live stakes are used to establish native shrubs along the riverbank.

Not for construction. Part of a student project and not based on a legal survey.

NORTHERN ARBORETUM DESIGNS

Resilient Design Elements

Designs stabilize the riverbank with native grasses, wildflowers, and pruned trees and shrubs. Some existing lawn is replaced with nomow, drought-tolerant ground cover, thus lessening watering and mowing. Granite blocks from the dam are repurposed and incorporated into an elevated platform for events and a natural play area is created using locust trees that were removed west of the new platform. A dry creek with educational signs runs along the northeastern portion of the site to capture, hold, and filter stormwater from the trail and to act as a naturalized play space. The native vegetation creates wildlife and pollinator habitat which is highlighted with education signs.



wide seating nooks are defined with seating walls that discourage access to the bank and vegetation is pruned to preserve views of the water. An elevated platform area is added on the east side of the trail along with a boardwalk, observation deck and kayak launch on the west side. A dry creek bed mitigates stormwater runoff, and offers additional flood storage.



LEAST INTENSIVE OPTION

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Native grasses and wildflowers are planting along the riverbanks. Trees are underplanted with no-mow ground covers to lessen soil compaction. Coconut coir logs provide bank stabilization along the kayak launch.

Not for construction. Part of a student project and not based on a legal survey.

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RACHEL MARSHALL OUTDOOR LEARNING LABORATORY DESIGNS

LEAST INTENSIVE OPTION



Vegetation along existing trails is limbed up to increase visibility along the paths. The trail is extended on the western portion of the parcel to loop back to the dam area. Educational signs are installed into existing posts (where original signs had been taken out) that explain views, wildlife, and native plants. Study areas are identified throughout that highlight key and interesting features of native wildlife or habitat.

Resilient Design Elements

Designs increase educational signage and designate areas for student research. The RMOLL trail is extended and expanded in the more intensive option to increase safety and access and allow visitors to explore more of the natural wooded areas. In the more intensive option, a solar awning both acts as a shaded seating area and a renewable energy source. Minimal structures are added to avoid disturbance of the floodplain.



The trail is widened with a larger gather space. Informational signs are added throughout. Vegetation is increased near the seating area north of the dam to provide shade. A solar awning provides shade while also acting as a renewable energy source where people can charge their cell phones. Granite blocks taken from the dam could be repurposed to provide additional seating.

Not for construction. Part of a student project and not based on a legal survey.

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MATERIALS AND PRECEDENTS

STRUCTURES: SOLAR BENCHES

STRUCTURES: SEATING



Pergola (yardcraft.com)



Retaining wall seating area (sitefurnishings.com)



Gazebo (wayfair.com)



Large pavilion (medium.com)

STRUCTURES: PATHS



Deck (shutterstock.com)

Pine needle path

(pinterest.com)



Kayak launch dock (pinterest.com)





Soofa solar bench acts as both a bench and charging station for phones. (wtop.com)



Solar-powered bench monitors air quality as part of an EPA pilot project called the 'Village Green Project'. (epa.gov/air-research)



Solar bench seating option to offset park electricity costs. (solarbench.com)



Solar bench with interactive street map from EngoPlanet equipped with LED lights, charging stations, and smart sensors. (engoplanet.com)

STRUCTURES: SOLAR BENCHES



Solar power generation can be artful: this solar tree functions as a source of energy and as a sculptural artwork. (designboom.com)



Cobra head solar light to replace current lights in front Arboretum. (homedepot.com)



Welcome kiosk near the new entrance. (thewesterlysun.com)



Interpretive signs can be used to educate park visitors about the different garden beds, wildlife habitats and native plants. (vackersigns.com)



Students engaging with an interactive sign. (pinterest.com)



Trail sign that encourages people to stay on the trails to protect the microbial ecosystem. (westseattleblog.com)



(www.houzz.ie/photos)

STRUCTURES: SIGNS







Sheltered kiosk provides shade and park information. (sunshade.com)



Park directory illustrates and describes the different spaces the park. (externalworksindex.co.uk)



Education sign about wet-lands with diagram emphasis. (coastalzone.com)



Tree Identification Tags with QR Codes (nationalband.com)

the Landscape Planning + D Conway Sch Designed By: Katherine Holder, Samantha Peikes and Amanda smith SPRING, 2020 A MASTER PLAN FOR ASHUELOT RIVER PARK FOR THE CITY OF KEENE, NEW HAMPSHIRE **MATERIALS AND PRECEDENTS**

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Rd.

