



**City of Richmond  
Department of Planning  
and Development Review**

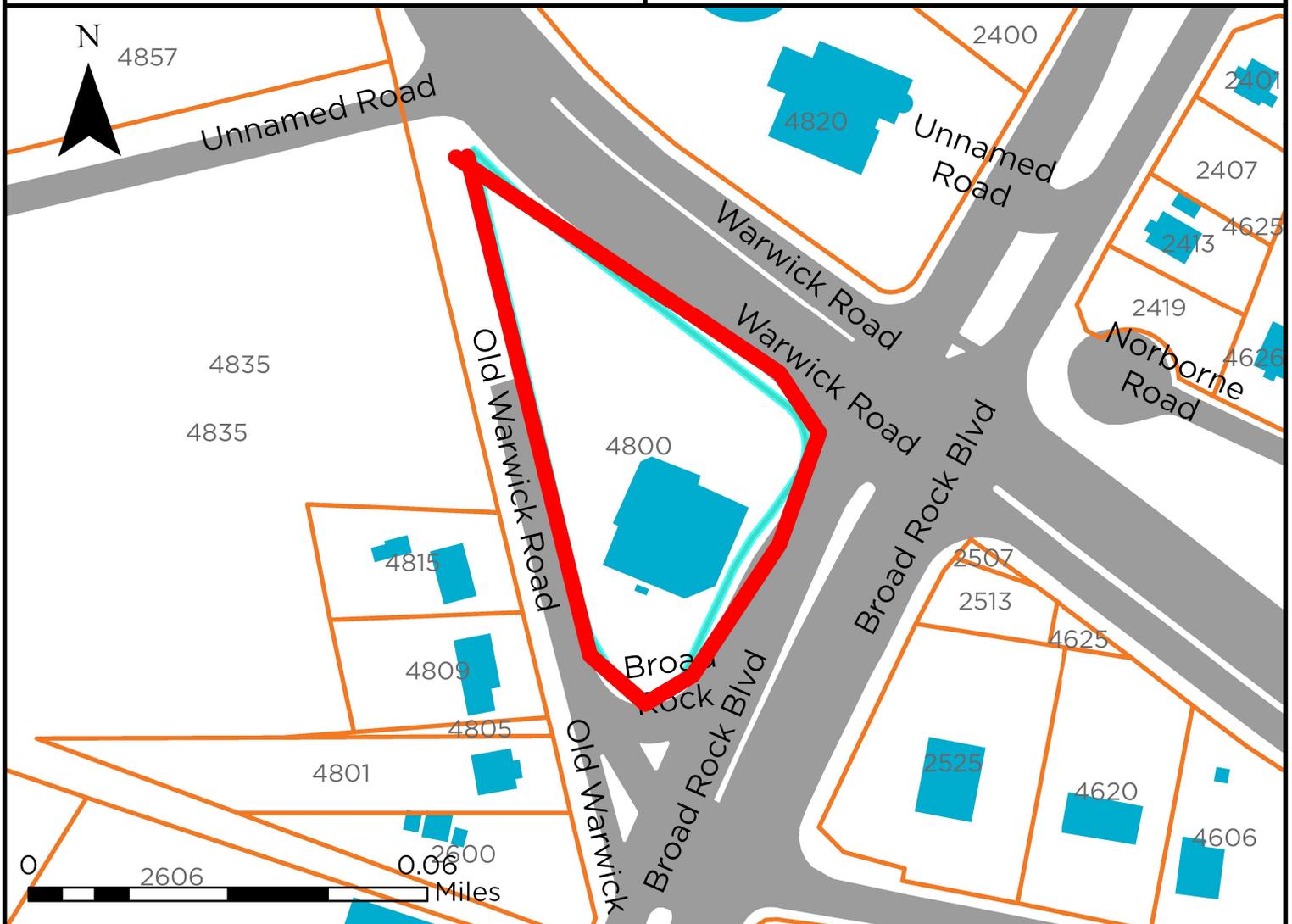
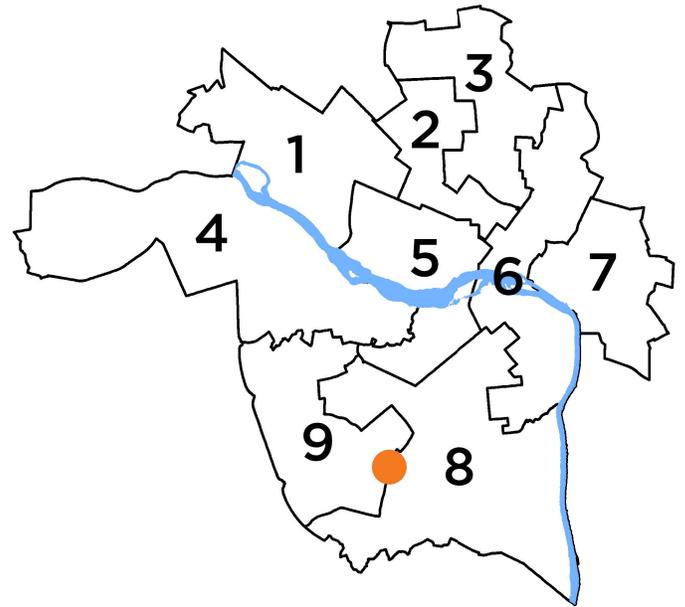
**Urban Design Committee  
Location, Character, and Extent**

Address: 4820 Old Warwick Road

Council District: 8

Description: Final review of Broad Rock Branch Public Library site improvements

For questions, please contact Alex Dandridge at (804)-646-6569 or alex.dandridge@rva.gov





