DESIGN REPORT

PROJECT INITIATION and SCHEMATIC DESIGN
LEAD AGENCY

CITY OF CHARLOTTESVILLE
Department of Neighborhood Development Services
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CONSULTANTS

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in association with...
Timmons Group
Bushman-Dreyfus Architects
Nelson/Nygaard
Kimley-Horn
Rivanna Archaeological Services
Wolf/Josey Landscape Architects
West Main Street is an important commercial corridor that provides services to adjacent neighborhoods and serves as a vital connector between the Downtown Mall and the University of Virginia.
BASIS OF DESIGN

option 1 plan

Typical Condition West of Bridge

Typical Condition East of Bridge
RESOLUTION TO ADOPT WEST MAIN STREETSCAPE IMPROVEMENT PLAN OPTION 1 (for March 21, 2016)

WHEREAS, The West Main Street Streetscape Plan Option 1 (herein referred to as “The Plan”) seeks to retain and grow the patrons of the corridor by creating a safe, active, pleasant and usable space for all users, thereby sustaining the customer base for local businesses and promoting a sense of well-being for local residences, and

WHEREAS, The Plan proposes a 400% increase in street trees along the corridor in a variety of large-canopy, medium-canopy, columnar, and small trees for their visual interest, their ability to adapt and thrive in the West Main Street environment, and their positive impact on the environmental quality of the immediate area through carbon dioxide reduction, and

WHEREAS, The Plan establishes several areas for Low Impact Development where green infrastructure practices could be utilized and highlights and recommends technologies to preserve tree root zones that prevent compaction, a deadly force upon many urban trees, and

WHEREAS, The Plan also proposes undergrounding overhead utilities, which are limiting to the health and canopy of large trees due to the regular trimming or removal of branches to prevent conflicts with utility lines, and prone to failure during heavy snow and wind storms thereby disturbing the well-being of both businesses and residences, and

WHEREAS, The Plan encourages physical activity by creating a safe and welcoming place to walk or bike by improving the walkability and bike-ability of a vital corridor that connects neighborhoods, downtown, and the University of Virginia and improves bus service on the City’s busiest route by adding shelters and amenities and creating access to the Jefferson School on Fourth Street, and

WHEREAS, Execution of The Plan will meet several objectives of the City’s Strategic Plan Goal 2: Be a safe, equitable, thriving and beautiful community and Goal 3: Have a strong diversified economy;

WHEREAS, The Plan is the product of three (3) public meetings with over 100 citizens in attendance at each meeting, several focus group sessions, two parking surveys and meetings with the planning commission, board of architectural review, tree commission, Mid-Town Business Association and the University of Virginia over several years beginning in December, 2013, and

WHEREAS, The West Main Street Citizen Steering Committee has provided valuable input throughout the multi-year planning process and has fulfilled its duties as charged for which the Charlottesville City Council is grateful;

BE IT RESOLVED that the Charlottesville City Council hereby adopts the West Main Street Streetscape Plan Option 1, as the guiding document for executing streetscape improvements to the West Main Street Corridor, and

BE IT FURTHER RESOLVED that the Charlottesville City Council shall henceforth serve as the West Main Street Streetscape project’s review body during the construction documents phase, availing itself of the expertise of its advisory groups as needed, and

BE IT FURTHER RESOLVED that the City of Charlottesville through its representatives on the Planning and Coordination Council (PACC) and key staff shall engage with the University of Virginia to identify shared investment opportunities within three (3) months of passing this resolution, and

BE IT FURTHER RESOLVED that Charlottesville City Council directs the City Manager, his staff and consultants to within six (6) months of passing this resolution:

- Authorize the design and engineering team of Rhodeside Harwell to proceed immediately with Construction Documents needed to bid and execute the work and secure all necessary approvals, inclusive of undergrounding utilities but without the use of a Pilot Project; and
- Develop an Implementation “Action” Plan inclusive of the following:
  - Parking plan (including but not limited to developing a parking garage on City-owned property within the West Main Street corridor, on-street parking meters, re-striping spaces and enhanced enforcement);
  - Cost Estimate based on more accurate Design Development drawings;
  - Funding and financing strategy (including but not limited to Tax Increment Financing-TIF strategies, parking meter revenue dedicated to infrastructure maintenance, general obligation bonds, revenue bonds and applicable State and Federal Grants);
  - Phasing Plan (based on a critical path sequence), and Timeline; and
  - Construction Mitigation Plan (that identifies strategies and timeframe for informing west main residents and businesses about construction, alternative routes, appropriate signage);
- Property Owner Outreach Plan (inclusive of meetings with owners about the streetscape improvement plan);
- Coordinated, timely community Engagement/Information Strategy;
- Project management strategy for pre- and post ground breaking to ensure proper coordination of the above, and contract monitoring and
- Quarterly progress reports to City Council, and

BE IT FURTHER RESOLVED that Charlottesville City Council directs the City Manager to conduct an analysis of jobs required by the West Main Street Improvement Project that can be performed in-house by city departments (such as sidewalk installation, laying pipe, others) and linked to the Growing Opportunity GO apprenticeship programs for the benefit of local residents within nine (9) months of passing this resolution.

Submitted to Mayor Signer and City Manager Jones by Councillor Galvin 3/21/16
Great streets maintain a consistent, healthy, and diverse street tree canopy. West Main Street features large canopy trees, providing shade and marked viewsheds, but suffers from a monoculture of species and poor rooting volumes to sustain its existing trees. In order to be a great street, West Main Street must plant more trees, increase diversity, and develop techniques to increase soil volume for sustained tree growth. Doing so, as it relates to implementing the Option 1 design layout, may mean removing many existing trees. The challenge for justifying removing trees entails quantifying the costs and benefits of tree removal versus new tree planting.

CONCLUSIONS
The current street tree conditions evidence a lack of species diversity and planting conditions which inhibit the healthful and sustained growth of vigorous, productive trees.

- 62% of street trees along West Main St. are Zelkova; a monoculture with increased susceptibility for widespread disease.
- Limited rooting space has created inhospitable conditions for tree growth, limiting life expectancy to approximately 10 years for the majority of trees before an irreversible stage of decline occurs.
- Opportunities to save trees are limited to considerably expanding the available rooting zone.
EXISTING CONDITIONS SUMMARY

WEST MAIN ST. STREET TREES (139)
- Public R.O.W street trees = 80 (black)
- Private Property street trees = 59 (red)

GOOD TO EXCELLENT STREET TREES (15) ☀
- 100% live canopy
- Strong annual growth and healthy condition
- 20-30+ year healthy lifespan before decline

GOOD STREET TREES (29) ☀
- 100% live canopy
- Strong to average annual growth rate
- 15-20+ years before irreparable decline

FAIR TO GOOD STREET TREES (49) ☀
- 50-100% live canopy
- Average to low annual growth rate
- 10-15 years before irreparable decline

FAIR STREET TREES (32) ☀
- Less than 50% live canopy
- Low annual growth
- Less than 10 years before irreparable decline

POOR TO REMOVE STREET TREES (14) ☀
- Less than 50% live canopy
- Minimal annual growth
- In state of irreparable decline

OPTION 1 PREFERRED STREET CONFIGURATION, 2016

EXISTING CONDITIONS SURVEY, 2014
EXISTING TREES overlaid on OPTION 1 & EXISTING SURVEY

EXCELLENT, GOOD, & FAIR to GOOD TREES IN THE PUBLIC R.O.W overlaid on OPTION 1 & EXISTING SURVEY

EXCELLENT, GOOD, & FAIR to GOOD TREES IN THE PUBLIC R.O.W to remain for SCHEMATIC DESIGN
ANALYSIS MAP 1
- Reviewed the current state of street tree planting along West Main Street. Determined species, health, planting conditions, canopy and trunk size, indications of disease, damage, and hazards to adjacent infrastructure.
- Assessed locations of existing trees in relation to proposed Option 1 layout.
- Fair and Poor trees in the public right-of-way, totaling 32, with low to minimal annual growth and already in a state of decline, should be viewed as being removed altogether. These trees either conflict with proposed Option 1 layout, will not survive through construction processes, and have no or limited remaining aesthetic and ecological benefit.

ANALYSIS MAP 2
- Trees shown here include Excellent, Good, and Fair to Good in the public right-of-way, totaling 48, which have average to strong growth rates, make up the majority of West Main Street’s canopy, and have at least 15 years before they enter an irreversible state of decline.
- These trees should be viewed as having the potential for being saved, permitting no conflicts with the layout and construction of Option 1 and ensuring the possibly for substantially increased rooting zone volumes in the proposed design.

ANALYSIS MAP 3
- Excellent, Good, and Fair to Good trees in the public right-of-way to remain, totaling 36 (45% of total canopy), 14 of which may still require removal, have been vetted through an analysis consistent with the same process above.
- Trees selected for removal either impede normal pedestrian traffic flow in the proposed Option 1 layout or will have rooting zones severly impacted by construction processes that normal tree protection efforts cannot prevent. Trees outside the public R.O.W have been maintained but may require special tree protection efforts in order to save.

BREAKDOWN OF TREES FOR POTENTIAL TO REMAIN
STREET TREE PLANTING ANALYSIS
soil volume requirements and goals

Urban trees face numerous challenges, but the biggest roadblock for healthy, sustainable trees that reach their proper mature canopy, and thus greatest ecological benefits, is the adequacy of abundant soil volume and preventing soil compaction. Multiple studies suggest that trees need 1 to 2 cubic feet of soil volume for every square foot of crown area spread (Casey Trees). Charlottesville’s Streets that Work Design Guidelines (adopted September 6, 2016) recommends 400 cf of soil per tree for medium and large deciduous trees. Tree roots will spread up to twice the width of the tree’s canopy and penetrate areas where soil is not highly compacted, which are abundant in air and water. Urban trees in small tree boxes rarely reach their full growth potential due to the highly compact subgrade that tree roots inhabit. The recommended minimum soil volume for urban trees is 400 cubic feet with an optimal range being between 700 and 1000 cubic feet for full maturity.

TRADITIONAL OPEN SOIL TREE BOX VS. SILVA CELL TREE BOX

DESIGN METHODS: HOW TO ACHIEVE SOIL VOLUME
Open Soil Area
Managed Root Paths
Structured Subgrade Soil Area
Continuous Soil Planters with Reinforced Slabs

TREE BOX DESIGN MATRIX PARAMETERS
Sidewalk Width
Tree Space Soil Volume - 500 cuft Design Goal
Minimum Tree Space Width
Minimum Open Soil Area
Charlottesville’s Streets that Work Guidelines - 400 cuft Standard Minimum

ESTIMATED MATURE CROWN SPREAD = 40 FEET DIAMETER

Soil Volume = 504 cubic feet
Soil Volume = 505 cubic feet

Analysis Map 1: Existing Tree Planting vs 400% Increase

Analysis Map 2: Traditional Tree Planting vs 400% Increase

Analysis Map 3: Silva Cell Tree Planting vs 400% Increase

Trees (80)
- Canopy Coverage w/o Condition Analysis (32,907 sq ft)
- Canopy Coverage w/ Condition Analysis (32,907 sq ft)

Existing Trees (80)
- Existing Canopy Coverage (32,907 sq ft)
- 400% Resulting Trees (105)
- 400% Canopy Coverage Increase (131,628 sq ft)

Proposed Trees (197)
- Proposed Canopy Coverage (164,536 sq ft)
- 400% Resulting Trees (105)
- 400% Canopy Coverage Increase (131,628 sq ft)

Existing Canopy Coverage (32,907 sq ft)

Trees (131)
- Canopy Coverage (164,536 sq ft)

Proposed Trees (131)
- Proposed Canopy Coverage (164,536 sq ft)
- 400% Resulting Trees (105)
- 400% Canopy Coverage Increase (131,628 sq ft)

Proposed Trees (197)
- Canopy Coverage (247,432 sq ft)

Trees (197)
- Canopy Coverage (247,432 sq ft)
- 400% Resulting Trees (105)
- 400% Canopy Coverage Increase (131,628 sq ft)
There are 139 existing street trees, however, only 80 of those trees in the public right-of-way contribute to the effective West Main Street canopy coverage. The existing trees within the public-right-of-way are planted in either 4’ x 4’ or 4’ x 6’ tree boxes where the designed soil volume only equals 48 to 72 cubic feet. Existing trees in these conditions will underperform anywhere from 20% - 50% their expected mature size.

**CALCULATIONS**

Without Condition Analysis assumes 100% live canopy for all trees.
With Condition Analysis:
- Excellent and Good trees = 100% live canopy
- Fair to Good trees = 75% live canopy
- Fair trees = 50% live canopy
- Poor trees = 25% live canopy.

**400% CANOPY INCREASE**
- 400% multiplied by the existing canopy coverage of 32,907 sq ft results in an expected canopy of 131,628 sq ft, which equals approximately 105 (40’ dia.) trees.

**ANALYSIS MAP 2**
- Using a traditional open soil tree box, placed continuously alongside one another, West Main Street can feasibly maintain 131 street trees, each using 504 cu ft of soil. This hypothetical layout requires a continuous open soil zone and cannot accommodate amenity areas for site furnishings. Any increase in soil volume per tree would mean less trees can be sustained and their spacing would be farther apart.

**ASSUMPTIONS**
- No soil volume is shared
- All existing trees are removed
- 42’ on-center tree spacing (40’ is City standard)
- 40’ average canopy based on good sandy-loam soil and species variation

**COMPARISON TO A 400% CANOPY INCREASE**
- 400% multiplied by the existing canopy coverage of 32,907 sq ft results in an expected canopy of 131,628 sq ft, which equals approximately 105 (40’ dia.) trees.
- The proposed canopy coverage for traditional tree pits equals 164,536 sq ft, which equals 131 (40’ dia.) trees.

**ANALYSIS MAP 3**
- Using a silva cell tree box, West Main Street can feasibly maintain 197 street trees, each using 495 cu ft of soil. This hypothetical layout allows room for increasing soil volume per tree (thus increasing canopy coverage), and alternating tree spacing to allow for structured amenity areas for site furnishings.

**ASSUMPTIONS**
- No soil volume is shared
- All existing trees are removed
- 30’ on-center tree spacing (40’ is City standard)
- 40’ average canopy based on good sandy-loam soil and species variation

**COMPARISON TO A 400% CANOPY INCREASE**
- 400% multiplied by the existing canopy coverage of 32,907 sq ft results in an expected canopy of 131,628 sq ft, which equals approximately 105 (40’ dia.) trees.
- The proposed canopy coverage for traditional tree pits equals 247,432 sq ft, which equals 197 (40’ dia.) trees.
The stormwater management techniques and utility relocation and under-grounding often have competing spatial requirements and needs. The strategy for effectively integrating stormwater management with utility relocation requires a strong understanding of these needs and their associated easements and offsets. The graphics presented help to illustrate the existing condition along West Main Street and a conceptual condition in an effort to help explain and see the competing needs that are occurring underground.
EXISTING UTILITY LAYOUT VS. CONCEPTUAL UTILITY AND SWM LAYOUT

EXISTING INFRASTRUCTURE
Traditional Tree Box
Electric, Communications, and Gas Utilities
Storm Sewer, Sanitary Sewer and Water Utilities

PROPOSED INFRASTRUCTURE
Silva Cells
Bioretention Tree Box and Underdrain
Storm Sewer, Sanitary Sewer, and Water Utilities
Private Utility Ductbank
Gas and Service line Relocation

PROPOSED UTILITIES
1. Storm Sewer Main
2. High Pressure Gas
3. Sanitary Sewer
4. Water Main
5. 10-Way Private Ductbank
6. Bioretention Underdrain
STREETSCAPE CHARACTER ANALYSIS

design language matrix

West Main Street is a place between two very historic and storied landscapes; the University of Virginia and the historic downtown pedestrian mall. The materiality of these two places has evolved, albeit stringently, within the visions of Thomas Jefferson and Lawrence Halprin respectively; and by those people upholding their visions. The materials and furnishings palette and typologies of each of these places expresses consistency, visual appeal, cohesiveness, and simplicity.

West Main Street is a very historic and culturally important place in itself. However, the street suffers from being un-imageable, otherwise described as lacking characteristics and qualities that help define the image of a place in a person’s minds-eye. This is largely the result of an incoherent palette of streetscape elements and improperly organized collection of materials, furnishings, and other street features. Furthermore, the City of Charlottesville streetscape standards aren’t expressive enough of design and construction qualities that would foster a vision for West Main. The question then becomes, what should West Main Street look like?

CONTENTS/RESEARCH

OPTION 1 PREFERRED STREET CONFIGURATION, 2016

RHODESIDE & HARWELL MASTER PLAN, 2014
Streetscape & Urban Design Framework
Value Engineered Corridor Improvements

UNIVERSITY OF VIRGINIA
Office of the University Building Official - Facility Design Guidelines
Office of the Architect - Landscape Typologies and Standards

CITY OF CHARLOTTESVILLE
Architectural Design Control (ADC) Guidelines
City Standards and Design Manual
Streets That Work Design Guidelines

DOWNTOWN PEDESTRIAN MALL
Halprin design elements

THE CHARLOTTESVILLE DOWNTOWN MALL
Video by Paul Josey & Karl Krause

MATERIAL STANDARDS
Art
Furnishings
Lighting
Paving
Seating
Site Features
Wayfinding
### Art
- Offers a place-making role in celebrating and communicating history and culture.
- Develop relationship between artworks’ materials, scale, and surrounding environment
- Murals’ appearance, materials, colors, size, and scale should be compatible with building/context
- Sculpture should be accessible to public

### Furnishings
- Furniture should be durable, free-standing, and matching.
- Litter receptacles should be metal and match other street furniture
- Should be of compatible design, materials, and color with other street furniture

### Lighting
- Of a character to complement land-use, sense of place, existing context and street typology.
- Fixture selection to create hierarchy of streets and spaces
- Consider special lighting of key landmarks to provide a focal point in evening hours
- Traditional, pole mounted for historic places

### Paving
- Materials selected on intent of reinforcing the existing character.
- Traditional materials: brick, stone, concrete
- Concrete and permeable pavers are appropriate in new construction and if applicable
- Avoid variation in color, texture, tooling
- Traditional patterns laid to match historic context

### Seating
- Design and location of seating should respond to how surrounding space is used.
- Use design constructed of wood and/or metal
- Should be of compatible design, materials, and color with other street furniture
- Relates to historic character of district

### Site Features
- Walls and Fences should respect scale, materials and context of site and adjacent properties.
- Stone, wrought-iron, wooden pickets, brick
- Not to exceed 4’ height in public r.o.w.
- Take design clues from historic precedents

### Wayfinding
- Maintain city-wide informational public sign system.
- Add distinctive street sign system for historic districts
- Can be plaques, pole-mounted, or interpretive

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**MASTER PLAN VALUE ENGINEERED ITEMS**
- Bridge Deck site features removed
- Medians and Median Planting removed
- Sidewalk changed to Poured-in-Place Concrete
- Curbs changed to Concrete
- Crosswalks changed to Painted Asphalt

**WEST MAIN STREET EXISTING CONDITIONS PHOTOS**
- Not standards; for visual reference only

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**ON ART:**
Offers a place-making role in celebrating and communicating history and culture.
- Develop relationship between artworks’ materials, scale, and surrounding environment
- Murals’ appearance, materials, colors, size, and scale should be compatible with building/context
- Sculpture should be accessible to public

**ON FURNISHINGS:**
Furniture should be durable, free-standing, and matching.
- Litter receptacles should be metal and match other street furniture
- Should be of compatible design, materials, and color with other street furniture

**ON LIGHTING:**
Of a character to complement land-use, sense of place, existing context and street typology.
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**ON WAYFINDING:**
Maintain city-wide informational public sign system.
- Add distinctive street sign system for historic districts
- Can be plaques, pole-mounted, or interpretive
STREETSCAPE CHARACTER
LEARNING FROM THE MALL

design principles from lawrence halprin

1. GROUNDPLANE AS URBAN FLOOR

2. TREE BOSQUES AS LANDSCAPE ROOMS

3. MATERIAL AND FURNISHING SIMPLICITY

4. CHOREOGRAPHED LAYOUT CREATES ‘EPISODES’

THE DOWNTOWN PEDESTRIAN MALL IS...
“A Durable Mall”
“A Flexible Mall”
“An Interactive Mall”
WEST MAIN STREET DESIGN

key principles

1. Create ‘green gateways’ along West Main Street at
   1) Ridge-McIntire Road (east terminus)
   2) Jefferson Park Avenue (west terminus)
   3) the Bridge (center)

2. Create bosques of trees that are irregular in length
   and diverse in species

3. Try to save existing trees that are in excellent and
   good condition where possible

4. Maintain visibility of significant features along
   West Mains Street (e.g. First Baptist Church)

5. Maximize areas for diverse activity along West Main
   Street, particularly where land use suggest gathering
   of people. Create a rhythm of active and calm spaces
   along the corridor

6. Create a central, identifiable place for adjacent
   neighborhoods and City residents

7. Build upon the history of West Main Street and the
   cultural identity of the City

8. Incorporate lessons learned from the Downtown
   Pedestrian Mall
OPTION ‘1’ PLAN UPDATE
revised streetscape plan
STREET TREE DESIGN
conceptual street tree layout
Downtown Pedestrian Mall Tree Layout

Gateway

Activity Bosques

Gateway

Ridge-McIntire
BOSQUE CONCEPT

GOALS
1) CREATE ‘ROOMS’ FOR ACTIVITY AREAS
2) EXPOSE HISTORIC AND SIGNIFICANT FEATURES
3) SCREEN UNSIGHTLY ADJACENCIES
Soil Volume = 1,200 cubic feet

Soil Volume = 1,197 cubic feet

SOIL VOLUME REQUIREMENTS

SHARED SOIL VOLUME
1) RESULTS IN 15% - 25% DECREASE IN SOIL VOLUME PER TREE WHEN CLUSTERED
2) DESIGN ASSUMES 20% DECREASE
3) RESULTING SOIL VOLUME GOAL PER TREE WHEN CLUSTERED EQUALS 400 CU FT
STREET TREE DESIGN

types of street tree planting
TREE TOTALS

EXISTING TREES TO REMAIN: 23
TRADITIONAL TREES: 42
SILVA CELL TREES: 89
NEW TREES: 131
PROGRAMMATIC DESIGN
understanding the program

West Main Street should first be understood as a place of intermingling experiences before any design or material suggestions are made. The efforts taken to describe the character of a place will ultimately lead to the choice of specific spatial form, pattern, and design technique that will help manifest the character trying to be achieved.

When programming West Main Street, there were four main questions that needed to be asked (see list on right). The answers to these questions help determine the expected uses of the street, the expected users of the street, the anticipated experiences along the street, and the types of spaces required to provide for all the above. The space use and experience typologies indicated in the following diagrams are laid out along West Main Street as they relate to the existing land use and as an attempt to begin defining the pedestrian experience. Character images help explain in visual terms what each of the programmatic zones are and how they function.
SERIES OF EXPERIENCES

GOALS
1) COMPLEMENT ADJACENT LAND USES
2) PROVIDE TRANSITIONS TO SIDE STREETS
3) USES BOSQUES TO ORGANIZE SPACE
PROGRAMMATIC DESIGN
program and activity layout
MATERIALS ANALYSIS
hardscape and surfacing options

The character of materials chosen will work to create a consistent, unifying element that cohesively ties the corridor together. The proposed palette of materials should fit within the context of Charlottesville and help define the various uses that comingle throughout the corridor. Materials are the foremost design element that gives a street its sense of place, and should be given considerable thought.

MATERIALS CHARACTER

STYLE & AESTHETICS
Neutral and warm ground plane
Simple, consistent patterning
Uniform field

MANAGING INTRICACIES
Material or pattern differentiation
Change in size, texture

SPECIAL ZONES
Permeable paving areas
Activity areas
Driveways and cross streets
Building edges
MATERIAL CONSIDERATIONS

GOALS
1) LONG-TERM DURABILITY
2) MINIMIZE MAINTENANCE COSTS
3) CONTEXTUAL AND HISTORICAL CONSISTENCY
brick paving, variations in color, pattern, size
material combinations, brick, pavers, concrete
unit pavers, variations in color, pattern, size, texture
concrete with score pattern, brushed, exposed aggregate
FURNISHINGS ANALYSIS
seating, lighting, and amenity options

The character of furnishings chosen will also work to create a consistent, unifying element. The proposed palette of furnishings and their locations will help to define zones of activity and should be activating and dynamic themselves. Two of the most important factors for great public places are numerous places to sit and safety at night-time via lighting. Various different types of seating and engaging lighting at the pedestrian scale will help create a more inviting place at all times of the day.

