HILLSDALE DRIVE EXTENSION
LOCATION STUDY
REPORT

September 2004

Prepared For:

City of Charlottesville

Department of Neighborhood
Development Services

By:

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Engineering A Brighter Future

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PREFACE AND ACKNOWLEDGEMENTS SUMMARY

This Hillsdale Drive Extension Location Study is submitted in accordance with the May 23, 2003 agreement between the City of Charlottesville and Johnson, Mirmiran and Thompson, Inc., Richmond, Virginia. The report documents the location study process and provides information developed by the Study Team for the Alternatives that are presented for consideration at the Location Public Hearing.

The environmental and related studies undertaken in conjunction with the Hillsdale Drive Extension Location Study are documented separately pursuant to the National Environmental Policy Act (NEPA), 23 U.S.C.

The Hillsdale Drive Extension Location Study was undertaken by a Study Team comprised of the following firms:

Johnson, Mirmiran and Thompson, Inc., Richmond Virginia
Prime Consultant - Engineering studies, traffic analysis, documentation and coordination of the team.

Williamsburg Environmental Group, Inc., Williamsburg, Virginia
Preparation of the environmental document.

Chmura Economics and Analytics, Richmond, Virginia
Economic impact assessment.

Harris, Miller, Miller and Hanson, Inc., Richmond, Virginia
Noise analysis.

EEE Consulting, Inc., Richmond, Virginia
Air quality analysis.

The Study Team appreciates the opportunity to service the City of Charlottesville and its citizens and offers special thanks to the Steering Committee for their knowledge their support and their dedication to the study and their community.

The members of the Steering Committee were:

Angela Tucker	City of Charlottesville – Dept. of Neighborhood Development Services
Kevin Lynch	Charlottesville City Council
Kevin O'Halloran	Charlottesville Planning Commission
David Bowerman	Albemarle County Board of Supervisors
Juandiego Wade	Albemarle County – Dept. of Planning and Community Development
John Giometti	Virginia Department of Transportation
Rick Seaman	Rivanna Trails Foundation/Greenbrier Homeowners Association
Peter Thompson	Senior Center, Inc.
Bob Metzger	Brookmill Homeowners Association
John Gregg	Branchlands Property Owners Association
Jay Jessup	Pepsi-Cola Bottling Company of Central Virginia
Charles Rotgin	Great Eastern Management Company
Kristin Peura	Giant Seminole Ltd. Partnership
Brett Moore	National Retail Projects Manager
James Hill	Northfield Homeowners Association

In addition the Study Team thanks the Virginia Department of Transportation for providing the right-of-way and construction cost estimates, along with provided guidance to the Study Team and the Steering Committee through the process.

STEERING COMMITTEE RECOMMENDATION

(This Steering Committee's recommendation will come after the formal Public Hearing)

1.0 INTRODUCTION

1.1 Project Description

The proposed construction of Hillsdale Drive Extension from Greenbrier Drive to Hydraulic Road is located in the City of Charlottesville and Albemarle County, Virginia. The proposed project begins at Greenbrier Drive, at the location where Hillsdale Drive currently ends, and terminates at Hydraulic Road.

The project window includes the areas bordered by Route 29, Greenbrier Drive, Hydraulic Road and Brandywine Drive and encompasses approximately 119 acres. The study window is shown in Figure 1. Four different alignments within this window have been included in this study. Several of the alignments use portions of existing roadways while others are on new alignment. All Build Alternatives utilize the typical section currently in use on the existing portion of Hillsdale Drive. During design variations of this typical section will be considered where necessary to respect topography, available right-of-way and to provide turn lanes and other features that may be necessary as the road design evolves.

1.2 Study Purpose and Need

The Hillsdale Drive Extension is a proposed urban collector roadway that will connect Greenbrier Drive in Albemarle County with Hydraulic Road in the City of Charlottesville within the Route 29 Corridor. The extension of Hillsdale Drive from Greenbrier Drive to Hydraulic Road is a critical component of a priority regional strategy - the completion of a network of local roads parallel to Route 29. In addition to providing alternate travel routes, the parallel network will provide better connections between neighborhoods, improved access to businesses and services, safer travel routes for pedestrians and bicyclists and more direct and efficient transit routes between destinations.

Preliminary engineering and modeling indicates that Hillsdale Drive will be a fairly direct route, carry a moderate amount of traffic at relatively low speeds, allow for mass transit carriers to better serve the neighborhoods which are heavily weighted with a senior population, and provide direct access to businesses and services. In addition, the project would provide a means of walking, biking and handicapped accessibility for wheelchairs and other similar light motorized vehicles which would be able to circumvent busier roadways. The proposed project will improve traffic flow on a congested section of Route 29, and proposed design details on Hillsdale Drive will favor activity and exchange, rather than high volumes of cut-through traffic.

The extension of Hillsdale Drive will provide another option for local traffic to access communities and businesses along Hillsdale Drive by providing an Alternative to the east of and generally parallel to the Route 29 Corridor. With the diversion of local traffic, the extension of Hillsdale Drive will also relieve some congestion for through traffic on Route 29 and at the Route 29/Hydraulic Road intersection. Route 29 is eight lanes wide along the study area, with additional left, double left and right turn lanes at the intersections. This, coupled with the high traffic volumes, causes major congestion, particularly during peak hours, and discourages pedestrian and bicycle use in the area. However, while diverting some traffic from Route 29, this Extension is not intended as a bypass to Route 29.

FIGURE 1
Study Area
http://www.hillsdaledrive.org/docs/5.pdf

The Hillsdale Drive extension is intended to provide an alternative for local traffic and improve access to existing and future businesses. Its design will not inhibit the development or redevelopment of the commercial/residential area. It is also intended to provide a pedestrian, handicapped and bicycle friendly facility that will be compatible with other safety improvements planned for the existing portion of Hillsdale Drive.

1.3 Background

The City of Charlottesville, Albemarle County, the Charlottesville-Albemarle Metropolitan Planning Organization (MPO) and the Thomas Jefferson Planning District Commission (TJPDC) have planned extensively for this region's traffic network. The project is located in the MPO area, which is the central residential and commercial activity area of the five-county TJPDC regional planning area. Specific related planning efforts include the United Jefferson Area Mobility Plan (the long-range plan, or UnJAM 2025); the Hillsdale Drive Traffic Safety Study (for improvements to the existing section of Hillsdale Drive in Albemarle County); the MPO's Transportation Improvement Program (priority project funding list, or TIP); the MPO Walkability Workshops (which created new Level of Quality Guidelines for roadway design); and the 29/H/250 Project, Phase 1 & 2 which are investigating roadway re-engineering and redevelopment opportunities in the area around Route 29, 250, and Hydraulic and surrounding roads. The 29/H/250 study has moved into Phase 2. This is a continuation of the Phase 1 study completed in May of 2003. Phase 1 includes safety improvement recommendations for Hillsdale Drive north of the study area. The 29/H/250 study (Phase 1 and 2) can be seen at www.tjpdc.org.