## Application for Urban Design Committee Review

Department of Planning and Development Review  
Planning & Preservation Division  
900 E. Broad Street, Room 510  
Richmond, Virginia 23219 | (804) 646-6335  
[www.richmondgov.com/CommitteeUrbanDesign](http://www.richmondgov.com/CommitteeUrbanDesign)



### Application Type (select one)

Location, Character, & Extent  
Section 17.05  
Other:

Encroachment  
Design Overlay District

### Review Type (select one)

Conceptual  
Final

### Project Information

Submission Date: \_\_\_\_\_

Project Name: \_\_\_\_\_

Project Address: \_\_\_\_\_

Brief Project Description (this is not a replacement for the required detailed narrative):

### Applicant Information (a City representative must be the applicant, with an exception for encroachments)

Name: \_\_\_\_\_ Email: \_\_\_\_\_

City Agency: \_\_\_\_\_ Phone: \_\_\_\_\_

Main Contact (if different from Applicant): \_\_\_\_\_

Company: \_\_\_\_\_ Phone: \_\_\_\_\_

Email: \_\_\_\_\_

### Submittal Deadlines

All applications and support materials must be filed no later than 21 days prior to the scheduled meeting of the Urban Design Committee (UDC). Please see the schedule on page 3 as actual deadlines are adjusted due to City holidays. **Late or incomplete submissions will be deferred to the next meeting.**

### Filing

Applications can be mailed or delivered to the attention of "Urban Design Committee" at the address listed at the top of this page. **It is important that the applicant discuss the proposal with appropriate City agencies, Zoning Administration staff, and area civic associations and residents prior to filing the application with the UDC.**

### Submittal Deadlines

The UDC is a ten member committee created by City Council in 1968 whose purpose is to advise the City Planning Commission (CPC) on the design of projects on City property or right-of-way. The UDC provides advice of an aesthetic nature in connection with the performance of the duties of the Commission under Sections 17.05, 17.06, and 17.07 of the City Charter. The UDC also advises the Department of Public Works in regards to private encroachments in the public right-of-way.

# Greening Richmond Public Libraries

IMPROVING THE HEALTH OF THE JAMES RIVER BY REDUCING STORMWATER POLLUTION

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## Broad Rock Branch

### Project Description

This project was previously submitted and approved by UDC. Changes to the plan include the elimination of the concrete seat wall, bioretention basin curbing away from parking lot (berms used instead), changing of pervious paver and ornamental gravel type – this was done for cost reduction purposes. There is also the addition of another funding source, and the addition of an RVA Bike Share Station. Site specific interpretive sign graphics are also enclosed along with graphics for the Bike Share Station.

The site is located in South Richmond at the hub of a busy intersection. The property borders Broad Rock Park on the south (Broad Rock Sports Complex), which contains a remnant forest patch and riparian woodland/wetlands. This library branch is unique in that it has some established tree canopy. It also provides many services for the community beyond loaning books including technology and printing access, meeting spaces, and more. In the past community events have been held here and library staff have been successful with gardening programs for patrons. Soil infiltration values are good and well suited to managing runoff on site, and the design attempts to capture stormwater runoff before it enters the adjacent park and wetlands. This location offers wonderful opportunity to enhance the value to the community as a neighborhood and district hub and improve the connection to the park with a contiguous native tree canopy.

The purpose of the project is to develop a series of bioretention basins designed to Virginia Department of Environmental Quality standards to infiltrate storm water discharge from the roof, sidewalks, and parking lot; as well as develop an ecologically responsible landscape that can be used as an educational tool and gathering space. Impervious area and some non-native species will be removed with native plants added for shade, wildlife habitat, and other ecosystems services. The project strives to become a model of sustainable site development with educational components accomplished through the use of interpretive signage, special library programs, and community involvement and support. An arrival court and nearby seating area for multi-functional community use and outdoor gatherings will be composed of pervious pavers. The design was informed by public charettes and the collaborative project management effort of Richmond Public Library staff, RVAH2O, The James River Association, and Four Winds Design.

The design was informed by public charettes and the collaborative project management effort of Richmond Public Library staff, RVAH2O, The Office of Equitable Transit and Mobility, The James River Association, and Four Winds Design. The arrival court, seating areas, and granite benches are funded by a private donor (\$40,000.00).

Construction is tentatively scheduled to begin in February of 2021. Demolition and site infrastructure, bike share station, proposed parking lot curbs, arrival court and associated features, and bioretention basins will all be accomplished with an independent contractor. Volunteers will be used for planting, mulching, and clean-up.

### Maintenance Analysis

The Landscape Operations & Maintenance Manual to follow has been approved by City Council for all library branches under redevelopment. This manual will be made more site specific to include treatment of specific plant species after installation.

# Greening Richmond Public Libraries

IMPROVING THE HEALTH OF THE JAMES RIVER BY REDUCING STORMWATER POLLUTION

## Landscape Operations & Maintenance Manual

### Overview & System Functions

The site improvements at the Richmond Public Libraries are designed to be ecologically responsible landscapes that infiltrate stormwater on site, provide habitat and educational value by planting native species, and serve as a model for future development. This commitment to ecosystem services is also reflected in the care and maintenance of the properties to ensure that plants survive, infiltration systems remain in good function, and resources needed for landscape care are minimized.

When it rains stormwater can cause erosion and carry pollutants to larger bodies of water through local drainage systems. The landscapes at RPL attempt to minimize that effect. There are two stormwater infiltration systems in use at RPL sites: bioretention and pervious pavers.