FURNISHINGS CHARACTER

STYLE & AESTHETICS
- Contains timeless qualities
- Includes variety of materials (e.g. metals, woods)
- Evokes warmth, artfulness

A VARIETY OF AMENITIES
- Street furnishings and signage
- Art and murals
- Lighting
- Banners and logos
- Neighborhood gateway features
- Building awnings and signage
- Container plants / moveable planters

TECHNOLOGICAL AND SUSTAINABLE
- Wifi opportunities
- Mobile recharging
- Recyclable materials

FLEXIBILITY
- Maximize limited sidewalk space
- Multi-functional use of furnishings
- Fixed and moveable options

LIGHTING
- Heirarchical
- Pedestrian and Vehicular Zones
- Mid-block vs End-of-block
- Responsive to activities
- Responsive to tree planting
- Nodes for special lighting
- Holiday, catenary, and facade lighting
DINING
AMENITIES
STREETSCAPE CHARACTER
conceptual rendering and modeling

The in-progress conceptual rendering shows the block along West Main Street looking east from 7th Street towards 6th Street. The visualization begins to define the various paving zones and lighting hierarchy, the nodes of seating, and the street tree clustering.
SCHEMATIC DESIGN PLAN

illustrative rendering
STREETSCAPE EXPERIENCE
visualization at 7th street and west main
PAVING AND SURFACING
materials and pattern

WARM CONTEMPORARY PALETTE
DEEP, RICH COLORS WITH SUBTLE CHANGES OF TONE, TEXTURE, AND PATTERN
Paved surfaces include concrete unit pavers, and exposed aggregate concrete. The images below illustrate warm toned pavers that evoke a continuous and timeless appearance. The developed paving patterns are simple to create a balanced and harmonious ground plane.
UNILOCK
IL CAMPO BRUSHED FINISH
Granite Color
3” x 12” x 2.5”

UNILOCK
ENDURACOLOR SMOOTH
Warm Grey Color
3” x 12” x 2.5”

UNILOCK
ENDURACOLOR SMOOTH
Almond Grove Color
3” x 12” x 2.5”

CONCRETE
EXPOSED AGGREGATE
French Grey Color
Poured in Place
UNILOCK UNIT PAVERS
SIDEWALK PEDESTRIAN PAVING
25% Granite / 50% Warm Grey / 25% Almond Grove

ASPHALT
ROADWAY PAVING
Drive Lanes and Parking Lanes

P.I.P CONCRETE
EXPOSED AGGREGATE
6” Curb, Flex Zone, and Driveway Aprons

ENNIS FLINT COMPANY
THERMOPLASTIC BIKE LANES
High Visibility Green
STREET TREE PLANTING

Tree planting conditions and techniques

TREE PLANTING WITH SILVA CELLS

STREET TREE PLANTING WITH SILVA CELLS AND GRAT ED OPENINGS

Tree planters that incorporate tree grates and silva cells and can allow for narrow tree openings that maximize usable pedestrian space while still providing adequate water and oxygen to trees. Tree grates will require proper maintenance to ensure openings are widened to accommodate tree growth.

PAVING CONDITION AT TREE GRATE

• typical silva cell planter cross section •
TREES PLANTING WITH REINFORCED PAVEMENT

STREET TREE PLANTING WITH REINFORCED PAVING, UNCOMPACTED SOIL AND IRONSMITH Paver-Grate System

Reinforced paving and pavers held above uncompacted soil, via Ironsmith’s Paver-Grate Tray system, can provide adequate volumes for water and oxygen to sustain tree growth. These methods allow paving to be extended in close proximity to and/or above the tree root ball to maximize pedestrian space.

PAVING CONDITION AT TREE GRATE

4’ X 4’ extents of IRONSMITH Paver-Grate Tray system
TREE GRATES

GOALS
1) EASE OF MAINTENANCE FOR TREE GROWTH
2) PANELS FOR EXPANDABILITY AND EASE OF REMOVAL
3) CONSISTENT WITH MATERIALS PALETTE

MATERIALS + FINISHES
Cast Ductile Iron - no finish
Colors: Natural patina with age

MOUNTING OPTIONS
Concrete Anchorage with Steel Frame

IRONSMITH
METRO Tree Grate
4’ W. x 8’ L.

IRONSMITH
PAVER-GRADE Tray System
METRO Tree Grate
2’ W. x 2’ L.
STREET TREE PLANTING

Tree Species Selection

Over 130 new trees will be planted along West Main Street which will result in a 500% increase in the tree canopy. Unlike the monoculture of trees that exist along the street today, the proposed palette of street trees will comprise of a dynamic mix of tree species. Proposed street trees will provide critical shade, emphasize gateways and areas of interest, and add seasonal interest.

Tree Species

General Selection Criteria
- Bioretention Suitability (BIO)
- Tough, Rugged, Drought Tolerance
- Tolerant of Salt, Roadway Pollution
- Not Shallow Rooted
- Not Disease Prone
- Seasonal Interest

Gateway Tree Selection Criteria
- Single Species
- Dense, Upright Branching
- Great Fall Color & Winter Interest
- Creates Dappled Light in Sun

Activity Bosque Tree Selection Criteria
- Diversity of Species
- Broad-leafed for Shade
- Possibly Mixed Forms (i.e. Round, Vase, Columnar)
- Great Bark Characteristics & Winter Interest
SPECIES SELECTION

GOALS
1) MAXIMIZE NATIVES
2) REINFORCE DIVERSITY
3) MAINTAIN VISUAL LEGIBILITY
Taxodium distichum
Celtis occidentalis
Acer x freemanii
Gymnocladus dioicus
Platanus acerifolia 'Bloodgood', 'Yarwood', 'Liberty', 'Columbia'
Quercus palustris
Acer rubrum
Liquidambar styraciflua 'Rotundiloba'
Quercus michauxii
Quercus bicolor
Quercus phellos
Ulmus americana var. 'Jefferson'
Ulmus parvifolia
Ginkgo biloba
Quercus acerina
Quercus shumardii
Tilia tomentosa
Carpinus caroliniana
Acer rubrum 'Appalachian Spring' or 'Cherokee Princess'
Syringa reticulata 'Ivory Silk'
Stewartia pseudocamellia
Oxydendrum arboreum
Acer buergerianum

A large trees
B medium trees
C small trees
LARGE TREES

- **Bald Cypress - Taxodium distichum (BIO)**
  - Spring
  - Fall
  - Winter

- **Kentucky Coffeetree - Gymnocladus dioicus (BIO)**
  - Spring
  - Fall
  - Winter

- **Red Maple - Acer rubrum (BIO)**
  - Spring
  - Fall
  - Winter

- **Common Hackberry - Celtis occidentalis (BIO)**
  - Spring
  - Fall
  - Winter

  - Spring
  - Fall
  - Winter

- **Roundleaf Sweet Gum - Liquidambar styraciflua ‘Rotundiloba’ (BIO)**
  - Spring
  - Fall
  - Winter

- **Freeman Maple - Acer x freemanii (BIO)**
  - Spring
  - Fall
  - Winter

- **Pin Oak - Quercus palustris (BIO)**
  - Spring
  - Fall
  - Winter

- **Swamp Chestnut Oak - Quercus michauxii (BIO)**
  - Spring
  - Fall
  - Winter

- **Willow Oak - Quercus phellos (BIO)**
  - Spring
  - Fall
  - Winter

- **Swamp White Oak - Quercus bicolor (BIO)**
  - Spring
  - Fall
  - Winter

- **American Elm - Ulmus americana var. ‘Jefferson’**
  - Spring
  - Fall
  - Winter
MEDIUM TREES

American Hornbeam - *Carpinus caroliniana* (BIO)

Black Gum - *Nyssa sylvatica* (BIO)

River Birch - *Betula nigra* (BIO)

European Hornbeam - *Carpinus betulus 'Fastigiata'*

Eastern Hop-Hornbeam - *Ostrya virginiana*

Okame Cherry - *Prunus x incamp 'Okame'*

Miyabe Maple - *Acer miyabei*

Osage Orange - *Maclura pomifera*

Zelkova - *Zelkova serrata*
**SMALL TREES**

<table>
<thead>
<tr>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Redbud - <em>Cercis canadensis</em> (BIO)</td>
<td>Crape Myrtle - <em>Lagerstroemia indica</em> var.</td>
<td>Flowering Dogwood - <em>Cornus florida</em> var. “Appalachian Spring” or “Cherokee Princess”</td>
</tr>
<tr>
<td>Spring/Summer</td>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>Spring/Summer</td>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>Japanese Stewartia - <em>Stewartia psuedocamellia</em></td>
<td>Ivory Silk Tree - <em>Syringa reticulata</em> ‘Ivory Silk’</td>
<td>Sourwood - <em>Oxydendrum arboreum</em></td>
</tr>
</tbody>
</table>
The incorporation of street furnishings along the corridor will provide places for neighborhood residents and visitors to enjoy the renewed public space. Recommended furnishings are artful, warm, inviting, multi-functional, diverse in size and use, and constructed of lasting materials such as coated hardwood, powder-coated aluminum/steel, and reinforced cast stone or concrete.
LANDSCAPE FORMS
PARALLEL 42 Bench
18” H. x 18” W. x 67” L.
Straight or Angular Units

LANDSCAPE FORMS
FGP Backless Bench
21” H. x 23” W.
6 Foot and 10 Foot Lengths

LANDSCAPE FORMS
FGP Backed Bench
28” H. x 30” W.
6 Foot and 10 Foot Lengths

LANDSCAPE FORMS
MultipliCITY Tables and Benches
35” H. x 25” W. x 95” L. Table
18” H. x 23” W. x 95” L. Bench

MATERIALS + FINISHES
Jarrah hardwood - no finish
High Performance Proprietary Powdercoated Metal
Colors: Mercury Ocean Flambe

MOUNTING OPTIONS
Freestanding or Surface Mount

MATERIALS + FINISHES
Jarrah hardwood - no finish
Powdercoated Cast Aluminum and Metal
Colors: Stormcloud

MOUNTING OPTIONS
Surface Mount
MATERIALS + FINISHES
Powdercoated Metal
Colors: Mercury Ocean

MOUNTING OPTIONS
Embedded

MATERIALS + FINISHES
Powdercoated Metal
Colors: Stormcloud

MOUNTING OPTIONS
Surface Mount

MATERIALS + FINISHES
Jarrah hardwood - no finish
Powdercoated Cast Aluminum
Colors: Stormcloud

MOUNTING OPTIONS
Surface Mount

MATERIALS + FINISHES
Jarrah hardwood - no finish
Powdercoated Cast Aluminum
Colors: Bumblebee Parrot Green

MOUNTING OPTIONS
Surface Mount
FORMS AND SURFACES
DISPATCH Trash Receptacle
43” H. @ 36 or 45 Gallon
Litter and Recycling Available

MATERIALS + FINISHES
Powdercoated Metal
Colors: Slate

MOUNTING OPTIONS
Surface Mount

BASIS OF DESIGN:
ESCOFET
LEVIT Cast Stone Bench
17” H. x 28” W. x 158” L.

MATERIALS + FINISHES
Reinforced Cast Stone
Colors: Calgary Beige

MOUNTING OPTIONS
Embedded; Custom

BASIS OF DESIGN:
ESCOFET
EMILIANA Cast Stone Planter
45-87 Cubic Feet Capacity

MATERIALS + FINISHES
Reinforced Cast Stone
Colors: Calgary Beige

MOUNTING OPTIONS
Freestanding

BASIS OF DESIGN:
CATOCTIN GREENSTONE
Natural Boulders
Variable Size and Shape

MATERIALS + FINISHES
Greenstone breccia
Natural Colors: Green, Grey, Dark Purple

MOUNTING OPTIONS
Freestanding
BASIS OF DESIGN:
CUSTOM BUS SHELTER
Translucent Canopy with Recessed Lighting
Double Post with Integral Bench

BUS SHELTER: Night-time Rendering

travel
STREETSCAPE LIGHTING
opportunities and fixtures

LIGHTING OPPORTUNITIES

DYNAMIC LIGHTING IN GATHERING AND DINING AREAS
Additional lighting elements at particular nodes of activity will provide distinction between spaces and create a vibrant atmosphere along the street. Catenary, in-ground, facade, and integrated lighting fixtures will provide intriguing night-time visual appeal and foster a sense of safety and activity.
ROADWAY & PEDESTRIAN LIGHTING

GOALS
1) ESTABLISH THE FIXTURE AS AN ARCHITECTURAL STATEMENT
2) MAXIMIZE SPACING WHILE MINIMIZING CONFLICTS
3) INTEGRATE TECHNOLOGY AND LATEST INNOVATIONS
LANDSCAPE FORMS LIGHTING
ASHBERRY Luminaire

MATERIALS + FINISHES
Cast Aluminum
Pangard II Polyester Powdercoat Finish
Colors: Stormcloud

OPTICS + MOUNTING
LED - 3500K
Surface Anchorage with Base Cover
MATERIALS + FINISHES
Cast Aluminum
Pangard II Polyester Powdercoat Finish
Colors:  *Stormcloud*

OPTICS + MOUNTING
LED - 3500K
Surface Anchorage with Base Cover
IGUZZINI LIGHTING
FIAMMA Luminaire

MATERIALS + FINISHES
Die-Cast Aluminum
Polyester Powdercoat Finish
Colors: 15 Grey

OPTICS + MOUNTING
LED - 3000K
Surface Anchorage with Base Cover
BEGA LIGHTING
84-120 Luminaire

MATERIALS + FINISHES
Die-Cast Aluminum
3 mil Polyester Powdercoat Finish
Colors: Black

OPTICS + MOUNTING
LED - 4000K
Surface Anchorage with Base Cover
STREETSCAPE EXPERIENCE
visualization at 7th street and west main at night
INTERPRETATION OPPORTUNITIES
telling the story of Charlottesville

CREATE A DYNAMIC STREET

Most people move from thing to thing as they walk, always looking for “the next thing”. This strolling along the street can be encouraged by creating a series of interesting nodes or “bread crumbs” that motivate visitors to keep on going. As a means to promote tourism or encourage civic pride, the project could create a very memorable and highly photographable moments that brand West Main Street and Charlottesville.
TOPO MAP ORIENTATION

ENGAGE PASSERSBY WITH MAPS OF THE REGION'S TOPOGRAPHY AND THE TOWN

Map 1 shows the relation of the city to the Tidewater region and the Blue Ridge Mountains and Three Notch’d Road as the path west. Map 2 shows the colonial street network of the city and prominent early buildings and civic features. Map 3 shows contemporary Charlottesville with an indication of areas which have been substantially altered (e.g., Vinegar Hill and the Downtown Mall).
CHANGEABLE DIRECTORY and COMMUNITY MESSAGE BOARD

PROVIDE GATEWAY AT STARR HILL PARK THAT ORIENTS VISITORS, HELPS BUSINESSES AND CREATES COMMUNITY

COMMUNITY MESSAGE BOARD
may be casual or curated, informal or formal, use chalkboard, corkboard or enclosed weatherproof case

CHANGEABLE DIRECTORY OF STORES AND RESTAURANTS
advertise the street’s offerings and point the way
STREET CORNER MARKERS

PROVIDE STREET NAMES, HIGHLIGHT NEARBY CULTURAL AND HISTORIC HOTSPOTS, AND FEATURE VINTAGE PHOTOS OF WEST MAIN

IDENTIFICATION OF NEARBY SITES
with interpretation as incentive to visit and explore

HISTORIC PHOTOS WITH QUOTE
convey street’s people and past

STREET NAMES
identified in paving or at top of marker
“GET AROUND” TRANSIT INTERPRETATION

PROVIDE A GLIMPSE OF PAST TRANSIT OPTIONS AT BUS STOPS

INTERPRETATION AT BUS STOPS
show transit options of the past in addition to route information

STREETCAR RAIL IN PAVING
accompanies panel on streetcars

REPRESENTATION OF PLANK ROAD
accompanies panel on 19th c. street

QUOTES, FUN FACTS OR MAP ARTWORK
at bench extend the interpretation
BRIDGE BUILDERS COMMEMORATIVE WALK

PROVIDE UPLIFTING EXPRESSIONS OF COMMUNITY AT THE BRIDGE

HONOREE’S NAMES DISPLAYED IN A MORE ARTFUL WAY
so that they are visible day and night

ACCOMPLISHMENTS AT PAVING
enhance appreciation of honorees

PRESENCE OF THE PEOPLE
through shadows, quotes, etc...

DRAMATIC LIGHTING ABOVE AND BELOW
brings the bridge to life at night and creates safe-feeling public space
MEMORY MARKERS

COMMEMORATE SPECIAL PLACES LIKE VINEGAR HILL, THE INGE STORE, AND ALBEMARLE HOTEL

QUOTATIONS AND TEXT STATEMENTS
debossed or embossed text etched into paving at Vinegar Hill, Inge's Grocery Store, Albemarle Hotel and Gaslight Restaurant

DIMENSIONAL NAMES
alternate to pavers at Vinegar Hill

NAME PAVERS
for all Vinegar Hill families relocated and select businesses
LEARNING FROM HISTORY AND HALPRIN TO RE-CREATE MIDWAY PARK

EXPRESSING VERNACULAR THROUGH GEOLOGICAL INTERPRETATION

Halprin’s Mall design contained something every great street needs, an identifiable beginning and ending. The plaza and market designs were a divergence in form from the formal bosques along the Mall, artfully created urban places that reflected aspects of nature. For Midway Park, which has been an identifiable place along West Main since at least 1917, there is an opportunity to mark the gateway onto West Main and to interpret the local context and rich history this road embodies.
CELEBRATE THE REGION'S GEOGRAPHY- PRECEDENTS FROM OTHER PLACES

TEARDROP PARK, NY
MICHAEL VAN VALKENBURGH

BAILEY PLAZA, NY
MICHAEL VAN VALKENBURGH

NOVARTIS CAMPUS, SWITZERLAND
PETER WALKER

KELLER FOUNTAIN, OR
LAWRENCE HALPRIN

COURTHOUSE PLAZA, MN
MARTHA SCHWARTZ

BARANGAROO PARK, AUSTRALIA
PETER WALKER
Midway Park plan enlargement
SECTION A - A': SECTION THROUGH PARK LOOKING NORTHEAST

SECTION B-B': ELEVATION OF PARK LOOKING SOUTH
Visualization of Midway Park at the Ridge Street and West Main Street intersection
DESIGN EVOLUTION
shaping the schematic design

Throughout the 11-month design process, the design team met with key City staff, City Council members, stakeholders, and the general public. Feedback gained from these meetings were used to continually shape critical plan elements including:

- Overall streetscape character and proposed site features
- Management of existing site features (e.g. street trees and relocation of the Lewis & Clark Statue)
- Stormwater management strategies
- Parking management and loading recommendations
- Underground and overhead utilities management (water, gas, electric, and private utilities)
- Maintenance and constructibility
- Roadway geometry (e.g. lane configurations, traffic management, intersection pillows and turning radii)
- Public and private utilities (e.g. water, gas, electric and telecommunications)
- Funding and budget management

PROJECT IMPLEMENTATION TEAM
The design team met with the Project Implementation Team on a monthly basis to review design progress, receive feedback on project recommendations and to guide the overall project process. The Project Implementation Team was comprised of representatives from pertinent City departments including Neighborhood Development Services, Charlottesville Area Transit (CAT), Parks & Recreation, Public Works, City Manager’s Office, Economic Development, Fire Department and Police Department. As a critical stakeholder, the University of Virginia was also an integral member of the Project Implementation Team as well.

CITY COUNCIL
The design team engaged City Council at critical junctures during the design process. These engagement sessions included four “2+2+1” work sessions. A public hearing will be held on May 15th to review and approve Schematic Design plans.

BOARD OF ARCHITECTURAL REVIEW (BAR)
Two work sessions were held with the Board of Architectural Review to provide an overview of design progress and to gain feedback on project recommendations.

PUBLIC UTILITIES
West Main Street includes numerous utilities both public and private. The design team met with utility owners including Dominion Virginia Power, Comcast, Century Link, and Lumos to understand their current and future needs as well as to coordinate general project progress.

PUBLIC ENGAGEMENT
West Main Street has been an important street both for its surrounding neighborhoods and for the City as a whole. In designing streetscape improvements for West Main, the design team investigated ways that the street can remain an important place for the communities living adjacent to it. To gain insights into the needs of adjacent communities, a public session was held to provide a general project update and to explore the meaning of West Main Street for its neighboring communities, and how this can relate to “making places” along the corridor.
project process

PHASE 1
PROJECT KICK-OFF
JUNE 2016

PHASE 2
RESEARCH & ANALYSIS
JUL - SEPT

PHASE 3
SCHEMATIC DESIGN
OCT - APR

2016
1
3
4
5
6
7
8
9
10
11

2017

Monthly Staff Meetings
City Council Update
BAR Meeting
City Council Update
Focus Group Meeting
City Council Update
BAR Meeting
City Council Update
APPENDICES

APPENDIX A: TREE ASSESSMENT AND SUMMARY
provided by...
Wolf | Josey Landscape Architects
with Pitchford Associates

APPENDIX B: CONCEPTUAL UTILITIES LAYOUT PLAN
provided by...
Timmons Group

APPENDIX C: GEOTECHNICAL ENGINEERING REPORT
provided by...
Timmons Group

APPENDIX D: HISTORICAL OVERVIEW AND ARCHAEOLOGICAL ASSESSMENT
provided by...
Rivanna Archaeological Services

APPENDIX E: INTERPRETATION STRATEGIES
provided by...
Howard + Revis
APPENDIX A
TREE ASSESSMENT AND SUMMARY
EXISTING CONDITIONS:

SUMMARY

TYPICAL CONDITIONS:
- LESS THAN 50% LIVE CANOPY
- MINIMAL ANNUAL GROWTH
- CRACKS AND WOUNDS IN TRUNK
- IRREPARABLE DECLINE

POOR / REMOVE (11 TREES)
**EXISTING CONDITIONS:**

**SUMMARY**

- LESS THAN 50% LIVE CANOPY
- LOW ANNUAL GROWTH
- STRUCTURAL DEFECTS
- LESS THAN 10 YEARS BEFORE IRREPARABLE DECLINE

**TYPICAL CONDITIONS:**

FAIR (32 TREES)
EXISTING CONDITIONS:

SUMMARY

GOOD to FAIR (52 TREES)

TYPICAL CONDITIONS:
- 50-100% LIVE CANOPY
- AVERAGE TO LOW ANNUAL GROWTH
- OVER MULCHED OR RAISED WALKS
- 10-15 YEARS BEFORE IRREPARABLE DECLINE
**EXISTING CONDITIONS:**

**SUMMARY**

- 100% LIVE CANOPY
- STRONG TO AVERAGE ANNUAL GROWTH
- OVER MULCHED OR TREE GRATE
- 15-20+ YEARS BEFORE IRREPARABLE DECLINE

GOOD (32 TREES)
EXISTING CONDITIONS:
SUMMARY

GOOD to EXCELLENT (11 TREES)

TYPICAL CONDITIONS:
- 100% LIVE CANOPY
- STRONG ANNUAL GROWTH
- OVERALL HEALTHY CONDITION
- 20-30+ YEARS BEFORE LIKELY DECLINE
EXISTING CONDITIONS:

SUMMARY

1" = 40'

20' 0' 40' 80'

GOOD to

EXCELLENT

GOOD to

FAIR

FAIR

GOOD REMOVE
EXISTING CONDITIONS:
SPECIES DIVERSITY

SPECIES DIVERSITY

REGIONAL 22%

EXOTIC 88%

JAPANESE ZELKOVA - 62%

CHINESE ELM - 9%

BRADFORD PEAR - 6%

CITY OF CHARLOTTESVILLE: WEST MAIN STREET TREE ASSESSMENT AND SUMMARY 7-28-2016

RHODESIDE & HARWELL
EXISTING CONDITIONS:
SUMMARY

TREE HEALTH

- GOOD to EXCELLENT: 8% (11 TREES)
- FAIR: 23% (32 TREES)
- POOR / REMOVE: 8% (11 TREES)

NUMBER OF TREES (INVENTORIED)

YEARS REMAINING (BEFORE IRREPARABLE DECLINE)

- < 5
- < 10
- 10+ to 15
- 15+ to 20
- 20+ to 30
- 30+

EXISTING CONDITIONS:
SUMMARY
1" = 40'
20' 0' 40' 80'

GOOD to EXCELLENT
GOOD
GOOD to FAIR
FAIR
POOR / REMOVE
REMOVE

UVA
MALL

City of Charlottesville: West Main Street
Tree Assessment and Summary 7-28-2016

Rhodeside & Harwell

Pitchford Associates
Architecture + Environmental Design

Wolf | Josey
Landscape Architects
APPENDIX: ARBORIST SUMMARY

July 26, 2016

Mr. Paul B. Josey
Wolf/Josey Landscape Architects
310 2nd Street, SE, Ste. F
Charlottesville, VA 22902

Dear Paul:

With this letter, I want to summarize the findings of our recent survey of street trees along the West Main Street corridor. We conducted this survey on Friday, July 22nd.

- The species selection along the corridor is almost entirely Japanese zelkova (Zelkova serrata). While there are a few cultivars planted in front of the new Marriott hotel, the vast majority are the straight species. The cultivars appear to be either ‘Green Vase’ or ‘Green Veil.’ A monoculture of any tree type is precarious because of the potential for an aggressive pathogen to spread through the population in a short period of time.

- There were no indications of insects or diseases in these trees right now, which is reflective of the limited pathogens that present problems in these trees. That could change as the tree health declines, but for now there are no apparent problems.

- While a few trees near the bridge have a full canopy, and make for an inviting visual affect as one travels west to east, the reality is that the growing conditions for the majority are so inhospitable that most are in a fair condition. These trees are much less visually appealing.

- Limited rooting space is the primary culprit to this tree decline. While Zelkova is quite tolerant of limited rooting areas, this tolerance has its limits. As a result, the majority of trees have a useful lifespan of only 10+ years.

- A lifespan of 10+ years means that these trees will likely enter an irreversible stage of decline within about 10 years. It may be 10, or it may be 15, but it is doubtful that their useful life will be much more than that.