1.4 Study Process

With the project included in the Virginia Department of Transportation (VDOT) Six Year Improvement Program and in the MPO's TIP, the study was initialized to determine the best location for an extension of Hillsdale Drive. The study followed the process established by the National Environmental Protection Act (NEPA) and VDOT.

The project was administrated by the City of Charlottesville and was developed under the guidance of the Steering Committee (SC). The SC study team included City of Charlottesville and Albemarle County elected officials and staff, members of local businesses and communities and private design consultants.

The study team began with identifying a study window in which an extension of Hillsdale Drive from its present termini at Greenbrier Drive to a connection with Hydraulic Road was possible and encompassed all alignments from previous studies. Four alignments were identified and carried forward for further study.

Alignments and grades were developed utilizing mapping provided by the City. Additional data collected in the field included traffic counts to supplement and validate the information provided in the traffic model, noise readings at key locations throughout the study area and information required for the environmental document. This included such things as wetland delineation, endangered species, cultural resources, hazardous material, etc.

An extensive citizen involvement program was developed that included citizen information meetings, community meetings and a website designed specifically for the study. Citizen input

has been an important part of the process by raising issues and concerns that have shaped the direction of the study in a positive way.

A draft environmental document was prepared and approved by VDOT and the Federal Highway Administration (FHWA). With the draft environmental document approved, a formal Public Hearing will be scheduled. A transcript of this Public Hearing will be prepared and then presented to the Charlottesville City Council and the Albemarle County Board of Supervisors along with the recommendation from the Steering Committee for resolutions. .

The Public Hearing transcript and the City and County resolutions will be presented to the Commonwealth Transportation Board for the final selection of a Build Alternative or the No-Build option. The study will conclude with approval of the final environmental document and either a Finding of No Significant Impact (FONSI) or a Record of Decision (ROD) from the FHWA. With these approvals in place, the design process can begin.

2.0 PUBLIC INVOLVEMENT

2.1 Public Involvement Program

2.1.1 Public Awareness Initiatives and Information Resources

A public involvement program was developed to ensure that the surrounding communities and the public in general were informed about the purpose and progress of the study. The methods utilized were citizen information meetings, community meetings, a project-specific website and the development of materials designed to clearly convey the desired information.

Large scale aerial maps showing the study area and the studied alignments were developed for use at the Citizen Information Meetings (CIM). This material was left at the Senior Citizen Center (location of the CIM meeting) and with the City so the public had the opportunity to view this information at its convenience.

2.1.1.1 Brochures

Brochures, often including 11” x 17” color maps of the study area and the Alternative alignments on an aerial photo background were developed for the citizen information meetings. Also included were pre-addressed comment sheets, often with questions designed to assist the Study Team in obtaining specific information about a particular issue.

2.1.1.2 Website

A website was established specifically for this project. It was designed to disseminate information to the community and provides an opportunity for the public to comment on the information presented on the website and at public information meetings, express opinions about the study and ask questions. The website address is www.hillsdaledrive.org

2.1.1.3 Email

Public comment or questions about the location study can be made through the website mentioned above. A section was set up specifically to receive public comment. The

address is www.hillsdaledrive.org/comments.cfm**.** Approximately 31 emails have been received as of June 2004.

2.1.2 Citizen Information Meetings

Three Citizen Information Meetings were held during the course of the study. Each was well attended by approximately 80 to 100 citizens. The first meeting, held on June 4, 2003, was set up in a panel format designed to introduce the Study Team and the Steering Committee. The meeting opened with a presentation providing information about the study, the Study Team and study process. After the presentation and introductions, the panel accepted questions from attendees. This format provided an opportunity for the City, the Study Team and the Steering Committee to interact with the community and to address questions and concerns.

The second information meeting, held on September 25, 2003, provided an opportunity for the community to view the preliminary alignments, including the No-Build Alternative, proposed for detailed study. The meeting was moderated by the City in a question and answer format. Large displays were placed around the room for easy viewing by attendees. The Study Team and Steering Committee were in attendance to provide support to the City and to address the attendees' questions on a one-on-one basis.

The third meeting, held on April 26, 2004, provided the public an opportunity to view detailed alignments showing the potential impacts each would have on features such as wetlands, the Meadow Creek floodplain, stormwater management facilities, homes and businesses, etc.

To ensure everyone had ample opportunity to study the material being presented, it was decided to organize this meeting differently than the first two meetings. Displays showing each alignment, traffic data and a detailed project timeline were set up in one room. A second room was set up with seating for an interactive question and answer period. During the first hour, the public had opportunity to review the material being presented and to talk one-on-one with the Steering Committee and engineering staff. Attendees were asked to move to the second room for a brief presentation that provided an overview of the study and a timeline for the remaining actions that would take place if a Build Alternative is selected. The presentation was followed by a 45 minute question and answer period.

Public Hearing was held on October XX, 2004. (This section will be completed after the Public Hearing)

Citizen Information Meeting schedule:

1st meeting – June 4, 2003
2nd meeting – September 25, 2003
3rd meeting – April 26, 2004
Public Hearing – October XX, 2004

2.1.3 Community Meetings

On September 16, 2003, in response to the concerns raised by the Brookfield and Branchlands communities, a meeting was held specifically for their benefit. The meeting was well attended by approximately 80 to 100 of the community's residents. The format was an open question and answer session with the City moderating. The Study Team and the Steering Committee were present to provide support for the City and responses to the citizens.

2.1.4 Steering Committee Meetings

A Steering Committee was established by the City to guide and assist the Study Team through the process and to represent the interest of those directly and indirectly impacted by the outcome of the study. Committee meetings were held, generally on a monthly basis, through the life of the study. A complete list of the Steering Committee members is included in the "PREFACE AND ACKNOWLEDGEMENTS SUMMARY" section of this report.

The Steering Committee meeting schedule:

1st meeting – May 23, 2003
2nd meeting – June 4, 2003
3rd meeting – August 1, 2003
4th meeting – September 11, 2003
5th meeting – February 20, 2004
6th meeting – March 26, 2004
7th meeting – June 11, 2004
8th meeting – August 6, 2004
9th meeting – October XX, 2004

3.0 STUDY AREA PRESENT CONDITIONS

3.1 Land Use

The project is located in a heavily urbanized section of Charlottesville adjacent to the Route 29 Corridor. The area is a mix of retail stores, including a shopping center with numerous out parcels, which include a grocery store, hotel, banks, restaurants, and chain retails stores and specialty shops. The study area also includes an industrial complex and the regional Post Office along with the existing Senior Center and two assisted living facilities. Also included in the study area are residential communities which are a mix of single family homes, several condominium complexes that cater to the retirement community and two apartment complexes, one of which is a lower income property managed by the City. The eastern portion of the study area follows Meadow Creek and is largely an undisturbed forested area.