RECOMMENDED PERENNIALS

YarrowAchilles milligibliumwhitesummer2.7sinave3.9PPP<	Common Name	Botanical Name	Flower color	Bloom Time	Size	Light	Water	Zone Hardiness	Other	KEY:
Northern MiddenhairAdiantum pendatum8.57pr/ntmoint3.84JBButtomAgstatcheAllum cernumpinksummer1.1.5'sun/nsava/ns4.8.8BW-WölkeNoding OnionAllum cernumpinksummer1.1.5'sun/nsave4.8.8BW-WölkeBig BustemAndropopon gerardi5.6'sunave3.6P, BF = ElidieBig BustemAdapta condensispink/yellow/redsosun/nsdn/se3.6'NNMilkevedAcclepias incruntapinksummer4.5'sunave/vet3.6'NNSwamp MilkevedAcclepias incruntapinksummer2.3'sun/nsave/vet3.6'NNLiddy fernAthyrium filk-fernina1.3'sun/nsave/vet3.6'NNFrewedCharerion angutfollumpurplesummer2.5'sun/nsave3.6'NNSwaet FernComponta bergrigngreenspring2.5'sun/nsave3.6'NNHancleaf Corospi ionecoldarpinksummer2.5'sun/nsave3.6'NNSouted FernComponta bergrignpinksummer2.5'sun/nsave3.6'NNSouted FernComponta bergrignpinksummer2.5'sun/nsave3.6'N <td>Yarrow</td> <td>Achillea millefolium</td> <td>white</td> <td>summer</td> <td>2-3'</td> <td>sun</td> <td>ave</td> <td>3-9</td> <td>P</td> <td>P = Pollinator</td>	Yarrow	Achillea millefolium	white	summer	2-3'	sun	ave	3-9	P	P = Pollinator
Agastaché (endure)Agaitaché (endur)Name	Northern Maidenhair	Adiantum pendatum	1.0	A	8-15"	ps/shd	moist	3-8		P = Puttorfly
Nodding OnionAlluin cernuumpinksummer1.1.5"sun/psave4.8BW ⁴ = W382CPortly Ver LaskingAndropogon gerardi <td< td=""><td>Agastache</td><td>Agastache foeniculum</td><td>lavender</td><td>summer</td><td>2-4'</td><td>sun/ps</td><td>dry/ave</td><td>4-8</td><td>P, W, B</td><td>D – Dullerity</td></td<>	Agastache	Agastache foeniculum	lavender	summer	2-4'	sun/ps	dry/ave	4-8	P, W, B	D – Dullerity
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Big BlactmAndropagengradri	Pearly Ever Lasting	Anaphalis margaritacea	white	summer	3'	sun/ps	dry/ave	3-8	P, B	E = Edible
ColombineAquilegia canadensispinkly-ellow/relspin1-3'sum, Milkween3-8WilkweenAsclapis normatepragesummer3'sunavel3-9BMilkweendAsclapis normateorangesummer3'sun/savel3-9BLaky lernMilkmeendBaptisa incritonyellowspring2-3'sun/savel3-9PVellow wildindigoBaptisa incritonyellowspring2-3'sun/ssite3-9PTurleheadCheone globrapinkly-hybesummer2-3'sun/ssite3-9PPTurleheadCheone globrapinkly-hybespring, summer2-1'sitesite9-8PPLancelad ConcopsisConcopsis (ancecolatayellowspring, summer2-1'sun/sset9-8PPPLancelad FarnDenstatedia punctibabuli15-2'shd/ssun/s3-9PPPPLancelad FarnDenstatedia punctibabulipuncip glinksummer2-5'sun/ssun4-9PP, B, W, RSolted Joe PyterExploridelphis punctibatepuncip glinksummer2-5'sun/ssun4-9P, B, W, RJoe PyterExploridelphis punctibatepuncip glinksummer7-1'sunsun4-9P, B, W, RJoe DedsExploridelphis punctibatepuncip glinksummer	Big Bluestem	Andropogon gerardíi			5-6	sun	ave	4-9	E	R = Rain Garden
Swamp MilkweedAsclepias Lukeroompinksummer9.5sunver/wet3.6B.RMilkweedActepias Lukeroomengensummer3.5sunsun3.6P.BLady fernAthyriam file/ferninavellowsummer2.3'sun/psaver4.8PVellow wild indigoChienere angustifoilumpurplesummer2.5'sun/psaver3.8P.BTurnleheadChienergiabargreenspring.2.5'sun/psaver3.8P.BLancelad ConcepsisCorrespsis Incorecitatyellowspring.summer3.5'sun/psaver3.8P.BHaycented FernDenstradardio purclibulapurplespring.summer1.5''sun/psaver3.9''P.B, W.RSpotted Ione SpringDeletria existinapurplesyring.summer1.5''sunsund3.9''P.B, W.RSpotted Ione SpringDeletria existinapurplesyring.summer2.5''sundrift.3.9'''P.B, W.RSpotted Ione SpringDeletria existinapurplesummer2.5''sunsund3.9'''P.B, W.RSpotted Ione SpringDeletria existinapurplesummer2.5''sundrift.3.9''''P.B, W.RSpotted Ione SpringDeletria existinasunmer3.5'''sundrift.3.8''''''''''''''''''''''''''''''''''''	Colombine	Aquilegia canadensis	pink/yellow/red	spring	1-3'	sun/ps	dry/ave	3-8		
MilkweedAcceptorAcceptorand <t< td=""><td>Swamp Milkweed</td><td>Asclepias incarnata</td><td>pink</td><td>summer</td><td>4-5'</td><td>sun</td><td>ave/wet</td><td>3-6</td><td>B, R</td><td></td></t<>	Swamp Milkweed	Asclepias incarnata	pink	summer	4-5'	sun	ave/wet	3-6	B, R	
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TurdleheadChicane glabrapink/whitesummer2.3'psmoist, acidic3.8.P, B.Lancelsaf ConcopsisCorcopsis lanceolatayellowspring, summer2.5'sun/psdiry-moist2.6B.Lancelsaf ConcopsisDennstaeditip punctilobula1.52'yellowsumps3.9'Yellow3.8'Bedering HearDennstaeditip punctilobula1.52'yellowsumps3.9'P, B. W.Echinacte purpureapurple pinksummer2.5'sun/psony3.9'P, B. W.Sonted Joe PyeEuptoriodelphus purpureaspinksummer4.6'sun/psmoist.3.8B, R.Joe PyeEuptoriodelphus purpureaspinksummer7.5'sundry/ave3.8P, B.Banket FlowerGaillardia publellaredyellowspring, summer7.5'sundry/ave3.8P, B.Banket FlowerGaillardia publellaredyellowspring, summer7.5'sundry/ave3.8P, B.Banket FlowerGaillardia publellaredyellowspring, summer7.4'sunave/text5.9RBanket FlowerGaillardia publellaredyellowspring3.3''sundry/ave3.8P, B.W.Banket FlowerGaillardia publellaredyellowspring3.4''sunave/text5.9RBanket FlowerGaillardia publellaredyellowspring3.3''	Fireweed	Chamerion angustifolium	purple	summer	2-5'	sun/ps	ave	2-7	P	
Sweet FerinComponite Perceptinagreenspring2.5'sun/psdry-moist2.6BLanceleaf CoreopsisCoreopsis lanceolatayellowspring, summer3'oh/psave3-1Hayscented FernDenstandin punctilobula15.5'psave3-9Echinacea purpurepurpla pinksummer2.5'sun/psmoist4-9P, B, WSpotted Loe PyeEupatoriande/phus purpureaupinksummer4-6'sun/psmoist4-9P, B, W, RBonestEupatoriande/phus purpureaupinksummer4-5'sun/psmoist4-9P, B, W, RBonestGallorda aristatared, yellowspring, summer7.5'sundry/ave3-8P, RBlahket FlowerGallorda aristatared, yellowspring, summer2.4'sunave/wet5-9RBlahket FlowerGallorda pulchellored, yellowspring, summer2.4'sunave/wet5-9RBlahket FlowerGallorda pulchellored, yellowspring, summer2.4'sunave/wet5-9RBlahket FlowerGallorda pulchellored, yellowspring, summer2.4'sun/psave/wet5-9RBlahket FlowerGallorda pulchaltoweitesummer2.4'sun/psave/wet3-8P, R, W, BBlahket FlowerLopinaMatteccia struthitopteris-3-6'struthstruthstruth </td <td>Turtlehead</td> <td>Chleone glabra</td> <td>pink/white</td> <td>summer</td> <td>2-3'</td> <td>ps</td> <td>moist, acidic</td> <td>3-8</td> <td>P, B</td> <td></td>	Turtlehead	Chleone glabra	pink/white	summer	2-3'	ps	moist, acidic	3-8	P, B	
Lanceles Lanceles Lanceles Decentra exiniayelow yelow pinkspring, summer spring, summer2.5.2" shd/pssiny seve sev	Sweet Fern	Compontia Peregrina	green	spring	2-5'	sun/ps	dry - moist	2-6	В	
Haysender fernDenstaditio punctifubula1.2'shd/psave3.8Bleeding HeartDicentra exmiapinksyring, summe1.1.5'psave3.9P, B, WBleeding HeartEchinacea purpierapurple pinksummer2.5'sun/psmoixt4.9P, B, W, RSpotted Joe PyeEuptoriadelphos purpurespinksummer5.7'sun/smoixt4.9P, B, W, RBonsetEuptoriadelphos purpurespinksummer5.7'sunmoixt3.8B, RBonsetGallardia pinktellared, yellowspring, summer7.5'sundr/yave3.8P, BBahext FlowerGallardia pinktellared, yellowspring, summer2.4'sunave/vet5.9RBahext FlowerLobelia cardinolisred purplesummer2.4'sun/save/vet3.8P, B, W, RLobeliaLobelia cardinolisredsummer2.4'sun/save/vet3.8P, B, W, RLupineLupinus perenisbus purplesummer3.6'sun/sswetTTSariet BeebalmMonarda fistulosapinkisummer3.6'sun/sswetS.9P, R, W, BBee BalmMonarda fistulosapinkishsummer3.6'sun/sswetS.9P, R, W, BBee BalmMonarda fistulosapinkishsummer3.6'sun/sswetS.9P, R, W, BBe	Lanceleaf Coreopsis	Coreopsis lanceolata	yellow	spring, summer	3'		dry		P	