- Some of the best trees were found in the raised concrete planters where the soil volume is the greatest. This is to be expected, but it too has its limits because even here the anticipated lifespan is not likely to be more than 10 to perhaps 15 years.

- The majority of trees growing in tree boxes were associated with sidewalk lifting and cracking. This is a direct result of the moderately aggressive nature of their roots. There are other trees that would have produced much greater levels of damage, such as elm or maple, but the damage is evident and will likely continue until the trees decline and die over the next decade, or two.

- Opportunities may exist to save a few of these trees by expanding the available rooting area. However, this is the only option to save them. The soil volume must be expanded considerably in order to justify keeping any of the better trees. These are hardy trees, and I do feel that they would respond well to additional rooting area.

- None of the trees inventoried represent an immediate hazard to people or property. However, there is some deadwood in the canopy of some that should be pruned out.

- We did not observe any visible damage to buildings, although the tree in front of the ABC store is quite close to the building. The others did not exhibit any patterns of roots gravitating toward the building foundations.

- In several locations, the canopies had grown out over the adjacent buildings. This is noted as “canopy restraint” in the spreadsheet. In general, 6’ clearance off of building facades, and 10’ off of roofs is recommended to avoid damage, or from providing access to the roofs for squirrels.

This concludes my initial observations from this inventory. Please let me know if you have any other questions.

Sincerely,

Keith C. Pitchford
ISA Certified Arborist, MA-0178
ISA Certified Tree Risk Assessor
MD Licensed Tree Expert, #589
MD Licensed Forester, #675
<table>
<thead>
<tr>
<th>Tree #</th>
<th>Tree type</th>
<th>DBH</th>
<th>Condition</th>
<th>Growth rate</th>
<th>% live canopy</th>
<th>Canopy restraint</th>
<th>Tree Damage</th>
<th>Projected lifespan</th>
<th>Comments</th>
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<tbody>
<tr>
<td>1</td>
<td>Willow oak</td>
<td>28.8</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>None</td>
<td>No</td>
<td>No</td>
<td>30+</td>
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<tr>
<td>2</td>
<td>Zelkova</td>
<td>8.3</td>
<td>5</td>
<td>2</td>
<td>4</td>
<td>None</td>
<td>Yes</td>
<td>No</td>
<td>&lt;5 cracks in trunk</td>
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<td>3</td>
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<td>15.3</td>
<td>3</td>
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<td>4</td>
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<td>4</td>
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<td>5</td>
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<td>1,2</td>
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<td>1,2</td>
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<td>3</td>
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<td>9</td>
<td>N. Red oak</td>
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<td>3</td>
<td>4</td>
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<td>1</td>
<td>No</td>
<td>20+ mulch</td>
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<td>10</td>
<td>N. Red oak</td>
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<td>2</td>
<td>3</td>
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<td>1</td>
<td>No</td>
<td>10+</td>
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<td>Pin oak</td>
<td>9</td>
<td>3</td>
<td>3</td>
<td>4</td>
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<td>No</td>
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<td>No</td>
<td>10+ depression max depth better</td>
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### Tree Survey - July 2016

#### Key:
- **Condition**: General condition of the tree, ranging from Good to Excellent.
- **Growth Rate**: Rate of growth, ranging from 1 to 4.
- **Live Canopy (%)**: Percentage of live canopy, ranging from 10+ to <5%.
- **Defects**: Types of defects present in the tree, categorized as structural or defects.
- **Tree Damage**: Type of damage, such as damage to roots, lifting, or undercutting.
- **Projected Lifespan**: Estimated time until the tree is no longer viable.
- **Canopy Restraint**: Presence of canopies that may affect the tree's growth.
- **Comments**: Additional notes and observations.

#### Notes:
- Some trees may have multiple entries due to their size or condition.
- **10+** indicates the tree is over 10 feet tall.
- **<10** indicates the tree is under 10 feet tall.

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### Key:
- **Condition**: General condition of the tree, ranging from Good to Excellent.
- **Growth Rate**: Rate of growth, ranging from 1 to 4.
- **Live Canopy (%)**: Percentage of live canopy, ranging from 10+ to <5%.
- **Defects**: Types of defects present in the tree, categorized as structural or defects.
- **Tree Damage**: Type of damage, such as damage to roots, lifting, or undercutting.
- **Projected Lifespan**: Estimated time until the tree is no longer viable.
- **Canopy Restraint**: Presence of canopies that may affect the tree's growth.
- **Comments**: Additional notes and observations.

### Notes:
- Some trees may have multiple entries due to their size or condition.
- **10+** indicates the tree is over 10 feet tall.
- **<10** indicates the tree is under 10 feet tall.
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**Notes:**
- **Canopy Restraint:**
  - "No" canopy competition (building or tree).
  - "Yes" canopy competition.
- **Root Pattern:**
  - 1: Within tree box.
  - 2: With sidewalk lifting.
  - 3: Roots visible along curb.
- **Defects:**
  - "None" no defects.
  - "Structural" structural defects.

**Summary:**
- Time until irreversible decline if left as is.
- Many factors come into play over time.

**Projected Lifespan:**
- 5 years to 7 years.

**Comment:**
- Visible structural defects.
- Carefully interpreted in comments.
APPENDIX B
CONCEPTUAL UTILITIES
LAYOUT PLAN
APPENDIX C
GEOTECHNICAL ENGINEERING REPORT
# TABLE OF CONTENTS

**EXECUTIVE SUMMARY** ............................................................................................................ A

1. **PROJECT INFORMATION** ........................................................................................... 1

2. **FIELD EXPLORATION** ............................................................................................... 1

3. **LABORATORY TESTING** .............................................................................................. 2

4. **SITE GEOLOGY** ........................................................................................................... 4

5. **SUBSURFACE CONDITIONS** ....................................................................................... 4
   5.1 Ground Surface Cover ............................................................................................... 4
   5.2 Existing Fill Soils ....................................................................................................... 5
   5.3 Residual Soils ........................................................................................................... 5
   5.4 Weathered Rock ...................................................................................................... 5
   5.5 Groundwater .......................................................................................................... 5

6. **PRELIMINARY CONCLUSIONS AND RECOMMENDATIONS** ............................... 5
   6.1 Site Preparation ....................................................................................................... 6
   6.1.1 General ................................................................................................................. 6
   6.1.2 Undercutting and Replacement of Subgrade Soils .............................................. 6
   6.1.3 Subgrade Evaluation ........................................................................................... 6
   6.2 Excavations ............................................................................................................... 7
   6.4 Preliminary Foundation Recommendations ........................................................... 8
   6.5 Preliminary Pavement Support .................................................................................. 8

7. **ADDITIONAL EXPLORATION** .................................................................................. 9

8. **LIMITATIONS OF REPORT** ..................................................................................... 10

9. **CLOSURE** ................................................................................................................... 10

**APPENDICES**

Appendix A – Figures
Appendix B – Boring Logs
Appendix C – Laboratory Test Results
Appendix D – Pavement Design Calculations
EXECUTIVE SUMMARY

For your convenience, this report is summarized in outline form below. This brief summary should not be used for preliminary design or construction purposes without reviewing the more detailed conclusions and recommendations contained in this report.

1. The subsurface exploration included a visual site reconnaissance, performance of 14 test borings to depths of approximately 10 to 20 feet below the ground surface and quantitative laboratory testing.

2. The borings encountered approximately 2 to 12 inches of asphalt, underlain by 2 to 24 inches of concrete and 2 to 7 inches of aggregate base. The majority of the borings encountered existing fill soils to depths up to eleven feet below the ground surface. These soils consisted of soft to very stiff fine grained soils and loose to medium dense sands. Some of the fill appeared poorly compacted. Beneath the ground surface cover and fill, undisturbed residual soils were encountered to depths up to 20 feet below the ground surface. The soils consisted of medium stiff to hard silts. Weathered rock was encountered in Borings B-01, B-02, B-12 and B-14 at depths ranging from approximately 2 to 18 feet below the existing ground surface to boring termination depths. At the time of exploration, water was not encountered in the borings.

3. We recommend that site grading be conducted during the typically drier summer months.

4. Due to the very low CBR values and high swell percentages measured for the on-site soils, the encountered near-surface soils are considered to be of very poor quality for roadway support. Our preliminary recommendation is that the subgrade soils be undercut to a depth of 2 feet below the future pavement section and replaced with suitable fill materials with a minimum CBR value of 10 (VTM Method 8).

5. Soils encountered in the borings are not considered suitable as structural fill within 2 feet of finished subgrade in pavement areas and within 3 feet of finished grade beneath structures. The encountered on-site soils may be used below the above depths provided the moisture content can be properly controlled.

6. We anticipate future structures will lightly loaded and can be supported on shallow foundations designed using a preliminary allowable bearing pressure of 2,000 pounds per square foot (psf). Some overexcavation and replacement of existing fill should be anticipated below structure foundations.

7. This report presents a recommended asphalt pavement section for the project corridor.

8. Once proposed site plans and structure locations are known, we recommend that additional borings and laboratory testing be performed so that more specific recommendations can be made for the structures and site grading scheme.
September 26, 2016

Rhodeside & Harwell
510 King Street, Suite 300
Alexandra, Virginia 22314

Attention: Mr. Ron Sessoms

Re:   Geotechnical Engineering Report
West Main Street Improvements
West Main Street
Charlottesville, State
Timmons Group Project No. 38494

Mr. Sessoms:

Timmons Group is pleased to submit this preliminary geotechnical engineering report for the referenced project. The objectives of our services were to explore subsurface conditions and provide our preliminary geotechnical recommendations for site grading, pavement support and foundation support.

1. PROJECT INFORMATION

The project corridor consists of West Main Street from the intersection of 13th Street NW to Ridge Street in Charlottesville, Virginia. A Site Vicinity Map is shown on Figure 1. Currently, this road primarily has two travel lanes with a center turn lane that accommodates an Average Annual Daily Traffic (AADT) load of 14,000 vehicles. The proposed project will consist of improvements along West Main Street that will include a new pavement section and lightweight bus stop structures. At the issue of this report, locations of proposed structures were not available. We understand that preliminary plans are to completely replace the existing pavement section.

2. FIELD EXPLORATION

The field exploration included a visual site reconnaissance by a representative of Timmons Group and performance of 14 soil test borings (B-01 through B-14). Boring locations were selected by Timmons Group. A representative of Timmons Group established boring locations in the field.
using GPS equipment. Approximate boring locations are shown on Figures 2 through 6 in Appendix A.

Borings B-01 through B-08 were performed to depths of approximately 20 feet below the existing ground surface with hollow stem drilling techniques. Split-spoon samples of subsurface soils were taken within soil test borings at approximate 2-foot intervals above a depth of 10 feet and at 5-foot intervals below 10 feet. Standard penetration tests were conducted in conjunction with split-spoon sampling in general accordance with ASTM D 1586-99. Several bulk samples of near-surface soil cuttings were also collected.

Within borings B-09 through B-14, auger refusal occurred in a concrete layer located just below asphalt pavement. A 3-inch tricone roller bit was able to penetrate through the concrete to create a pilot hole. Attempts were then made to ream the hole larger with the 2-1/4 ID augers, but the augers still refused in the concrete. A decision was made to perform continuous split-spoon sampling of soils through the tricone pilot hole, rather than abandoning the drill operations, to ensure that representative soil samples were collected. Although this procedure is not consistent with ASTM standards, which requires that split-spoon sampling be performed in a borehole that is larger than the sampler diameter, it does provide relative values of soil consistency. The Standard Penetration Test (SPT) N-values recorded in borings B-09 through B-14 may be somewhat amplified due to this modified sampling procedure. Bulk samples (for CBR testing) could not be collected among borings B-09 through B-14.

Water levels were measured in open boreholes at the time of drilling. Upon completion, boreholes were then backfilled up to ten feet with the original ground surface with drill cuttings and the remainder was filled with cement grout. The surface was topped with cold-patch asphalt. Representative portions of split-spoon soil samples and the bulk samples were returned to our laboratory for quantitative testing and visual classification in general accordance with Unified Soil Classification System guidelines.

Boring logs and a generalized soil profile (Figure 7), which present specific information from the borings, are included in the Appendix. Stratification lines shown on the boring logs and profile are intended to represent approximate depths of changes in soil types. Naturally, transitional changes in soil types are often gradual and cannot be defined at particular depths. Ground surface elevations shown on these documents were interpolated from a GIS topographic plan and should be considered approximate.

3. LABORATORY TESTING

Laboratory testing was performed on representative split-spoon and bulk soil samples obtained from the borings. This testing consisted of natural moisture content, Atterberg limits, grain size analyses, standard Proctor, and a California Bearing Ratio (CBR) tests. Laboratory tests were
performed in general accordance with applicable ASTM procedures. Individual laboratory test data sheets are provided in the Appendix. A summary of laboratory test data is provided in the tables below.

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*Material passing No. 200 sieve (clay and silt)
**Visual Classification
***Non Plastic

### Standard Proctor and CBR Testing

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<th>Depth (Feet)</th>
<th>Natural Moisture Content (%)</th>
<th>Standard Proctor</th>
<th>USCS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Optimum Moisture Content (%)</td>
<td>Maximum Dry Density (pcf)</td>
</tr>
<tr>
<td>B-02</td>
<td>2-6</td>
<td>10.7</td>
<td>14.9</td>
<td>113.1</td>
</tr>
<tr>
<td>B-03</td>
<td>2-6</td>
<td>14.6</td>
<td>15.2</td>
<td>110.0</td>
</tr>
<tr>
<td>B-06</td>
<td>2-6</td>
<td>19.9</td>
<td>15.9</td>
<td>108.3</td>
</tr>
</tbody>
</table>

Based on the Atterberg limits testing, near-surface soils are of low to high plasticity. The CBR of the bulk samples ranged from 1.2 to 2.0 with swell ranging from 4.6 to 6.0 percent. These CBR values are considered very low, and the swell is considered high. Based on comparison of natural moisture contents to the optimum moisture content of the bulk sample, near-surface soils appear near to wet of optimum moisture. Drying of some near-surface soils will be required prior to their re-use as fill. The time of year the grading occurs will likely have a significant impact on the moisture levels of near-surface soils.
4. **SITE GEOLOGY**

Based on the 1993 Geologic Map of Virginia, the site is located within Piedmont Physiographic Province. Within upland areas, natural soils within the Piedmont Province are the residual product of chemical and physical weathering of parent rock materials. The typical residual profile consists of finer grained silts and clays near the surface which gradually transition to coarser and denser material with depth. In many locations, the transitional zone between soil and rock is not well defined. Locally, the transitional zone is termed weathered rock. For engineering purposes, weathered rock is considered residual material in which Standard Penetration Test N-values of 60 blows per foot or greater. Locally, the site appears to be underlain by the Lynchburg Group (Charlottesville Formation).

5. **SUBSURFACE CONDITIONS**

The following is a summary of subsurface conditions encountered during the exploration.

5.1 **Ground Surface Cover**

The borings encountered approximately 2 to 12 inches of asphalt, underlain by 2 to 24 inches of concrete and 2 to 7 inches of aggregate base. A summary of the ground surface cover is provided below.

<table>
<thead>
<tr>
<th>Encountered Pavement Section Thicknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boring</strong></td>
</tr>
<tr>
<td>B-01</td>
</tr>
<tr>
<td>B-02</td>
</tr>
<tr>
<td>B-03</td>
</tr>
<tr>
<td>B-04</td>
</tr>
<tr>
<td>B-05</td>
</tr>
<tr>
<td>B-06</td>
</tr>
<tr>
<td>B-07</td>
</tr>
<tr>
<td>B-08</td>
</tr>
<tr>
<td>B-09</td>
</tr>
<tr>
<td>B-10</td>
</tr>
<tr>
<td>B-11</td>
</tr>
<tr>
<td>B-12</td>
</tr>
<tr>
<td>B-13</td>
</tr>
<tr>
<td>B-14</td>
</tr>
</tbody>
</table>

--- Not Encountered
5.2 **Existing Fill Soils**

The majority of the borings encountered existing fill soils to depths up to eleven feet below the ground surface. These soils consisted of soft to very stiff elastic silt (MH), silt (ML) and loose to medium dense silty sand (SM). These soils contained varying amounts of gravel and brick fragments. Standard Penetration Test (SPT) N-values within the fill ranged from 3 to 19 blows per foot (bpf). Based on our past experience, well-compacted fill soils should exhibit SPT N-values of at least 8 bpf. As such, some existing fill appears poorly compacted.

5.3 **Residual Soils**

Beneath the ground surface cover and fill, undisturbed residual soils were encountered to depths up to 20 feet below the ground surface. The soils consisted of medium stiff to hard elastic silt (MH) and silt (ML). SPT N-values within the soil profile ranged from 8 to 50 blows per foot (bpf). It should be noted that SPT N-values in Borings B-09 through B-14 could be amplified based on the modified sampling techniques used in these borings, as discussed previously.

5.4 **Weathered Rock**

Weathered rock was encountered in Borings B-01, B-02, B-12, and B-14 at depths ranging from approximately 2 to 18 feet below the existing ground surface to boring termination depths. Weathered rock is residual material derived from the physical and chemical weathering of underlying parent rock. Weathered rock is defined as a residual soil having Standard Penetration Test N-values of 60 blows per foot or greater. Weathered rock was sampled primarily as sandy silt (ML). Borings B-12 and B-14 encountered SPT N-values in the range of weathered rock, but due to modified sampling procedures these values could be amplified.

5.5 **Groundwater**

At the time of exploration, water was not encountered in the borings. It is important to realize that groundwater levels will fluctuate with changes in rainfall and evaporation rates. In addition, perched groundwater could be encountered within near-surface soils, particularly after rainfall.

6. **PRELIMINARY CONCLUSIONS AND RECOMMENDATIONS**

The following preliminary conclusions and recommendations are based upon our borings, laboratory testing, engineering analysis, and past experience with similar projects and subsurface conditions.

When reviewing our recommendations, it is important to note the prior development activities have occurred at this site. Based on our past experience with previously developed sites, unexpected subsurface conditions are often encountered. These conditions could include
additional zones of low-consistency fill, debris-laden materials, abandoned utilities, and others. These conditions, if encountered, can be addressed by on-site engineering evaluation at the time of construction.

6.1 Site Preparation

6.1.1 General
Site grading will be difficult during periods of extended rainfall and low temperatures that generally occur during the winter months. Near-surface soils are very moisture sensitive. If grading is conducted during a wet time period, soils will tend to rut and pump under rubber-tired traffic and provide poor subgrade support for pavements. Heavy rubber-tired construction equipment should not be allowed to operate on wet or unstable subgrades at this site due to the potential for rutting and other damage to the soils. To reduce potential earthwork problems, site preparation and grading should be scheduled during the typically drier summer months, if possible. We recommend that exposed subgrades be sloped and sealed at the end of each day to promote runoff and reduce infiltration from rainfall.

We understand existing pavement will be removed and replaced. Site preparation should begin with demolition of existing pavement sections and removal of any other unsuitable materials. Encountered pavement section thicknesses are summarized in Section 5.1.

6.1.2 Undercutting and Replacement of Subgrade Soils
Due to the very low CBR values and high swell percentages measured for the on-site soils, the encountered near-surface soils are considered to be of very poor quality for roadway support. Our preliminary recommendation is that the subgrade soils be undercut to a depth of 2 feet below the future pavement section and replaced with suitable fill materials with a minimum CBR value of 10 (VTM Method 8).

An alternative to undercutting may be to chemically treat the upper 2 feet of subgrade soils with Portland cement, or possibly lime (quicklime), to increase their CBR value and reduce their swell potential. A laboratory testing program would be needed to evaluate the effects of chemical treatment. With chemical treatment, a portion of the soils would require temporary removal so that the lowest layer of the 2-foot thick zone could be chemically treated and compacted. The remaining layers would gradually be placed back again, chemically treated, and compacted.

6.1.3 Subgrade Evaluation
After undercutting, exposed soil subgrades in areas to receive fill, and finished subgrades, should be evaluated by the Geotechnical Engineer or his representative. To aid the engineer during this evaluation, exposed soil subgrades should be proofrolled with a loaded tandem axle dump truck
or equivalent. Proofrolling will help to reveal the presence of unstable or otherwise unsuitable surface materials. The following methods are typically used to repair soil subgrades that are observed to rut, pump, or deflect excessively during proofrolling:

- Undercut the unstable soils to firm soils and replace them with suitable, well compacted fill.
- In-place repair of near-surface soils by scarifying, drying and recompressing, when weather conditions are suitable.

6.2 Excavations

We expect that excavations will extend through moderate to high consistency soils. Based on the borings, we do not expect excavations to extend to the weathered rock materials. Past experience indicates that moderate consistency soils can be excavated by routine earth moving equipment. High consistency soils may require the use of a large, track-mounted excavator with rock teeth.

Soil types with respect to trench safety must be evaluated on a case-by-case basis. The Contractor should be responsible for all site safety, including the determination of appropriate trench safety measures according to OSHA guidelines.

6.3 Structural Fill

The following sections provide our preliminary recommendations for structural fill materials and their placement. Site preparation, including embankment fill placement and compaction, should be observed by a VDOT-certified soils technician working under the direction of the Geotechnical Engineer. During fill placement, a sufficient amount of in-place density tests should be conducted to confirm that compaction and fill moisture is in accordance with our recommendations.

6.3.1 Re-use of On-Site Soils as Fill

Our preliminary recommendation is that the on-site soils may be reused as structural fill, but they should not be placed within 2 feet of finished pavement subgrades or within 3 feet beneath of finished grades for structures. Based on visual observation and comparison of the measured natural moisture contents of the bulk soil samples to the optimum moisture contents from the standard Proctor tests, near-surface soils appeared near to wet of optimum moisture. Prevailing weather conditions will have a significant impact on the amount of moisture manipulation (i.e., drying or wetting) required prior to embankment fill placement. We expect that on-site soils will be difficult to dry and manipulate, even during favorable weather conditions.
6.3.2 **Fill Materials**

Structural fill should contain less than 5 percent organics or debris, have a maximum particle size of 3 inches, and meet the zoning requirements below.

<table>
<thead>
<tr>
<th>Fill Zone</th>
<th>Plasticity Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within 2 Feet of Finished Pavement Subgrade and Within 3 Feet of Finished Structure Subgrade</td>
<td>Maximum PI of 20</td>
</tr>
<tr>
<td></td>
<td>Minimum CBR of 10 (VTM 8)</td>
</tr>
<tr>
<td>Below 2 Feet of Finished Pavement Subgrade and Below 3 Feet of Finished Structure Subgrade</td>
<td>Maximum PI of 25</td>
</tr>
</tbody>
</table>

6.3.3 **Compaction Recommendations**

Fill material should be placed compacted in accordance with the latest edition of the VDOT Road and Bridge Specifications. Fill testing should be performed in accordance with the procedures and sampling frequencies in Section 309 of the VDOT Manual of Instruction, Chapter III.

6.4 **Preliminary Foundation Recommendations**

At this issue of this report proposed structure locations and loads were not available. However, we assume that the structures will be very light with loads not in excess of 25 kips. We anticipate these light structures can be supported on shallow foundations designed using an allowable bearing pressure of at least 2,000 psf. It is important to note that existing fill was encountered in several of the borings. In some cases, the fill appeared poorly compacted. Foundations should be supported on stiff, competent soils as determined by the geotechnical engineer or his representative during construction. Some overexcavation and replacement (with VDOT No. 57 stone) of poorly compacted fill should be anticipated below foundations. A footing embedment of at least 24 inches will be required for frost considerations.

6.5 **Preliminary Pavement Support**

As discussed, our preliminary recommendation is that the upper 2 feet of subgrade soils beneath pavement soil subgrade elevations be removed and replaced with suitable compacted fill with a minimum CBR value of 10. Assuming all subgrade materials have a CBR of 10, a design CBR of 6.8 (two-third of specified CBR value) was used for pavement design analysis. Pavement thickness design procedures are based on the “AASHTO Guide for Design of Pavement Structures, 1993”
and associated literature. The following is a summary of pavement design criteria used for this project.

We assumed that there will be an average of 14,000 vehicles per day. The majority of this traffic was considered to be lightweight vehicles with three percent consisting of trucks. Design parameters for these pavement sections were as follows: ESAL factor of 1.05 for trucks, a design life of 20 years, terminal serviceability = 2.8, reliability = 90%, initial serviceability = 4.2, standard deviation = 0.49 for flexible asphalt pavements.

<table>
<thead>
<tr>
<th>Recommended Pavement Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Inches VDOT SM-12.5D</td>
</tr>
<tr>
<td>(Placed in single lift)</td>
</tr>
<tr>
<td>2 Inches VDOT IM-19.0A</td>
</tr>
<tr>
<td>(Placed in single lift)</td>
</tr>
<tr>
<td>3 Inches VDOT BM-25.0A</td>
</tr>
<tr>
<td>(Placed in single lift)</td>
</tr>
<tr>
<td>8 Inches VDOT 21B</td>
</tr>
</tbody>
</table>

Although our analysis was based on a 20 year design life, our experience indicates that an overlay may be needed in approximately 10 to 12 years due to normal weathering (oxidation) of the asphaltic concrete. Also, some areas could require repair in a shorter time period.

All materials and construction methods should conform to the latest edition of the VDOT “Roads and Bridge Specifications.” To confirm that the base course stone has been uniformly compacted and meets VDOT density requirements, in-place density tests should be performed by a qualified soils technician and the area should be thoroughly proofrolled under his observation.