Bioretention basins are areas of specially engineered soil and gravel below the surface. They capture runoff allowing water to pond for a period of time and then infiltrate into mulched beds planted with native species. The plants help absorb water and stabilize the soil. Bioretention basins can become clogged over time with sediment from surrounding areas like leaves or parking lot sand, too much mulch, or soil compaction. Plants are critical to the function of the system and may need periodic replacement to keep the basin functioning. The plants within the basin must tolerate both flooding and drought and thusly need a bit of extra care.

Pervious pavers function by allowing stormwater to pass through spaces between the pavers and infiltrate into the ground through layers of gravel below the surface. These gravel layers can become clogged over time with very fine particulates such as soil, decomposing leaves and wandering mulch, and winter surface treatments such as sand or salt mixtures. Periodically the top layer of filter gravel must be removed and replaced to keep the pervious pavers in top working condition.

Landscape care is also based on plant health and longevity; it is important to understand how each species type differs in the seasonal care it requires. There is no once-per-year best time for pruning, for example, rather some easy guidelines for the care of plant types throughout the year that will allow full blooming, fall color, and fruiting. In an attempt to minimize labor and transportation costs, each site will also have protocols for how much mulch should be applied (its generally less than expected) and where leaves and other organic matter can be left on site to decompose rather than be hauled away.

Each site will feature a Bee Zone containing delicate perennials and smaller plants. The Bee Zones are critical as pollinator gardens, for education, and overall ecosystem health. These planting beds will require hand weeding, care taken in walking through not to trample plants, careful mulch depth monitoring, and **ABSOLUTELY NO USE OF HERBICIDES**. These areas will be clearly delineated by a perimeter masonry edging, consistent throughout all RPL sites with the following color:



CO M20 Y40 K10

Each site will be equipped with an operations and maintenance manual that is specific to the plant species and site improvements found there; bound and laminated copies of this manual will be supplied to the third-party contractor responsible for RPL landscape maintenance while a copy of the manual will also reside at each branch in a designated location known to the branch manager. At the date of writing the site-specific manuals are not yet available as the projects have yet to be constructed. Branch managers and contractor will complete an Annual Inspection Checklist jointly at the start of each growing season. This completed checklist

will be bound into the library branch copy of the O&M Manual for inspection by city parties as desired. See below for the Annual Inspection Checklist.

## **Scope of Weekly Services**

### **Lawn Mowing**

At each visit the entirety of the lawn area shall be mowed with all clippings recycled back into the lawn. Care shall be taken not to blow lawn clippings into planting beds (mow from the perimeter into the interior blowing clippings toward the center). Lawn edges shall be string trimmed.

### **Weeding**

At each visit a visual inspection of the planting beds shall be made with all debris and trash removed. Weeds outside of Bee Zones may be treated with herbicides at rates specified on the product used. Weeding within the Bee Zones must be done by hand with care taken not to damage plants. If in doubt as to whether a plant is a weed or not – particularly emerging perennials – consult with fellow workers or wait until the next visit.

### **Irrigation Inspection and Watering**

At each visit the site shall be inspected for excessively wet areas that may indicate an irrigation leak or excessively dry areas that may indicate a non-functioning or improperly aimed head. Plant decline is another indicator of improper water amounts but do not assume that browned leaves indicate drought, it is also a sign of root rot due to excessive water. Workers shall report issues to the head of their company.

Bioretention areas will require hand watering once a week over the first summer IF IT DOES NOT RAIN. Check the rain gauge provided at each site (see site specific manuals for locations). On some sites, the bioretention basins are equipped with their own irrigation zone for use in the first year only and in emergency cases thereafter. If this is the case inspect the planting area for irrigation issues as one would any other planting bed.

### **Surface Cleaning/ Blowing**

At each visit the site parking lots and sidewalks shall be cleaned of debris. All trash shall be separated from organic matter and disposed of. On some sites, a surface leaf composting area is provided. This is intended to reduce the amount of material that must leave the site and provide compost for future projects. See site specific manuals for pattern of site blow down to move leaves and organic matter to composting areas. Care shall be taken not to blow material into bioretention basins or onto pervious pavers.

### **Bioretention Basin Care**

For the first six months following construction the site should be inspected at least twice after storm events in excess of a ½" inch of rainfall. Weekly inspections shall also include:

- Check for sediment buildup or a fine crust at curb cuts, inflow points, gravel diaphragms or pavement edges that prevents flow from getting into the bed and remove any sediment.
- Look for bare soil or sediment sources draining to the bioretention basin and stabilize them immediately. These may include bare or eroding lawn areas that should be spot reseeded. Scarify the soil, apply seed and erosion control elements such as straw or erosion control blanket as necessary. Contractor to collect and quantify materials and labor used in stabilization practices to be billed in the next billing cycle.

- Check the bioretention bed for evidence of mulch flotation, excessive ponding, dead plants or concentrated flows, and take appropriate remedial action. These actions may include replacing dead plants immediately or raking mulch back into place. If dead plants are encountered, remove the dead portion of the plant to the ground for appearance. Do not remove the root ball until the replacement plant is on site. Workers shall report the plant removal or (dead trees they cannot handle) to the head of their company. See below for plant replacement protocol.
- Check for clogged or slow-draining soil media, a crust formed on the top layer, inappropriate soil media, or other causes of insufficient filtering time, and restore proper filtration characteristics.
- If water remains on the surface for more than 48 hours after a storm, adjustments to the grading may be needed or underdrain repairs may be needed. Report ongoing issues to the head of the maintenance company. See scope of biannual services below.