Bleeding HeartDicent exmiapinkspring, summer1.5'psave3.9EchinaceaEchinacea purpireapurple pinksummer2.5'sun/psmoist4.9P, B, W, RJoe PyeEuptorinidelphus purpureuspinksummer4.6'sun/psmoist4.9P, M, R, BBonsetEuptorini perfolotumwhitesummer4.5'sunwte4.9P, M, R, BBonsetGaillardia pichellared, vellowspring, summer7.5'sundn/, Ave3.8P, BBlanket FlowerGaillardia pichellared, vellowspring, summer7.5'sundn/, Ave2.11P, BBlanket FlowerGaillardia pichellared, vellowspring, summer2.4'sunave/vet3.8P, R, W, BBlanket FlowerLidris spicatared purplesummer2.4'sunave/vet3.8P, R, W, BLobeliaLobelia cardinolisredsummer2.4'sun/psave/vet3.8P, R, W, BLobeliaLobelia cardinolisredsummer2.4'sun/psave/vet3.8P, B, W, BSarlet BeebalmMonarda didymaRedsummer2.4'sun/psave/vet3.8P, R, W, BSolich FrancePentsmorn digitalswhitesummer3.5'sun/psave/vet5.9R, WSolich FrancePentsmorn digitalswhitesummer3.4'sun/pssun/ps3.8'	Hayscented Fern	Dennstaedtia punctilobula	-		1.5-2'	shd/ps	ave	3-8		
ÉchinachéaÉchinace purpureapurple pinksummer2-5'sun/psdry3-9P, B, WSpotted Joe PyeEupatoriadelphus maculatuspinksummer4-6'sun/psmoist4-9P, BW, RBonsetEupatoriadelphus arpureapinksummer4-5'sunsum4-9P, W, R, BBonsetEupatoriadelphus arpureapinksummer4-5'sunsum et3-8B, RBonsetGaillardia pulchellared, yellowspring, summer3-7'sunave/wet5-9RBlanket FlowerGaillardia pulchellared yellowspring, summer3-7'sunave/wet5-9RBlaing StarLibrits spicatored yellowspring2-4'sunsuve3-8P, B, W, BLobeliaLobelia cardinalisred purplesummer3-7'sunave/wet3-9P, R, W, BLupineLupinus prennislobel numrer2-4'sun/psver/wet3-9P, R, W, BChrich FarManardo fistulosred purplesummer3-6'sun/psver/wet3-7PSarlet BeebalmManardo fistulospink lavendersummer2-4'sun/psver/se3-9P, R, W, BSwitch grassPalcumurigatumpink/shisummer2-4'sun/pssur/ps3-9P, R, W, BSwitch grassPalcumurigatumpink/shisummer2-4'sun/pssur/ps3-9P, R, W, B <td>Bleeding Heart</td> <td>Dicentra exmia</td> <td>pink</td> <td>spring, summer</td> <td>1-1.5'</td> <td>ps</td> <td>ave</td> <td>3-9</td> <td></td> <td></td>	Bleeding Heart	Dicentra exmia	pink	spring, summer	1-1.5'	ps	ave	3-9		
Spotted joe PyeEurotariadelphus maculatuspinksummer4-6°sun/psmoist4-9P, B, W, RJoe PyeEurotariandelphus purpureuspinksummer5-7'sunwet4-9P, W, R, BBonsetEurotarian perfolatumwhitesummer5-7'sunmoist3-8B, RIndian Blanket FlowerGaillardia oristatared, yellowspring, summer7-1'sundry/ave3-8P, BBlanket FlowerGaillardia pulchellared, yellowspring, summer7-1'sunave/wet5-9'RBlazing StarLiatris spicatared purplesummer2-4'sund, suave/wet3-8P, B, W, BLupineLupinus perennisblue purplespring2-3'sunave/wet3-9'P, R, W, BScarlet BeebalmMonarda fistulosapink lavendersummer3-6'sun/psave/wet3-9'P, R, W, BBeeta TounguéPenstamon digitaliswhitesummer3-6'sun/psave/wet5-9'R, WBeard TounguéPenstamon digitaliswhitesummer3-6'sun/psave/wet5-9'R, WBeard TounguéPenstamon digitaliswhitesummer3-6'sun/psave/moist3-9'P, R, WBeard TounguéPenstamo digitaliswhitesummer3-6'sun/psave/moist3-9'P, R, WBeard TounguéPenstamo digitaliswhitesummer	Echinachea	Echinacea purpurea	purple pink	summer	2-5'	sun/ps	dry	3-9	P, B, W	
joe PyeEupstoriadelphus purpreuspinksummer5-7'sunwet4-9P, W, R, BBonsetEupstorium perfoliatumwhitesummer4-5'sun/psmoist3-8B, RBinand Banket FlowerGaillardia paichellared,vellowspring, summer7-1'sundry/ave3-8P, BBlanket FlowerGaillardia paichellared,vellowspring, summer2-4'sunave/wet5-9'RBlaine StarLidaris spicatared purplesummer2-4'sunave/wet3-9'P, W, RLobeliaLobelia cardinalisredsummer2-4'sunave/wet3-9'P, W, RLupineLupinus perennisblue purplespring2-3'sun/ dry/ave3-9'P, B, W, RCatrict BeebalmMonarda fistulosapink lavendersummer3-6'sun/psave-wet3-7'SunSociarte BeebalmMonarda fistulosapink lavendersummer3-6'sun/psave-wet3-9'P, R, W, BBee BalmMonarda fistulosapink lavenderspring2-4'sunave-met3-8'B, W, RBee BalmMonarda fistulosapink lavenderspringsunsun/psave-met3-8'B, W, RBead TounguePanicum/rigratumpink lavenderspring2-4'sunave-met3-8'B, W, RBead TounguePanicum/rigratumpink lavenderspringsun/pssun/ps </td <td>Spotted Joe Pye</td> <td>Eupatoriadelphus maculatus</td> <td>pink</td> <td>summer</td> <td>4-6'</td> <td>sun/ps</td> <td>moist</td> <td>4-9</td> <td>P, B, W, R</td> <td></td>	Spotted Joe Pye	Eupatoriadelphus maculatus	pink	summer	4-6'	sun/ps	moist	4-9	P, B, W, R	
BanetetEuganization perfoliationwhitesummer4-5'sun/spmoist3-8B, RIndian Blanket FlowerGaillardia arstatared,vellowspring, summer7-5'sundry/ave3-8.P, BSwann pmallowHubiscus mascheutoswhite/pinksummer3-7'sundry/ave3-8.P, BSwann pmallowHubiscus mascheutoswhite/pinksummer2-4'sunave/weit5-9.RBlazing StarLabelia cardinalisred purplesymmer2-4'sun/spave/weit3-9.P, R, W, BLubeliaLabelia cardinalisred purplesymmer2-4'sun/spave/weit3-8.P, BSatta BeebalmMantard cinforisredsymmer3-3'sun/spave/weit3-9.P, R, W, BSwitch grassManarda fistulosapink lavendersummer3-1'sun/spave/weit5-9.R, WBeard TounguePenstomon digitaliswhitespring3-5'sunave/moit3-9.P, R, W, BSolonon's SealPolemonium carciulumpink/whitelate summer2-4'sun/spave/moit3-9.P, R, W, BSolonon's SealPolemonium carciulumpink/whitespring1-3'sunave/moit3-9.P, R, WSolonon's SealPolemonium carciulumgreen whitespring1-3'sunave/moit3-9.P, R, WSolonon's SealPolyapantum bifforumgreen whi	Joe Pye	Eupotoriadelphus purpureus	pink	summer	5-7'	sun	wet	4-9	P, W, R, B	
Indian Blanket FlowerGaillardia aristatared, yellowspring, summer.75-1'sundry/ave3-8.P, B.Blanket FlowerGaillardia pulchellared, yellowspring, summer2.'sundry/ave2-11P, B.Blanket FlowerGaillardia pulchellavelcyellowspring, summer2.'sundry/ave2-11P, B.Blazing StarLiatris spicatared purplesummer2.4'sunave3-8P, R, W, BLobeliaLobelia cardinalisredsummer2.4'sunave3-8P, B.LobeliaLupineLupine perenisblue purplespring,2.3'sun dry/ave3-8P, B.Ostrich FernMatcuccia struthiopteris3-6'shd/psavente3-75-7SerietSearlet BeebalmMonardo distubaspinksummer3'sur/pswet5-9P, B. W. BSwitch grassPanicumvirgutumpinkishsummer3-5'sunave3-8B, W, BSwitch grassPanicumvirgutumpinkishsummer3-5'sunave3-8B, W, RDedeiner PlantPhysostegio virginianawhitespring,3-5'sunave/moist3-9F.Solomon's SealPolgonotum bifforumgreen whitespring,1-3'ps/shmoist3-8P, B.Plactsbinor FlowerSchizbachrium scopariumgreen whitespring,1-3'ps/	Bonset	Eupatorium perfoliatum	white	summer	4-5	sun/ps	moist	3-8	B, R	
Blanket FlowerGaillardia pulchellared, yellowspring, summer2'sundry/ave2-11P, B.Swamp mallowHibicsus moscheutoswhite/pinksummer3-7'sunave/wet5-9RBlazing StarLibris spicatared purplesummer2-4'sun, ave3-8P, R, W, BLobeliaLobelia cardinalisredsummer2-4'sun/psave/wet3-9P, W, RLupineLupinus perennisblue purplespring2-3'sun, dry/ave3-8P, BSarlet BeebalmMonarda fistulopateris3-6'sun/psave-wet3-7SSearlet BeebalmMonarda fistulosapink lavendersummer3-4'sun/psave-wet3-9P, R, W, BSwitch grassPanicumvirgatumpinkishsummer3-5'sunave3-8B, W, RDedient PlantPhysostegio virginianapink/whitelate summer2-4'sunave/wet5-9R, WJacobs LadderPenstomon digitatiswhitespring3-5'sunave4-8SSolomon's SealPolygonatum bifflorumgreen whitespring1-3'ps/shave4-8PAppalachian Mountain MintPorantherum flexuosumwhitesummer2-3''sun/psave5-8PPincushion FlowerSolobasSolobasgreen bluesummer2-3''sun/psave5-8P	Indian Blanket Flower	Gaillardia oristata	red, yellow	spring, summer	.75-1'	sun	dry/ave	3-8	P.B	
Swamp mallowHibiscus moscheutoswhite/pinksummer3-7'sunave/wet5-9RBlazing StarLidris spicatared purplesummer2-4'sunave3-8P, R, W, BLobeliaLobelia cordinalisredsummer2-4'sunave/wet3-8P, B, W, BLupineLupinus perennisblue purplespring2-3'sundry/ave3-8P, BOstrich FernMonarda didymaRedsummer3'sun/psdry/ave3-9P, R, W, BSearlet BeebalmMonarda fistulosapink lavendersummer2-4'sun/psdry/ave3-9P, R, W, BSwitch grassPancium/irgatumpink lavendersummer3-6'sun/psave/wet5-9R, WBeard TounguePenstomon digitaliswhitespring3-6'sunave/moist3-9P, R, WJacobs LadderPenstomon digitaliswhitespring1-2'sun/psave/moist3-9P, R, WSolondr's SealPolegonium cortichades1-2'sun/psave4-8-Solondr's SealPolegonium cortichades1-2'sun/psave4-8-Solondr's SealPolegonium cortichades1-2'sun/psave4-8Solondr's SealPolegonium cortichades1-2'sun/psave5-8P </td <td>Blanket Flower</td> <td>Gaillardia pulchella</td> <td>red,yellow</td> <td>spring, summer</td> <td>2'</td> <td>sun</td> <td>dry/ave</td> <td>2-11</td> <td>P, B</td> <td></td>	Blanket Flower	Gaillardia pulchella	red,yellow	spring, summer	2'	sun	dry/ave	2-11	P, B	