Important factors regarding pavement performance are the condition of subgrade soils at time of construction and post construction drainage. We recommend that all pavement subgrade areas be evaluated prior to base course stone placement. Any areas which deflect or rut during proofrolling must be repaired prior to stone placement. Sufficient testing and observation should be performed during pavement construction to confirm that the required thickness, density, and quality requirements of the specifications are followed.

7. ADDITIONAL EXPLORATION

Once proposed site plans and structure locations are known, we recommend that additional borings and laboratory testing be performed so that more specific recommendations can be made for the structures and site grading scheme.
8. LIMITATIONS OF REPORT

The preliminary recommendations contained in this report are made on the basis of the site information made available to us and the surface and subsurface conditions that existed at the time of the exploration. While this exploration has been conducted in accordance with generally accepted geotechnical engineering practices, there remains some potential for variation of the subsurface conditions in unexplored areas of the site. If the subsurface conditions encountered during construction vary significantly from those presented in this report, we should be notified to reevaluate our recommendations. No other warranty, expressed or implied, is made as to the professional advice included in this report.

9. CLOSURE

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this study or if we can be of further assistance, please contact us at (804) 200-6500.

Respectfully submitted,
TIMMONS GROUP

Julian M. Ruffin IV, P.E.
Geotechnical Engineer

J. Nathan Reeves, P.E.
Geotechnical Engineer
VA Registration No. 049619
APPENDIX A

FIGURES
APPROXIMATE SITE LOCATION

Source: Google Maps
Lithology Symbols
- Asphalt
- Silt
- Well-graded Gravel
- Concrete

Groundwater Symbols
- At End of Drilling
- At 24 Hours

Exploration Symbols
- B-01 (Exploration ID)
- 13 (N-Value)
- 53% 98% (RQD REC)

Fence Diagram
West Main Street Improvements
Charlottesville, Virginia

Timmons Group
1001 Boulders Parkway, suite 300
23225

PROJECT NUMBER: 38494
DRAWN BY: JR
DATE DRAWN: 9/21/2016
HORIZONTAL SCALE: NR
VERTICAL SCALE: FIGURE 7
APPENDIX B

BORING LOGS
<table>
<thead>
<tr>
<th>MAJOR DIVISIONS</th>
<th>SYMBOLS</th>
<th>TYPICAL DESCRIPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COARSE GRAINED SOILS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRAVEL AND GRAVELLY SOILS</td>
<td>GW</td>
<td>WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES</td>
</tr>
<tr>
<td>(MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE)</td>
<td>GP</td>
<td>POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES</td>
</tr>
<tr>
<td>GRAVELS WITH FINES</td>
<td>GM</td>
<td>SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES</td>
</tr>
<tr>
<td>(APPRECIABLE AMOUNT OF FINES)</td>
<td>GC</td>
<td>CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES</td>
</tr>
<tr>
<td><strong>SAND AND SANDY SOILS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLEAN SANDS</td>
<td>SW</td>
<td>WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES</td>
</tr>
<tr>
<td>(LITTLE OR NO FINES)</td>
<td>SP</td>
<td>POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES</td>
</tr>
<tr>
<td>SANDS WITH FINES</td>
<td>SM</td>
<td>SILTY SANDS, SAND - SILT MIXTURES</td>
</tr>
<tr>
<td>(APPRECIABLE AMOUNT OF FINES)</td>
<td>SC</td>
<td>CLAYEY SANDS, SAND - CLAY MIXTURES</td>
</tr>
<tr>
<td><strong>FINE GRAINED SOILS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILTS AND CLAYS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIQUID LIMIT LESS THAN 50</td>
<td>ML</td>
<td>INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY</td>
</tr>
<tr>
<td>CL</td>
<td>INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS</td>
<td></td>
</tr>
<tr>
<td>ORGANIC SILTS AND ORGANIC CLAYEY SILTS OF LOW PLASTICITY</td>
<td>OL</td>
<td></td>
</tr>
<tr>
<td><strong>SILTS AND CLAYS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIQUID LIMIT GREATER THAN 50</td>
<td>MH</td>
<td>INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS</td>
</tr>
<tr>
<td>INORGANIC CLAYS OF HIGH PLASTICITY</td>
<td>CH</td>
<td></td>
</tr>
<tr>
<td>ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS</td>
<td>OH</td>
<td></td>
</tr>
<tr>
<td><strong>HIGHLY ORGANIC SOILS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS</td>
<td>PT</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS.
<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>ELEVATION (ft)</th>
<th>MATERIAL DESCRIPTION</th>
<th>SYMBOL</th>
<th>SAMPLING BLOW COUNTS (N-VALUE)</th>
<th>POCKET PEN. (ft)</th>
<th>LAB TESTS</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>505</td>
<td>ASPHALT: (10 Inches)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>500</td>
<td>SILTY SAND WITH GRAVEL, (SM): gray, medium to coarse grained, moist, medium dense, contains brick fragments, fill</td>
<td></td>
<td>S-1, SPT 17-10-9-10 (19)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SANDY SILT, (ML): orangeish brown and gray, moist, soft, fill</td>
<td></td>
<td>S-2, SPT 1-1-2-2 (3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>495</td>
<td>SANDY SILT, (ML): light brownish gray, moist, stiff, contains mica</td>
<td></td>
<td>S-3, SPT 3-4-6-7 (10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Brown</td>
<td></td>
<td>S-4, SPT 3-4-6-8 (10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>490</td>
<td>(ML): brownish gray, very stiff</td>
<td></td>
<td>S-5, SPT 5-7-9-10 (16)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SANDY SILT, (ML): brownish gray, moist, very hard, contains mica, weathered decomposed rock</td>
<td></td>
<td>S-6, SPT 50/3&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bottom of borehole at 18.3 feet.
<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>ELEVATION (ft)</th>
<th>MATERIAL DESCRIPTION</th>
<th>SYMBOL</th>
<th>SAMPLING BLOW COUNTS (N-VALUE)</th>
<th>POCKET PEN. (n)</th>
<th>LAB TESTS</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>505</td>
<td>ASPHALT: (9 inches)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>500</td>
<td>SILT WITH SAND, (ML): light brownish gray and orangeish brown, moist, very stiff (ML): gray, hard</td>
<td></td>
<td>S-1, SPT 7-6-8-9 (14)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>495</td>
<td></td>
<td></td>
<td>S-2, SPT 8-7-19-18 (26)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>490</td>
<td></td>
<td></td>
<td>S-3, SPT 12-18-27-31 (45)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>490</td>
<td></td>
<td></td>
<td>S-4, SPT 12-15-17-19 (32)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>490</td>
<td></td>
<td></td>
<td>S-5, SPT 7-6-11-14 (17)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>490</td>
<td>SANDY SILT, (ML): brownish gray, moist, very hard, weathered decomposed rock</td>
<td></td>
<td>S-6, SPT 26-27-50 (77)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bottom of borehole at 19.4 feet.
### Boring B-03

**Project Number:** 38494  
**Project Name:** West Main Street  
**Client:** Rhodes & Harwell  
**Project Location:** Charlottesville, Virginia  
**Date Started:** 8/30/2016  
**Completed:** 8/30/2016  
**Ground Elevation:** 502 ft  
**Hole Depth:** 20 feet  
**Drilling Contractor:** Landmark Drilling, Inc.  
**Drilling Method:** Hollow Stem Auger  
**Drill Bit:**  
**Logged By:** Julian Ruffin  
**Checked By:**  
**Notes:**  
**Remarks:**

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Elevation (ft)</th>
<th>Material Description</th>
<th>Symbol</th>
<th>Sampling Blow Counts (N-Value)</th>
<th>Pocket Pen. (feet)</th>
<th>Lab Tests</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>500</td>
<td>Asphalt: (5 Inches)</td>
<td>S-1, SPT 9-5-6-7</td>
<td></td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRUSHED STONE: (4 Inches)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>495</td>
<td>Silty Sand With Gravel, (SM): gray to coarse grained, moist, medium dense, contains concrete, fill</td>
<td>S-2, SPT 2-4-5-6</td>
<td></td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SANDY SILT, (ML): orangeish brown, moist, stiff, contains mica</td>
<td>Light brownish gray</td>
<td>S-3, SPT 2-3-5-5</td>
<td></td>
<td></td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ML): brown, medium stiff</td>
<td></td>
<td>S-4, SPT 2-4-4-5</td>
<td></td>
<td></td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>490</td>
<td>Gray</td>
<td>S-5, SPT 6-5-6-6</td>
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<td>11</td>
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<tr>
<td>(ML): stiff</td>
<td></td>
<td>S-6, SPT 6-6-8-9</td>
<td></td>
<td></td>
<td>14</td>
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<tr>
<td>15</td>
<td>485</td>
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<td>20</td>
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<td>Bottom of borehole at 20.0 feet</td>
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**Elevation:**
- 500 feet
- 495 feet
- 490 feet
- 485 feet
- 480 feet
- 475 feet
- 470 feet
- 465 feet
- 460 feet
- 455 feet
- 450 feet
- 445 feet
- 440 feet
- 435 feet
- 430 feet
- 425 feet
- 420 feet
- 415 feet
- 410 feet
- 405 feet
- 400 feet
- 395 feet
- 390 feet
- 385 feet
- 380 feet
- 375 feet
- 370 feet
- 365 feet
- 360 feet
- 355 feet
- 350 feet
- 345 feet
- 340 feet
- 335 feet
- 330 feet
- 325 feet
- 320 feet
- 315 feet
- 310 feet
- 305 feet
- 300 feet
- 295 feet
- 290 feet
- 285 feet
- 280 feet
- 275 feet
- 270 feet
- 265 feet
- 260 feet
- 255 feet
- 250 feet
- 245 feet
- 240 feet
- 235 feet
- 230 feet
- 225 feet
- 220 feet
- 215 feet
- 210 feet
- 205 feet
- 200 feet
- 195 feet
- 190 feet
- 185 feet
- 180 feet
- 175 feet
- 170 feet
- 165 feet
- 160 feet
- 155 feet
- 150 feet
- 145 feet
- 140 feet
- 135 feet
- 130 feet
- 125 feet
- 120 feet
- 115 feet
- 110 feet
- 105 feet
- 100 feet
- 95 feet
- 90 feet
- 85 feet
- 80 feet
- 75 feet
- 70 feet
- 65 feet
- 60 feet
- 55 feet
- 50 feet
- 45 feet
- 40 feet
- 35 feet
- 30 feet
- 25 feet
- 20 feet
- 15 feet
- 10 feet
- 5 feet
- 0 feet
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<th>MATERIAL DESCRIPTION</th>
<th>SYMBOL</th>
<th>SAMPLING BLOW COUNTS (N-VALUE)</th>
<th>POCKET PEN. (ft)</th>
<th>LAB TESTS</th>
<th>REMARKS</th>
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<tr>
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<td>5</td>
<td>495</td>
<td>CRUSHED STONE: (5 Inches)</td>
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<tr>
<td></td>
<td></td>
<td>SANDY SILT, (ML): brown, moist, medium stiff, contains gravel, fill</td>
<td>S-1, SPT 6-3-5-10 (8)</td>
<td></td>
<td></td>
<td></td>
<td>SPT Cancelled Middle of Test</td>
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<tr>
<td>10</td>
<td>490</td>
<td>Contains brick fragments</td>
<td>S-2, SPT</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Very stiff</td>
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<td>15</td>
<td>485</td>
<td>SANDY SILT, (ML): light orangeish brown, moist, stiff, contains mica</td>
<td>S-3, SPT 9-9-3-9 (18)</td>
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<td></td>
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<td></td>
<td>S-4, SPT 7-5-7-9 (12)</td>
<td></td>
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<tr>
<td>20</td>
<td>480</td>
<td>Gray</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>(ML): hard</td>
<td></td>
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<td>Bottom of borehole at 20.0 feet.</td>
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<td>DEPTH (ft)</td>
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<td>SYMBOL</td>
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<td>POCKET PEN. (ft)</td>
<td>LAB TESTS</td>
<td>REMARKS</td>
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<td>490</td>
<td>SILTY SAND, (SM): brown, fine to coarse grained, moist, medium dense, contains brick fragments, fill</td>
<td>S-1, SPT</td>
<td>11-6-6-6 (14)</td>
<td></td>
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<td>490</td>
<td>ELASTIC SILT, (MH): orangeish brown, moist, stiff</td>
<td>S-2, SPT</td>
<td>2-4-7-7 (11)</td>
<td></td>
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<tr>
<td></td>
<td>485</td>
<td>SILT WITH SAND, (ML): light grayish brown, very stiff</td>
<td>S-3, SPT</td>
<td>6-8-12-17 (20)</td>
<td></td>
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<tr>
<td></td>
<td>480</td>
<td>Brown</td>
<td>S-4, SPT</td>
<td>9-13-13-13 (26)</td>
<td></td>
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<td></td>
<td>485</td>
<td></td>
<td>S-5, SPT</td>
<td>9-8-14-16 (22)</td>
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<td></td>
<td>480</td>
<td>(ML): hard</td>
<td>S-6, SPT</td>
<td>8-14-17-22 (31)</td>
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Bottom of borehole at 20.0 feet.
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<th>LAB TESTS</th>
<th>REMARKS</th>
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<tr>
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<td>CRUSHED STONE: (7 Inches)</td>
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<tr>
<td>5</td>
<td>495</td>
<td>ELASTIC SILT WITH SAND, (MH): orangeish brown, moist, medium stiff</td>
<td>S-1, SPT 11-13-6 (19)</td>
<td></td>
<td></td>
<td>No Recovery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(MH): orangeish brown and gray, very stiff</td>
<td>S-2, SPT 4-4-4-7 (8)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>490</td>
<td>(MH): stiff</td>
<td>S-3, SPT 3-6-11-11 (17)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(MH): brownish gray, very stiff</td>
<td>S-4, SPT 4-5-7-11 (12)</td>
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<tr>
<td>15</td>
<td>485</td>
<td>Brown</td>
<td>S-5, SPT 6-6-14-16 (23)</td>
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<td></td>
<td>15</td>
<td></td>
<td>S-6, SPT 5-7-7-9 (14)</td>
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Bottom of borehole at 15.0 feet.
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<th>LAB TESTS</th>
<th>REMARKS</th>
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<tr>
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<td>5</td>
<td>SANDY SILT, (ML): orangeish brown, moist, very stiff, fill</td>
<td>S-2, SPT 8-7-9-11 (16)</td>
<td></td>
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<tr>
<td></td>
<td>495</td>
<td>SANDY ELASTIC SILT, (MH): orangeish brown and gray, stiff, fill</td>
<td>S-3, SPT 12-6-8-9 (14)</td>
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<tr>
<td></td>
<td>10</td>
<td>(MH): soft, contains mica</td>
<td>S-4, SPT 2-2-2-3 (4)</td>
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<tr>
<td></td>
<td>490</td>
<td>SILTY SAND, (SM): dark gray, fine to coarse grained, moist,</td>
<td>S-5, SPT 2-4-6-4 (10)</td>
<td></td>
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<tr>
<td></td>
<td>15</td>
<td>medium dense, contains gravel, fill</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>485</td>
<td>SANDY ELASTIC SILT, (MH): orangeish brown, moist, stiff</td>
<td>S-6, SPT 4-6-6-11 (12)</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>20</td>
<td></td>
<td>S-7, SPT 4-5-7-10 (12)</td>
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Bottom of borehole at 20.0 feet.
<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>ELEVATION (ft)</th>
<th>MATERIAL DESCRIPTION</th>
<th>SAMPLING BLOW COUNTS (N-VALUE)</th>
<th>POCKET PEN. (ft)</th>
<th>LAB TESTS</th>
<th>REMARKS</th>
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<tbody>
<tr>
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<td>ASPHALT: (2 Inches)</td>
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<tr>
<td></td>
<td></td>
<td>CONCRETE: (2 Feet)</td>
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<tr>
<td>5</td>
<td>490</td>
<td>SILTY SAND, (SM): brown, fine to medium grained, moist, loose, fill</td>
<td>S-2, SPT 8-3-2 (5)</td>
<td></td>
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<td>Identified by Auger Cuttings</td>
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<tr>
<td></td>
<td></td>
<td>Brown</td>
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<td>S-5, SPT 17-25-20-26 (45)</td>
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<tr>
<td>15</td>
<td>480</td>
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<td>S-6, SPT 17-15-16-16 (31)</td>
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<tr>
<td>20</td>
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<td>S-7, SPT 4-8-11-12 (19)</td>
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Bottom of borehole at 20.0 feet.
## GROUND ELEVATION

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<tbody>
<tr>
<td>0</td>
<td>485</td>
<td>ASPHALT: (8 Inches)</td>
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<td></td>
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<td>CONCRETE: (2 Inches)</td>
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<td></td>
<td></td>
<td>AGGREGATE BASE: (2 Inches)</td>
</tr>
<tr>
<td>5</td>
<td>480</td>
<td>SANDY SILT, (ML): light brown and gray, moist, stiff</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(ML): light brownish gray, very stiff</td>
</tr>
<tr>
<td>10</td>
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<td>ELASTIC SILT WITH SAND, (MH): orangeish brown, moist, soft, fill</td>
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<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>SAMPLING BLOW COUNTS (N-VALUE)</th>
<th>POCKET PEN. (ft)</th>
<th>LAB TESTS</th>
<th>REMARKS</th>
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<td>S-1, SPT</td>
<td>3-2-2-2</td>
<td>4</td>
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<td>S-2, SPT</td>
<td>2-2-1-3</td>
<td>3</td>
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<tr>
<td>S-3, SPT</td>
<td>3-5-6-9</td>
<td>11</td>
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<tr>
<td>S-4, SPT</td>
<td>8-8-9-9</td>
<td>17</td>
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<td>S-5, SPT</td>
<td>7-7-8-8</td>
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Bottom of borehole at 12.0 feet.
<table>
<thead>
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<th>DEPTH (ft)</th>
<th>ELEVATION (ft)</th>
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<th>TOTAL SAMPLING BLOW COUNTS (N-VALUE)</th>
<th>POCKET PEN. (tsf)</th>
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<th>REMARKS</th>
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<tbody>
<tr>
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<td>ASPHALT: (8 Inches)</td>
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<tr>
<td>5</td>
<td>480</td>
<td>CONCRETE: (2 Inches)</td>
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<td>AGGREGATE BASE: (2 Inches)</td>
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<tr>
<td></td>
<td></td>
<td>SANDY SILT, (ML): orangeish brown, moist, very stiff, contains mica</td>
<td>S-1, SPT 6-9-14-15 (23)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Light brown and gray</td>
<td>S-3, SPT 14-15-20-20 (35)</td>
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<td>Gray</td>
<td>S-4, SPT 13-18-18-19 (36)</td>
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<td>S-5, SPT 18-18-17-20 (35)</td>
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Bottom of borehole at 12.0 feet.
<table>
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<tr>
<th>DEPTH (ft)</th>
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<th>MATERIAL DESCRIPTION</th>
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<th>SAMPLING BLOW COUNTS (N-VALUE)</th>
<th>POCKET PEN. (ft)</th>
<th>LAB TESTS</th>
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<td>485</td>
<td>CONCRETE: (2 inches)</td>
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<tr>
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<td>5</td>
<td>SANDY ELASTIC SILT, (MH): orangeish brown, moist, very stiff, fill</td>
<td>S-1, SPT 10-9-7-8 (16)</td>
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<tr>
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<td>480</td>
<td>SANDY SILT, (ML): purpleish red, moist, very stiff</td>
<td>S-2, SPT 10-9-7-8 (16)</td>
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<td>Light grayish brown and purpleish red</td>
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<td>S-4, SPT 11-13-14-12 (27)</td>
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Bottom of borehole at 10.0 feet.
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<th>LAB TESTS</th>
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<td>ASPHALT: (7 Inches)</td>
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<tr>
<td>5</td>
<td>480</td>
<td>ELASTIC SILT WITH SAND, (MH): reddish brown, moist, very stiff</td>
<td>S-1, SPT 4-5-11-13 (16)</td>
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<td>10</td>
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<td>SANDY SILT, (ML): light grayish brown, moist, very stiff</td>
<td>S-2, SPT 7-12-16-17 (28)</td>
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<td>S-3, SPT 14-22-28-30 (50)</td>
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<td>SANDY SILT, (ML): light brownish gray, moist, very hard, weathered decomposed rock</td>
<td>S-4, SPT 17-31-30-30 (61)</td>
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<tr>
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<td>(ML): orangeish brown and gray</td>
<td>S-5, SPT 99/9&quot;</td>
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Bottom of borehole at 10.8 feet.
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<th>LAB TESTS</th>
<th>REMARKS</th>
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<td></td>
<td>5</td>
<td>CONCRETE: (2 Inches)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>480</td>
<td>SANDY ELASTIC SILT, (MH): brown, moist, medium stiff, fill</td>
<td>S-1, SPT 4-3-4-4 (7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Stiff</td>
<td>S-2, SPT 3-4-5-7 (9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SANDY SILT, (ML): brown, moist, very stiff</td>
<td>S-3, SPT 5-6-10-10 (16)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(ML): purpleish brown and gray, hard</td>
<td>S-4, SPT 8-8-9-10 (17)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>S-5, SPT 14-15-17-16 (32)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bottom of borehole at 12.0 feet.
**ASPHALT:** (9 Inches)

**CONCRETE:** (4 Inches)

**SANDY SILT, (ML):** light brownish gray, moist, very hard, weathered decomposed rock

---

Bottom of borehole at 4.0 feet.
APPENDIX C

LABORATORY TEST RESULTS
GRAIN SIZE DISTRIBUTION TEST REPORT

Project Number | 38494
Project Name   | West Main Street
Location       | 02 Bulk/ 2-6

<table>
<thead>
<tr>
<th>Liquid Limit</th>
<th>Plastic Index</th>
<th>USCS</th>
<th>AASHTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>9</td>
<td>ML</td>
<td>A-4 (0.0)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percent Gravel</th>
<th>Percent Sand</th>
<th>Percent Silt and Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0%</td>
<td>20.5%</td>
<td>79.5%</td>
</tr>
</tbody>
</table>

Material Description | SILT with Sand
Natural Moisture      | 10.7%
SPT Blow Counts      | N/A

Grain Size Distribution
**PROCTOR TEST REPORT**

**Project Number:** 38494  
**Project Name:** West Main Street  
**Location:** 02 Bulk/2-6

<table>
<thead>
<tr>
<th>Test Parameter</th>
<th>Uncorrected</th>
<th>Rock Corrected Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Dry Density, pcf</td>
<td>112.3</td>
<td>113.1</td>
</tr>
<tr>
<td>Optimum Moisture</td>
<td>15.2</td>
<td>14.9</td>
</tr>
</tbody>
</table>

**Material Description:** SILT with Sand

<table>
<thead>
<tr>
<th>USCS</th>
<th>ML</th>
<th>AASHTO</th>
<th>A-4 (0.0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Moisture</td>
<td>10.7%</td>
<td>Percent Fines</td>
<td>79.5%</td>
</tr>
<tr>
<td>Liquid Limit</td>
<td>40</td>
<td>Plastic Index</td>
<td>9</td>
</tr>
</tbody>
</table>

**Moisture-Density Curve**

**DATE:** 9/15/16  
**FIGURE NUMBER:** PR2
**CBR TEST REPORT**

Project Number | 38494
---|---
Project Name | West Main Street
Location | 02 Bulk/ 2-6

*NOTE: 10 lbs. surcharge weights in place during soak and loading*

<table>
<thead>
<tr>
<th>Dry Density</th>
<th>Moisture</th>
<th>Compaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molded</td>
<td>111.8</td>
<td>13.8%</td>
</tr>
<tr>
<td>Soaked</td>
<td>103.3</td>
<td>23.1%</td>
</tr>
</tbody>
</table>

**Material Description** | SILT with Sand

<table>
<thead>
<tr>
<th>USCS</th>
<th>ML</th>
<th>AASHTO</th>
<th>A-4 (0.0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Moisture</td>
<td>10.7%</td>
<td>Percent Fines</td>
<td>79.5%</td>
</tr>
<tr>
<td>Liquid Limit</td>
<td>40</td>
<td>Plastic Index</td>
<td>9</td>
</tr>
<tr>
<td>Maximum Dry Density</td>
<td>113.1</td>
<td>Optimum Moisture</td>
<td>14.9</td>
</tr>
</tbody>
</table>

---

**Graphs:**

- **Penetration Resistance, psi vs. Penetration, Inches**
- **Swell vs. Time, hours**
**GRAIN SIZE DISTRIBUTION TEST REPORT**

<table>
<thead>
<tr>
<th>Liquid Limit</th>
<th>Plastic Index</th>
<th>USCS</th>
<th>AASHTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>46</td>
<td>9</td>
<td>ML</td>
<td>A-5 (0.0)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percent Gravel</th>
<th>Percent Sand</th>
<th>Percent Silt and Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0%</td>
<td>31.6%</td>
<td>66.4%</td>
</tr>
</tbody>
</table>

**Material Description**: Sandy SILT

- Natural Moisture: 14.6%
- SPT Blow Counts: N/A

![Grain Size Distribution](image)

**DATE**: 9/15/16

**FIGURE NUMBER**: GS4
**PROCTOR TEST REPORT**

Project Number | 38494
---|---
Project Name | West Main Street
Location | 03 Bulk/2-6