3.2 Traffic - Existing Volumes and Level of Service (LOS)

3.2.1Traffic Count Program

Traffic counts were conducted throughout the study area to supplement and validate the traffic data provided by VDOT to develop the existing traffic volumes. The traffic counts were performed during the PM peak period. This period was chosen as the study area has many commercial establishments which cause the highest volumes to occur during the PM peak times. Average daily traffic was developed based on the peak period counts and traffic data from the VDOT database.

3.2.2 Existing Anticipated Daily Traffic (ADT)

The highest traffic volumes in the study area occur along Route 29. Traffic volumes along Route 29 range from approximately 59,000 to 64,000 vehicles per day with the highest volume south of Greenbrier Drive. Hydraulic Road carries the second highest volume of traffic ranging from over 17,000 vehicles per day west of Route 29 to over 28,000 vehicles per day west of Michie Drive. Greenbrier Drive has a traffic volume of approximately 6,000 to 11,000 vehicles per day. The volume along Hillsdale Drive at its present southern terminus is approximately 5,800 vehicles per day.

The PM peak period traffic counts were translated into peak hour volumes. The peak hour volumes were balanced as appropriate to reflect the variation in times when the counts took place. The existing average daily traffic is shown in Table 1. The existing average daily traffic along with the PM peak hour traffic volumes are shown in Appendix A-2.

Table 1 - 2003 Anticipated Daily Traffic (ADT) Volumes

ROUTE AND LOCATION	*ADT*
ROUTE 29	
Hydraulic Road to India Road	61,400
India Road to Zan Road	61,100
Zan Road to Seminole Court/Sperry Marine	60,700
Seminole Court/Sperry Marine to Greenbrier Drive	63,700
Route 29 north of Greenbrier Drive	58,700
GREENBRIER DRIVE	
Greenbrier Drive west of Route 29	11,100
Route 29 to Pepsi Place	7,900
Pepsi Place to Hillsdale Drive	6,100
Hillsdale Drive to the Brookmill/Branchlands Subdivisions	900
HILLSDALE DRIVE	
Hillsdale Drive north of Greenbrier Drive	5,800
SEMINOLE COURT	
Route 29 to Zan Road	11,000
Zan Road to the Pepsi Plant entrance	3,600
SPERRY MARINE	
Sperry Marine entrance west of Route 29	1,200

ZAN ROAD	
Route 29 to Line Road	2,400
Line Road to Seminole Court	5,800
INDIA ROAD	
Route 29 to Line Road	5,200
HYDRAULIC ROAD	
Route 29 to K-Mart/Kroger Entrance	24,900
K-Mart/Kroger Entrance to Michie Drive	28,300
Hydraulic Road east of Michie Drive	27,900

3.2.3 Existing LOS

Traffic analysis was conducted to determine the LOS. LOS is a measure of an intersection or an arterial's operation in relation to the delay experienced by motorists. Ratings for LOS range from "A" (the best) to "F" (the worst).

Level of Service analysis was conducted based on the 2000 Highway Capacity Manual. The assumed lane configurations are shown in Appendix A-14. The signalized intersection Level of Service analysis for the existing condition is shown in Table 2 and is also shown displayed in Appendix A-8.

Table 2 - Existing PM Peak Hour Level of Service

Intersection	Level of Service
Route 29 @ Greenbrier Drive	C
Route 29 @ Seminole Court	C
Route 29 @ Hydraulic Road	E
Hydraulic @ K-Mart/Kroger	C

3.3 Safety Issues

Safety concerns were raised by both citizens and members of the Steering Committee. There is concern about increased traffic and the ability to safely enter and leave the neighborhoods, particularly from those living in Brookmill and Branchlands. However, the predominate concern seems to be for the pedestrians who walk to the Senior Center and senior facilities or those pedestrians who go out to shop or simply exercise. Many are concerned that the already dangerous pedestrian areas will only get worse with the construction of any of the Alternatives under consideration. Fears that the roadway extension will bring more traffic through the area and more noise, pollution and crime, were expressed.

3.4 Environmental Factors

3.4.1 Recreational Facilities

The only recreational facility within the study area is a section of the Rivanna Trail System. The Rivanna Trail System features a walking trail within the floodplain of Meadow Creek as part of its overall network. This trail is located on many pieces of private property as it traverses the stream valley corridor. Various arrangements have been made between the Rivanna Trail Foundation (RTF) and property owners to allow the placement of the trail on their properties. For example, the City negotiated an agreement with the developer of the Brandywine complex and its Home Owners Association to allow the trail behind new homes. The Senior Center does not have a formal agreement allowing the trail, but has built the footbridge over Meadow Creek and maintains a section of the trail.

3.4.2 Farmland

There are no impacts to prime and unique farmlands associated with this project. No farmland exists within the project window and no agricultural districts are present.

3.4.3 Social Activities

The project area includes several neighborhoods within existing subdivisions along with heavily used retail areas. Several neighborhoods are retirement communities and therefore have an older population. There appears to be concern from these groups over quality of life issues and their ability to access the services and businesses and participate in functions at places like the Senior Center if an extension of Hillsdale Drive is constructed. The Senior Center, Inc., is a 501(c)(3) non-profit community business located within the project area.

3.4.4 Relocation – Business and Residential

A Stage 1 relocation report for the project was prepared by VDOT. This report contained an estimate of the "worst case" number of families, persons, businesses, farms and non-profit organizations that will be displaced by each of the Build Alternatives under consideration and an estimate of available decent, safe and sanitary replacement facilities in the area. This report was compiled without the benefit of individual contacts with the affected property owners.

3.4.5 Environmental Justice

Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, issued on February 11, 1994, requires each Federal agency to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations," to the "greatest extent practicable and permitted by law and consistent with the principles set forth in the report on the National Performance Review." Each Alternative was evaluated to determine if minority or low income populations within the study area would be disproportionately affected by a particular Alternative.

3.4.6 Air Quality

Section 107 of the Clean Air Act Amendments requires the US Environmental Protection Agency (EPA) to publish a list of all geographic areas in compliance with the National

Ambient Air Quality Standards (NAAQS) as well as those not in attainment of the NAAQS. According to the Virginia Ambient Air Monitoring 2002 Data Report (DEQ, 2002), the Charlottesville/Albemarle area is located in an attainment area for the NAAQS, which includes carbon monoxide, sulfur dioxide, nitrogen dioxide, ozone, lead, and particulate matter. The EPA is currently revising the nonattainment areas in Virginia due to adoption of revised standards for ozone and particulate matter. Although the revisions may add some localities to the list of nonattainment areas, the Charlottesville area is not included in the proposed nonattainment designations.