### **Pervious Paver Care**

For the first six months following construction the site should be inspected at least twice after storm events in excess of a ½" inch of rainfall. Weekly inspections shall also include:

- Remove all material and sediments from the paver surface.
- Check to make sure aggregate material from between the pavers has not blow up onto the surface. If it has, either remove it or sweep back into the joints with a broom.
- Inspect the condition of the observation well cap to make sure it has not been knocked off.
- Inspect the surface of the permeable pavement for evidence of sediment deposition, organic debris, staining or ponding that may indicate surface clogging. Look for areas of sediment intrusion such as mulch migrating onto the pavers. Remove material and dig a trench edge where the intrusion has occurred. Workers shall report ongoing issues to the head of their company.

### **Scope of Spring Services**

#### **Annual Inspection**

Branch managers and contractor will complete an Annual Inspection Checklist jointly at the start of each growing season. This shall occur after all species have leafed out for the year. This completed checklist will be bound into the library branch copy of the O&M Manual for inspection by city parties as desired. Inspections shall include:

- Note any dead or severely damaged plants and replace with the same species and cultivar or with a species approved by the RPL Maintenance and Operations Facilities Manager. This includes denuded lawn areas that flow into bioretention basins. Expenditures of up \$200 per site per biannual season may be made at the discretion of the contractor and billed to RPL with a PO or invoice from the plant supplier. Expenditures in excess of \$200 per site per season must be approved by the RPL Maintenance and Operations Facilities Manager with a formal estimate. If specific plants have been replaced more than once and continue to die, consult a horticulturalist or landscape architect to identify the issue and provide new species selection. Confirm that 75% to 90% of vegetative cover is maintained in the bioretention basins and add reinforcement plantings to maintain the desired density if needed.
- Inspect the health of all trees on site, noting dead wood to be removed or signs of disease and damage. Note any issues on the annual inspection report. These issues shall be forwarded to the city arborists by the Branch Manager.
- Inspect the entirety of the site per the weekly scope of work.
- Inspect the mulch layer for a maximum of 3" of mulch that doesn't touch the trunks of any trees or shrubs nor be mounded up around perennials. Adjust accordingly. Note that annual re-mulching will occur once a year in the fall.

- Inspect the surface of the permeable pavement for evidence of sediment deposition, organic debris, staining or ponding that may indicate surface clogging. Look for areas of sediment intrusion such as mulch migrating onto the pavers.
- Inspect the structural integrity of the pavement surface, looking for signs of surface deterioration, such as slumping, cracking, spalling or broken pavers. Replace or repair affected areas, as necessary.
- Inspect the condition of the observation well and make sure it is still capped.
- Generally, inspect any contributing drainage area for any controllable sources of sediment or erosion.
- Inspect the surface of the permeable pavement for evidence of sediment deposition, organic debris, staining or ponding that may indicate surface clogging. Then, test sections by pouring water from a five gallon bucket to ensure they work. If any signs of clogging are noted, schedule paver cleaning or system overhaul. Cleaning shall be accomplished with a vacuum machine rated for pervious paver cleaning such as the Typhoon Surface and Joint Cleaner by Pavetech. If a qualified machine is not available the paving system has been built in such a way so that the pavers, 1" fine aggregate setting bed, and fine aggregate joint material can be replaced:
  - o Remove all pavers and set aside.
  - o Remove all 21A gravel joint and setting bed material. This is contained by mortared edge restraints and separated from lower gravel layers with filter fabric.
  - o With fine aggregates removed test the system as noted above. If issues persist contact a civil engineer or landscape architect for further exploration.
  - o Clean or replace filter fabric taking care not to allow sediment into lower layers.
  - o Replace setting bed, clean and relay pavers, and sweep with joint material.

## **Fertilization**

No fertilizers nor herbicides shall be used in any lawn areas. Lawn performance shall be dealt with via soil amendments and watering schedules only. One time spot fertilizations may be needed for initial plantings or plantings under-performing the same adjacent species. Use a slow-release organic fertilizer such as HollyTone for spot treatments.

## **Additional Spring Maintenance**

Prune ornamental grasses to the ground taking care not to cut out any new growth. Prune out any dead or diseased areas of shrubs using hand pruners. No pruning for shape or size should occur in the spring.

Activate the irrigation system and run through all zones checking for performance and aiming heads for best coverage. Discuss any corrective issues that were observed in the previous season including watering times and take appropriate remedial actions. All irrigation should occur at night. Check any irrigation zones for bioretention basins and turn them off after the first year. Inspect the rain gauge for proper function and location insuring it has not become shaded by trees.

## **Scope of Fall Services**

### **Leaf Removal**

Leaves shall be removed weekly from the site during the fall season where no leaf composting area is provided. On some sites, a surface leaf composting area is provided. This is intended to reduce the amount of material that must leave the site and provide compost for future projects. See site specific manuals for pattern of site blow down to move leaves and organic matter to composting areas. Leaves should be blown to these areas and left there. It is okay if leaves touch tree trunks. In general, these areas will increase in size over time to accommodate the volume of leaves or other areas may become additional composting areas. If leaves are blowing around too much between visits workers shall notify the Branch Manager such that other locations can be utilized, or the leaves can be shredded.

## **Pruning**

Pruning shall occur after plants go dormant for the season except as noted in the site specific manuals. Pruning shall always be undertaken before mulching such that finer twigs and leaves need not be cleaned from the beds and can be mulched over. It is okay if pruning and mulching do not occur at the same visit, but they should be closely timed. Species specific information will be provided for each but the following guidelines shall apply:

- Ornamental grasses should be left in place until late winter or early spring.
- Unless noted all pruning should be accomplished with hand pruners. Electric shears are only useful on larger shrubs or non-native hedging.
- After first frost herbaceous perennials shall be cut back to the ground by hand. These will be planted in Bee Zones only so extra care is required.
- There is no need to prune every shrub every year. Shrubs should be pruned to control size, remove dead or diseased sections, or to re-shape/ encourage new growth. Shearing of each and every shrub every year will no longer take place.