<table>
<thead>
<tr>
<th>Material Description</th>
<th>USCS</th>
<th>ML</th>
<th>AASHTO A-5 (0.0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Moisture</td>
<td>14.6%</td>
<td>14.6%</td>
<td>14.6%</td>
</tr>
<tr>
<td>Liquid Limit</td>
<td>46</td>
<td>46</td>
<td>46</td>
</tr>
<tr>
<td>Moisture-Density Curve</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Uncorrected</th>
<th>Rock Corrected Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Dry Density, pcf</td>
<td>107.5</td>
</tr>
<tr>
<td>Optimum Moisture</td>
<td>16.2</td>
</tr>
</tbody>
</table>

**DATE**  9/15/16  **FIGURE NUMBER** PR2
**NOTE: 10 lbs. surcharge weights in place during soak and loading**

<table>
<thead>
<tr>
<th>CBR at .1&quot;</th>
<th>CBR at .2&quot;</th>
<th>Swell</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>1.5</td>
<td>5.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dry Density</th>
<th>Moisture</th>
<th>Compaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molded</td>
<td>112.1</td>
<td>15.4%</td>
</tr>
<tr>
<td>Soaked</td>
<td>106.0</td>
<td>22.1%</td>
</tr>
</tbody>
</table>

**Material Description:** Sandy SILT

<table>
<thead>
<tr>
<th>USCS</th>
<th>ML</th>
<th>AASHTO</th>
<th>A-5 (0.0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Moisture</td>
<td>14.6%</td>
<td>Percent Fines</td>
<td>66.4%</td>
</tr>
<tr>
<td>Liquid Limit</td>
<td>46</td>
<td>Plastic Index</td>
<td>9</td>
</tr>
<tr>
<td>Maximum Dry Density</td>
<td>110.0</td>
<td>Optimum Moisture</td>
<td>15.2</td>
</tr>
</tbody>
</table>

---

**Penetration Resistance, psi**

**Swell**

---

**DATE:** 9/15/16

**FIGURE NUMBER:** CBR 1
GRAIN SIZE DISTRIBUTION TEST REPORT

Project Number | 38494
Project Name   | West Main Street
Location       | 06 Bulk/ 2-6

<table>
<thead>
<tr>
<th>Liquid Limit</th>
<th>Plastic Index</th>
<th>USCS</th>
<th>AASHTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>51</td>
<td>17</td>
<td>MH</td>
<td>A-7-5 (4.3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percent Gravel</th>
<th>Percent Sand</th>
<th>Percent Silt and Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.9%</td>
<td>19.6%</td>
<td>76.5%</td>
</tr>
</tbody>
</table>

Material Description | ELASTIC SILT with Sand
Natural Moisture      | 19.9%
SPT Blow Counts      | N/A

Grain Size Distribution

DATE       | 9/15/16
FIGURE NUMBER | GS4
## PROCTOR TEST REPORT

**Project Number:** 38494  
**Project Name:** West Main Street  
**Location:** 06 Bulk/2-6

<table>
<thead>
<tr>
<th>Material Description</th>
<th>ELASTIC SILT with Sand</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>USCS</th>
<th>MH</th>
<th>AASHTO</th>
<th>A-7-5 (4.3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Moisture</td>
<td>19.9%</td>
<td>Percent Fines</td>
<td>76.5%</td>
</tr>
<tr>
<td>Liquid Limit</td>
<td>51</td>
<td>Plastic Index</td>
<td>17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Uncorrected</th>
<th>Rock Corrected Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Dry Density, pcf</td>
<td>107.5</td>
</tr>
<tr>
<td>Optimum Moisture</td>
<td>16.2</td>
</tr>
</tbody>
</table>

### Moisture-Density Curve

- **Dry Density, pcf**
  - 140.0
  - 130.0
  - 120.0
  - 110.0
  - 100.0
  - 90.0
  - 80.0
  - 70.0

- **Water Content**
  - 0.0%
  - 5.0%
  - 10.0%
  - 15.0%
  - 20.0%
  - 25.0%
  - 30.0%
  - 35.0%
  - 40.0%

**DATE:** 9/15/16  
**FIGURE NUMBER:** PR2
CBR TEST REPORT

Project Number: 38494
Project Name: West Main Street
Location: 06 Bulk/ 2-6

*NOTE: 10 lbs. surcharge weights in place during soak and loading

<table>
<thead>
<tr>
<th></th>
<th>Molded</th>
<th>Soaked</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry Density</td>
<td>107.1</td>
<td>100.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moisture</td>
<td>19.3%</td>
<td>27.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compaction</td>
<td>98.9%</td>
<td>92.7%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Material Description: ELASTIC SILT with Sand

<table>
<thead>
<tr>
<th>USCS</th>
<th>AASHTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Moisture</td>
<td>Percent Fines 76.5%</td>
</tr>
<tr>
<td>Liquid Limit</td>
<td>Plastic Index 17</td>
</tr>
<tr>
<td>Maximum Dry Density</td>
<td>Optimum Moisture 15.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Penetration Resistance, psi</th>
<th>Penetration, Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>0.1</td>
</tr>
<tr>
<td>20</td>
<td>0.2</td>
</tr>
<tr>
<td>30</td>
<td>0.3</td>
</tr>
<tr>
<td>40</td>
<td>0.4</td>
</tr>
<tr>
<td>50</td>
<td>0.5</td>
</tr>
<tr>
<td>60</td>
<td>0.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Swell</th>
<th>Time, hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0.2</td>
<td>48</td>
</tr>
<tr>
<td>0.4</td>
<td>96</td>
</tr>
</tbody>
</table>

DATE: 9/15/16
FIGURE NUMBER CBR 1
**GRAIN SIZE DISTRIBUTION TEST REPORT**

<table>
<thead>
<tr>
<th>Project Number</th>
<th>38494</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Name</td>
<td>West Main Street</td>
</tr>
<tr>
<td>Location</td>
<td>05/ 4-6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Liquid Limit</th>
<th>Plastic Index</th>
<th>USCS</th>
<th>AASHTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>52</td>
<td>13</td>
<td>MH</td>
<td>A-7-5 (2.3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percent Gravel</th>
<th>Percent Sand</th>
<th>Percent Silt and Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0%</td>
<td>7.6%</td>
<td>92.4%</td>
</tr>
</tbody>
</table>

**Material Description:** ELASTIC SILT

- Natural Moisture: 27.8%
- SPT Blow Counts: 2-4-7-7

**Grain Size Distribution**

![Grain Size Distribution Graph](image)

**DATE**  9/15/16  
**FIGURE NUMBER** GS4
GRAIN SIZE DISTRIBUTION TEST REPORT

Project Number 38494
Project Name West Main Street
Location 09/ 2-4

<table>
<thead>
<tr>
<th>Liquid Limit</th>
<th>Plastic Index</th>
<th>USCS</th>
<th>AASHTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td>4</td>
<td>ML</td>
<td>A-4 (0.0)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percent Gravel</th>
<th>Percent Sand</th>
<th>Percent Silt and Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.8%</td>
<td>34.9%</td>
<td>62.3%</td>
</tr>
</tbody>
</table>

Material Description Sandy SILT
Natural Moisture 16.4%
SPT Blow Counts 3-2-2-2

Grain Size Distribution

DATE 9/15/16 FIGURE NUMBER GS4
**Project Number** | 38494
---|---
**Project Name** | West Main Street
**Location** | 11/2-4

<table>
<thead>
<tr>
<th>Liquid Limit</th>
<th>Plastic Index</th>
<th>USCS</th>
<th>AASHTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>71</td>
<td>31</td>
<td>MH</td>
<td>A-7-5 (11.5)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percent Gravel</th>
<th>Percent Sand</th>
<th>Percent Silt and Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0%</td>
<td>30.3%</td>
<td>69.7%</td>
</tr>
</tbody>
</table>

**Material Description** | Sandy ELASTIC SILT
**Natural Moisture** | 28.5%
**SPT Blow Counts** | 10-9-7-8

---

**Grain Size Distribution**

---

**DATE** | 9/15/16
---|---
**FIGURE NUMBER** | GS4
### GRAIN SIZE DISTRIBUTION TEST REPORT

<table>
<thead>
<tr>
<th>Liquid Limit</th>
<th>Plastic Index</th>
<th>USCS</th>
<th>AASHTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP</td>
<td>NP</td>
<td>ML</td>
<td>A-4 (0.0)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percent Gravel</th>
<th>Percent Sand</th>
<th>Percent Silt and Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1%</td>
<td>42.8%</td>
<td>57.1%</td>
</tr>
</tbody>
</table>

**Material Description:** Sandy SILT

**Natural Moisture:** 5.2%

**SPT Blow Counts:** 30-29-45-50/5

---

**Grain Size Distribution**

![Grain Size Distribution Graph](image)

**DATE** 9/15/16  
**FIGURE NUMBER** GS4
APPENDIX D

Pavement Calculations
**Determine the Design Flexible Pavement Section per AASHTO 1993**

**Project:** West Main Street  
**Date:** 09/23/16  
**Calculations By:** JMR  
**Date:**  
**Checked By:** JLM  
**Date:**  
**Contract No.:** 38494  
**Sheet No.:** 1  
**of:** 2

---

**Step 1 - Determine Design ESALs**

**INPUT IN BLUE**

- 2 way AADT = 14,000
- % Trucks = 3%
- % Directional Distribution = 50%
- Growth Rate = 1.00%
- Design Period = 20

- Lane Distribution = 100.00%
- % Single Unit Trucks = 0.00%
- % Tractor Trailer Trucks = 3.00%
- % Cars / Passenger Vehicles = 97.00%

**Design Truck Factors:**

- Cars / Passenger vehicles = 0.0002
- Single Unit Trucks = 0.46
- Tractor Trailer Trucks = 1.05

- \( G \times Y = 22.02 \)

**ESAL = 1,784,280**

---

**Step 2 - Determine the Required Structural Number (SN_{reqd})**

**INPUT IN BLUE**

- Reliability = 90 %
- \( Z_r = -1.2816113 \)
- \( S_o = 0.49 \)
- \( \delta_psi = 1.4 \)
- \( PSI_s = 4.2 \)
- \( PSI_I = 2.8 \)
- \( M_r = 10005 \)

**\( SN_{reqd} = 3.63 \)***

- Modify this value until \( \delta_psi \) equals zero.

---

**6.251462988 Left Hand Equation**

**6.248662746 Right Hand Equation**

---

**Monograph Solves:**

\[
\log_{10} W = \log_{10} S_o + 9.36 \log_{10} (SN+1 - 0.20 + \frac{0.40}{SN+1}) - 0.20 + \frac{2.32 \log_{10} M_r - 8.07}{5.19}\]
Determine the Design Flexible Pavement Section per AASHTO 1993 (cont.)

**Project:** West Main Street  
**Date:** 09/23/16  
**Contract No.:** 38494  
**Sheet No.:** 2 of 2

### Step 3 - Design the Pavement Section

#### Design Pavement Section

<table>
<thead>
<tr>
<th>Layer</th>
<th>Material</th>
<th>Structural Coefficient (a)</th>
<th>Thickness (in)</th>
<th>Subgrade Moisture Condition (m)</th>
<th>SN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SM-12.5D</td>
<td>0.44</td>
<td>2</td>
<td>1</td>
<td>0.88</td>
</tr>
<tr>
<td>2</td>
<td>IM-19.0A</td>
<td>0.44</td>
<td>2</td>
<td>1</td>
<td>0.88</td>
</tr>
<tr>
<td>3</td>
<td>BM-25.0A</td>
<td>0.44</td>
<td>3</td>
<td>1</td>
<td>1.32</td>
</tr>
<tr>
<td>4</td>
<td>21A</td>
<td>0.12</td>
<td>8</td>
<td>1</td>
<td>0.96</td>
</tr>
<tr>
<td>5</td>
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<td></td>
<td></td>
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<td>0</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Thickness</strong></td>
<td>15</td>
<td><strong>Sn_{reqd}</strong></td>
<td>3.63</td>
<td><strong>Sn_{eff}</strong></td>
<td>4.04</td>
</tr>
</tbody>
</table>

OK
APPENDIX D
HISTORICAL OVERVIEW
AND ARCHAEOLOGICAL
ASSESSMENT
Historical Overview and Archaeological Assessment of Charlottesville’s West Main Street Corridor

SEPTEMBER 2016

RAS
WEB.CONSULT

SEPTEMBER 2016
Historical Overview and Archaeological Assessment of Charlottesville’s West Main Street Corridor

Report submitted to:
Rhodeside & Harwell

Report submitted by:
Rivanna Archaeological Services

Stephen M. Thompson
Benjamin P. Ford

SEPTEMBER 2016
# Contents

1. Introduction ......................................................................................................................... 1

2. Research Methods ............................................................................................................... 3

3. Historical Development of the West Main Street Corridor .............................................. 5  
   Period I, 1750 – 1850: Establishment and Early Development of the Corridor .......... 5  
   Period II, 1850 – 1879: Arrival of the Railroad and Improvement of the Streetscape .......................................................... 8  
   Period III, 1879 – 1929: A New Railroad and Streetcars ............................................. 11  
   Period IV, 1929 – 1960: The Automobile Era .............................................................. 23  

4. Potential Archaeological Resources ..................................................................................... 31  
   Methodology ....................................................................................................................... 31  
   West Main Street – A Typology of Historic Streetscape Resources .......................... 31  
   Street-Related Features ................................................................................................. 31  
   Sidewalk-Related Features ............................................................................................ 33  
   Street Railway-Related Features .................................................................................. 34  
   Utility-Related Features ............................................................................................... 34  
   Archaeologically Sensitive ........................................................................................... 35  
   Recommendations .......................................................................................................... 36

5. References ........................................................................................................................... 39
List of Figures

Figure 1: Map showing the West Main Streetscape project area highlighted in red ..................2
Figure 2: Map showing area topography and hydrology and the routes of the Three Notched
other historic roads through Charlottesville and central Albemarle County .............5
Figure 3: Detail of Map of the Rivanna and Rockfish Gap Turnpike, William Woods, 1830
(Virginia Board of Public Works Inventory No. 621, Library of Virginia), showing
the road between Charlottesville and the University of Virginia. Note that by this
date Wheeler’s Road (present Jefferson Park Avenue) was becoming known as the
Lynchburg Road ........................................................................................................9
Figure 4: Detail of Gray’s New Map of Charlottesville, Albemarle County, Virginia. Note the
locations of the Delevan, Midway, and Cabell House Hotels and the Charlottesville
town limits as established by the 1860 annexation.................................11
Figure 5: Detail of a 1917 photograph facing east along West Main Street showing the iron horse
fountain installed in 1892 at the eastern end of the triangular West End or
Midway Park ........................................................................................................13
Figure 6: Detail Sheet 6 of the 1896 Sanborn Insurance map of Charlottesville showing the one-
story frame building erected by the streetcar company in the triangular Midway
Park at the intersection of West Main and Ridge Street .........................................16
Figure 7: Colorized postcard, dated September 8, 1909, showing a view east (not north) along
West Main Street from Union Station and the five-year-old brick pavement and
centrally located streetcar tracks ........................................................................19
Figure 8: Detail of a 1919 photograph of Walter Washabaugh’s July 1915 map of Charlottesville
showing West Main Street. Note the centrally located streetcar lines and the three
sections of double passing track circled in red ..................................................19
Figure 9: Detail of a view in 1916 looking north from Union Station along the Southern Railway
line showing the wooden bridge that carried West Main Street over the railroad.
Note the metal framed viaduct in the right of this photograph that provided
pedestrian access to Union Station over the tracks of the C & O freight yard ...........20
Figure 10: Detail of a view in 1918 looking west from along West Main Street across the new
bridge over the Southern Railroad, showing work of the water main ..................21
Figure 11: Detail of a view in 1916 looking west along West Main Street across the wooden
bridge over the Southern Railroad. Note the streetcar rails and the section of double
passing track in the foreground immediately east of the bridge .......................22
Figure 12: Detail of a view in 1919 looking west along West Main Street across the new concrete
bridge over the Southern Railroad. Note the double passing track extending across
the entire bridge span .........................................................................................22
Figure 13: View facing north, circa 1940, looking west showing the circular area surrounding the
base of the Lewis and Clark statue ......................................................................25
List of Figures (cont’d)

Figure 14: Detail of a view west along West Main Street from Ridge Street taken in 1917. Note the turfed planting strips in front of the street railway company’s brick office building on the left side of the photograph ..............................................................26

Figure 15: Colorized early twentieth-century postcard showing a view east along West Main Street from approximately the First Baptist Church. The building four-story building with columns on the left (north) side of the street is the Gleason Hotel at 617 West Main. Note the turfed verges or planting strips and ubiquitous utility poles on both sides of the street .................................................................27

Figure 16: Map of the West Main Streetscape project area showing archaeologically sensitive areas. Potentially significant archaeological features and deposits may be present in other portions of the project area ........................................................................37
1 Introduction

Charlottesville’s West Main Streetscape project originated in a case study begun in Fall 2012 by the then newly convened Placemaking, Livability and Community Engagement (PLACE) Design Task Force, an advisory panel to Charlottesville’s Planning Commission and City Council dedicated to considering issues of local urban design and placemaking.1 The case study was prompted by the initiation of several major construction projects along the corridor, and the project quickly was adopted by the City as a public undertaking. A Request for Proposals for an updated master plan for the West Main Street Corridor between the Downtown Mall and Jefferson Park Avenue together with construction documents for streetscape improvements was issued by the City in February 2013. A consultant was selected and work began on the project in October 2013. Following more than two years of study, community engagement, and plan refinement, the West Main Streetscape project envisions the design and implementation of an integrated plan that will transform this important city corridor into “a twenty-first-century street that safely accommodates a range of users including pedestrians, bicyclists, motorists, and transit riders.”2 In addition, the project will provide a more coherent and coordinated transition between the city’s Downtown and the University of Virginia. The West Main Streetscape project is directed and managed by the firm of Rhodeside & Harwell.

Working within the existing, approximately 60-foot-wide public right-of-way, the West Main Streetscape project will introduce reconfigured vehicle travel and turning lanes, bicycle lanes, streetside parking and transit stops, sidewalks, curbing, curbside planting zones, pocket parks, and new utility routing. As such, while existing buildings and structures adjoining the West Main right-of-way will not be impacted, the project will entail the demolition and replacement of considerable infrastructure along the three-quarter-mile corridor. In accordance with the project’s goal of protecting and integrating the historic character of West Main Street into the plan for improvements, an evaluation of the corridor’s potential to house sensitive and/or historically significant archaeological remains has been built into the first (Project Initiation) phase of the design process.

The goals of this archaeological evaluation are

1) To provide a historical overview of the development of the West Main Street corridor;
2) To identify the types and locations of buried archaeological resources potentially present within the project corridor that may be exposed and/or impacted during the project’s construction phase;
3) To highlight potential archaeologically sensitive zones within the project corridor; and

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4) To develop strategies for impact mitigation in the event that avoidance is not feasible.

The West Main Streetscape project area stretches for approximately three-quarters of a mile, from the intersection with McIntire Road and Ridge Street in the east to Jefferson Park Avenue in the west. For virtually all of this distance, the West Main Street right-of-way is 60 feet wide, however the corridor widens at both ends, most notably at the Ridge/McIntire intersection. As illustrated in Figure 1, the Streetscape project area also extends for relatively short distances along the corridors of intersecting cross streets.

Figure 1: Map showing the West Main Streetscape project area highlighted in red.
2 Research Methods

Investigation of the historical development and archaeological potential of the West Main Street corridor draws on a wide range of primary and secondary sources archived in local and regional repositories. The repositories visited for this study include the Main Branch of the Jefferson-Madison Regional Library and its auxiliary collection housed in the Albemarle-Charlottesville Historical Society, Alderman Library and the Albert and Shirley Small Special Collections Library at the University of Virginia, the Virginia Department of Historic Resources’ archives in Richmond and its online Virginia Cultural Resource Information System (V-CRIS), and the Library of Virginia. The Circuit Court Clerk’s Office of both Albemarle County and the City of Charlottesville as well as the Clerk’s Office of Charlottesville’s City Council were also visited to examine documents and records maintained in each of these locations.

Among the secondary resources examined by this study are several general histories of Charlottesville and Albemarle County, most notably Edgar Woods’ 1901 Albemarle County in Virginia; John Hammond Moore’s 1976 Albemarle: Jefferson’s County, 1727 – 1976; and K. Edward Lay’s 2000 The Architecture of Jefferson Country. In addition, a series of more specialized architectural studies concerning West Main Street or adjoining areas were examined, including Susan Smead’s 1994 Phase II Historic Architectural Evaluation for the Norfolk Southern West Main Street Bridge Replacement, Charlottesville, Virginia; the City of Daniel Pezzoni’s and the Charlottesville Department of Community Development’s 1996 Survey Report for the West Main Street Corridor and Proposal for Local Designation; as well as the Department of Community Development’s 1980 West Main Street Historic District National Register of Historic Places Nomination Form, its 1981 Charlottesville Multiple Resource Nomination Form, National Register of Historic Places Nomination Form, and the Fifeville and Tonsler Neighborhoods Historic District National Register of Historic Places Nomination Form completed in 2008 by Maral Kalbian and Margaret Peters. Also heavily utilized were James Saunders’ and Renae Shackelford’s 1998 Urban Renewal and the End of Black Culture in Charlottesville, Virginia: An Oral History of Vinegar Hill, and Scot French’s and Bill Ferster’s online Vinegar Hill Project: Urban Renewal, Public Housing, & the Politics of Race and Place in Charlottesville, Virginia, 1945 to the Present.

Primary resources examined by this study include the minute books of the Charlottesville City Council, 1854 – 1930 and early ordinance books held in the office of City Council Clerk; historic maps, plats, construction and design documents, and aerial photographs held by the Charlottesville Department of Neighborhood Services; Albemarle County and City of Charlottesville deed books; the online Holsinger Studio Collection and the University of Virginia Visual History Collection maintained by the Albert and Shirley Small Special Collections Library; the collections of historic photographs held by the Albemarle-Charlottesville Historical Society; historic editions of Charlottesville’s Jeffersonian Republican and Daily Progress newspapers and of the Virginia University Magazine, a monthly student publication.
3 Historical Development of the West Main Street Corridor

Period I, 1750 – 1850: Establishment and Early Development of the Corridor

Charlottesville’s approximately 60-ft-wide West Main Street corridor extends for a distance of approximately three-quarters of a mile between the city’s downtown and University districts. Following the course of the mid-eighteenth-century Three Notched Road, West Main Street traverses the upland divide separating the watershed of Meadow Creek to the north from that of Moores Creek to the south (Figure 2).

Known also in its earliest iterations as the Mountain or Mountain Ridge Road and, sometimes, as Three Chopped Road, by 1734 the Three Notched Road extended west from the area of Richmond along the northern border of Goochland County and the upland divide between the Rivanna and South Anna/Pamunkey rivers to the water gap in the Southwest Mountains, where the Rivanna passes between Pantops and Monticello mountains, just east of the future site of Charlottesville. By the time Albemarle County was created from the western part of Goochland County in 1744, the Three Notched Road had been extended west from the Rivanna some 20 miles to cross the Blue Ridge Mountain at Woods (now Jarmans) Gap. From here, the road...
continued on to the site of Staunton, where it intersected with the Great Valley Road running north-south between Pennsylvania and the Carolinas.3

Charlottesville was founded in 1762, following a reduction in the boundaries of Albemarle County, and the new courthouse town was laid out along the course of the Three Notched Road, with the thoroughfare becoming Main Street.4 West of town, during the latter half of the eighteenth century, the Three Notched Road traversed a series of large plantations, following topography rather than property boundaries. The road however soon became a convenient boundary line as properties along it were divided and sold.

By the beginning of the nineteenth century, several roads branched off from the Three Notched Road west of Charlottesville within the current West Main Streetscape project area (Figure 2). A short distance west of the current intersection of 5th Street SW with West Main, the road to Old’s Forge—later known as the road to James Jones’ and then William Hening’s still house—departed the Three Notched Road. With time, this route would be shifted slightly to the east to follow the course of present-day 5th Street SW, and would become known as the (Old) Lynchburg Road.5 About a quarter-mile or so to the west, in the vicinity of the Drewary J. Brown Bridge over the Norfolk-Southern Railway, an early version of the Barracks Road branched off to the north, while another quarter-mile to the west Wheeler’s Road, later also called (old) Lynchburg Road, branched off to the south along the course of present-day Jefferson Park Avenue.6

Among the earliest buildings known to have been constructed along the Three Notched Road between Charlottesville and the Wheeler’s Road junction was a dwelling house built around 1814 by William G. Garner on a small triangular lot just west of the old Barracks Road and Three Notched Road intersection, in the vicinity of present-day 843 West Main Street.7 Two years later in 1816, Robert Battles, a free African-American, purchased nearly 18 acres along the south side of Three Notched Road reaching from Olds Forge Road to the vicinity of the present-day Amtrak station. In 1819, Battles sold off two small parcels of the property fronting the road, one of which was purchased by his son-in-law, Stephen Coram. Evidence suggests that both

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5 Pawlett, Albemarle County Roads, 1725-1816, 69; Albemarle County Deed Book (hereafter ACDB) 20:54; ACDB 28:287; ACDB 28:289; see also Nathaniel Pawlett, Albemarle County Road Orders, 1783-1816 (Charlottesville, Virginia: Virginia Highway and Transportation Research Council, 1975).