3.4.7 Noise

Potential traffic noise impact associated with the Hillsdale Drive Extension was assessed in accordance with procedures and criteria approved by the Federal Highway Administration (FHWA) and the Virginia Department of Transportation (VDOT).

In accordance with FHWA policy, noise impact occurs when the predicted noise levels in the project area "approach or exceed" the Noise Abatement Criteria (NAC) during the loudest hour of the day. The NAC are given in terms of the hourly, A-weighted, equivalent sound level in decibels (dBA). The applicable NAC for outdoor activities at residences, playgrounds, recreation areas, schools, and churches is 67 dBA $L_{eq}(h)$. The NAC for corresponding indoor activities is 52 dBA $L_{eq}(h)$. VDOT policy defines the word "approach" to mean when the loudest-hour L_{eq} equals 1 dB less than the NAC. Therefore, noise impact occurs when future noise levels equal or exceed 66 dBA L_{eq}, for outdoor activities and 51 dBA L_{eq} for indoor activities. Noise impact also occurs when predicted noise levels substantially exceed existing noise levels. An increase of 10 decibels or more is considered "substantial" by VDOT policy.

The objective of this analysis was to assess the potential traffic noise impact associated with the Hillsdale Drive Extension and to evaluate noise abatement measures wherever this impact is expected to occur.

3.4.8 Water Quality

The primary water resource in the project window is Meadow Creek, a perennial stream located between the commercial development along Route 29 and Brandywine Drive on the southeastern portion of the study window. The drainage area of Meadow Creek is less than five square miles as it flows through the project.

3.4.9 Wetlands

Waters of the U.S. included wetlands within the project limits were delineated by Williamsburg Environmental Group, Inc. in February, 2004 and submitted to the U.S. Army Corps of Engineers (Corps of Engineers) for confirmation in April, 2004. There are approximately 3.099 acres of wetlands within the study window.

3.4.10 Permits

All applicable permits will be acquired prior to construction of the project. Permits anticipated for the construction of this project include Section 401 Water Quality permit, a Section 404 Corps of Engineers permit and a Virginia Water Protection permit. Mitigation

will be included in the permit applications as required for the chosen alignment. Prior to construction, a Virginia Pollutant Discharge Elimination System (VPDES) permit will be acquired for land disturbing activities and a Stormwater Pollution Prevention Plan (SWPPP) will be prepared.

3.4.11 Wildlife

The study will look at impacts to natural and undisturbed areas within the study area that provide a habitat for wildlife. The area in the eastern portion of the study window is largely undisturbed and provides an environment that supports wildlife.

3.4. 12 Floodplains

The Meadow Creek floodplain, as designated by the Federal Emergency Management Agency (FEMA), is present in the eastern portion of the project window.

3.4.13 Wild and Scenic Rivers

There are no wild and scenic rivers in the study area. The project will not impact any streams on the National Park Service Nationwide Inventory or Final List of Rivers.

3.4.14 Aesthetics - View Shed

Concerns were raised at the Citizen Information Meetings by the surrounding communities and by the Steering Committee about the visual impacts each Build Alternative would have on the community. The neighborhoods most impacted would be Brookmill and Brandywine. The concern is the visibility of the new road, the existing Seminole Square Shopping Center and the Pepsi Plant from the neighboring communities, if forested land and the existing 20 year old screening behind Seminole Square Shopping Center and the Pepsi Plant is removed. The forested area along Meadow Creek is primarily a hardwood forest and the planted screening behind the Pepsi Plant and the Seminole Square Shopping Center are mature pine trees.

3.4.15 Threatened or Endangered Species

The Virginia Department of Conservation and Recreation's (DCR) Division of Natural Heritage will search its Biotic Data System for occurrences of natural heritage resources for the study area. These resources include habitat of rare, threatened, or endangered plant or animal species, unique or exemplary natural communities and significant geologic formations.

3.4.16 Historic and Archaeological Preservation

The study will evaluate four separate alignments within the defined study window. The area in the study window was researched though the Virginia Department of Historic Resources (DHR) archives and databases for known archaeological and architectural resources. If a Build Alternative is chosen, a Phase I Cultural Resources survey will be performed for that alignment.

3.4.17 Hazardous Material

Williamsburg Environmental Group, Inc. reviewed information from the Federal Government and the Commonwealth of Virginia regarding registered hazardous waste sites

regulated under the Resource Conservation and Recovery Act (RCRA) and CERCLA. The RCRA Notifiers list and Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) include sites that have notified state or federal agencies, due to hazardous material/waste generating, transporting or storing activities. The sites may have also undergone inspections or site assessments because of actual or suspected spills or releases. The identification of a site does not necessarily indicate illegal activity or confirmation that an actual health or environmental threat exists. Federal information gathered and reviewed through InfoMap Technologies, Inc.'s (InfoMap) databases included the National Priority List (NPL), CERCLIS list, the Facility Index System (FINDS), the Emergency Response Notification System (ERNS), and the RCRA information. State information gathered and reviewed through InfoMap included the State Priority List, Underground Storage Tank (UST) Registry, Spill Reports and Solid Waste Facility Information.

General information on the programs accessed is as follows:

NPL – The EPA database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. A site, to be included in the NPL, must either meet or surpass a predetermined hazard ranking systems score, or be chosen as a state's top priority site, or meet all three of the following criteria: (1) the U.S. Department of Health and Human Services issues a health advisory recommending that people be removed from the site to avoid exposure; (2) EPA determines that the site represents a significant threat; and (3) EPA determines that remedial action is more cost effective than removal action.

CERCLIS – A compilation by the EPA of the sites, which EPA has investigated or is currently investigating, for a release of hazardous substances pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980.

RCRA – Identifies and tracks hazardous waste from the point of generation to the point of disposal. A compilation of reporting facilities that generates, stores, transports, treats or disposes of hazardous waste.

Tank Facility – Virginia's list of registered tanks. This list provides information only on tanks for which owners of the facilities have provided information to governmental agencies.

Solid Waste Facility – Virginia's database of permitted solid waste facilities (landfills). The Virginia Department of Environmental Quality (DEQ) does not maintain records of landfills, which may have been in existence prior to landfill permitting regulations.

Pollution Complaints – Virginia's list of pollution complaints and spill reports that have been investigated by the agency.

4.0 ALTERNATIVES UNDER CONSIDERATION

Four (4) Build Alternatives have been identified within the study area that meet the objectives of the project as stated in the Purpose and Need and therefore warrant a more detailed analysis.

The Alternatives considered include the four (4) Build Alternatives, plus the No-Build Alternative. Each has been evaluated with respect to its potential impacts and whether it addresses the previously identified purpose and need.

Each Alternative described below begins at or near the Hillsdale Drive intersection with Greenbrier Drive at the northern end of the study area and ends at an intersection with Hydraulic Road at the southern end of the study area.