Blazing StarLiatris spicatared purplesummer2-4'sunave3-8P, R, W, B.LobeliaLobelia cardinalisredsummer2-4'sun/save/wet3-9P, W, RLupineLupinus perennisblue purplespring2-3'sundry/ave3-8P, BCostrich FernMotarda didymaRedsummer3'sur/svwe-wet3-7Scarlet BeebalmMonarda fistulosapink lavendersummer3'sun/svwetwet5-9P, R, W, BBee BalmMonarda fistulosapink lavendersummer3-6'sun/svswe/wet5-9P, R, W, BBee dalmMonarda fistulosapink lavenderspring3-5'sunave3-8B, W, RBee dalmMonarda fistulosapink kinksummer3-6'sun/svave/wet5-9P, R, WBee dalmMonarda fistulosapink/shsummer3-5'sunave3-8B, W, RBee dalmPenstomon digitaliswhitespring2'sys/save3-8B, W, RDedient PlantPhysostegio virginianapink/shspring1-3'sunave3-8PRChristmas FernPolystohum acrostichodes1-2'shd/ssysdiv< ave	Swamp mallow	Hibiscus moscheutos	white/pink	summer	3-7'	sun	ave/wet	5-9	R	
LobeliaLobelia cardinalisredsummer2-4'sun/psave/wet3-9P, W, RLupineLupinus perennisblue purplespring2-3'sundry/ave3-8P, BOstrich FernMateuccia struthiopteris3-6'shd/psave-wet3-7Scarlet BeebalmMonarda didymaRedsummer3'sun/pswet3-9P, R, W, BBee BalmMonarda fistulosapink lavendersummer2-4'sun/psdry/ave3-9P, R, W, BSwitch grassPanicumvirgutumpink/shhsummer3-6'sun/psave/wet5-9R, WBeard TounguePenstamon digitaliswhitespring3-5'sunave3-8B, W, RObedient PlantPhysostegia virginianapink/whitelate summer2-4'sunave/moist3-9P, R, WJacobs LadderPolemonium caeruleumpale bluespring2-5'sunave4-8Solomon's SealPolysontum bifforumgreen whitespring1-3'ps/smoist3-8RPhrashian Mountain MintPycnonthemum flexuosumwhitesummer2-3'sunave5-9BPincushion FlowerSabios1-2'shd/psdry-ave3-9PPincushion FlowerSabiosiavender blueapril-frost1-1.5'sunave5-9B <td>Blazing Star</td> <td>Liatris spicata</td> <td>red purple</td> <td>summer</td> <td>2.4'</td> <td>sun</td> <td>ave</td> <td>3-8</td> <td>P, R, W, B</td> <td></td>	Blazing Star	Liatris spicata	red purple	summer	2.4'	sun	ave	3-8	P, R, W, B	
LupineLupinus perennisblue purplespring2-3'sundry/ave3-8P, BOstrich FernMatteuccia struthiopteris3-6'shd/psave-wet3-73-8PScarlet BeebalmMonarda didymaRedsummer3'sun/pswet-PPBee BalmMonarda fistulosapink lavendersummer2-4'sun/psdry/ave3-9P, R, W, BSwitch grassPanicumvirgatumpink lavendersummer3-6'sun/psave/wet5-9R, WBeard TounguePenstomon digitaliswhitespring3-5'sunave3-8P, R, WDedeinet PlantPhysostegia virginianapink/whitelate summer2-4'sunave/moist3-9P, R, WJacobs LadderPolemonium caeruleumpale bluespring1-3'ps/sdave4-8Solomon's SealPolygonatum bifflorumgreen whitespring1-3'ps/sddry - ave3-9PAppalachian Mountain MinPycnonthemum flexuosumwhitesummer1-3'sunave5-9BPInicus Nion FlowerSchizachyrium scopariumgreen bluesummer/fall3'sun /psdry - ave3-9PPGolden RodSolidago canadensisyellowsummer/fall3'sun /psave2-9BPInicus Nion FlowerSolidago canadensisyellowsummer/fall </td <td>Lobelia</td> <td>Lobelia cardinalis</td> <td>red</td> <td>summer</td> <td>2-4'</td> <td>sun/ps</td> <td>ave/wet</td> <td>3-9</td> <td>P, W, R</td> <td></td>	Lobelia	Lobelia cardinalis	red	summer	2-4'	sun/ps	ave/wet	3-9	P, W, R	
Dstrich FernMatteuccia struthiopteris3-6'shd/psave-wet3-7Scarlet BeebalmMonarda didymaRedsummer3'sun/pswet-PBee BalmMonarda fistulosapink lavendersummer2-4'sun/psdiry/ave3-9P, R, W, BBee BalmMonarda fistulosapink lavendersummer2-4'sun/psdiry/ave3-9P, R, WBee and TounguePenstomon digitaliswhitespring3-5'sunave3-8B, W, RObedient PlantPhysostegia virginanapink/whitelate summer2-4'sunave/moist3-9P, R, WJacobs LadderPolemonium caeruleumpale bluespring2'ps/shdave4-8-Solomon's SealPolygonatum bifflorumgreen whitesummer2-3''sunave3-9P, R, WAppalachian Mountain MintPycanthemum flexuosumwhitesummer2-3''sunave5-9BCintstmas FernPolygointum scopariumgreen bluesummer1-1.5'sunave5-9PPRodden RodSchizachyrium scopariumgreen bluesummer4-5'sun/psdry-ave3-9PPGolden RodSchizachyrium scopariumgreen bluesummer/fall3'sun/psave4-9PSSmooth AsterSymphyotrichum novae-angliaeyellowsummer/fall3-5'sun/p	Lupine	Lupinus perennis	blue purple	spring	2-3'	sun	dry/ave	3-8	P, B	
Scarlet BeebalmMonarda didymaRedsummer3'sun/pswetPBee BalmMonarda fistulosapink lavendersummer2-4'sun/psdry/ave3-9P, R, W, BSwitch grassPanicumvirgatumpinklishsummer3-6'sun/psave/wet5-9R, WBeard TounguePenstomon digitaliswhitespring3-5'sunave/weit3-8B, W, RObedient PlantPhysostegia virginianapink/whitelate summer2-4'sunave/moist3-8B, W, RJacobs LadderPolemonium caeruleumpale bluespring2'sunave/moist3-8RSolomon's SealPolygonatum bifflorumgreen whitespring1-3'ps/smoist3-8RChristmas FernPolystichum accrostichodes1-2'shd/psdry - ave3-9PPincushion FlowerScabiasalavender bluesummer1-1.5'sunave5-9BEUittle BluestemSchiachyrium scopariumgreen bluesummer/fall3'sun/psave2-8PPGolden RodSorghastrum nutanslight brownsummer/fall3-5'sunave4-9EESmooth AsterSymphyotrichum nove-angliaepurplefall2-4'sundry/ave3-8BPNew Indian GrassSymphyotrichum nove-angliaepurplefall6-4'sun/ps <t< td=""><td>Ostrich Fern</td><td>Matteuccia struthiopteris</td><td>-</td><td>4.000</td><td>3-6'</td><td>shd/ps</td><td>ave-wet</td><td>3-7</td><td></td><td></td></t<>	Ostrich Fern	Matteuccia struthiopteris	-	4.000	3-6'	shd/ps	ave-wet	3-7		
Bee BalmMonarda fistulosapink lavendersummer2-4'sun/psdry/ave3-9P, R, W, BSwitch grassPanicumvirgatumpinkishsummer3-6'sun/psave/wet5-9R, WBeard TounguePenstamon digitaliswhitespring3-5'sunave3-8B, W, RObedient PlantPhysotegio virginianapink/whitelate summer2-4'sunave/moist3-9P, R, WJacobs LadderPolemonium caeruleumpale bluespring2'ps/shdave4-8-Solomon's SealPolygontum bifflorumgreen whitespring1-3'ps/smoist3-9P-Appalachian Mountain MintPycnanthemum flexuosumwhitesummer2-3''sunave5-9B-Pincushion FlowerScabiosa1-2'shd/psdry - ave3-9Pincushion FlowerScabiosaiavender bluesummer2-3''sunave5-9B-Colden RodSolidogo canadensisyellowsummer/fall3'sun/psave5-9B-Smooth AsterSorghastrum nutanslight brownsummer/fall3'sun/psave2-8P, B, W, RSmooth AsterSymphyotrichum novae-angliaepurplefall2-4'sundry/ave3-8BNew Enland AsterSymphyotrichum novae-angliaepurplefall6' <t< td=""><td>Scarlet Beebalm</td><td>Monarda didyma</td><td>Red</td><td>summer</td><td>3'</td><td>sun/ps</td><td>wet</td><td></td><td>P</td><td></td></t<>	Scarlet Beebalm	Monarda didyma	Red	summer	3'	sun/ps	wet		P	
Switch grassPanicumvirgatumpinkishsummer3-6'sun/psave/wet5-9R, WBeard TounguePenstamon digitaliswhitespring3-5'sunave3-8B, W, RObedient PlantPhysostegio virginianapink/whitelate summer2-4'sunave/moist3-9P, R, WJacobs LadderPolemonium caeruleumpale bluespring2'ps/shdave4-8-Solomon's SealPolygonatum bifflorumgreen whitespring1-3'ps/smoist3-8RChristmas FernPolystichum acrostichodes1-2'shd/psdry ave5-9BPincushion FlowerScabiosalavender bluespring1-3'sunave5-9BLittle BluestemSchizachyrium scopariumgreen bluesummer2-3''sunave5-9BGolden RodSolidago canadensisyellowsummer/fall3'sun/psdry-ave3-9PGolden RodSolidago canadensisyellowsummer/fall3'sun/psave4-9-Smoth AsterSymphyotrichum Inevevioletfall2-4'sundry-ave3-8BNew Enland AsterSymphyotrichum novae-angliaepurplefall2-4'sundry-ave3-9PMeadow RueThalictrum rocheburianumjavendersummer/fall3-5'sunave4-8'-Indi	Bee Balm	Monarda fistulosa	pink lavender	summer	2-4'	sun/ps	dry/ave	3-9	P, R, W, B	
Beard TounguePenstamon digitaliswhitespring3-5'sunave3-8B, W, RObedient PlantPhysostegia virginianapink/whitelate summer2-4'sunave/moist3-9P, R, WJacobs LadderPolemonium coeruleumpale bluespring2'ps/shdave4-8Solomon's SealPolygonatum bifflorumgreen whitespring1-3'ps/smoist3-8RChristmas FernPolystichum acrostichodes1-2'shd/psdry - ave3-9Appalachian Mountain MinPycnanthemum flexuosumwhitesummer2-3''sunave5-8PPincushion FlowerScabiosalavender blueapril-frost1-1.5'sunave5-98Little BluestemSchizachyrium scopariumgreen bluesummer/fall3'sun/psdry-ave3-9PGolden RodSolidago canadensisyellowsummer/fall3'sun/psave5-98PIndian GrassSorghostrum nutanslight brownsummer/fall3-5'sunave4-9PPSmoth AsterSymphyotrichum laevevioletfall2-4'sundry/save3-8BPNew Enland AsterSymphyotrichum noae-angliaepurplefall6'sun/psave4-9TTIndian GrassSymphyotrichum noae-angliaepurplefall6'sun/	Switch grass	Panicumvirgatum	pinkish	summer	3-6'	sun/ps	ave/wet	5-9	R, W	