7 The deed recording the conveyance (ACDB 19:196), by John Nicholas, of this c. 1.75-acre tract to William Garner in 1814 notes that “the said Garner hath erected a Dwelling house” on the property.
Robert Battles and Stephen and Keziah Coram occupied the property before Battles sold in 1825 and Coram sold in 1832.8

Development along the corridor was spurred by the construction of the University of Virginia, which began in 1817, and with the institution opening its doors to its first students in 1825. James Dinsmore, one of the primary builders engaged in University construction, purchased multiple tracts of land in 1818 towards the western end of the Three Notched/West Main corridor. Among the properties purchased by Dinsmore was the William Garner house and lot. Dinsmore certainly added to, if not completely replaced, the original dwelling erected by Garner, and he made the place his home until his death in 1830. The so-called Dinsmore-Dabney-Harmon house stood at 843 West Main Street until 1960.9

Between 1818 and 1825, Dinsmore also subdivided and developed a series of thirteen adjoining lots along the north side of Three Notched Road between present 10th and 14th Streets, selling some of these properties to other University builders.10 The John Vowles house (1111 West Main Street), built in 1824, and the Heiskall-McKennie House (1211 West Main Street), constructed in 1826, are the only surviving examples of Dinsmore’s buildings.11 In 1825, John Hartwell Cocke, an important member of the University’s first Board of Visitors, purchased Robert Battles’ property along the south side of Three Notched Road. By 1826, Cocke had constructed a public house and hotel on the property where the First Baptist Church now stands at 632 West Main Street. Known variously as the Union Hotel, Delevan Hotel, or Mudwall, the building provided off-grounds lodging for University students and appears to have briefly housed a college preparatory school in the early 1830s.12 A second student boarding house, known as the Grove and probably a precursor to the better known Cabell House, was established by 1832 in the vicinity of present-day 852 West Main opposite James Dinsmore’s house.13

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12 ACDB 25:166; Mary Rawlings (ed), *Early Charlottesville: Recollections of James Alexander, 1828 – 1874* (Charlottesville, Virginia: Albemarle County Historical Society, 1963), 102-103; Charlottesville Department of Community Development, *Charlottesville Multiple Resource Nomination Form*, 8.10; City of Charlottesville, Comprehensive Plan, 2001, Chapter 7; 1826 contract between Robert S. Jones and John Hartwell Cocke for management of Union Hotel, *Papers of the Cocke Family [manuscript] 1800-1871*, Box 49, Albert and Shirley Small Special Collections Library, University of Virginia; see also William Barclay Napton to John Hartwell Cocke, June 18, 1831 (Box 66) and March 12, 1832 (Box 69) in *Papers of the Cocke Family*, for use of the building as a school.
13 The Grove was on a six-acre tract purchased by Dimmore in 1818 (ACDB 21:222). After several intervening owners, Meredith W. D. Jones purchased the property in 1827 (ACDB 28:3). Multiple requests by students to lodge and board with Jones at the Grove were made in 1832; *Journal of the Chairman of the Faculty*, University of Virginia, Volume 8 (1831-1832), 796-797, 799, 800, RG-19/1/2.041, Albert and Shirley Small Special Collections Library, University of Virginia.
Development of the eastern end of the Three Notched Road/West Main Streetscape corridor, towards Charlottesville, also appears to have begun in earnest during the late eighteen-teens. Around 1818, Alexander Garrett built Midway just east of the intersection of Ridge Street and West Main, a building that would serve as both a home and a hotel. Along the north side of the road, the Pitts-Inge House at 333 West Main Street was built around 1820, while John D. Paxton constructed the brick house at 503 West Main Street four or five years later. On the south side of the road, in 1825 Alexander Garrett began subdividing and selling multiple properties between Ridge Street and 5th Street SW. Between 1835 and 1839, Nimrod Sowell acquired two lots immediately east of the intersection of Hening’s Still House Road (5th Street SW) and Three Notched Road, by then called “University Street,” and constructed a blacksmith shop. In the 1870s, James Alexander remembered Sowell’s shop as a small brick building and recalled that a second blacksmith shop, also of brick, stood a short distance to the west, between Sowell’s and the Delevan Hotel.

In 1828, the Rivanna and Rockfish Gap Turnpike Company acquired the Three Notched Road through Albemarle County. In return for the right to collect tolls along the road, the privately held company assumed responsibility for improving and maintaining the thoroughfare. The Company constructed a bridge over the Rivanna near the mouth of Moore’s Creek and another over Mechums River, realigned the road between the Rivanna and Charlottesville, and constructed a toll house west of the University (Figure 3). However, there is no record of whether the Company may have widened or formally surfaced the road.

**Period II, 1850 – 1879: Arrival of the Railroad and Improvement of the Streetscape**

In 1850, the Virginia Central Railroad linked Charlottesville to Richmond, by way of Gordonsville, and by 1854 the line had been extended west across the Blue Ridge, on temporary tracks over Rockfish Gap, as far as Staunton. Between Charlottesville and the University, the Virginia Central line roughly paralleled the south side of West Main Street at a distance of 120 to 400 feet. The Orange & Alexandria Railroad, which used the tracks of the Virginia Central between Charlottesville and Gordonsville, provided a rail link between the town and northern Virginia by 1854. By 1860, the Orange & Alexandria line had been extended south from Charlottesville to Lynchburg, departing from the Virginia Central line at the site of the future Union Station about midway between Charlottesville and the University of Virginia. Charlottesville’s first rail depot was located south of the town’s court square and main street,

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16 ACDB 38:46; ACDB 37:102, 211; see also ACDB 38:127 (1840), which mentions “Nimrod Sowell’s blacksmith shop which stands on the road from Charlottesville to the University” at the intersection with the road to Hening’s old still house; Rawlings, *Recollections of James Alexander*, 102.
where homes and businesses were most heavily concentrated, however a secondary platform to
serve the University community was soon constructed just west of the present intersection of
Jefferson Park Avenue and West Main Street and a siding to facilitate delivery of coal to the
institution was constructed by 1860.20

Figure 3: Detail of “Map of the Rivanna and Rockfish Gap Turnpike,” William Woods, 1830 (Virginia Board of
Public Works Inventory No. 621, Library of Virginia), showing the road between Charlottesville and the
University of Virginia. Note that by this date Wheeler’s Road (present Jefferson Park Avenue) was becoming
known as the Lynchburg Road.

By the 1850s, Charlottesville’s City Council had assumed responsibility for the installation of
plank sidewalks and the macadamizing of streets within the town’s limits.21 In 1859, Council
hired an engineer to oversee the maintenance and improvement of city streets and sidewalks,
which included installation of at least one culvert across Main Street, paving with macadam and
curbing Main Street, making and repairing pedestrian street crossings, and constructing gutters
along the sides of streets.22 In 1860, the town of Charlottesville annexed 118 acres, more than
doubling its previous size. With this expansion, Charlottesville extended its western boundary to
take in all of Vinegar Hill as well as the developed land along both sides of West Main Street as

20 Larry Z. Daily, “Charlottesville,” Piedmont Subdivision of the Chesapeake and Ohio Railway,
http://www.piedmontsub.com/Cville.shtml#Menu
21 Charlottesville Council Minute Book (hereafter CCMB) 1 (1854-1874): April 20, 1854, 9; June 7, 1854, 11; January
17, 1855, 21; February 7, 1855, 22; April 26, 1855, 137; May 3, 1859, 138.
22 CCMB 1 (1854-1874): June 14, 1859, 141; October 4, 1859, 143; October 18, 1859, 144; December 12, 1859, 146;
September 19, 1860, 162-163.
far west as 5th Street SW. By 1863, City Council required the owners of lots facing on improved (i.e., curbed and macadamized) city streets to bear the cost of paving public sidewalks across their properties. Along West Main Street west of Charlottesville’s town limits, Albemarle County and private lot owners may have undertaken similar street and sidewalk improvements, however records of such work have not been discovered.

In addition to the establishment of railroads and the improvement of the town’s streets and sidewalks, the 1850s also witnesses the installation of the area’s first buried utility. Around 1856, the Charlottesville and University Gas Light Company built its first coal gas production plant along Schenck’s Branch in the vicinity of the present-day City Yard at 305 4th Street NW. The company’s charter allowed it “to use the streets, lanes, alleys and public squares in the town of Charlottesville, and any of the public highways in the county of Albemarle…for the purposes of distributing gas; provided, that when the streets, lanes, alleys and public squares or public highways shall be opened for that purpose, the same shall, as soon as practicable, be repaired by the said company at their own cost and expense.” By 1856, gas for lighting had reached the University, and it must have run in pipes installed in the old Three Notched Road/West Main Street public right-of-way. According to Charlottesville Public Works staff, the original coal gas “pipes,” examples of which have been unearthed in the City Yard, consisted of approximately 4-inch by 4-inch bored out timbers, the blackened interiors of which may have been lined with tar or pitch. A similar squared off, wooden pipe recently discovered beneath the Long Walk at the University of Virginia during utility work associated with the restoration of the Rotunda may have been part of this original coal gas distribution system. In 1876, the coal gas plant and distribution system was purchased by the town of Charlottesville, though the service remained expensive, unpredictable, and potentially dangerous.

Charlottesville remained behind Confederate lines and therefore witnessed extremely limited fighting during the Civil War. However, the town’s location at the intersection of the Orange and Alexandria and Virginia Central Railroads, combined with the presence of the University of Virginia, resulted in large numbers of wounded soldiers being transported here for care and recovery. The Charlottesville General Hospital was an amalgam of public and private buildings supervised by University medical professor Dr. James L. Cabell and given over the care of the War’s wounded. Along West Main Street, both the Delevan Hotel and Midway Hotel served as

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23 City of Charlottesville, Virginia, map showing annexation history, Charlottesville City Planning Commission, January 1, 1968, map held by Charlottesville Department of Neighborhood Development Services.
24 CCMB 1 (1854-1874): June 12, 1863, 235.
25 “An Act to Incorporate a Gas Company at Charlottesville, passed March 18, 1856,” Chapter 350, Acts of the General Assembly of Virginia Passed in 1855-56 (Richmond, Virginia: William F. Ritchie printer, 1856), 243-244; Minutes of the Rector and Board of Visitors of the University of Virginia, March 26, 1856, p.8 and June 25, 1857, p.56, Albert and Shirley Small Special Collections Library, University of Virginia, Charlottesville; Moore, Albemarle, 246.
26 Chris Mays, Tim Morris, Charlottesville Department of Public Works, personal communication, September 13, 2016.
27 Moore, Albemarle, 246-247.
hospital facilities, housing a portion of the 22,700 patients treated in Charlottesville during the War.28

Following Emancipation and the end of the Civil War, African American members of the Charlottesville Baptist Church split to form the independent Colored Baptist Congregation. In 1868, the congregation purchased the Delevan Hotel and used the building as a place of worship. The building was condemned in 1876 and the congregation soon after erected the First Colored Baptist Church, now First Baptist Church, on the parcel at 632 West Main Street.29 Ormondo Gray’s 1877 Map of Charlottesville (Figure 4) provides a clear sense of the development and appearance of the West Main Street corridor in these early years following the end of the Civil War.

Period III, 1879 – 1916: A New Railroad and Streetcars
A major development for the West Main Street corridor occurred in 1879 when the Charlottesville and Rapidan Railway Company was established to construct a more direct

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railroad link between Charlottesville and Orange, Virginia. Construction of the line was completed in 1881. The new rail line ran north from the existing northern terminus of the Lynchburg-Charlottesville leg of the Orange & Alexandria Railroad where it intersected with the old Virginia Central line just south of West Main Street between what are now 8th and 9th Streets SW. Construction of the Charlottesville and Rapidan railway grade breached West Main Street and required construction of a bridge to carry the street’s traffic over the new rail line. The new bridge consisted of a planked deck raised on timber supports. The increased passenger and commercial railroad services to Charlottesville also necessitated construction of a new railroad station. Union Station, completed in 1885, was constructed just south of West Main Street at the intersection or ‘union’ of the new and old railroad lines. An associated C & O Railroad freight depot was built a decade later in 1895, approximately 60 feet east of Union Station along the south side of West Main Street.30

Following the end of the Civil War the town of Charlottesville extended west only as far as the intersection of West Main Street and 5th Street SW. Beyond this point, West Main Street was in Albemarle County, and its maintenance and regulation was therefore the responsibility of the County’s elected Board of Supervisors. In the late 1870s and early 1880s, students at the University of Virginia complained about the condition of the road between the Academical Village and town, with an editorial in the student magazine characterizing it as “a dusty eddy in Summer and a mud-hole in Winter.” Furthermore, continued the author, “since the worst portion of it [West Main Street] is not within the corporations of the town and college, it is charitable to attribute its present state to the old adage: ‘What is everybody’s business is nobody’s business.’”31 The sidewalks lining West Main also received their fair share of criticism, with the student editors of the Virginia University Magazine noting that “The state of the sidewalk between college and the [new wooden railroad] bridge is simply disgraceful to any civilized community.” By 1879 the County had appropriated $3,000 for the repair and improvement of several primary roads within a four-mile radius of Charlottesville, and in August 1880, Charlottesville allocated $800 to macadamize32 Main Street between the town and University. By October of 1880, a City Councilor had reported ‘progress’ on the road work between the town and University. Work on the construction of new sidewalks was initiated in the Fall of 1881, but completion was delayed until the end of 1883 due to funding.33 Records from the early 1880s repeatedly refer to the “paving” of sidewalks, however whether this was done in stone or brick is not clear.

30 Susan E. Smead, Phase II Architectural Evaluation for the Norfolk Southern West Main Street Bridge Replacement, VDOT File No. 94-1168-S (Richmond: Virginia Department of Transportation, 1994), 6, 8-9, 11-12; Moore, Albemarle, 243.
31 Virginia University Magazine 18 (February 1879): 309-310
32 Nineteenth-century macadam road surfacing was based, to a greater or lesser extent, on the formula pioneered by Scottish engineer John Loudon McAdam around 1820 that used crushed or broken angular stone compacted into interlocking and layers. With the popularization of the automobile in the early twentieth-century, problems of dust with macadam was addressed by spraying tar, typically coal tar, on the stone surfacing, creating a “tar-bound macadam.” Mixing crushed rock with petroleum-derived asphalt or bitumen into “blacktop” soon followed.
33 Virginia University Magazine 20 (November 1880): 122; Vol. 21 (November 1881): 129-130; Vol. 22 (February 1882): 51; Moore, Albemarle, 245-246; CCMB 2 (1875 – 1897): June 10, 1880, 141; August 24, 1880, 145; October 14, 1880, 148; October 19, 1880, 149; April 12, 1883, 190; May 10, 1883, 190.
The West End or Midway Park was a small triangular island planted in trees immediately west of the Midway Hotel and the West Main-Ridge Street intersection. In January 1876, the town of Charlottesville authorized the excavation of a well and installation of a “proper pumping apparatus about the center of the triangular space west of Midway.” This well was mentioned some 60 years later by Charlottesville City Manager Seth Burnley in his recounting of the history of Charlottesville’s water supply. According to Burnley, the well was subsequently covered by the Lewis and Clark Statue, for which it “serves as a very good foundation.” Fifteen years later in 1892, the City placed one of two new iron “horse fountains” was placed in Midway Park, presumably fed by the recently installed (see below) municipal water supply: “Two public horse fountains (or troughs) have been ordered for the City; One to be placed at West end of West end Park, the Other at the Point where east Fifth St abuts on the Court House Square, & would ask the improvement of the West end Park's enclosure.” West End or Midway Park was matched by a similar small triangular lot at the intersection of East Main and 7th Street and known as East End Park (Figure 5).

Figure 5: Detail of a 1917 photograph facing east along West Main Street showing the iron horse fountain installed in in 1892 at the eastern end of the triangular West End or Midway Park. The large brick building behind the park is Midway School, a public school for white children. Holsinger Studio Collection, retrieval ID X04892CB, Albert and Shirley Small Special Collections Library, University of Virginia, Charlottesville, Va.

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34 Seth Burnley, “Engineering in the Development of a Municipal Water Supply,” c. 1937, 1, ms. held by Rivanna Water and Sewer authority, Charlottesville, Virginia.
35 CCMB 2 (1875-1897): January 11, 1876, 33; July 7, 1892, 483.
36 Kean, “Forward is the Motto of Today,” 11.
With the exception of the Charlottesville-owned coal gas plant in the City Yard, publicly owned utilities were non-existent in the immediate post-bellum period. However, during the last two decades of the nineteenth century, significant new municipal infrastructure was sought, funded, and installed. Early in 1884, prominent Boston-based civil engineer Ernest W. Bowditch visited Charlottesville, having been engaged jointly by the University of Virginia and the City to provide an estimate for providing the City with modern water works and sanitary sewerage. Based upon Bowditch’s report and recommendations, the water main would come from a reservoir to be built in the Ragged Mountains five miles west of town, pass through the University, then run east along West Main Street to Vinegar Hill and into town. Hydrants would be established at various locations around the City. The total cost to the City for the new water supply system was estimated between $80,000 and $90,000. The cost of construction of a sanitary sewer system for the town was estimated at $15,000. In 1886, the City and University entered into a joint contract with Bowditch for construction of the new water supply system. The City opted not to pursue the Bowditch’s sanitary sewer option at this time.

Chartered at the end of 1887, the privately held Charlottesville and University Electric Light & Gas Company began erecting its poles and stringing electric lines along the City’s primary streets, and into the University of Virginia, in 1888. The company’s power plant was located a short distance north of West Main Street, just west of the Charlottesville and Rapidan Railway where 8th Street NW (formerly Whites Lane) passed under the railroad, and its poles and overhead lines would have run along West Main Street to the University and downtown. The company and its equipment was purchased by the Charlottesville and Suburban Railway Company in 1900, which owned its own power plant just south of West Main Street, between the C & O Railroad and Delevan Street and east of 7th Street SW.

Following the granting of a municipal charter by the General Assembly in 1888, Charlottesville was incorporated as a City and divided into separate wards. Associated with the incorporation was the annexation of an additional 564 acres to the north, south, and west of Charlottesville. To the west, the 1888 annexation extended the City’s boundary all the way to the “University Crossing” where the tracks of the Chesapeake & Ohio Railroad crossed West Main Street at 14th Street near the University corner. The 1888 annexation brought the entire West Main Street corridor under City control.

The Charlottesville and University Street Railway Company was incorporated by an Act of the General Assembly on March 30, 1887. The street railway line, promoted by Robert P. Valentine, was to run on Main Street between the town and University. The company was granted a 50-year franchise by Charlottesville and was given permission to lay their tracks within town streets and

37 The Charlottesville and University Gas Light Company established its plant in 1855-1856 in the area known as ‘The Yard,’ located along Schenks Branch at the northern edge of the Vinegar Hill neighborhood on 4th Street NW. The plant burned coal to produce gas that was used to light and heat residences and commercial businesses. As mentioned earlier, the gas plant was purchased by the Town of Charlottesville in 1876 and became the first publicly owned utility.


40 Moore, Albemarle, 268-269; CCMB 2 (1875-1897): February 7, 1888, 300; March 22, 1888, 304.
was charged with maintaining the street between the tracks and within one foot on either side. Four street cars were to run on animal power and were pulled by horses and mules. Construction of the single lane street railway line along the center of the roads began on May 9, 1887 and the first cars began operation a month later. The horse- and mule-drawn streetcar service plied a single track laid down the center of Main Street between the University Crossing and the C & O passenger depot at the east end of downtown.\(^{41}\)

In 1890, the Virginia General Assembly granted a second charter, this time to the Piedmont Construction and Improvement Company, to operate a street railway company in Charlottesville. Three years later, in 1893, Charlottesville granted a franchise to the company, which was renamed the Charlottesville City and Suburban Railway under the promotion of Capt. T. O. Troy. Troy ultimately raised enough funding to make the new line an electric railway. Construction of the track—the new street railway was to use separate rails from the existing horse-drawn cars—and installation of poles and overhead electrical lines began in September 1894. By January 1895, the first electric street cars were running. As originally designed, the main line of the company was to run from the Chesapeake & Ohio Railroad’s overpass over Old Lynchburg Road (present-day Jefferson Park Avenue), north to West Main Street, and then east along the south side of West Main to Ridge Street. Rather than descending Vinegar Hill at Ridge Street, the original electric line continued east on South Street to First Street where it turned north to Market Street and then along Market to the town’s eastern limit. A second electric streetcar line, intersecting with the first at the top of Vinegar Hill opposite Midway, ran south down Ridge Street to the city limit at Lankford Street. The two street railways were ultimately consolidated into one corporation running a single electric street car system on January 28, 1895. Its tracks ran down the south side of West Main Street. The centrally located tracks of the former animal powered Charlottesville and University Street Railway were removed and sold.\(^{42}\) In late March 1895, the owners of the electric streetcar system, Piedmont Construction and Improvement Company, requested of the City Council to be allowed to erect a ticket office, transfer station and waiting room in the small, triangular Midway Park located at the intersection of West Main Street with Ridge Street. The City granted the request and the company erected a small frame building there (Figure 6).

In mid-1895, West Main Street as it ascended Vinegar Hill was widened to 60 feet and regraded to make the slope easier for the streetcars and other vehicular traffic. In the process of regrading Vinegar Hill, the city’s water main, shown on the Sanborn insurance maps of 1891 and 1896 to be the original 10-inch line running the length of West Main from the University to downtown, was exposed. Work on grading, macadamizing, and guttering Main Street east of Vinegar Hill was also approved and begun in August of 1895.\(^{43}\)

Construction of new utilities in Charlottesville continued through the end of the nineteenth century. In 1895, the city installed its first sanitary sewer system, that included gravity-fed terracotta sewer mains along the Schencks Branch and Rock Creek drainages located north and south, respectively, of the West Main Street corridor. Although limited in its extent, the year

\(^{41}\) Kean, “Forward is the Motto of Today,” 7-11.

\(^{42}\) Kean, “Forward is the Motto of Today,” 23-30.

\(^{43}\) Kean, “Forward is the Motto of Today,” 29-30; Daily Progress, August 24, 1895, 1; August 26, 1895, 1; September 11, 1895, 1; February 3, 1896, 1; March 14, 1902, 1.
1895 also saw the erection of the Albemarle Telephone and Telegraph Company’s first telephone lines. A competing business, the Albemarle Telephone Company, was established in 1897 and soon dominated the market. By the last few years of the nineteenth century, the West Main Street corridor was bristling with utility poles carrying the lines of the street railway company, as well as the electric, and telephone companies.44

Figure 6: Detail Sheet 6 of the 1896 Sanborn Insurance map of Charlottesville showing the one-story frame building erected by the streetcar company in the triangular Midway Park at the intersection of West Main and Ridge Street. Note dashed line running down the center of West Main Street depicts the city’s 10-inch water main. This and other sheets of the 1896 Sanborn also depict Four-inch lateral water lines extending off West Main along 4th Street NW, 6th Street NW, 7th Street SW, 10th Street NW, and 11th Street SW. Digital Sanborn maps, 1867-1970. New York [electronic resource], ProQuest Information and Learning Co., c2001.

The prominence of Charlottesville as a rail destination and the associated increased visitation, the establishment of a street railway system, and the rise of West Main Street as a heavily traveled public right-of-way stimulated a significant amount of private development. On the private end, the increase in railroad traffic led to the construction of several hotels on West Main Street catering to the visitor. The Gleason/Albemarle Hotel (615 West Main), Wright’s/Clermont Hotel (801 West Main), and the Carter House / Queen Charlotte Hotel (831 West Main) were all constructed in the last decade of the nineteenth or first decade of the twentieth century.45 Of these, only the Gleason Hotel still stands today.

44 Moore, Albemarle, 248-249, 395-397.
45 Charlottesville Historic Landmark Survey, 1976, ms. on file at the Charlottesville Albemarle Historical Society, Charlottesville, Virginia; Department of Community Development, Charlottesville, Virginia, West Main Street Historic District, 8-2, National Register of Historic Places Nomination Form, 1980.
Throughout the late nineteenth century and continuing into the early twentieth century, Vinegar Hill developed as a predominantly African American owner-occupied neighborhood. Fronting West Main Street, commercial businesses were initiated serving both black and white clientele. Still present at 333 West Main is the building occupied by Inge’s Grocery, a Black business initiated in 1891 and occupying an 1820s building. North of West Main Street, a large and dispersed neighborhood roughly bounded by West Main, 4th Street and Preston Avenue contained numerous single and multiple family homes. A number of churches served the Vinegar Hill community including First Baptist Church constructed on the site of the old Delevan Hotel (632 West Main – 1883), as well as Mount Zion Baptist (constructed 1883-1884 at 105 Ridge Street), Ebenezer Baptist (constructed 1892 at 113 6th Str. NW, 1892), Zion Union Baptist (constructed prior to 1902 at 214 4th Str. NW), and Wesley African Methodist (constructed prior to 1891 at 201 4th Str. NW). The only church serving white congregations along the late nineteenth-century West Main Street corridor was a small frame building constructed sometime prior to 1896 at 844 West Main just west of the railroad bridge.47

Like worship, educational instruction in late nineteenth-century Charlottesville also was segregated. In 1893, Midway School was constructed, to serve white children, on the site of the old Midway Hotel immediately east of the intersection of West Main and Ridge Streets48 (see Figure 5 and Figure 6, above). Black children were educated in the Jefferson Graded School, a large brick building constructed in 1894 and located at the corner of Fourth and Commerce streets, just 500 feet north of West Main Street. The Jefferson Graded School was centered within the predominantly working and middle-class African American neighborhood of Vinegar Hill.