## **Mulching**

Mulching is to occur only in the fall and throughout the year only in small bare areas. After fall pruning the depth of mulch in each mulched planting bed including the bioretention areas shall be evaluated. A 3" depth is optimal with a 4" maximum. Mulch should not touch the trunks of trees or shrubs nor be mounded over perennials. Trench edging around planting shall be refreshed yearly. Final mulch elevations should always be at grade with or lower than surrounding hardscapes. This may require some periodic re-grading around the perimeter. Accumulated soil, often rich in organic matter at these locations, can be used to spot seed lawn areas or simply cast over the composting areas. All mulch shall be double shredded brown dyed.

## **Winterization**

The irrigation system shall be winterized for the year by blowing out all lines. The rain gauges should be capped (cap is tied to each unit) until spring inspection. Tree and shrubs replacements may also occur in this season per the protocols stated above. Fall/ early winter planting is preferable if feasible for the contractor. Contractor shall contact the Branch Manager at the close of the season to review any outstanding maintenance items over the year.

## **Fertilization**

No fertilizers nor herbicides shall be used in any lawn areas. Lawn performance shall be dealt with via soil amendments and watering schedules only. One time spot fertilizations may be needed for initial plantings or plantings under-performing the same adjacent species. Use a slow-release organic fertilizer such as HollyTone for spot treatments as necessary.

## **Maintenance Duties**

### **Contractor Selection and Contracts**

The Director of The Richmond Public Libraries and his staff at his discretion shall select the maintenance contractor to take care of all RPL properties. Contracts shall include the contractor's DPOR license number, a copy of professional insurance, and hourly labor rate and narrative describing standard mark-ups on materials, if applicable. The remainder of the contract should reiterate the above or reference this document.

### **Additional Maintenance**

The City of Richmond shall provide ongoing site maintenance for the following:

- Tree removal or tree pruning not accessible from the ground.
- Snow removal and ice treatment. No salt may be used on in areas draining to Bee Zones.
- Maintenance of hardscapes and utilities.
- Dumpster service and maintenance / cleaning of dumpster enclosures and surrounding areas.
- Gutter/ roof cleaning as necessary in areas where downspouts drain to bioretention basins or pervious pavers.



# Greening Richmond Public Libraries

IMPROVING THE HEALTH OF THE JAMES RIVER BY REDUCING STORMWATER POLLUTION

## Broad Rock Branch Library

4820 Old Warwick Road, Richmond, 23224

### NOTES

THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES IS SHOWN ON THIS PLAN. CONTRACTOR TO CONTACT MISS UTILITY AS WELL.

CONTRACTOR TO ASSUME ALL RESPONSIBILITY FOR CONSTRUCTION METHODS EMPLOYED AND FIELD VERIFY ALL DIMENSIONS. ISSUES AND CONCERNS SHALL BE REPORTED TO FOUR WINDS.

CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS AT ALL TIMES DURING THE DEMOLITION AND BUILDING PROCESS.

NO PUBLIC THOROUGHFARES INCLUDING SIDEWALKS SHALL BE BLOCKED DURING DEMOLITION OR CONSTRUCTION WITHOUT PROPERLY DISPLAYED MUNICIPALITY PERMITS. NO HOLES SHALL BE LEFT OPEN OVERNIGHT WITHOUT SECURING PERIMETER FENCING OR INSTALLING CAUTION TAPE AROUND THE HOLE.

CONTRACTOR TO OBTAIN ALL BUILDING PERMITS, SOIL STUDIES, AND STRUCTURAL DETAILS AS REQUIRED BY THE MUNICIPALITY.

CONTRACTOR AND MASON AND/ OR PLANTING SUBCONTRACTORS IF APPLICABLE TO ATTEND A PRECONSTRUCTION MEETING WITH JRA REPRESENTATIVES AND FOUR WINDS DESIGN.