Obedient PlantPhysostegio virginianapink/whitelate summer2-4'sunave/moist3-9P, R, WJacobs LadderPolemonium caeruleumpale bluespring2'ps/shdave4-850Solomon's SealPolygonatum bifflorumgreen whitespring1-3'ps/smoist3-8RChristmas FernPolystichum acrostichodes1-2'shd/psdry - ave3-9-Appalachian Mountain MintPycnanthemum flexuosumwhitesummer2-3"sunave5-8PPincushion FlowerScabiasalavender blueapril-frost1-1.5'sunave5-9BLittle BluestemSchizachyrium scopariumgreen bluesummer/fall3'sun/psdry-ave3-9PGolden RodSolidago canadensisyellowsummer/fall3'sun/psave2-8P, B, W, RIndian GrassSorghastrum nutonslight brownsummer/fall3-5'sunave4-9-Smooth AsterSymphyotrichum laveevioletfall2-4'sundry/ave3-8BBNew Enland AsterSymphyotrichum novae-angliaepurplefall6'sun/psave4-7IronweedVeronia noveboracensispurplelate summer4-6'sunave/wet5-9P, R, CCulver's RootVeronicostrum virginicumwittesummer4-6'su	Beard Toungue	Penstomon digitalis	white	spring	3-5	sun	ave	3-8	B, W, R	
Jacobs LadderPolemonium caeruleumpale bluespring2'ps/shdave4-8Solomon's SealPolygonatum bifflorumgreen whitespring1-3'ps/smoist3-8RChristmas FernPolystichum acrostichodes1-2'shd/psdry - ave3-9Appalachian Mountain MintPycnanthemum flexuosumwhitesummer2-3"sunave5-8PPincushion FlowerScabiosalavender blueapril-frost1-1.5'sunave5-98Little BluestemSchizachyrium scopariumgreen bluesummer/fall3'sun/psdry-ave3-9PGolden RodSoldgo canadensisyellowsummer/fall3-5'sunave2-8P, B, W, RIndian GrassSorghastrum nutanslight brownsummer/fall3-5'sunave4-9-Smooth AsterSymphyotrichum novae-angliaevioletfall2-4'sundry/ave3-8BNew Enland AsterSymphyotrichum novae-angliaepurplefall6'sun/psave4-7-IronweedVeronia noveboracensispurplelate summer4-6'sunave/wet5-9P, R,Culver's RootVeronia noveboracensispurplelate summer4-6'sunave/wet5-9P, R,Culver's RootVeronia noveboracensispurplelate summer4-6'sunave/wet5-9P, R,	Obedient Plant	Physostegio virginiano	pink/white	late summer	2-4'	sun	ave/moist	3-9	P, R, W	
Solomon's SealPolygonatum bifflorumgreen whitespring1-3'ps/smoist3-8RChristmas FernPolystichum acrostichodes1-2'shd/psdry - ave3-9Appalachian Mountain MintPycnanthemum flexuosumwhitesummer2-3"sunave5-8PPincushion FlowerScabiosalavender blueapril-frost1-1.5'sunave5-98Little BluestemSchizachyrium scopariumgreen bluesummer/fall3'sun/psdry-ave3-9PGolden RodSolidago canadensisyellowsummer/fall3'sun/psave2-8P, B, W, RIndian GrassSorghastrum nutanslight brownsummer/fall3-5'sunave4-9	Jacobs Ladder	Polemonium caeruleum	pale blue	spring	2'	ps/shd	ave	4-8		
Christmas FernPolystichum acrostichodes1-2'shd/psdry - ave3-9Appalachian Mountain MintPycnanthemum flexuosumwhitesummer2-3"sunave5-8PPincushion FlowerScabiosalavender blueapril-frost1-1.5'sunave5-9BLittle BluestemSchizachyrium scopariumgreen bluesummer/fall3'sun/psdry-ave3-9PGolden RodSolidago canadensisyellowsummer4-5'sun/psave2-8P, B, W, RIndian GrassSorghastrum nutanslight brownsummer/fall3-5'sunave4-9	Solomon's Seal	Polygonatum bifflorum	green white	spring	1-3'	ps/s	moist	3-8	R	
Appalachian Mountain MintPycnanthemum flexuosumwhitesummer2-3"sunave5-8PPincushion FlowerScabiosalavender blueapril-frost1-1.5'sunave5-9BLittle BluestemSchizachyrium scopariumgreen bluesummer/fall3'sun/psdry-ave3-9PGolden RodSolidago canadensisyellowsummer4-5'sun/psave2-8P, B, W, RIndian GrassSorghostrum nutanslight brownsummer/fall3-5'sunave4-9-Smooth AsterSymphyotrichum laevevioletfall2-4'sundry/ave3-8BNew Enland AsterSymphyotrichum novae-angliaepurplefall6'sun/psave4-8PMeadow RueThalictrum rocheburianumlavendersummer4-6'sun/psave4-7IronweedVeronia noveboracensispurplelate summer4-6'sunave/wet5-9P, RCulver's RootVeronicostrum virginicumwhitesummer4-6'sunave/wet5-9P, R	Christmas Fern	Polystichum acrostichodes		4	1-2'	shd/ps	dry - ave	3-9		
Pincushion FlowerScabiosaIavender blueapril-frost1-1.5'sunave5-9BLittle BluestemSchizachyrium scopariumgreen bluesummer/fall3'sun/psdry-ave3-9PGolden RodSolidago canadensisyellowsummer4-5'sun/psave2-8P, B, W, RIndian GrassSorghostrum nutonslight brownsummer/fall3-5'sunave4-9-Smooth AsterSymphyotrichum loevevioletfall2-4'sundry/ave3-8BNew Enland AsterSymphyotrichum novae-angliaepurplefall6'sun/psave4-8'PMeadow RueThalictrum rocheburianumIavendersummer4-6'sunave/wet5-9P, RIronweedVeronia noveboracensispurplelate summer4-6'sunave/wet5-9P, RCulver's RootVeronicastrum virginicumwhitesummer4-7'sunave/wet3-8B, R	Appalachian Mountain Mint	Pycnanthemum flexuosum	white	summer	2-3"	sun	ave	5-8	P	
Little BluestemSchizachyrium scopariumgreen bluesummer/fall3'sun/psdry-ave3-9PGolden RodSolidago canadensisyellowsummer4-5'sun/psave2-8P, B, W, RIndian GrassSorghastrum nutanslight brownsummer/fall3-5'sunave4-9Smooth AsterSymphyotrichum laevevioletfall2-4'sundry/ave3-8BNew Enland AsterSymphyotrichum novae-angliaepurplefall6'sun/psave4-8PMeadow RueThalictrum rocheburianumlavendersummer4-6'sun/psave4-7Image: Summer4-6'sunave/wet5-9P, R.Culver's RootVeronicastrum virginicumwhitesummer4-7'sunave/wet3-8B, R	Pincushion Flower	Scabiosa	lavender blue	april-frost	1-1.5	sun	ave	5-9	8	
Golden RodSolidago canadensisyellowsummer4-5'sun/psave2-8P, B, W, RIndian GrassSorghastrum nutanslight brownsummer/fall3-5'sunave4-9Smooth AsterSymphyotrichum laevevioletfall2-4'sundry/ave3-8BNew Enland AsterSymphyotrichum novae-angliaepurplefall6'sun/psave4-8PMeadow RueThalictrum rocheburianumlavendersummer4-6'sun/psave4-7IronweedVeronia noveboracensispurplelate summer4-6'sunave/wet5-9P, RCulver's RootVeronicastrum virginicumwhitesummer4-7'sunave/wet3-8B, R	Little Bluestem	Schizachyrium scoparium	green blue	summer/fall	3'	sun/ps	dry-ave	3-9	P	
Indian GrassSorghastrum nutonslight brownsummer/fall3-5'sunave4-9Smooth AsterSymphyotrichum laevevioletfall2-4'sundry/ave3-8BNew Enland AsterSymphyotrichum novae-angliaepurplefall6'sun/psave4-8PMeadow RueThalictrum rocheburianumlavendersummer4-6'sun/psave4-7IronweedVeronia noveboracensispurplelate summer4-6'sunave/wet5-9P, RCulver's RootVeronicastrum virginicumwhitesummer4-7'sunave/wet3-8B, R	Golden Rod	Solidago canadensis	yellow	summer	4-5'	sun/ps	ave	2-8	P, B, W, R	
Smooth AsterSymphyotrichum laevevioletfall2-4'sundry/ave3-8BNew Enland AsterSymphyotrichum novae-angliaepurplefall6'sun/psave4-8PMeadow RueThalictrum rocheburianumIavendersummer4-6'sun/psave4-7IronweedVeronia noveboracensispurpleIate summer4-6'sunave/wet5-9P, RCulver's RootVeronicastrum virginicumwhitesummer4-7'sunave/wet3-8B, R	Indian Grass	Sorghastrum nutans	light brown	summer/fall	3-5'	sun	ave	4-9		
New Enland AsterSymphyotrichum novae-angliaepurplefall6'sun/psave4-8PMeadow RueThalictrum rocheburianumIavendersummer4-6'sun/psave4-7IronweedVeronia noveboracensispurpleIate summer4-6'sunave/wet5-9P, RCulver's RootVeronicostrum virginicumwhitesummer4-7'sunave/wet3-8B, R	Smooth Aster	Symphyotrichum laeve	violet	fall	2-4'	sun	dry/ave	3-8	В	
Meadow RueThalictrum rocheburianumlavendersummer4-6'sun/psave4-7IronweedVeronia noveboracensispurplelate summer4-6'sunave/wet5-9P, RCulver's RootVeronicastrum virginicumwhitesummer4-7'sunave/wet3-8B, R	New Enland Aster	Symphyotrichum novae-angliae	purple	fall	6'	sun/ps	ave	4-8	P	
IronweedVeronia noveboracensispurplelate summer4-6'sunave/wet5-9P, RCulver's RootVeronicastrum virginicumwhitesummer4-7'sunave/wet3-8B, R	Meadow Rue	Thalictrum rocheburianum	lavender	summer	4-6'	sun/ps	ave	4-7		
Culver's Root Veronicastrum virginicum white summer 4-7' sun ave/wet 3-8 B, R	Ironweed	Veronia noveboracensis	purple	late summer	4-6'	sun	ave/wet	5-9	P, R.	
	Culver's Root	Veronicastrum virginicum	white	summer	4-7'	sun	ave/wet	3-8	B, R	