4.1 Alternative A: Meadow Creek Path (Figure 2) Alternative A is 0.89 miles (4688.24 feet) long. It begins at the existing intersection of Hillsdale Drive and Greenbrier Drive and heads south, passing east of the Senior Center. The alignment curves to the southeast crossing of Meadow Creek and then turns south, running roughly parallel to Meadow Creek and Brandywine Drive and would be located approximately midway between the two. It would then turn southwest again crossing Meadow Creek and tie into the existing Michie Drive at the Hearthwood Apartment Homes, where it presently dead ends. The alignment would utilize existing Michie Drive to its intersection with Hydraulic Road. This Alternative requires two bridges over Meadow Creek and the associated 100 year floodplain.

A 1419 foot (0.27 miles) connection is provided between Alignment A and Seminole Court. This connection ties to Alignment A near the north end of the study and parallels the Pepsi Plant property before turning southwest to tie to existing Seminole Court.

4.2 Alternative B: Behind Senior Center and Pepsi Plant (Figure 3)
Alternative B is 0.83 miles (4360.97 feet) long. It begins at the existing intersection of Hillsdale Drive and Greenbrier Drive and heads south, passing the Senior Center on its east side. The alignment curves to the southwest towards the Pepsi Plant. The alignment passes to the east of the Pepsi Plant and proceeds south directly behind the Seminole Square Shopping Center. As alignment continues south it threads between the Hearthwood Apartment Homes to the east and the Cinema 4 Theater to the west. It continues south through the Terrace Theater (closed) and ties to Hydraulic Road between Virginia Dominion Power and the Kroger Center.

Two connections are provided to Seminole Shopping Center. The first is north of Office Depot and ties to Seminole Court. The second is north of the Cinema 4 Theater and ties to Line Drive.

4.3 Alternative C: Extend Pepsi Place through Seminole Square Shopping Center (Figure 4)
Alternative C is 0.99 miles (5237.38 feet) long. It begins on Hillsdale Drive slightly north of it present intersection with Greenbrier Drive. Hillsdale Drive is relocated to the west to align with Pepsi Place on Hydraulic Drive. The alignment utilized existing Pepsi Place. At the southern end of Pepsi Place the alignment veers to the southwest before turning south to weave between the Pepsi Plant and the Post Office. It continues south crossing the existing stormwater management basin and through one or more businesses at the northern end of the Seminole

Square Shopping Center before lining up with Zan Drive. The next section utilizes existing Zan Road from its intersection with Seminole Court to its intersection with Line Drive. Existing Line Road is then utilized from its intersection with Zan Road to its intersection with India Road. From this intersection the alignment heads southeast across the Cinema 4 Theater parking lot before turning south to thread between the Cinema 4 Theater to the west and the Hearthwood Apartment Homes to the east. It continues south through the Terrace Theater (closed) and ties to Hydraulic Road between Virginia Dominion Power and the Kroger Center.

4.4 Alternative D: Extend Pepsi Place behind Pepsi Plant (Figure 5)
Alternative D is 1.07 miles (5642.30 feet) long. It begins on Hillsdale Drive slightly north of its present intersection with Greenbrier Drive. Hillsdale Drive is relocated to the west to align with Pepsi Place on Hydraulic Drive. The alignment utilized existing Pepsi Place. At the southern end of Pepsi Place the alignment makes a sharp turn to the east and crosses the Pepsi Plant parking lot. It then makes a sharp turn to the south and passes to the east of the Pepsi Plant before turning west and tying to existing Seminole Court in the area of the main Pepsi Plant entrance. This Alternative utilizes existing Seminole Court to its intersection with Zan Road. From this intersection Alternative D follows the same alignment as Alternative C, to the intersection with Hydraulic Road.

4.5 Alternative E (No-Build)
Alternative E has been designated as the No-Build Alternative for this study. The No-Build Alternative establishes the baseline conditions to which the Build Alternatives will be compared. The No-Build Alternative will include routine maintenance and currently programmed and funded projects in the VDOT Six Year Plan.

5.0 BASE STUDIES FOR THE BUILD ALTERNATIVES

5.1 Engineering Features

5.1.1 Design Criteria

The design criteria for the Build Alternatives were developed from the VDOT geometric design criteria established for urban collector streets, the functional classification for Hillsdale Drive. Table 3 shows the VDOT design controls and criteria established for Urban Collector Streets.

Table 3

GEOMETRIC DESIGN STANDARDS FOR URBAN COLLECTOR STREET SYSTEM (GS-7)

	DESIGN SPEED (MPH)	MINIMUM RADIUS U	MINIMUM RADIUS ULS	(11) STOPPING SIGHT DISTANCE Desir-able	STOPPING SIGHT DISTANCE Min.	(1) (2) MIN. WIDTH OF LANE	(3) STANDARD CURB & GUTTER	BUFFER STRIP WIDTH	(4) MINIMUM SIDEWALK WIDTH	(5) SLOPE	(8)(9) NEW AND RECONSTRUCTED MINIMUM BRIDGE WIDTHS AND VERTICAL CLEARANCES
STREETS WITH CURB & GUTTER	50	929'	-	475'	425'	12'	CG-7	(10)	6'	2:1	SAME AS CURB TO CURB OF APPROACHES
	45	730'	738'	400'	360'		CG-6				
	40	563'	539'	325'	305'	(1)(2) 11'					
	30	300'	249'	200'	200'						
	DESIGN SPEED (MPH)	MINIMUM RADIUS U	MINIMUM RADIUS ULS	STOPPING SIGHT DISTANCE DES.	STOPPING SIGHT DISTANCE MIN.	(1)(2) MIN. WIDTH OF LANE	(7) MINIMUM WIDTH GRADED SHOULDERS FILL W/GR.	(7) MINIMUM WIDTH GRADED SHOULDERS CUT & FILL	(10) WIDTH OF DITCH (FRONT) SLOPE	(5) SLOPE	(8)(9) NEW AND RECONSTRUCTED MINIMUM BRIDGE WIDTHS AND VERTICAL CLEARANCES
STREETS WITH SHOULDER DESIGN	50	929'	-	475'	425'	12'	11'	8'	6'	2:1	8' + PAVEMENT WIDTH + 8'
	40	563'	539'	325'	305'	(1)(2) 11'					
	30	300'	249'	200'	200'		7'	4'	4'		4' + PAVEMENT WIDTH + 4

FIGURE 2
Alternative A
http://www.hillsdaledrive.org/docs/alta.pdf

FIGURE 3
Alternative B
http://www.hillsdaledrive.org/docs/altb.pdf

FIGURE 4
Alternative C
http://www.hillsdaledrive.org/docs/altc.pdf

FIGURE 5
Alternative D
http://www.hillsdaledrive.org/docs/altd.pdf

5.1.2 Land Use

Land use impacts vary with each Alternative. The retail community may be most noticeably impacted by the project. The project, however, is being designed, in part, to revitalize the commercial areas and to provide more user-friendly access to the retail locations. While some commercial relocation may occur, Charlottesville is a thriving community and finding alternate locations for the businesses involved is not expected to be a problem.