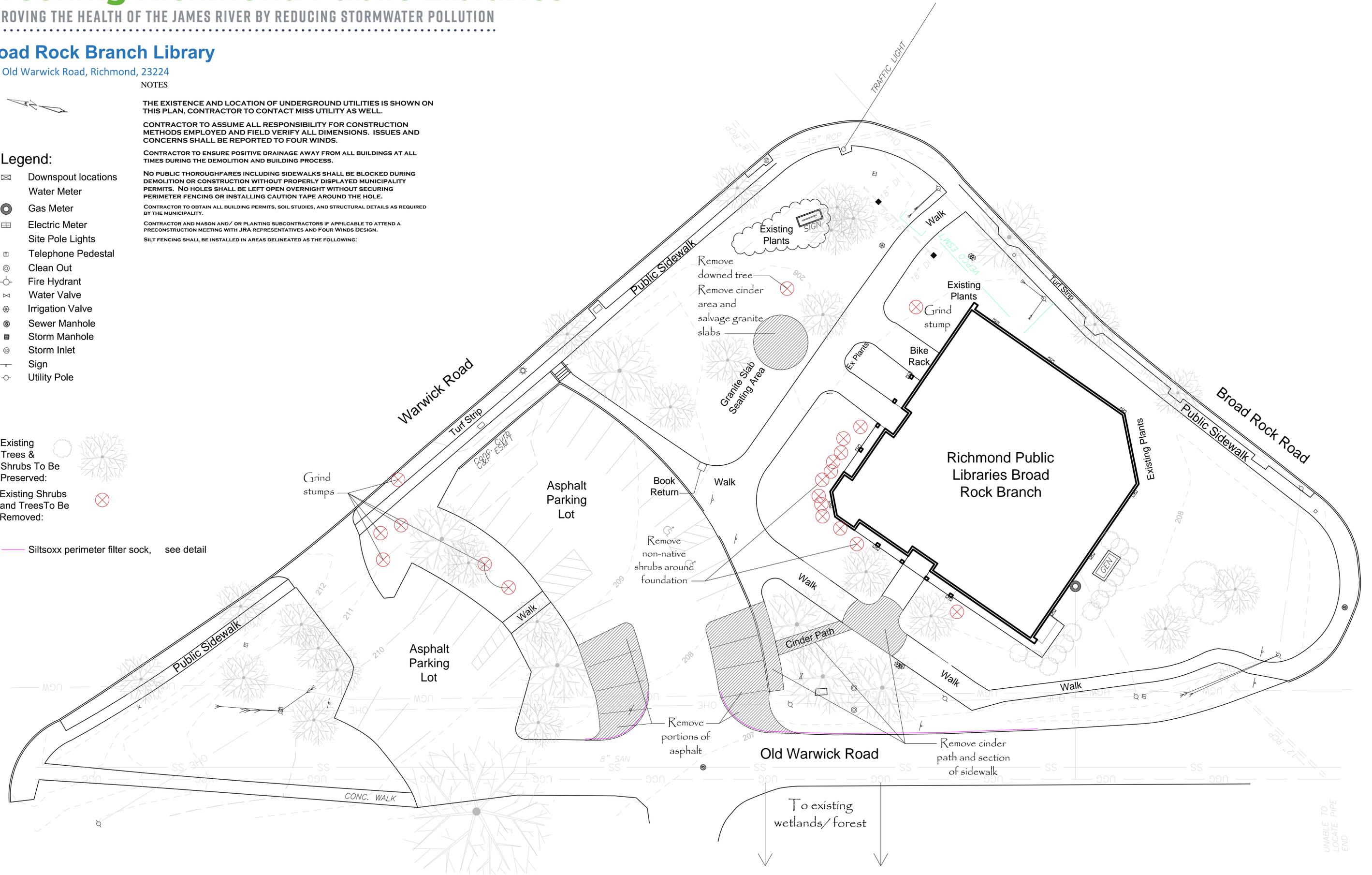
SILT FENCING SHALL BE INSTALLED IN AREAS DELINEATED AS THE FOLLOWING:

### Legend:

- ☒ Downspout locations
- ⊕ Water Meter
- ⊙ Gas Meter
- ⊞ Electric Meter
- ⊞ Site Pole Lights
- ⊞ Telephone Pedestal
- ⊙ Clean Out
- ⊕ Fire Hydrant
- ⊕ Water Valve
- ⊕ Irrigation Valve
- ⊙ Sewer Manhole
- ⊞ Storm Manhole
- ⊙ Storm Inlet
- ⊞ Sign
- ⊙ Utility Pole

- Existing Trees & Shrubs To Be Preserved:
- Existing Shrubs and Trees To Be Removed:

Siltsoxx perimeter filter sock, see detail





# Greening Richmond Public Libraries

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## Broad Rock Branch Library

4820 Old Warwick Road, Richmond, 23224

### Legend:

- Downspout locations
- Water Meter
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- Fire Hydrant
- Water Valve
- Irrigation Valve
- Sewer Manhole
- Storm Manhole
- Storm Inlet
- Sign
- Utility Pole
- Proposed Bioretention Basins
- Proposed Granite Slab
- Benches, see image

Existing Trees & Shrubs To Be Preserved:

Existing Shrubs and Trees To Be Removed:

Siltsoxx perimeter filter sock, see detail

### PLANTING NOTES

AN IRRIGATION SYSTEM IS TO BE INSTALLED THROUGHOUT THE BEE ZONE AND ARRIVAL COURT/ SEATING AREAS AND WITHIN THE BED WEST OF THE BIKE RACK. MISTER HEADS ARE TO BE USED IN ALL AREAS WITH NO THROWS REACHING MASONRY SURFACES. LOCATE CONTROL BOX IN THE BUILDING. CONTRACTOR TO SUBMIT AN IRRIGATION SCHEMATIC TO FOUR WINDS AND HOMEOWNER FOR APPROVAL UPON BID AWARD. UPON COMPLETION CONTRACTOR SHALL FILL OUT THE ZONE LABELS IN THE CONTROL BOX AND PROVIDE A MARKED UP AND LAMINATED IRRIGATION SCHEMATIC SHOWING ZONE LOCATIONS AT 8.5" x 11".

ALL TREES AND SHRUBS SHALL CONFORM TO THE MOST RECENT EDITION OF THE AMERICAN STANDARDS FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERMEN. LOCALLY GROWN NURSERY STOCK SHALL BE USED FOR THE B&B VARIETIES.

THE QUALITY OF THE PLANT MATERIAL MUST BE OF A HIGH STANDARD. NO PLANTS ARE TO BE STORED ON SITE FOR LONGER THAN 48 HRS, AND ALL STORED PLANTS MUST BE KEPT IN FULL SHADE AND WATERED DAILY. CONTRACTOR SHALL PROVIDE A GUARANTEE AGAINST PLANT MORTALITY FOR A PERIOD OF ONE YEAR.

ALL PLANTING BEDS SHALL BE TREATED WITH THREE TO FOUR INCHES OF HARDWOOD DOUBLE SHREDDED MULCH DYED BROWN.