Yellow wild indigo



Ironweed



Turtlehead



Bee balm



Solomon seal



Spotted joe pye



Yarrow



New England aster



Blanket flower



Bleeding heart



Jacobs ladder



Pincushion flower



32/40

RECOMMENDED TREES

Common Name

Shadblow Serviceberry American Hornbeam Shagbark Hickory Northern Catalpa Common Hackberry Redbud Fringe Tree Butternut American larch Tupelo, Black Gum Eastern Poplar American Plum Swamp White Oak Red Oak Peach-Leaf Willow Willow White Cedar America Linden/Basswood

Botanical Name Amerlanchier cana Carpinus carolinian Carya ovata Catalpa speciosa Celtis occidentalis Cercis canadensis Chionantus virginia Juglans cinerea Larix laricina Nyssa sylvatica Populus deltoides Prunus americana Quercus bicolor Quercus rubra Salix amygdaloides Salix nigra Thuja occidentalis Tilia americana

densis	Flower color	Bloom Time	Size	Light	Water moist/ave	Zone Hardiness	Other	KEY: P = Pollinator	Fogram in Such a planning + De
us	white/green	-	20-35'	shd/ps	ave	3-9		W = Wildlife	duate I Idscape
	green yellow	spring	70-90'	sun/ps	ave	4-8	E, F	E = Edible	Lan DV
	white	spring	40-70'	sun/ps	ave	4-8		R = Rain Garden	ы С С С
111	green	spring	65'	sun/ps	moist	3-9	E, W, FP		
	pink	spring	20-30'	sun/ps	ave	4-8	1.1.1.1.1.1		NTHZ
nus	cream	spring	12-20'	sun/ps	ave	3-9	W		AMAI
	yellow green	spring	40-60'	sun	ave-wet	3-7	E, W		r, S, MITH
	21.0	3	40-80'	sun/ps	ave	2-5	R		DLDE DA SN
	green white	spring	30-50	sun/ps	ave/wet	3-9	P, R		E HG
		spring	75-100'	sun	moist/wet	3-9	FP, W		ERIN D AN
	white	spring	15-25'	sun/ps	dry/ave	3-8	W, E		(ATH
	yellow green	spring	50-60'	sun/ps	ave/wet	3-8			BY: k EIKES
	-	spring	50-75'	sun/ps	dry/ave	4-8			PI
	~	spring	30-50	sun/ps		3-5	Р		SIGN
	-	spring	30-60'	sun	moist/wet	4-9	P, W		DE
	-	-	20-40'	sun/ps	ave	2-7			
			FO 701	and the	avia lun airt		D 144		



White cedar



American hornbeam



Basswood







Redbud



Serviceberry



Butternut



Swamp white oak



Northern catalpa



Common hackberry



Shagbark hickory

Tupelo





American plum



Willow Not for construction. Part of a student project and not based on a legal survey.