Any impacts to residential areas are expected to be due to noise or a change in view shed due to the presence of the road and the possible removal of trees. No relocation of homes is expected.

The Virginia Outdoors Foundation reported that no Open Space Easements exist on or around the study window.

5.1.3 Typical Sections

The typical section for the Build Alternatives is based on the roadway's classification as an Urban Collector Street as the existing Hillsdale Drive is presently classified. It features two twelve (12) foot lanes with shared bicycle lanes, separated by a dual-turn lane, along with sidewalks on both sides. This defines the footprint used to measure the potential impacts of each Alternative. Variations of this typical section will be considered where necessary to allow for intersections, turn lanes and other features that may be necessary as the road design evolves. However, for consistency in our comparisons, this typical section was used for the study and is illustrated in Figure 6.

5.2 Traffic

5.2.1 Traffic Demand Forecast

5.2.1.1 Model Validation

Travel demand forecasts were developed for the project study area and were based on the Charlottesville/Albemarle Metropolitan Planning Organizations (MPO) MinUTP model for the year 2025. The first step in the modeling process was to perform a base year (1998) model run and validate the model by comparing it to existing traffic count data. Adjustments were made to the base year model to better match the base year count data.

5.2.1.2 Build Alternatives

Four Build Alternatives were developed for the extension of Hillsdale Drive. The alignment for Alternatives A and B are located to the east of the Seminole Square Shopping Center. The differences between A and B are the location of the tie-in at Hydraulic Road and the alignment of the roadway near Meadow Creek. Alternative A ties in along Michie Drive and is located to the east of Meadow Creek. Alternative B ties into Hydraulic Road between Michie Drive and the K-Mart entrance. The alignment for Alternative B is to the west of Meadow Creek directly behind the Pepsi Plant and the Seminole Square Shopping Center. Alternatives C and D both realign the existing Hillsdale Drive/Greenbrier Drive intersection to the east opposite Pepsi Place. Both Alternatives use a portion of the existing roadway system through the Seminole Square Shopping Center (such as Zan Road and Line Drive) as part of the extension of Hillsdale Drive. The Alternative C alignment is to the west of the

FIGURE 6
Typical Section
http://www.hillsdaledrive.org/docs/23.pdf

Pepsi Plant. The difference with Alternative D is that it is located to the east of the Pepsi Plant and then follows Seminole Court to Zan Road.

Alternative A

Travel demand forecasts for Alternative A were based on adding the Hillsdale Drive extension to the roadway network in the Charlottesville-Albemarle MPO model. Model runs were performed and refinements were made to the model runs to produce year 2025 average daily traffic and PM peak hour volumes. These volumes are shown in Appendix A-4.

The proposed extension of Hillsdale Drive would carry between 10,500 and just over 12,000 vehicles per day in the year 2025. The vehicular volumes are expected to be reduced along Hydraulic Road (west of the Hillsdale Drive Extension tie-in), Route 29, and Greenbrier Drive. The volumes would range from approximately 2,000 vehicles per day along Greenbrier Drive to over 9,000 vehicles per day along Route 29. PM peak hour volumes along Route 29 would decrease by approximately 400 vehicles per hour in each direction.

Alternative B

The travel demand forecasts for Alternative B show a fairly similar pattern to Alternative A. Volumes along the proposed Hillsdale Drive Extension are slightly lower for Alternative B than Alternative A and the projected 2025 traffic volumes along Route 29, Greenbrier Drive, and Hydraulic Road are similar to Alternative A. Therefore, the reductions in volume versus the No-Build are comparable to what was deduced for Alternative A. The 2025 projected average daily traffic and PM peak hour volumes are shown in Appendix A-5.

Alternative C

The extension of Hillsdale Drive through the Seminole Square Shopping Center will modify the characteristics of the roadway. The use of Line Drive and Zan Road will mean that local volumes along the extension of Hillsdale Drive will increase. Conversely, the number of through trips between Hydraulic Road and Greenbrier Drive will decrease. Overall, the traffic volumes along the proposed extension of Hillsdale Drive will range from approximately 10,000 to 12,500 vehicles per day with the higher volume sections running through the Seminole Square Shopping Center. The 2025 PM peak hour volumes and the average daily traffic are shown in Appendix A-6.

The reduction in traffic volumes along Route 29 and Hydraulic Road are not as great for Alternative C as compared to Alternatives A and B. There is still an approximate 6,000 vehicle per day reduction along Route 29 with Alternative C versus the No-Build Alternative. During the PM peak hour, approximately 200-400 fewer vehicles will use Route 29 during both the peak and off-peak hours under Alternative C. Hydraulic Road will also see a reduction in vehicular volume in the 2025 design year. This Alternative will increase traffic along the internal Seminole Square Shopping Center roadways resulting in fewer gaps for motorists to enter into and exit from the designated parking areas.

Alternative D

A similar relationship from a traffic forecasting standpoint that occurs between Alternatives A and B occurs between Alternatives C and D. The reduction in traffic volumes along Route

29 and Hydraulic Road are comparable between Alternatives C and D. The volume along the extension of Hillsdale Drive will range from just over 10,000 vehicles per day to just over 13,000 vehicles per day, with the highest volumes occurring along the existing section of Seminole Court. The 2025 average daily traffic and PM peak hour volumes are shown in Appendix A-7.

5.2.1.3 No-Build Alternative

The No-Build Alternative consists of all improvements in the Charlottesville/Albemarle MPOs' forecasting model with the exception of the extension of Hillsdale Drive from Greenbrier Drive to Hydraulic Road. The 2025 model was run to produce average daily traffic throughout the study area. Refinements were made to the model output to produce the refined ADTs. The PM peak hour volumes were developed based on refinements to the average daily traffic. The average daily traffic and PM peak hour volumes are shown in Appendix A-3.

The travel demand forecasts show that volumes along Route 29 are anticipated to increase to between 78,000 and 86,000 vehicles per day with over 3,500 vehicles in both directions during the PM peak hour. By the year 2025, traffic volumes on Hydraulic Road are expected to increase between 28,000 and 39,000 vehicles per day. Future traffic volumes on Greenbrier Drive will range from 9,000 to 15,000 vehicles per day while Hillside Drive north of its intersection with Greenbrier Drive will increase to 8,700 vehicles per day.

5.2.2 Roadway LOS and Capacity – 2025 Analysis

Traffic analysis was performed for year 2025 volumes using the procedures outlined in the 2000 Highway Capacity Manual. The analysis was conducted for the No-Build Alternative plus the four Build Alternatives.