At the onset of the twentieth century, the Piedmont Construction and Improvement Company’s electric railway line was extended west beyond the limits of the City of Charlottesville to the Rotunda. This extension required that the streetcar tracks cross the at-grade tracks of the C & O Railroad at the University Crossing. To avoid this dangerous crossing of rail lines, the streetcar company proposed to the City to replace the at-grade crossing with a bridge or underpass. The City approved the construction of an underpass below the C & O Railroad at University Crossing, and it was completed by the end of 1901.49

Although its antecedents extended back to the late nineteenth century, the Good Roads Movement received significant public attention in Charlottesville with the arrival of the Good

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46 Department of Community Development, Charlottesville, Virginia, West Main Street Historic District, 8-3 – 8-4, National Register of Historic Places Nomination Form, 1980.
47 The building is shown as a Presbyterian church on the 1896 Sanborn map of Charlottesville and as a Baptist church on both the 1902 and 1907 Sanborn maps. When the Southern Railroad right-of-way was widened in the late nineteen-teens, the property was condemned and the church was moved to the north side of the street. The 1920 Sanborn map shows the relocated church as housing a Lutheran congregation.
48 The Midway School replaced the former 4-story frame Midway Hotel established in 1818 in this location. The white Midway School taught through Grade 12 while the black Jefferson Graded School only taught through Grade 8. Black students graduating Jefferson Graded School had to seek a high school education outside of Charlottesville and Albemarle County.
Roads Train in 1902. As part of the promotion of the Good Roads Movement sponsored by the Southern Railway, conventions were held in numerous southern cities including a 13-day stop in Charlottesville between March 24 and April 4, 1902. Two trains arrived in Charlottesville carrying 150 congressmen and Washington staffers. As part of their promotion, the Office of Public Road Inquiries funded and supervised the grading, stone crushing, and macadamizing of the road (Monticello Avenue) leading from Charlottesville to Monticello. Among the several resolutions passed at the convention, one urged “localities that desire to see in this generation event he beginning of permanent road improvement to utilize at once all their own resources.”

Following on the heels of the Good Roads Train, Charlottesville took up the issue of the permanent improvement of the City’s streets and sidewalks. Acknowledging that the City’s streets were in a “wretched condition, and whereas there seems to be a popular demand for their immediate improvement,” in February of 1902 the City Council’s Street Committee was charged with assessing the cost of paving Main Street from the Chesapeake & Ohio Depot to the town’s limits at the new University Crossing bridge with either vitrified brick, asphalt, or “macadamized under the most improved modern methods.” Five months later, the Street Committee recommended paving Main Street in vitrified brick, and other secondary streets in modern macadam, and paying for the same with a bond referendum. In December 1902, a bond in the amount of $80,000 was approved by the electorate to support street improvements.

The contract for paving Main Street with vitrified brick was awarded to the Chillicothe, Ohio firm of Pfaff, Ringwald & Smith. As part of project, the grade of Vinegar Hill was reduced again, and water and gas utilities were repaired, replaced and relocated. Construction was initiated in August of 1903 but not completed until late 1904. The electric streetcar system’s rails were moved from the south side of West Main to its center.

Although complaints about the quality of paving abounded, City Council noted that “Main Street has been reasonably well done.” In his 1904 address to City Council, the Mayor claimed that “Main Street is now an ornament to the City, as well as one of the best advertisements that Charlottesville has ever had, for it is an indisputable fact, that our streets, principally Main Street, have been the laughing stock of visitors for the last fifty years.” To permit increased streetcar traffic, sections of double “passing track” were installed at the top of Vinegar Hill immediately north of Midway Park, just east of the railroad bridge, and between 12th and 12 ½ Streets.

In mid-1903, the City of Charlottesville ordered that the small office and transfer station built by the streetcar company eight years earlier in Midway Park be removed from this location. The

51 Daily Progress, March 14, 1902, 1; November 14, 1902, 1; December 12, 1902, 1; Kean, “Forward is the Motto of Today,” 47.
52 Daily Progress, May 22, 1903, 1; June 12, 1903, 1; November 13, 1903, 1; March 11, 1904, 1; November 11, 1904, 1; December 12, 1904, 1; CCMB D (1902 – 1916): May 22, 1903, 39; August 13, 1903, 63; August 19, 1903, 67; September 1, 1904, 5.
company complied and moved the frame building to a location opposite Bunch’s Store on Main Street where it continued to serve as the company’s office. Shortly thereafter in 1912, the City permitted the street railway company to “take over the care of the small park at the top of the Hill [Vinegar Hill], in order to beautify the same. …It is understood that the Company intends to
trim the trees growing in the park, plant additional trees and shrubbery and erect a fountain on the east end of the park.” Two years later in 1914, the streetcar company built its new two-story brick office building immediately south of Midway Park, at 300 West Main on the corner of West Main and Ridge Street.\(^5\)

During the mid-nineteen-teens, in response to complaints concerning passenger access to Union Station, Southern Railway, the successor to the old Orange & Alexandria and Charlottesville & Rapidan lines, constructed “a sort of viaduct,” a frame and metal walkway with stairs connecting the higher elevation of the southern side of West Main Street with their passenger station at track level (Figure 9). The viaduct allowed passengers to avoid the danger of crossing the C & O freight yard and its tracks to reach Union Station.

![Figure 9: Detail of a view in 1916 looking north from Union Station along the Southern Railway line showing the wooden bridge that carried West Main Street over the railroad. Note the metal framed viaduct in the right of this photograph that provided pedestrian access to Union Station over the tracks of the C & O freight yard. Holsinger Studio Collection, retrieval ID X03958BB, Albert and Shirley Small Special Collections Library, University of Virginia, Charlottesville, Va.](image)

By 1915, the wooden bridge over the old Charlottesville and Rapidan Railroad, by then the Southern Railway, was 35 years old and showing its age. Problems with the bridge’s condition and maintenance had been noted for some time, with local newspapers occasionally reporting on the fact that it was an eyesore and needed repairs. As early as 1903, the City notified Southern Railway of the “dangerous condition” of the bridge. A decade later, in 1912, the City ordered the railroad to replace the bridge’s deteriorated decking. Finally, in conjunction with a widening and

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\(^5\) Kean, “Forward is the Motto of Today,” 30, 45; CCMB C (1897-1902): February 20, 1902, 515; March 18, 1902, 520; CCMB D (1902 – 1916): July 9, 1903, 57; Daily Progress, March 14, 1902, 1; November 15, 1912, 1.
straightening of their right-of-way and the laying of a second track, Southern Railway agreed to build a new, higher, and longer bridge to carry West Main across the railroad. In the Fall 1916, a temporary framed bridge was constructed south of the old wooden bridge to allow vehicular and pedestrian traffic to pass during construction. The design for the new bridge was to be a “handsome, modern, reinforced concrete masonry girder viaduct.” Associated with the construction of the new bridge, the water main line east and west of each abutment was rerouted. The bridge, completed in 1920, possessed three sets of support piers and four spans. At street level the bridge also possessed concrete parapet rails between piers set with caps (Figure 10).54

Minor changes to the alignment and layout of the electric streetcar system during the nineteen-teens included a further reduction in grade of the Chesapeake & Ohio Railroad underpass at University Crossing, and the construction of short sections of double passing track in select locations. In addition to an existing section of double passing track between 12th and 12 ½ Streets, new double passing track was added across the full length of the new Southern Railroad bridge (Figure 11, Figure 12).55

54 CCMB D (1902-1916): October 10, 1903, 80; Daily Progress, April 12, 1912, 1; January 16, 1913, 1; April 14, 1916, 1; Kean, “Forward is the Motto of Today,” 56; Smead, Phase II Architectural Evaluation, 12, 16.
55 Daily Progress, July 14, 1911, 1; November 12, 1915, 1; April 14, 1916, 1.
Figure 11: Detail of a view in 1916 looking west along West Main Street across the wooden bridge over the Southern Railroad. Note the streetcar rails and the section of double passing track in the foreground immediately east of the bridge. Holsinger Studio Collection, retrieval ID X03958JB, Albert and Shirley Small Special Collections Library, University of Virginia, Charlottesville, Va.

Figure 12: Detail of a view in 1919 looking west along West Main Street across the new concrete bridge over the Southern Railroad. Note the double passing track extending across the entire bridge span. Holsinger Studio Collection, retrieval ID X07317JB, Albert and Shirley Small Special Collections Library, University of Virginia, Charlottesville, Va.

Perhaps the single most significant impact to the West Main Street corridor during the first half of the twentieth century was the introduction and proliferation of the automobile. The first automobile in the Commonwealth appeared on the streets of Norfolk in 1899. Two years later in 1901, the Dawson Car was being manufactured in Waynesboro. In 1906, West Main Street resident and merchant John P. Ellington purchased the city’s first automobile. By the end of the first decade of the twentieth century there were 2,705 automobiles registered state-wide. However, it is during the second decade of the twentieth century that the automobile truly became a common site on the roads of Virginia and in the City of Charlottesville. By 1922 a total of 2,196 cars were registered in Charlottesville and Albemarle County, one for every 16.7 persons.56

The automobile’s presence in Charlottesville had a direct impact on the improvement, look and appearance of the City’s roads as well as adjacent residential and commercial properties. In 1910, there was one garage located on West Main Street. Two decades later there were 12 automobile service stations and six automobile dealerships. By mid-century, there were 14 automobile service stations and 10 dealerships lining the West Main Street corridor.57

In January 1918, the Virginia General Assembly established the state highway system of primary roads linking the Commonwealth’s major cities and other principal destinations. State Route 9, running between Old Point (Hampton Roads) and the West Virginia line and incorporating large sections of the former Three-Notched Road leading through Charlottesville, was designated a primary road in an early configuration. The new law called for the primary roads within the highway system to be “constructed and maintained exclusively by the state under the direction and supervision of the State Highway Commissioner and supported by federal, state and local funding.” State monies supporting the highway system were to be obtained from increased taxes on real estate and from the sale of automobile licenses. Nine years later in 1927, the Department of Highways was established as an official state agency. In 1935, U.S. Route 250 was established through Charlottesville, subsuming Main Street and the course of the old Three Notched Road as

57 Yale Rabin, W. Boeschenstein, K. Curtis, and E. May, West Main Street, Charlottesville, Virginia. Present Conditions and Future Prospects, (Charlottesville, Virginia: Central Piedmont Urban Observatory, University of Virginia, 1977), 29-32; Charlottesville Department of Community Development, West Main Street Historic District, National Register of Historic Places Nomination Form, 1980, 8-3, document on file with the City of Charlottesville. The Rabin publication mentions an undated manuscript detailing development along West Main Street by Harry Wilson. Although this document was searched for locally, it was not located.
it passed through town, though maintenance of the road remained with state and local authorities.\(^58\)

As the numbers of cars in Charlottesville increased, Charlottesville’s City Council responded with ordinances addressing road rules and safety. Particularly with a variety of vehicles, as well as pedestrians and animals traveling the City’s streets, ordinances regarding rules of the road increased. Whereas in 1899 City ordinances only addressed the regulation of horses and streetcars on town streets, by 1904 City ordinances mentioned automobiles and also required all vehicles to pass oncoming traffic on the right, and to overtake vehicles on the left. By 1909 however, the rules of the road became more defined. Automobiles were required to possess a “bell, gong, horn or whistle which shall be sounded at street crossings, and whenever necessary to the safety of any person using the streets.” Driving automobiles at night required “a headlight or lantern of such nature and so placed as to be conspicuously visible at the distance of a block.” Stopped or parked automobiles were required to be pulled over as close to the curb as possible. The speed limit on all City streets for both animals and all vehicles (except streetcars) was restricted to eight miles an hour. Street signage and traffic signals too increased during the first quarter of the twentieth century.\(^59\)

By 1925, philanthropist Paul G. McIntire, a native of Charlottesville and alumnus of the University of Virginia, had donated four public sculptures to the city. McIntire’s donations reflect the influence of the late-nineteenth-century City Beautiful movement and the National Sculpture Society and the associated belief that through culture and education, public sculpture would greatly improve the appearance, and benefit the citizens, of the city. Two of these figurative monuments were erected at either end of the West Main Street corridor. In late 1919, a sculpture by Charles Keck titled ‘Their First View of the Pacific,’ known today simply as the Lewis and Clark Monument, was erected in what was then known as Midway Park, the small triangle of land west of Midway School at the intersection of West Main and Ridge Streets. Prior to the placement of the Lewis and Clark Monument, McIntire asked city officials to “reshape” Midway Park to better “conform to the dimensions of the stature.” The City agreed to the request and transformed the formerly triangular lot to a smaller, circular shape (Figure 13). At the western end of West Main, a second monument was erected in late 1921 in the triangular space created by West Main Street and Jefferson Park Avenue just east of the Chesapeake & Ohio Railway’s University Crossing bridge. This statue, created by Robert Aitken and known today as the George Rogers Clark Monument, depicts Clark mounted on a stallion ostensibly in consultation with a standing Native American chief and two kneeling subordinates.\(^60\) The two


monuments formalized and defined the important and well-traveled West Main Street corridor between the University and downtown Charlottesville.

For approximately a quarter century, automobile traffic on West Main Street competed for the same space as Charlottesville’s street railway system. However in May 1935, facing an increasingly underutilized system and declining profits, the electric streetcars made their final run on the streets of Charlottesville. The overhead electrical wires were removed and an “asphaltic macadam surface” was placed on top of the existing rails. Whether asphalt had already been used to pave over the 1904 brick surface of West Main is not clear. Removal of the railway’s former tracks was sporadic and targeted. To replace the streetcars, four used buses were purchased. Public reception of the buses was positive as they were slightly faster than the streetcars and possessed a wider range of mobility, not being restricted to tracks. By February 1936, the Charlottesville and Albemarle Bus Company had been organized.  

Figure 13: View facing north, circa 1940, looking west showing the circular area surrounding the base of the Lewis and Clark statue. Holsinger Studio Collection, retrieval ID Y21901B, Albert and Shirley Small Special Collections Library, University of Virginia, Charlottesville, Va.

61 Kean, “Forward is the Motto of Today,” 72-74.
The presence of the automobile also had a direct impact on the development of private lots adjacent to the West Main Street corridor. If they had space, owners of commercial lots considered the creation of automobile parking lots. These areas typically were hard-surfaced with parking spaces allotted for customers. Both owners of commercial and residential lots also considered the construction of driveways, spaces that could house the permanent parking of vehicles.

By the end of the first quarter of the twentieth century, historic photographs and maps of the West Main Street corridor document the presence of a highly developed streetscape that included both brick and concrete sidewalks, turf verges or planting strips, and ramp access from street to walk as well as numerous posts, and poles carrying electrical and telephone lines (Figure 14, Figure 15).  

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Figure 14: Detail of a view west along West Main Street from Ridge Street taken in 1917. Note the turfed planting strips in front of the street railway company’s brick office building on the left side of the photograph. Further west, mature trees occupy similar planting strips between the street and sidewalk. The triangular Midway Park with its iron horse fountain is visible to the right. Holsinger Studio Collection, retrieval ID X04892BB, Albert and Shirley Small Special Collections Library, University of Virginia, Charlottesville, Va.

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62 S. L. Williamson, City Engineer, Charlottesville, Va. West Main Street. Plan for Widening, April 25, 1935, City of Charlottesville, Microfiche 2401-2404, Department of Neighborhood Development Services, Charlottesville, Virginia.
Through the first half of the twentieth century, Vinegar Hill was the pride of African-American Charlottesville. A heavily-populated, predominantly African-American residential area, the Hill’s occupants purchased land and built houses there in the decades following Reconstruction in the hopes of furthering their future. Over time Vinegar Hill grew to contain many of the social and religious institutions integral to African American community integrity including fraternal organizations and benevolent societies. The Vinegar Hill neighborhood had also evolved into the primary African-American business and commercial district serving the disparate needs of its residents. Sanborn maps and local business directories from the late nineteenth to early twentieth centuries document the presence of numerous African-American owned businesses and commercial structures fronting the north and west sides of West Main Street. A 1933 University of Virginia Master of Arts thesis addressing African-American life in Charlottesville from a white perspective noted the presence of barber shops, pool rooms, furniture stores, grocery stores, clothing and shoe repair shops, tailoring and dry cleaning stores, drug stores, beauty shops, as well as restaurants and doctor’s and dentist offices.63

In 1924, construction was initiated on the new Jefferson High School directly west of the Jefferson Graded School. Built exclusively for the education of black children, upon its opening in 1926 the new High School housed grades 7 – 11 while the adjacent Graded School housed elementary grades.

In 1929, following upon an Act of the General Assembly passed three years earlier, Charlottesville adopted its first zoning ordinance. The new ordinance divided the City into six districts, each with different requirements regulating land use and buildings. According to the 1929 map, as amended in 1930, nearly the entire West Main Street corridor was zoned either Business B or Business B-1.64

By the mid-twentieth century, Charlottesville’s West Main Street was still a portion of the Richmond to Staunton Highway, the primary east-west vehicular corridor in the state. By 1954 however, an east-west bypass around the north side of the city was opened to traffic. The Route 250 Bypass effectively removed through traffic from Charlottesville and had a significant impact on the future development and economic livelihood of the West Main Street corridor.65


The eastern portion of the West Main Street corridor, and the Vinegar Hill neighborhood in particular, saw dramatic change during the third quarter of the twentieth century. Under the guise of urban renewal, and over the decade between 1965 and 1975, the entire Vinegar Hill African-American residential and commercial neighborhood was razed.

The background to the demolition of Vinegar Hill was the Civil Rights movement and the fight for racial equality. Following on the heels of the Supreme Court’s 1954 Brown vs. Board of Education decision, which ruled that state-sponsored educational segregation was a violation of the U.S. Constitution, the General Assembly of Virginia authorized massive resistance in an attempt to fight the federal policy. Despite a court order to integrate its public schools, Charlottesville’s white educational institutions did not admit blacks. Between September 1958 and February 1959, Charlottesville leaders chose to close both Lane High School and Venable Elementary rather than admit blacks. Only in September 1959 were the first black students admitted to Lane High School, located just north of the Vinegar Hill neighborhood.

By the mid-1950s, Charlottesville was actively looking into the feasibility of initiating a public housing project through the establishment of a local housing authority. By 1958, Vinegar Hill was being targeted by citizen groups and the Charlottesville government as an appropriate area for “redevelopment.” A study was undertaken by the all-white City Housing Authority that investigated the “clearing and improvement” of Vinegar Hill, including the removal of its

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65 Rabin et al., *West Main Street*, 32-33.
residents and the subsequent development of new commercial space. A survey of the Vinegar Hill neighborhood identified a majority of the residential structures as sub-standard housing and classified the entire area as blighted. Following a plan proposed by the Housing Authority and the firm of Harland Bartholomew and Associates, the City approved the redevelopment of Vinegar Hill in March 1960. The Housing Authority began condemning and purchasing Vinegar Hill properties in 1961-1962. Plans for the development of what would become Westhaven, Charlottesville’s first public housing project, designed to accommodate the displaced former residents of Vinegar Hill neighborhood, were underway in the early 1960s. A total of 158 families, 140 of which were African American, were relocated from their former homes in Vinegar Hill. The owners of displaced African-American businesses had a more difficult time re-establishing their commercial ventures. By January 1964, the contract to formally demolish Vinegar Hill had been awarded to the Northern Virginia Demolition Corporation. Demolition of acquired properties began in 1965 and lasted through the mid-1970s. 66

As part of the Vinegar Hill redevelopment plan encouraging new commercial development, a new north-south oriented road connecting what is now McIntire on the north and Ridge Street on the south was constructed in the mid-1960s and dubbed Ridge-McIntire Road. This new major connector was intended to bring traffic more directly to the new redevelopment proposed for Vinegar Hill.

Commercial development proposed as part of the Vinegar Hill redevelopment occurred more slowly than anticipated. Significant commercial buildings constructed in the redevelopment area included the Citizens Commonwealth Corporation Bank (1970), the office building currently occupied by Staple’s (1977), the Federal Court building (1983), and the Omni Hotel (1985).

Beginning in the mid-1970s, and with the support of the State Historic Preservation Office in Richmond, the City of Charlottesville launched a local architectural survey program aimed at documenting historic structures within its boundaries. Between 1976 - 1978 the Charlottesville Landmark Commission undertook field recording and documentary research along West Main Street, and in 1980 the Charlottesville Department of Community Development authored a National Register Nomination for the West Main Street Historic District that reached from the West Main Street bridge and extended east to Ridge Street. 67 West Main Street architectural properties listed on the National Register include the First (Delavan) Baptist Church, the Heiskel-McKennie House, the Gleason Hotel, the Patton Mansion, Paxton Place, the Peyton-Ellington Building, and the Pitts-Inge Store (Charlottesville Multiple Resource Area - 1982), the

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67 Charlottesville Department of Community Development, Survey Report for the West Main Street Corridor and Proposal for Local Designation (Charlottesville, Virginia: Department of Community Development, 1996), 8, Albert and Shirley Small Special Collections Library, University of Virginia, Charlottesville, Virginia; Department of Community Development, West Main Street Historic District, National Register of Historic Places Nomination Form, 1980.
John Vowles House (1989), the Mount Zion Baptist Church (1992), and the Meriwether Lewis and William Clark and George Rogers Clark statues (1996).

Between 1994 and 1996 the Southern Railway’s West Main Street Bridge was replaced. The old bridge, completed in 1920, was found to be deteriorating. The new bridge, named the Drewary J. Brown Bridge in honor of a Charlottesville civil rights leader, provided a greater clearance for Norfolk & Southern trains. The project also incorporated moving the northern extent of 9th Street NW westward to align with the southern extent of 10th Street NW.

Created by the City of Charlottesville in 1996, and extending from the University Corner east towards 6th Street NW on the north and 5th Street SW on the south, the West Main Street Architectural Design Control District is a locally designated historic district. The goal of the designation was to identify and preserve historic properties in this district, including buildings, structures, landscapes and sites, as well as to promote tourism and maintain property values.\textsuperscript{68}

A National Register Nomination for a West Main Street historic district incorporating the corridor between the Drewary Brown Bridge and Ridge Street is currently being drafted with submission to the Virginia Department of Historic Resources anticipated in early 2017.

4 Potential Archaeological Resources

Over the course of two and a half centuries of private and municipal development of the West Main corridor, numerous cultural resources associated with the historic streetscape have come and gone. This chapter reviews the specific types, and dates, of archaeological resources that may survive below grade within the West Main Street corridor and that might be exposed and impacted by redevelopment of the streetscape. This chapter also strives to identify the generalized locations that possess the potential to contain certain types of cultural resources. Only in very limited cases, in which prior visual confirmation exists, can the specific locations of buried resources be reliably identified.

Methodology

Identification of the types and general locations of streetscape resources present within the West Main Street corridor through time was accomplished through both archival research and personal interviews. Research in primary and secondary source documents as well as historic images and maps has provided the broad context for identifying the dates and general locations of specific resource types. In addition, on site conversations with City of Charlottesville Public Works employees revealed information about specific types of streetscape resources, their generalized and particular location, as well as other important information. In-person interview with Steve Mays, City Streets and Sidewalks Operations Manager, and Tim Morris, City Utilities Operations Manager on West Main Street were very productive. Both Mays and Morris were able to show the locations of specific subsurface finds as well as generally describe the locations and depth below grade of types of historic streetscape resources identified during City projects over the past quarter century.

West Main Street – A Typology of Historic Streetscape Resources

To facilitate discussion, the streetscape features listed below are grouped by resource type. Wherever possible, dates for the earliest appearance of each type of feature are provided.

Street-Related Features

- Street Surfacing – The West Main Street corridor has been a vehicular thoroughfare for over two and a half centuries. Although the roadway likely consisted of little more than informal compacted earth during its first 80 years, it is possible that the Rivanna and Rockfish Gap Turnpike may have added some formal surfacing, either stone or plank, in select locations by 1830. However, the first documented evidence for formal surfacing was the macadamizing of Main Street in 1859. As the town of Charlottesville only incorporated the eastern end of the West Main Street corridor in 1860, it is likely that the earliest macadam surfacing dates to this period. West Main Street was resurfaced in macadam again in 1880-1881. In 1903-1904, the City of Charlottesville paved the entire length of Main Street, from downtown to the University Crossing at 14th Street, with vitrified brick. Cement approaches to the West Main Street bridge over the Southern Railway were laid in 1918. Although the precise date has not been determined, the brick
pavement of West Main appears to have been replaced or covered over completely with bitumous asphalt by 1935.69

Along with surfacing and resurfacing of streets during all periods, Charlottesville thoroughfares may also have been subjected to associated grading and guttering. Presurfacing grading of roadbeds likely included the creation of a crown sufficient to carry surface water to the sides of the roadway. Gutters on the sides of the road may be been simple earthen ditches or constructed of stone, brick, or concrete, and typically mirrored that used in street surfacing.

- **Curbing** – The macadamizing of the eastern end of West Main Street in 1860 was accompanied by other improvements, including both curbing and guttering. Records document that the City hired an engineer to oversee the improvements on streets and walks. Prior to the widespread use of concrete, street curbing predominantly employed stone slabs. Historic photographs document that guttering was usually built out of the same material as street surfacing.