A MASTER PLAN FOR ASHUEL For the City of Keene, New RECOMMENDED

RECOMMENDED SHRUBS

Common Name

Buttonbush Summer sweet Summer sweet **Red Osier dogwood** Dwarf forthergilla Large fothergilla Huckleberry Witch hazel Oak Leaved Hyrdrangea Winterberry Mountain laurel Spicebush Coastal Azalea Fragrent sumac **Purple Willow** Elderberry Nannyberry Arrowwood

Botanical Name Cephalanthus occidentalis Clethera alinifolia Clethera alinifolia Cornus stolonifera Fothergilla gardenii Fothergulia major Gaylussacia dumosa Hamamelis virginiana Hydreangea quercifolia llex verticillata Kalmia latifolia Lindera bezoin Rhododendron atlanticum Rhus aromatica "Grow Low" Salix purpurea Sambucus canadensis Viburnum lentago Vuburnum dilatatum

Flower color
white
white pink
yellow
white pink
green white
rose to white
green yellow
white
yellow
white
white
white
white pink

Flower color

Bloom Time	Size
spring	5-12'
summer	3-8
summer	3-8'
spring	6-9'
spring	1.5-3'
spring	6-9'
spring	2'
late fall	15-20'
spring summer	6-8'
late spring	3-12'
spring	5-15'
early spring	6-12'
spring	3-6'
spring	1.5-2'
spring	10'-15'
spring	6'-12'
spring	14-16'
spring	8-10'

Light	Water	Zone Hardiness	Other	m in Sustainabi iing + Design I C D O O pton, MA 0106 www.csld.ed
sun/ps	moist /wet	5-9	B, W	Progra
sun/ps	ave/wet	3-8		aduate Ndscap Nd. No.
sun/ps	moist /wet	3-9	B, W	La La DC 9-4044
sun/ps	ave/wet	3-8	W, B, R	the CO ^{88 villa}
sun/ps	ave	5-8	F	A
ps/sun		4-8	H, F	ANTH
sun/ps	moist	5-9	W, E, P, H	SAM TH
sun/ps	ave	3-8	W, R,	DER, SMI ⁻
sun/ps	ave	5-9	н	HOL ANDA 2020
sun.ps	ave/wet	3-9	W,R,H	RINE AMA NG, 2
ps/shd	ave	4-9		athe and Sprii
sun/ps	ave/wet	4-9	W, B, R	3Y: K. EIKES
sun/ps	ave/moist	5-8	P, W	PE PE
sun/ps	dry/ ave	3-9	W, B	ESIGN
sun/ps	wet	4-8	Р	D
sun/ps	wet or dry	3-9	E, P, W	
sun/ps	ave	2-8	W, B, E	\succeq
sun/ps	ave	5-8	W, B	3S R PAR HIRE



Oak leaved hydrangea



Arrowwood



Purple willow



Buttonbush





Summer sweet



Red osier dogwood



Nannyberry



Dwarf fothergilla





Huckleberry

KEY: P = Pollinator B = Butterfly W = Wildlife E = EdibleR = Rain Garden H = Hedge

RECOMMENDED SHRUE A MASTER PLAN FOR ASHUELOT RIVEL FOR THE CITY OF KEENE, NEW HAMPSH

34/40

RECOMMENDED GROUND COVERS

Common Name	Botanical Name	Flower color	Bloom Time	Size	Light	Wate
Bearberry	Arctostaphylos uva-ursi	white	spring	.5-1'	sun/ps	ave
Pennsylvania edge	Carex pensylvanica	greenish	spring	6-12"	shade	moist
Green and Gold	Chrysogonum virginianum	yellow	spring-fall	.5-1'	shd/ps	ave/v
Bunchberry	Cornus canadensis	white	spring/early summer	.2575'	shd	ave
Wild Stawberry	Fragaria virginiana	white	spring	2-9"	sun	dry/a
Wintergreen	Gaultheria procumbens	white	late spring	.5-1'	ps/shd	ave
Longflower Alumroot	Heuchera longiflora	yellow	spring	8-14"	shd/ps	ave/v
Golden Seal	Hydrastis canadensis L.	white	spring	.75-1'	ps/shd	moist
Partridge Berry	Mitchella repens	white	spring	,5-1'	ps/shd	ave
Golden Ragwort	Packera aurea	yellow	spring	.5-2.5'	sun/ps	ave/v
Primrose	Primula Spp	various	spring	.75-1'	ps/shd	moist
Foam Flower	Tiarella cordifolia	white/pink	spring	.75-1'	ps/shd	ave/v

KEY:

- P = Polli
- B = Butt
- W = Wild
- E = Edib
- R = Rair WD = W



Bearberry



Foam flower



Pennsylvania sedge



Bunch berry



Green and gold



Primrose



Wintergreen



Wild strawberry







Longflower alumroo

		RECOMMENDED GROUND C A MASTER PLAN FOR ASHUELOT RIVEF FOR THE CITY OF KEENE, NEW HAMPSH
		OVER: 3 Park IIRE
		S DESIG
4-9	F	NED BY: Peike
3-9	W	Kate es an Spf
3-8	R	HERIN D AN RING,
3-8	Е	e Ho Iand <i>i</i> 202
3-7		LDER, A SMI O
4-8		, SAN TH
3-8	WD, E	IANTH
5-9	E, B	HA t
2-6	В	:he CO : ^{88 Villag}
5-9	R	Gra Lan DV Ge Hill F 5e Hill F
4-9	R	duate P dscape 733. Vor
2-6		Plannin Plannin thampt
Zone Hardiness	Other	in Sustainable g + Design ChOOL on, MA 01060 www.csld.edu
	Zone Hardiness 2-6 4-9 2-6 5-9 3-8 4-8 3-7 3-8 3-8 3-9 4-9	Zone HardinessOther2-6R5-9R2-6B5-9E, B3-8WD, E4-8-3-7E3-8E3-9W4-9F