The analysis assumed that improvements along Route 29 associated with the Albemarle Place Town Center were completed as proposed. The lane configurations associated with each Alternative are shown in Appendix A-15 through A-19. It was assumed that for Alternatives C and D, a four-way stop would occur at the proposed intersection of Hillsdale Drive Extended and Seminole Court. It was assumed that a signal would be placed at the Greenbrier/Hillsdale and Hydraulic/Hillsdale intersections. A signal warrant study needs to be performed at both locations to confirm this assumption. The results of the analysis are shown in Appendix A-9 through A-13. Table 4 shows the results for the signalized intersection analysis.

Table 4 - 2025 PM Peak Hour Signalized Intersection Level of Service Analysis (Delay (seconds))

Intersection	No-Build	Alt. A	Alt. B	Alt. C	Alt. D
US 29 @ Greenbrier Drive	E	D	D	D	D
US 29 @ Post Office/Albemarle Place Town Center	E	C	C	D	D
US 29 @ Seminole Court	D	B	B	C	C
US 29 @ Hydraulic Road	F (113)	F (93)	F (93)	F (106)	F (106)
Hydraulic Road @ K-Mart/Kroger	E	B	B	B	B
Hillsdale Drive @ Greenbrier Drive	N/A	B	B	B	B
Hillsdale Drive @ Hydraulic Road	N/A	C	D	C	C

The results show that the construction of Hillsdale Drive Extended will improve the LOS along Route 29 and Hydraulic Road between the Hillsdale Drive Extension and Route 29. The following intersections would operate at an improved LOS:

- Route 29/Greenbrier Drive
- Route 29/Post Office/Albemarle Place Town Center (north)
- Route 29/Seminole Court
- Route 29/Hydraulic Road (reduction in delay)
- Hydraulic Road/K-Mart/Kroger Access

Alternatives A and B would divert more traffic from Route 29 than does Alternatives C and D. The result is improved LOS at the intersection, as noted above which will allow traffic on Route 29 to move through the area more efficiently with less delay.

5.3 Environmental Impacts

5.3.1 Recreational Facilities

The Rivanna Trail System features a walking trail within the floodplain of Meadow Creek as part of its overall network. This trail is located on private property owned by many different

entities as it traverses the stream valley corridor. Various arrangements have been made between the Rivanna Trail Foundation (RTF) and property owners to allow the placement of the trail on their properties.

Two of the four Build Alternatives will have some degree of impact to the trail. Both Alternative A and B will have some impact to the trail's spur that leads to the Rivanna Trail east of the Senior Center. It is anticipated that the spur would connect to the sidewalk of the new roadway. The spur would be shorter, but there would be no direct impact on the Rivanna Trail System.

Alternative A would also cross the Rivanna Trail at two locations. The first crossing is at the northern end at approximate station 24+00 and the second crossing is at the southern end at approximate station 44+00. At both of these locations, the trail would go underneath the bridges which would cross Meadow Creek. It is anticipated that impact to the trail will be minimal and can be mitigated with minor realignments as required to accommodate the bridges design. The foot bridge will not be impacted by this or any other Alternative. Care should be taken during the design to ensure adequate clearance under the structures for pedestrian traffic.

Alternatives C and D will not impact any portion of the Rivanna Trail System.

This project does not appear to require the acquisition of Title 49 U.S.C., Section 303(c) lands. It does not appear that the land on which the Trail is located is owned by any governmental entity (i.e., the City, County, Department of Conservation, etc.) and is, therefore, not regulated under Section 4(f). With the information available, VDOT and FHWA agree that Section 4(f) does not apply to the Rivanna Trail System located in the study area. Should the alignment chosen impact the Trail System (Alignment A) or the spur to the Trail System (Alignment A or B), the ownership of each property will be verified to insure that no publicly owned land is impacted without adequate investigation.

The Department of Conservation and Recreation (DCR) reported that no state recreational or natural area preserves under their jurisdiction would be impacted by the project.

5.3.2 Farmland

There are no impacts to prime and unique farmlands associated with this project. No farmland exists within the project window and no agricultural districts are present.

5.3.3 Social Activities

The project area includes several neighborhoods within existing subdivisions along with heavily used retail areas. Several neighborhoods are retirement communities and therefore have an older population. There is a great deal of concern in these neighborhoods over quality of life issues and the ability to access the services and businesses and participate in functions at The Senior Center if an extension of Hillsdale Drive is constructed. The Senior Center, Inc., is a 501(c)(3) non-profit community business.

None of the Alternatives will cause the relocation of any community services or agencies. However, they will have an impact on the Senior Center. Alternatives A and B will take a row of parking on the east side of the property along with the parking to the east side of the building. The impact will be the loss of approximately 34 of the Senior Center's approximate 104 spaces.

Alternatives C and D shift Pepsi Place approximately 15 feet closer to the Senior Center's building, but no parking spaces will be impacted within the Senior Center's parking lot. Some unofficial street parking that is currently used as overflow parking will be eliminated with these two Alternatives. The approximate 15 foot shift in Pepsi Place may provide an opportunity to recover some of the on-street parking. However, the location near the intersection with Greenbrier may not make this either feasible or desirable from a safety and operations standpoint, but the possibility of reclaiming parking should be investigated during the design process.

There is additional discussion about the impacts on parking in Section 6 for all Alternatives.

5.3.4 Relocation – Business and Residential

A Stage 1 relocation report was prepared for the study by VDOT. This report estimates the numbers of families, persons, businesses, farms and non-profit organizations that will be displaced by each of the Build Alternatives under consideration together with an estimate of available decent, safe and sanitary replacement facilities. This report was compiled without the benefit of individual contacts with the affected property owners.

Relocation impacts vary according to the alignment selected. No residential relocations will occur on any Alternative. Likewise, there is no relocation of farms or non-profit organizations. Commercial relocations range from one relocation on Alternative A to a minimum of four to a maximum of fifteen on Alternative C.

Alternative A

Alternative A would relocate the University Tire and Auto Center.

Alternative B

Alternative B would relocate the Detail Express Car Wash and the vacant Terrace Theatre.

Alternative C

Alternative C is located within the Seminole Square Shopping Center area and has the potential to impact a maximum of 15 businesses in the worst-case scenario if the whole of the North Wing is taken. Through careful placement of the road and using the present modular design of the building and with the agreement of the property owner, it is possible that only four businesses would be relocated. The businesses that may be impacted in the worst-case scenario are the Great Wall Restaurant, A & N Store, MacGregor Antiques, Enterprise Rent-a-Car, Ebony Images; Nowhere Seafood Buffet; Race Jewelers; Davidson Beauty Supplies; Nail Expo, Pet Forum, Image Reflections, New Fitness, Sprint Store, Randstad, and Detail Express Car Wash. The vacant Terrace Theatre would also be impacted.

The owners of the Seminole Square Shopping Center have indicated a willingness to work with the City to decrease the right-of-way cost shown in Table 5 for Alternative C, if Alternative C is the selected Alternative. Since most of the right-of-way cost for Alternative C is the result of the large number of businesses being taken, a reduction in the number of businesses impacted will also significantly reduce the right-of-way cost. Approximately 30% of the Alternate C alignment passes through the Seminole Square Shopping Center.