- **Pedestrian Crossings** – Even with the macadamizing of Charlottesville’s primary roads in 1859–1860, the condition of streets were still heavily dependent upon the weather. Getting in and out of vehicles and crossing a street could be a muddy experience. Stone slabs horizontally placed in a linear alignment perpendicular to the street, and commonly called ‘cross walks’ or ‘crossings,’ were constructed at select locations along West Main Street from the mid-nineteenth century onwards. The stone crossings were likely replaced, or paved over, in 1903-1904 when Main and West Main Streets were paved with vitrified brick.

- **Bridges** – A total of three bridges have been constructed in the West Main Street corridor over the tracks of the Charlottesville and Rapidan/Southern Railway. The first bridge, constructed in 1880-1881, was made of wood. It was replaced by a longer, taller bridge of reinforced concrete c. 1916-1920. The current concrete bridge was installed in 1996. While the two older bridges were demolished, there is the potential that features related to their use, such as historic fill soils deposited for raising grade or abutment and fence features, may still be identified below grade.

- **Horse Fountains** – A horse fountain was installed around 1892 at the western end of the triangular West End or Midway Park. The fountain probably was removed during the reshaping of the park to accommodate the Lewis & Clark monument in 1919.

- **Wells and Cisterns** – A public well with pump was installed in Midway Park in early 1876. Though probably deliberately filled, the well shaft should survive below the

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69 Photograph Y20866B in the *Holsinger Studio Collection* (Albert and Shirley Small Special Collections Library, University of Virginia), dated by Kean (“Forward is the Motto of Today,” 73) to May 1935, shows Main Street, with a streetcar, just east of the base of Vinegar Hill and the early twentieth-century brick pavement appears to have been replaced completely by asphalt.
streetscape. However, as discussed above, one early source claims it lies beneath the Lewis and Clark statue.\textsuperscript{70}

\textit{Sidewalk-Related Features}

- \textbf{Sidewalk Surfacing} – By the 1850s, the town of Charlottesville possessed only limited areas where sidewalks were formally surfaced. These surfaces consisted predominantly of plank. In association with the macadamizing of town streets in 1860 however, the City Council passed an ordinance requiring private lot owners, tenants and occupants to ‘repair and otherwise suitably improve …the sidewalks in front of said lots.’ In late 1860, the Street Committee required that the new sidewalks be constructed of slate. As discussed above, University students complained about the condition or absence of sidewalks along West Main Street in the 1870s. Brick sidewalks began to replace slate sidewalks in the mid-1880s. By the second decade of the twentieth century, concrete sidewalks were constructed in association with the West Main Street bridge and gradually replaced the brick walks of the late nineteenth century.

- \textbf{Private Property Features} – An assortment of private property features related to the use and enjoyment of both residential and commercial properties have been identified adjoining the West Main Street corridor. In instances, city records indicate that private property improvements encroached upon and extended into the public right-of-way.\textsuperscript{71} Bounding many private residential properties along West Main Street were paling fences, and less frequently walls. Where intact cultural deposits still exist, the soil signatures of these wooden fences may be identified along the margins of the right-of-way. The former Union or Delavan Hotel, constructed in the mid-1820s, originally possessed a pisé or rammed earth wall, hence the name “Mudwall,” between it and West Main Street. Possibly, foundations for this wall survive along the edge of the right-of-way. Awning supports, most directly linked to commercial establishments, are pictured along West Main Street as early as the late nineteenth century. These features extended out from a building’s façade and were generally constructed in iron and canvas with curbside supports extending into the sidewalk. Photographs from the first quarter of the twentieth century also document the establishment, formalization, and cordoning off of linear grass plots with stakes between the sidewalk and street.

- \textbf{Street Front Buildings and Structures} – While the formal width (60 feet) of West Main Street right-of-way appears not to changed over the years, the limits of construction on private lots has varied through time. For example, Sanborn maps and historic photographs document that a two-story brick building used by Southern Railway as an office and worker housing, immediately abutted the southern edge of the right-of-way just east of the Southern Railway bridge. During recent work, City utility staff encountered subsurface brick foundations likely associated with this building immediately adjacent to the outer edge of the sidewalk in this location. Similarly, off the southeast corner of the Gleason / Albemarle Hotel, covered-over but not infilled basement rooms were observed by City staff investigating localized subsidence.\textsuperscript{72}

\textsuperscript{70} Burnley, “Engineering in the Development of a Municipal Water Supply,” 1.
\textsuperscript{71} CCMB 2: March 15, 1894, 608; Kean, “Forward is the Motto of Today,” 24.
\textsuperscript{72} Steve Mays, personal communication, September 13, 2016.
Street Railway-Related Features

- Horse Drawn Railway – Charlottesville’s first animal powered street railway line was constructed in 1887. The ‘T’ rails were laid on wooden ties in the center of the road and reportedly were removed in 1895 after the system merged with the town’s incipient electric streetcar company. If sections survived, they almost certainly were removed with the tracks for the electric streetcars were relocated to the center of the road in 1903-1904.

- Electric Railway – The Charlottesville City and Suburban Railway initially laid its ‘T’ rail lines on south side of West Main Street in 1895. During the repaving of West Main Street in brick in 1904, the railway switched to new grooved girder rails and its lines were moved to the center of the road. In the mid-nineteen-teens, short sections of double passing track were laid along West Main Street in three locations: just east of the intersection with Jefferson Park Avenue; just east of the West Main Street bridge; and north of and adjacent to Midway Park.

- Structures – The only structure currently known to have been constructed entirely within the current West Main Streetscape project area is the street railway’s ticket office / transfer station and waiting room that was built in Midway Park in 1895. This small frame building was removed in 1903.

Utility-Related Features

- Gas service lines – The Charlottesville and University Gas Light Company was established in 1856, and distributed coal gas produced in a plant located in the City Yard. The earliest gas supply lines in Charlottesville are believed to have been squared wooden timbers with bored centers. Sometime during the late nineteenth century, a switch was made to iron pipes. The early coal gas company supplied the University of Virginia and therefore its pipes almost certainly were installed below West Main Street.

- Light posts – Beginning in the 1860s, Charlottesville began to erect gas lamps along most of its primary roads. As the town expanded, gas mains and light posts were erected in new neighborhoods. Kerosene lamps also supplemented the gas lamps in town. In 1895, the City’s first electric arc light poles were erected.

- Water service lines – Under the direction of sanitary engineer Ernest W. Bowditch, and in coordination with the University of Virginia, the City of Charlottesville contracted to have a modern water supply system built in 1886. In addition to a 10-inch main iron water line that was buried along West Main Street, hydrants were also placed in strategic locations along the sidewalk. The earliest Sanborn maps show the 10-inch water main running down the center of West Main Street from the University to downtown, with laterals extending down select side streets.
• Electrical poles – In 1888 the Charlottesville and University Electric Light & Gas Company’s poles were erected along the streets of Charlottesville. The lines brought electricity to the City’s residential and business owners.

• Electric Railway poles – In 1894 the Charlottesville and City Suburban Railway began erecting its poles along City streets. The electrical lines provided power to the new electric streetcar system.

• Sewer line – In association with the 1895 macadamizing of its primary roads, Charlottesville initiated the construction of its first city-wide sanitary sewer system. The original system used glazed terracotta pipe of varying dimensions. West Main Street was served by lateral lines that carried sewerage north and south into mains that followed the Schencks Branch and Rock Creek drainages.

• Telephone poles – Charlottesville’s first telephone company was established in 1895. The first telephone wires were strung along City streets beginning the late 1890s.

Archaeologically Sensitive Areas within the West Main Streetscape Project Area
Examination of historic maps, photographs, and other documents combined with eyewitness accounts from Charlottesville Public Works staff suggests that buried streetscape features associated with earlier periods of roadway have the potential to be found throughout the West Main Street Streetscape project area. Centrally located streetcar tracks, dating to the 1904 – 1935 period, have been observed by City staff in the vicinity of 320 West Main Street as well as near the street’s intersection with 8th Street NW just east of the railroad bridge. The potential for streetcar track to be present throughout the project area is high, except in those locations where utility work or bridge replacement may have resulted in its prior removal. Sections of double passing track may survive below West Main Street immediately north of the former Midway Park, between the Drewery J. Brown Bridge and 8th Street NW, and between 12th and 12 ½ Street. Similarly, City staff report having observed early twentieth-century brick pavement underlying asphalt in multiple locations along the corridor. In cases, the buried brick pavement has been observed overlying “cobblestones” or rock that may be remains of nineteenth-century macadam street surfacing. Again, the potential for these earlier road surfaces to survive below the current asphalt pavement seems high throughout the corridor, except in those locations where it may have been removed by utility work or other construction activities. Immediately east and west of the Drewary J. Brown Bridge, it is possible that early streetscape features were more deeply buried by fill possibly associated with the several episodes of bridge construction and replacement.

Beyond the immediate West Main Street travel lanes, it is possible that early sidewalk pavements and perhaps curbing and guttering survive below existing grade, however no eyewitness accounts of such features have been recorded. Below-grade remains of former buildings fronting West Main Street have been observed immediately east of 616 West Main (former Gleason Hotel) and on the steep bank on the south side of the street opposite 8th Street NW. Foundations of other former buildings might survive in currently unbuilt parcels adjoining the right-of-way.
In cases, architectural features such as foundations, cellars, and postholes associated with street front buildings that encroached upon the right-of-way may be preserved below existing grade. However, specific locations of such potential features are not known.

In addition to the many active utilities present within the West Main Street corridor, remains of abandoned below grade lines may also survive. Of particular interest are the wooden “pipes” believed to have been used by the c. 1856 – 1888 Charlottesville and University Gas Light Company. While it seems likely that these gas lines were installed below the West Main right-of-way, the location remains unknown.

The area of the former West End or Midway Park, surrounding the Lewis and Clark monument at the intersection of West Main and Ridge Street, has the potential to house a variety of sub-grade archaeological remains, including the 1876 well shaft, footers and supply pipe associated with the 1892 horse foundation, foundations of the 1895–1903 streetcar company offices and transfer station, as well as possible evidence of curbing and landscaping elements.

Although, as discussed, archaeological features of varying sorts can be reasonably anticipated throughout the West Main Streetscape corridor, those few locations that can be ascribed a more heightened archaeological sensitivity based on documentary sources and eyewitness accounts are illustrated in Figure 16.

**Recommendations**

Because the locations of potentially significant buried archaeological resources cannot be predicted with accuracy outside of a few select instances, construction monitoring during the course of project construction (Phase VI), is recommended. Construction monitoring will entail, when appropriate, the documentation of streetscape resources, archaeological sites, and cultural deposits and features as they are encountered. Minimally, documentation will consist of the recordation of archaeological features through photographs, sketches or scaled drawings and their location on maps of the project area. Appropriate recordation may require additional, fuller exposure of encountered archaeological features and deposits. Artifacts, if present, may also be collected for cleaning, analysis, and long-term curation.

In general, it is recommended that, wherever possible, impacts to archaeological resources within the West Main Streetscape project area should be avoided and, when encountered, such resources be preserved in place following appropriate recordation. However in cases where impacts to potentially significant archaeological resources cannot be avoided, additional archaeological investigation and documentation prior to destruction may be warranted and recommended. It is anticipated that in limited areas, and where a particular archaeological feature has the potential to contribute new and important information to the history and development of West Main Street, mitigation strategies designed to more fully expose and document archaeological features may be recommended. Mitigation strategies may include limited archaeological excavation, more detailed documentation, or data recovery. Any recommendation for additional archaeological analysis beyond monitoring of construction-related and ground-disturbing activities will be made in consultation and coordination with Rhodeside & Harwell, its relevant sub-consultants, and City staff.
Figure 16: Map of the West Main Streetscape project area showing archaeologically sensitive areas. Potentially significant archaeological features and deposits may be present in other portions of the project area.
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APPENDIX E
INTERPRETATION STRATEGIES
GOALS
Our goals for the interpretive and signage program for West Main Street are:
• create a sense of community and promote civic participation and pride
• make connections to other cultural resources in the city and encourage exploration
• bring out Charlottesville’s unique qualities and character
• make the street feel alive and vibrant
• encourage hanging out and people-watching
• create interest along the entire length of the street to encourage strolling
• allude to the city’s deep history without being didactic
• people the streets with characters from Charlottesville’s past and present
• Involve the city’s artists, historians and writers in the process

INTERPRETIVE PROGRAM
Howard+Revis Design has proposed the following interpretive programming ideas for the West Main Street project as a first step. These ideas will be individually described on the following pages.

• Explorers Park at east end of street
• Street Corner Markers with interpretation at 12 intersections
• “Get Around” transit Interpretation at bus stops
• “Walked This Way” Walk at Drewary Brown bridge
• Tactile Maps at west end of street
• Remnants of the past at Vinegar Hill, Inge’s Grocery Store, Old Albemarle Hotel
• Biking enhancements along bike lanes
• Community message board and signage for businesses at parking garage
EXPLORERS PARK

The statue of Lewis and Clark with Sacagawea provides a focal point for a public space at the east end of the site. The sculpted figures look westward along a trajectory that was a native path westward across the mountains, which then became known as Three Notch’d Road during colonial times, and then West Main Street. This park provides an appropriate place to interpret the presence of the Monacan tribe in this area prior to European settlement and the importance of Charlottesville in opening up the west through a group of explorer known as the Albemarle Explorers.

Features:
- the statue of Lewis and Clark and Sacagawea, figures looking westward
- ring of planting around statue with opening at west forming ceremonial path over the mountains
- concentric boulder seating representative of the Blue Ridge Mountains
- Mapping patterns and labeling in paving delineating the Monacan town of Monasukapanough, native trail that became known as Three Notch’d road, names of mountains, Albemarle County, etc.
- Quotes in paving from Albemarle Explorers
- Castings of Monacan projectile points

People to feature:
- Monacan Indians
- Peter Jefferson and Thomas Jefferson (father and son)
- Robert Lewis and Meriwether Lewis (father and son)
- Jonathan Clark and William Clark
- Joshua Fry
- Thomas Walker
- James Maury
- Nicholas Meriwether

Reference Quotes:
Monacan points

Use of boulders in landscaping

Statue of Lewis, Clark and Sacagawea

Blue Ridge Mountain boulders
Captain John Smith 1608 map showing Monacan village

Lederer 1672 map

Joshua Fry 1751 map

Joshua Fry 1751 map enlargement

Contemporary map locating Monasukapanough
STREET CORNER MARKERS

Intersections on the north side of West Main Street would feature custom designed street signs identifying street names while also pointing to cultural venues and historic hotspots along the street and accessible from the side streets. Some historic photos of West Main Street would also be featured.

Ridge McIntire Road & West Main Street street corner marker

- Court Square and Albemarle County Courthouse - interpret founding of Charlottesville in 1762 as the Albemarle County seat
- Downtown Pedestrian Mall - interpret East Main Street’s reconfiguration as a pedestrian mall in the mid-1970s

- View of West Main Street looking west before erection of Lewis & Clark statue; view looking east from Ridge Road at Midway Park and School with C&A railway building at right, 1917

4th Street & West Main Street street corner marker

- Jefferson School - Direct visitors to the African American Heritage Center and interpret school desegregation and destruction of Vinegar Hill neighborhood.
- Inge’s Grocery Store - Interpret as social hub and meeting place for African American and white communities.
5th Street & West Main Street street corner marker

- Community on West Main Street, 1963 (Gunnar Osvalds, photographer)

6th Street & West Main Street street corner marker

- Live Bait photo on West Main Street, 1976 (John Shepherd, photographer)

7th Street & West Main Street street corner marker

- Hotel Albemarle - interpret hotel at 617-619 West Main Street known initially as Hotel Gleason (note rocking chairs out front), and Gaslight Restaurant, which once hosted Bob Dylan, the Supremes and Muhammad Ali.
7 1/2 Street & West Main Street street corner marker

- Rail lines with First Baptist Church at 7 1/2 Street in distance; Union Station (LOC); Southern Railway station looking west, 1919

8th Street & West Main Street street corner marker

- Duck In Restaurant, 1976 (John Shepherd, photographer)

9th Street & West Main Street street corner marker

- Women distributing newsletters of the American Humane Educational Society on the West Main St. railway bridge, 1915. The group maintained pet shelters and lobbied for passage of laws to protect children and animals. (Rufus Holsinger, photographer)
10th Street & West Main Street street corner marker (interpretation TBD)

11th Street & West Main Street street corner marker (interpretation TBD)

• Lane High School Marching Band parading on West Main St, 1950  (Ed Rosenberry, photographer)

12th Street & West Main Street street corner marker

12 1/2 Street & West Main Street street corner marker

• Georgia O’Keefe House - O’Keefe spent three summers in Charlottesville taking art courses at UVA, starting in 1912. She was photographed in Charlottesville by Rufus Holsinger in 1915. The O’Keefe watercolors are from 1912-1914.
“GET AROUND” TRANSIT INTERPRETATION AT BUS STOPS

Custom-designed bus stops along the corridor would provide a glimpse of transit options from the past. One of the bus stops would feature a “peel back” of the sidewalk to reveal the streetcar tracks which once were under the street. Another of the bus stops might feature a re-creation of the planking that was once used to pave West Main Street.

**Bus Stop 1**

- Mule-drawn Streetcars, 1890s: Mules pulling streetcar on Main Street (view looking west at 4th and East Main), 1890s; plan of street railways 1891;

  ![Mule-drawn Streetcar](image1)

**Bus Stop 2**

- Electric streetcars, 1910s: Streetcar at Ridge and Main Streets on Salvation Army outing on 14 August 1914; interior view in front of barn on Ridge Street, 1916; Superintendent Custis L. Carter and the rail grinding car he designed, 1918; Southern Railway station on West Main St. looking west, 1919; view looking north on Jefferson Park Ave near Raymond Ave, 1918; electric railway sign and car (Holsinger, photographer)

  ![Electric Streetcar](image2)

Section of streetcar track could be displayed under “peeled back” section of modern paving.
**Bus Stop 3**
- Henry Ford's first Model “A” car in front of Pitzer's Pool and Billiard Parlor and Sheppe's Drug Store, 1904. (Holsinger collection); reference image for “planked road” re-creation

![Image of Henry Ford's first Model “A” car](image1.jpg)

**Bus Stop 4**
- Handmade cart drawn by ox on an unpaved road, 1913. Potatoes to sell are on the curb. The trainmasters office of the Southern Railway is in the background. (Holsinger, photographer)

![Image of handmade cart](image2.jpg)

**Bus Stop 5**
- Car dealership on West Main St, early 1900s; car on Main Street. (Holsinger, photographer)

![Image of car dealership](image3.jpg)

**Bus Stop 6**
- Texaco on West Main Street. (Holsinger, photographer)

![Image of Texaco](image4.jpg)
"WALKED THIS WAY" WALK

A public art installation acknowledging the many colorful and intriguing characters — famous, infamous and little-known — that have made Charlottesville home and might have passed along West Main Street enlivens the long walk across the bridge, extending from 7th Street to 9th Street. The figures would be identified by name and “come alive” through a quote or fun fact or intriguing anecdote, possibly date-stamped. The figures may be represented by shadow-shapes or silhouettes, or just by their quote. They could potentially even be represented digitally as LED silhouettes in motion. An online app, call-in phone numbers or scannable RFID code would allow visitors to find out more about the figures via their cell phone.

At one end of the bridge, contemporary passers-by would symbolically “join the parade” of humanity. The interaction could be as low-tech as drawing their own shadow in chalk with the help of a friend, or as high-tech as seeing their own silhouetted figure appear in an interactive LED wall when they come close.

Special lighting incorporated into the installation would accentuate the dramatic, ritual quality of the walk at night, while also adding to the feeling of safety. The lighting could be pools of light on the quote statements, LEDs in the sidewalk or in the railing which illuminate as pedestrians pass, use of light-transmitting concrete to capture visitors’ shadows or as surface for projecting animated silhouette figures, or animated figure silhouettes on vertical LED pylon(s) which would become a dramatic beacon seen from afar after dark.

This particular feature could, potentially, be separated from the rest of the program and handled as a public art competition. Alternately, a select group of artists (possibly local) could be invited to submit ideas and compete.

The figures featured on the walk might include:

- Presidents Thomas Jefferson, James Monroe, James Madison, Woodrow Wilson, and Teddy Roosevelt
- Meriwether Lewis and William Clark
- George Rogers Clark (figure honored with sculpture at west end of the street)
- Sally Hemmings or other enslaved individual
- General George Custer
- John Jouett
- Fountain Hughes (slave interviewed by WPA)
- Georgia O’Keefe and other artists
- William Faulkner, John Grisham and other authors
- Rosey Brown and other sports figures
- Drewary Brown (for whom the bridge is named)
- Queen Charlotte (for whom the city is named though she never visited)
- Maria Rasputin (the legendary Russian monk’s only child)
Use of shadow silhouettes

Text statements in paving

Artwork in paving
Quotes and text statements in paving and in railings and as freestanding element
Silhouettes at LED reactive surfaces

Visitor-reactive LED lighting in pavement

Shadow-silhouettes in light-transmitting concrete

Silhouette artwork in concrete

Party lighting
Silhouette-shadows cast by light
TACTILE MAPS

Two tactile maps occupy a prominent public space at the east end of West Main Street near the intersection with Jefferson Patterson Ave. One map shows the topography of the region and situates Charlottesville as the gateway to the Blue Ridge Mountains. This map includes the original gridded layout of the town at its founding and clearly delineates Three Notch’d Road. The surrounding mountains are labeled by name. Minimal interpretation describes the founding of the town as the government seat in Albemarle County, and the importance of the town and its inhabitants in early European explorations of the west. A second smaller topographic map provides an enlargement of Charlottesville from a later date, though not contemporary. The original thoroughfares, and historic buildings within the city are modeled as three-dimensional elements and labeled. The topography should help passers-by understand the layout of the roads and how the city took its modern form.

Reference images for tactile map

Reference maps showing topography, city's ridgelines

Map with interpretation at perimeter
REMNANTS OF THE PAST - VINEGAR HILL COMMEMORATION

Pavers spanning from Ridge McIntire Road to 4th Street would be etched with the names of all of the families relocated due to the destruction of Vinegar Hill (158 total according to one source), along with the names of businesses and churches. Remembrances of what was lost in the form of quotes and/or short statements or anecdotes would also be interspersed. A commemorative plaque in the ground or incorporated into a vertical surface would simply and succinctly communicate the significance of the commemoration.

REMNANTS OF THE PAST - INGE GROCERYSTORE

The importance of Inge Grocery Store as a community gathering place for both the black and white communities at 333 West Main St. since 1891 would be acknowledged through placement of quotes, remembrances and anecdotes in the paving and on nearby bench seating and other street furniture. These text statements would be culled from oral history projects such as From Porch Swings to Patios: An Oral History Project of Charlottesville Neighborhoods and paint a portrait of an early, successful African American family and their family-run business. Anecdotes would include the Thomas Inge’s recollection of customers coming in covered wagons along the dirt road that was West Main Street and stalling in front to the store due to the mud, and of chickens that they sold picking in the dirt outside the store, and of deliveries made by horse and buggy and later by Model T.

Rocking chairs which were present historically — or their modern-day urban incarnations — might be reintroduced to encourage the sort of social interaction which once flourished.

REMNANTS OF THE PAST - OLD ALBEMARLE HOTEL & THE GASLIGHT RESTAURANT

Like Inge Grocery Store, the Albemarle Hotel (originally known as Hotel Gleason at its construction in 1896) at 617-619 West Main Street and the adjacent restaurant that opened in the 1960s, The Gaslight, were once prominent hangouts in Charlottesville. The rocking chairs which once sat between the columns of the logia of the hotel and served as perches for guests to people-watch would be reintroduced. Quotes and anecdotes would be inserted into the surrounding landscaping to bring the relatively sedate life of the hotel and the much less sedate and more colorful life of The Gaslight and its clientele back to life. For example, one website describes The Gaslight as “a steak house, beer hall, oyster bar, pop-art museum, pub, employment agency, jazz joint and folk singer’s coffeehouse” and a place where “Bob Zimmerman, trying out the name Bob Dylan, sang for the change you threw in his hat” and a place where “the ladies’ room was purple, the men’s featured a trough instead of urinals.”
BIKING ENHANCEMENTS & STREET LABELING

Through engaging environmental graphics, custom-designed bike path markers and bike racks, and special night-time lighting for the bike path, Charlottesville’s residents would be encouraged to consider biking as a fun, safe, time- and cost-effective transit operation. A bold, conversational statement — “BIKE HERE” would start the path at each end. Colorful side paths at right angles to the green-painted bike path would climb the curb and provide a pad for bike racks labeled “PARK BIKE.” This direct, simple, casual way of communicating could be extended to the crosswalk pushbuttons which could be labeled “CROSS HERE” and to a “PARK CAR” paving graphic at the new parking garage.

Custom bike lane graphics and bike racks

Night-time illumination of bike path

Custom crosswalk signage

ORIENTATION STATION & COMMUNITY MESSAGE BOARD

When visitors exit the new parking garage, they will encounter an orientation station which will include a map of the West Main Street environs and changeable planks directing visitors to the businesses available by walking east or west. This orientation station will also include a community bulletin board for posting civic announcements and for advertising special events, which could be a lockable, glassed in case, or something more informal and unsupervised.

Changeable signs to market businesses, formal and informal bulletin boards