COMPOST OR A BEDDING MIX SHALL BE TILLED INTO THE SOIL A DEPTH OF 4" IN ALL PLANTING AREAS EXCEPT WHERE SOIL IS TO BE REMOVED (SEE BELOW). FINISHED GRADE OF ALL TOPSOIL SHALL BE 3" BELOW HARDSCAPE ELEVATIONS.

ALL DEBRIS SHALL BE REMOVED FROM THE SOIL IN ALL PLANTING AREAS.

PLANT SUBSTITUTIONS MUST BE APPROVED BY FOUR WINDS. ONLY EASTERN NORTH AMERICAN NATIVE PLANTS MAY BE USED.

PLEASE SEE UDC APPLICATION ATTACHMENTS FOR LANDSCAPE MAINTENANCE ANALYSIS.

Plant Schedule				
Code	Botanical Name	Common Name	Quantity	Size
AA	Amelanchier arborea	Serviceberry	2	6-8'
AR	Acer rubrum 'Red Sunset'	Red Maple	3	1.5" Cal
AN	Aster novi-belgii 'Wood's Purple'	Aster	19	1 Gal
BN	Betula nigra 'Dura Heat' *	Riverbirch	4	8-10'
CF	Carex flaccosperma	Sedge	36	3 Qt
CC	Cercis canadensis	Golden Redbud	3	1.5" Cal
CA	Coreopsis auriculata 'Nana'	Tickseed	16	1 Gal
DI	Dryopteris intermedia	Fancy Fern	28	1 Gal
HA	Hydrangea arborescens 'Incrediball'	Smooth Hydrangea	14	3 Gal
IV	Ilex vomitoria 'Bordeaux'	Dwarf Yaupon Holly	8	5 Gal
IC	Iris cristata	Iris	36	1 Gal
MV	Magnolia virginiana (standard form) *	Sweetbay Magnolia	10	15 Gal
NS	Nyssa sylvatica	Tupelo	3	1.5" Cal
PH	Panicum virgatum 'Heavy Metal'	Switch Grass	4	3 Gal
PV	Panicum virgatum 'Shenandoah'	Switch Grass	10	1 Gal
PS	Penstemon sp 'Red Rocks'	Beard Tongue	38	1 Gal
PO	Platanus occidentalis *	Sycamore	3	2.5" Cal
PU	Phlox subulata 'Emerald Blue'	Creeping Phlox	15	1 Gal
QC	Quercus coccinea *	Scarlet Oak	4	1.5" Cal
SS	Schizachyrium scoparium 'Prairie Blues'	Little Bluestem	22	1 Gal
TV	Tradescantia virginiana	Spiderwort	42	1 Gal
TS	Tradescantia sp 'Good Luck'	Spiderwort	36	1 Gal
VD	Viburnum dentatum 'Blue Muffin'	Arrowwood Viburnum	4	7 Gal

\* PERENNIAL SPECIES AND SIZES SUBJECT TO AVAILABILITY AT TIME OF INSTALLATION

### Bee Zone Perennial Key

- A 38 Penstemon mexicali
- B 15 Phlox subulata
- C 19 Aster novi-belgii
- D 36 Tradescantia sp
- 36 Carex flaccosperma
- 36 Iris cristata
- E 18 Coreopsis auriculata
- F 28 Dryopteris intermedia



# Greening Richmond Public Libraries

IMPROVING THE HEALTH OF THE JAMES RIVER BY REDUCING STORMWATER POLLUTION

Concientización ecológica de las Bibliotecas Públicas de Richmond. Mejorando la salud del río James a través de la reducción de la contaminación de las aguas lluvias.

## Welcome to Broad Rock Library!

### What is a rain garden?

Rain gardens capture stormwater after it rains or snows. After stormwater enters the gardens, it is absorbed by native plants and filtered by layers of soil, reducing the amount of stormwater pollution entering Grindall Creek.



### What is stormwater pollution?

When rain and snow fall on surfaces like roads or sidewalks, they can pick up pollutants like dirt, nutrients, bacteria, or chemicals, which then flow into our waterways. This is stormwater pollution.

### What is green infrastructure and why is it important?

Green infrastructure includes rain gardens, green roofs, and street trees that enhance our built environment for the benefit of humans and our ecosystem. Green infrastructure absorbs stormwater, improves air quality, reduces the urban heat island effect, and provides habitat for wildlife.

### What are native plants and why are they important?

These rain gardens contain native plants that are adapted to thrive in our area and provide food and habitat for wildlife. You can become a River Hero Home by using native plants at home! Learn more at [JamesRiverHero.org](http://JamesRiverHero.org).



TUPELO  
TUPELO



LANCE-LEAF TICKSEED  
SEMIRAMIS O BOTÓN  
DE ORO



LITTLE BLUESTEM  
POPOTILLO AZUL

"You can find magic  
wherever you look.  
Sit back & relax, all you  
need is a book."

"La magia se encuentra en  
cualquier parte que veas.  
Siéntate y relájatelo que  
importa es que leas."

DR. SEUSS

## ¡Bienvenidos a la Biblioteca de Broad Rock!

### ¿Qué es un jardín pluvial?

Los jardines pluviales captan el agua que cae después de lluvias o nevadas. Al pasar por estos jardines, el agua es filtrada por capas de tierra y absorbida por plantas nativas, reduciendo la cantidad de contaminación que se introduce al arroyo Grindall.

### ¿Qué es la contaminación de aguas pluviales?

Cuando la lluvia o la nieve caen sobre superficies como las calles y las aceras, el agua puede contaminarse con tierra, abonos, bacterias y sustancias químicas, las cuales luego fluyen a las corrientes de agua. Esta es la contaminación de aguas lluvias.