COST ESTIMATES

Cost Item	Description	Unit	Quantity	I	Low Cost	I	High Cost	Lo	ow Subtotal	H	ligh Subtotal
Demolition											
Decidous Tree Removal	2 Red Maple, 2 Black Locust, 1 River Birch	Lump Sum	1	\$	1,000.00	\$	1,800.00	\$	1,000.00	\$	1,800.00
Coniferous Tree Removal	dwarf speciemens, 1ea 6"dbh Spruce & Hemlock	Lump Sum	1	\$	300.00	\$	500.00	\$	300.00	\$	500.00
Coniferous Transplant	Dwarf Specimens 5	Lump Sum	1	\$	1,400.00	\$	1,800.00	\$	1,400.00	\$	1,800.00
Lightpost Removal	Handicap	Lump Sum	1	\$	200.00	\$	400.00	\$	200.00	\$	400.00
Clearing and Grubbing	RMOLL	acre	0.25	\$	750.00	\$	1,500.00	\$	187.50	\$	375.00
Asphalt Removal	Starbucksand/or Handicap Spaces 40'x40'sqft	square foot	1600		\$1.50		\$2.50	\$	2,400.00	\$	4,000.00
Old Gazebo Removal		Lump Sum	1	\$	400.00	\$	600.00	\$	400.00	\$	600.00
								\$	-	\$	-
Site Improvements								\$	-	\$	-
Grading	Trails, 2' either side of trails	square foot	7696	\$	0.15	\$	0.25	\$	1,154.40	\$	1,924.00
Topsoil Type A (6" depth)	Conifer+Gazebo Bed 50'x30'	cubic feet	3000	\$	40.00	\$	60.00	\$	120,000.00	\$	180,000.00
Rain Garden: Gravel Stone	N Arboretum - 2400sqft	square foot	2400	\$	4.50	\$	10.00	\$	10,800.00	\$	24,000.00
Rain Garden: Gravel Stone	2nd Entrance - 2400sqft	square foot	2400	\$	4.50	\$	10.00	\$	10,800.00	\$	24,000.00
Rain Garden: Gravel Stone	SW Arboretum -2800 sqft	square foot	2800	\$	4.50	\$	10.00	\$	12,600.00	\$	28,000.00
Trails: Gravel	Assessible new trails: RMOLL (10' width)	linear foot	9400	\$	50.00	\$	80.00	\$	470,000.00	\$	752,000.00
Trails: Gravel	N Arboretum (10' width)	linear foot	2800		40.00		60.00	\$	140,000.00	\$	224,000.00
	Assessible new trails: EW across Arboretum (6'										
Trails: Gravel	width)	linear foot	960		40.00		60.00	\$	38,400.00	\$	57,600.00
Trails: Gravel	Assessible new trails: S to Arch (6' width)	linear foot	866		40.00		60.00	\$	34,640.00	\$	51,960.00
Trails: Gravel	Assessible new trails: SW (4' width)	linear foot	800		40.00		60.00	\$	32,000.00	\$	48,000.00
Trails: Repurpose - Gravel	N from Jonathan Daniels Trail Head 200'x 4'	linear foot	200	\$	8.00	\$	12.00	\$	1,600.00	\$	2,400.00
Pergola - wood	2@ 30'x6'	each	2	·	4500	·	6000	\$	9,000.00	\$	12,000.00
Pergola	1@20'x6'	each	1		4500		6000	\$	4,500.00	\$	6,000.00
Granite Blocks	salvaged from dam / purchased	each	3					\$, _	\$, _
Stone seating wall	20x36" (incl subgrade) x2'	square face foot	60		40		60	\$	2,400.00	\$	3,600.00
Accessable seating nooks: gravel	17: ~5338sqft total	each	17	Ś	1,300.00	Ś	1,900.00	Ś	22,100.00	\$	32,300.00
Water Line	Junction box to fountain	linear foot	125	Ś	, 30.00	Ś	, 40.00	Ś	3.750.00	Ś	5.000.00
Drip Irrigation	Arboretum. Main	linear foot	2130	Ś	0.75	Ś	1.50	Ś	1.597.50	Ś	3.195.00
Gazebo/Pavillion	20'-diameter	Lump Sum	1	Ś	15.000.00	Ś	30.000.00	Ś	15.000.00	Ś	30.000.00
Gazebo Access: Gravel	Area Around gazebo: (6' width)	linear foot	870	•	40.00	,	60.00	Ś	34.800.00	Ś	52.200.00
Parking Lot: Pourous Pavement	Starbucksand/or Handicap Spaces 40'x40'sqft	square foot						Ś	-	Ś	,
Safety Railings by Dam								Ŧ		Ŧ	
Landscaning										\$ \$	-
Compost	(from Keene ?)	cubic vard		¢	10.00	¢	60.00	¢	_	ې د	_
Trees (3-4" caliner)	N Arboretum	each	12	ç ç	600.00	ç	800.00	¢ ¢	7 200 00	¢	9 600 00
Trees $(3-4" \text{ caliper})$	SW/ Arboretum: Arboretum	each	25	ې د	600.00	ې د	800.00	у ¢	15,000,00	ې د	20,000,00
Shruhs (average 4' centers)	N Arboretum	1 gallon	12	γ ¢	15.00	γ ¢	20.00	ς ζ	180.00	ې د	20,000.00
	NAIDOLEUM	I Balloll	500	Ļ	13.00	Ļ	20.00	ч с	-	Ļ	240.00
Tall Grasses		Flat (50 plugs)	500					¢	_	ć	
Seed White Clover	N Arboretum, Alternate groundcover: 1059aft	acre	0.25	Ċ	3 000 00	ċ	5 000 00	ч с	750.00	γ ¢	1 250 00
Groundcover	1 at - 500	acre	0.25	ç	3,000.00	Ļ	3,000.00	ې د	750.00	ې د	1,250.00
Wildlife or Conservation Seed Mix	N Arboretum - 6259saft least	acre	0.25					ې خ	_	ې د	_
Wildlife or Conservation Seed Mix	N Arboretum - 5200sqft most	acre	0.25					ې خ		ې د	
Perropials	1 gal		300					ې خ	_	ې د	_
Perrenials			5000					Ļ	_	Ļ	_
Coir Logs	N Arboretum	linear foot	120					¢	_	ć	_
Coir Logs	SW Arboretum	linear foot	120					ې خ	-	ې خ	-
Cuil Lugo Invasive Species Management: Chemical	Arboretum: consult with professional							ې د	-	ې د	-
Invasive Species Management: Manual	Volunteer?	Lump Sum						ې خ	-	ې خ	-
וווימסויב סובנובא ויומוומצפווופוונ. ויומוועמו		Lump Sum						Ş	-	ډ	-
Amenities											

Bench: Granite

each

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2,000.00 1,000.00 \$



COST ESTIMATES (CONTINUED)

Bench: Granite	Arboretum: 3 benches	each				\$ -	\$ -
Bench: Granite and Wood		each				\$ -	\$ -
Bench: Solar		each				\$ -	\$ -
Water Bottle Fill Station		each	1			\$ -	\$ -
Deck Over Looks	20x20'; 12x12'	square foot	2			\$ -	\$ -
Solar Awning		each	1			\$ -	\$ -
Solar Loghts		each				\$ -	\$ -
Lighting	North Arboretum & Jonathan Daniels Trail	each	1	1000	2500	\$ 1,000.00	\$ 2,500.00
Tree Signs: Post		each	96	\$ 30.00	\$ 65.00	\$ 2,880.00	\$ 6,240.00
Tree Signs: Metal Stand		each	96	\$ 50.00	\$ 75.00	\$ 4,800.00	\$ 7,200.00
Plant ID Signs: Metal Low		each	200			\$ -	\$ -
Foot Platform/Boardwalk	N Arboretum 800sqft	square foot	800	\$ 50.00	\$ 75.00	\$ 40,000.00	\$ 60,000.00
Boardwalk w/ Deck Overlook + Kayak Launch	N Arboretum 600sqft		600	\$ 50.00	\$ 75.00	\$ 30,000.00	\$ 45,000.00
Picnic Table		each	4	\$ 250.00	\$ 2,000.00	\$ 1,000.00	\$ 8,000.00
Educational Signs	12 - 36"x48"	each	1	\$ 200.00	\$ 2,000.00	\$ 200.00	\$ 2,000.00
Sign (small, entrance)		each	2	\$ 200.00	\$ 500.00	\$ 400.00	\$ 1,000.00
Sign (large, interpretive)		each	1	\$ 400.00	\$ 1,000.00	\$ 400.00	\$ 1,000.00
Bike Rack		each	1	\$ 200.00	\$ 1,000.00	\$ 200.00	\$ 1,000.00
Subtota	l					\$ 1,076,039.40	\$ 1,714,684.00
Sales Tax	(\$ 67,252.46	\$ 107,167.75
Subtota	l					\$ 1,143,291.86	\$ 1,821,851.75
Design/Administration @ 15%-25%						\$ 171,493.78	\$ 455,462.94
Contingency @ 10%	5					\$ 114,329.19	\$ 182,185.18
Total Project Costs						\$ 1,429,114.83	\$ 2,459,499.86



POLLINATOR STREAM BANK GARDEN



Pollinator friendly shrubs and perennials provide habitat and stabilize the riverbank. The plant selection focuses on native species that are of high value to native pollinators including specialist species. Season long blooms offer visual interest to the garden. Serviceberry trees offer shade, fruit, and foliage. Cuttings from the willow shrubs along the water could be used for a basket making class in the park. Two thirty-foot seating areas have room for two benches each and are seed-ed with white clover to reduce mowing requirements. Vege-tation is lowest along the seating area edges and increases in tation is lowest along the seating area edges and increases in



38	POLLINATOR STREAM BANK GARDEN	Designed By: Katherine Holder, Samantha	Graduate Program in Sustainable Landscape Planning + Design
3/4	A MASTER PLAN FOR ASHUELOT RIVER PARK	Peikes and Amanda smith	ConwaySchool
ŀO	For the City of Keene, New Hampshire	Spring, 2020	88 Village Hill Rd. Northampton, MA 01060 413-369-4044 www.csld.edu

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3/4	A Master Plan for Ashuelot River Park	Peikes and Amanda smith	Con	waySchool
0	For the City of Keene, New Hampshire	Spring, 2020	88 Village H 413-369-40	lill Rd. Northampton, MA 01060 44 www.csld.edu

PHOTO REFERENCES

Plant precedent photos:

Ground cover

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Perennials

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Shrubs

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Trees

American hornbean https://www.etsy.com/listing/576002060/american-hor American larch https://www.gardenia.net/plant/larix-laricina American plum https://www.etsy.com/ie/listing/536716771/american-plum-Basswood https://en.wikipedia.org/wiki/Tilia americana Butternut https://www.cbc.ca/news/canada/new-brunswick/butternut-tree-r scientist-new-brunswick-1.4143430 Common hackberry https://extension.umn.edu/trees-and-shrubs/common-Fringe tree https://www.laurensgardenservice.com/product/white-fringetre Northern catalpa https://www.pinterest.com/pin/338684834454792439/

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