### ¿Qué es la infraestructura ambiental y por qué importa?

La infraestructura ambiental incluye jardines pluviales, sembrado de techos verdes y árboles públicos que enriquecen el ambiente ya construido para beneficio de los seres humanos y del ecosistema. La infraestructura ambiental absorbe las aguas lluvias, mejora la calidad del aire, reduce el efecto de "isla de calor" del ambiente urbano, y provee hábitats para la vida silvestre.

### ¿Cuáles son las plantas nativas y por qué son importantes?

Estos jardines pluviales contienen plantas nativas que se han adaptado para florecer en nuestra área y proveen alimentos y hábitats para la vida silvestre. ¡Haz de tu hogar un Hogar Héroe del Río al sembrar plantas nativas en el patio de tu casa! Para aprender más, visita [JamesRiverHero.org](http://JamesRiverHero.org).



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The vegetation in front of you was planted as part of a greening initiative undertaken by Richmond Public Libraries with support from:  
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Dimensions: 271,3mm X 289,7mm

Scale: Actual Size

 Die cut (do not print)

 Please specify color using Pantone Color System.  
If you chose not to provide Pantone color code,  
on screen colors and printed colors may not  
be exactly the same.  
By not providing Pantone code you accept such  
descripancies.

**ATTENTION:**

Convert all text to curves before  
sending final drawing:

1. Select the text
2. Chose type
3. Chose convert to curves

or

1. Select the texte
2. Right click and chose convert to curves

 Black

 Pantone P 179-5 C

 Pantone P 179-2 C

 Pantone 130 C



# RVA BIKE SHARE

## HOW IT WORKS



### JOIN

Purchase a pass on  
RVA Bike Share app,  
website, or a kiosk to  
ride.



### UNLOCK

Unlock a bike with the  
app or place the  
membership card/fob  
on the handlebars.



### RIDE

Enjoy your ride!  
Keep your trip under  
the allotted time to  
avoid extra time fees.



### RETURN

Dock your bike at any  
station. Watch the bike  
screen to ensure it is  
properly secured.

## BUY A PASS

### PASSES AVAILABLE AT PAYMENT KIOSK

Payment kiosks are equipped with a screen  
Max. 4 bikes at a time

**ONE WAY  
TRIP**

**\$1.75**

**DAY  
PASS**

**\$6**

**WEEKLY  
PASS**

**\$12**

The first 45 minutes of each ride are included.

We reserve a \$35.00/bike pre-authorization hold for the duration  
of your pass to ensure that the system is used adequately.

### PRICES FOR RIDING LONGER

Want to ride longer than 45 minutes?

30min - +\$3.00

### PASSES AVAILABLE ONLINE

[www.rvabikes.com](http://www.rvabikes.com)

Annual Pass \$96

Monthly Pass \$18

Go Pass \$1.75 per ride

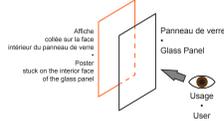
**18+**

You must be 18 or older  
to enjoy the bikes

Station full? Get extra ride  
time at the kiosk or call  
customer service to use  
the secondary lock

American Express and  
prepaid cards not  
accepted

[www.rvabikes.com](http://www.rvabikes.com)  
[info@rvabikes.com](mailto:info@rvabikes.com)  
**1-877-460-2435**



# RVA BIKE SHARE



## LEGEND

-  Bikeshare Station
-  Payment Kiosk Station
-  Trail

## HOW IT WORKS



### JOIN

- Buy a pass to go for a ride.
- Choose a pass at the kiosk or get a membership on the website or the Official RVA Bike Share app.
- **Must be 18 or older to join/ride.**



### CHECKOUT

- Choose a bike from any station and unlock it with your pass or the RVA Bike Share app.
- Tap your pass on the handlebars or enter the bike number in the App.
- Take a moment to read bike safety tips.
- Inspect the bike and adjust the seat height.



### RIDE

- Enjoy your ride and make sure to follow the rules of the road.
- Keep your trip under the allotted time to avoid extra time fees.
- If you need to stop to run an errand, use the secondary lock (in the basket) to secure your bike at a fixture. Don't forget, the timer will still run while you stop!



### RETURN

- Choose any station to re-dock your bike.
- Push the bike firmly into any dock.
- Wait for the screen notification and beep to confirm the bike is docked.
- Full station, no sweat, get more time at the kiosk or call **1-877-460-2435**.

## BIKE SAFETY TIPS

### RESPECT THE RULES OF THE ROAD

- By law, bicycle riders must:
- Stop at all red lights and stop signs.
  - Travel in the same direction as motor vehicles.

### BE COURTEOUS ON PATHWAYS AND SIDEWALKS

- Keep speeds slow around pedestrians.
- Pass pedestrians with care.
- Use your bell or a friendly voice to announce passes.

### RIDE SAFELY

- Please wear a helmet when riding.
- Do not use headphones or earbuds when riding.
- Ride at least 3 feet away from parked cars to avoid opening doors.
- Make yourself visible and be confident to take the full lane when needed.
- Look for pedestrians crossing the street.
- Pay attention to obstacles on the road.

### BE PREDICTABLE

- Don't make sudden turns and stops.
- Use hand signals when stopping, slowing, or turning.
- Be aware of your surrounding, including checking behind you.
- Make eye contact with other road and pathway users to ensure they see you.

DOWNLOAD THE  
**OFFICIAL RVA BIKE SHARE**  
APP TO UNLOCK A BIKE



App Store



Google Play



1-877-460-2435  
rvabikes.com

**BEWEGEN**