Alternative D

Alternative D would displace the University Tire and Auto Center and the Detail Express Car Wash, along with the vacant Terrace Theatre.

Table 5 – Summary of Right of Way Impacts and Cost

	Residential Relocations	Commercial Relocations	Farms	Non-Profit Organizations	Right of Way Cost
Alternative A	0	1	0	0	$13,214,300
Alternative B	0	1 (plus 1 vacant building)	0	0	$11,446,850
Alternative C	0	15 (plus 1 vacant building)	0	0	$15,243,500
Alternative D	0	2 (plus 1 vacant building)	0	0	$10,410,400

Commercial relocations are not anticipated to be a problem in this area. Charlottesville and Albemarle County are thriving communities with opportunities for businesses. It is anticipated that the relocation process can be resolved satisfactorily in a reasonable amount of time and damages for loss of parking is included in right-of-way cost. Because the project is located approximately 45 miles from the VDOT district office, it would not be necessary to establish a field office in the area. Personal contacts will be made throughout the relocation process to assist the owner and tenants with their moves. VDOT is not aware of any Federal, State or local community programs that would impact the availability of replacement facilities at this time.

5.3.5 Environmental Justice

Executive Order 12898: Environmental Justice, issued on February 11, 1994, requires federal agencies to accomplish environmental justice as part of their overall mission by identifying and addressing, as appropriate, disproportionately high adverse human health or environmental effects of their activities on minority or low income populations, to the greatest extent practicable. Each Alternative was evaluated to determine if minority or low income populations within the study area would be disproportionately affected by a particular Alternative.

Since there are no residential relocations on any Alternative, there will be no relocation impacts on any minority or lower income residents.

Noise impacts occur on Alternative A for the apartments on Michie Drive that are considered lower income housing. These impacts, and mitigation, are being considered and are fully discussed in the noise section, Section 5.3.7, of this document.

5.3.6 Air Quality

According to the Virginia Ambient Air Monitoring 2002 Data Report (DEQ, 2002), the Charlottesville/Albemarle area is located in an attainment area for the National Ambient Air Quality Standards (NAAQS), which includes carbon monoxide, sulfur dioxide, nitrogen dioxide, ozone, lead, and particulate matter. The EPA is currently revising the nonattainment areas in Virginia due to adoption of revised standards for ozone and particulate matter. Although the revisions may add some localities to the list of nonattainment areas, the Charlottesville/Albemarle area is not included in the proposed nonattainment designations. The only NAAQS constituent that is regularly monitored by the DEQ in the Charlottesville/Albemarle area is particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}). Currently, the Charlottesville/Albemarle area is meeting the PM_{10} NAAQS according to the Virginia Ambient Air Monitoring 2002 Data Report.

The proposed Hillsdale Drive Extension is not expected to cause a significant impact to the local or regional air quality. Based on guidance from VDOT, air modeling analysis is not necessary to characterize the air quality impact of this project because the projected design year traffic volumes are less than 30,000 vehicles per day. The project is consistent with the Charlottesville/Albemarle Metropolitan Planning Organization CHART 2025 Long-Range Transportation Plan and the 2002-2006 Transportation Improvement Plan (TIP). The proposed project is consistent with Charlottesville's/Albemarle's land use plans and the regional transportation plans. Therefore, the project can be considered to be in conformance with the State Implementation Plan (SIP) and is not expected to interfere with attainment or maintenance of the NAAQS.

The temporary air quality impacts from the proposed construction are not expected to be significant. Construction activities would be performed in accordance with VDOT's "Road and Bridge Specifications." The Specifications are approved as conforming to the SIP and require compliance with all applicable local, state and federal regulations.

5.3.7 Noise

Potential traffic noise impact associated with the Hillsdale Drive Extension was assessed in accordance with procedures and criteria approved by the Federal Highway Administration (FHWA) and the Virginia Department of Transportation (VDOT). The complete noise analysis is in a separate report titled "Noise Analysis Technical Report – Hillsdale Drive Extension Location Study".

The project corridor includes a number of residential areas containing noise-sensitive properties in close proximity to the proposed Alternatives. The corridor also includes retail and commercial areas, which are not considered noise-sensitive. The following paragraphs contain summaries of the noise levels.

Residential properties are concentrated at the north and south ends of the project. There are also residential properties located east of all four of the Alternatives, along Brandywine Drive.

Existing (computed) noise levels along the project corridor range from 48 to 64 dBA, while 2025 No-Build levels are predicted to range from 50 to 65 dBA. Design year 2025 Build levels are predicted to range from 52 to 68 dBA for Alternative A, 51 to 64 dBA for Alternative B, 50 to 65 dBA for Alternative C, and 50 to 65 dBA for Alternative D.

Meaningful comparisons of Build noise levels between No-Build and existing levels to future noise levels require that the study area be divided into 6 sections for each of the Build Alternatives – Branchlands Community, Senior Citizen Facilities, Brookmill Community, Brandywine Drive, Hearthwood Apartment Homes, and Michie Drive Apartments.

At the Branchlands Community located off Hillsdale Drive, existing levels range from 55 to 61 dBA and No-Build levels will be slightly higher ranging from 56 to 63 dBA. Noise levels with Alternatives A or B will range from 57 to 63 dBA, an increase of 1 to 3 dBA and 1 to 2 dBA higher respectively than existing levels, and will be no more than 1 dBA higher than No-Build levels. Alternatives C and D will both pull away from Hillsdale Drive and the Branchlands Community near the existing intersection with Greenbrier Drive, resulting in noise levels lower than Alternatives A and B and the No-Build condition. Build levels will range from only 55 to 57 dBA and will be no more than 1 dBA higher than existing levels at any Branchland residence. At residences closest to the existing Hillsdale Drive/Greenbrier Drive intersection, noise levels will be as much as 5 dBA less than existing levels and 7 dBA less than No-Build levels.

At the Senior Center, Rosewood Village and the Laurels, a skilled Nursing and Rehabilitation Center, existing noise levels range from 56 to 64 dBA and will increase to only 57 to 65 dBA under the 2025 No-Build condition. With either Alternative A or B, 2025 levels will range from 59 to 64 dBA, representing an increase over existing levels of no more than 3 dBA and a 1 to 2 dBA increase over 2025 No-Build levels. Alternatives C and D will both be closer to the three facilities than Alternatives A or B, resulting in noise levels ranging from 61 to 65 dBA and increases of 1 to 5 dBA over existing levels and 1 to 4 dBA over 2025 No-Build levels.

Noise levels in the Brookmill Community, located southeast of the existing Hillsdale Drive intersection with Greenbrier Drive, will be more affected by Alternative A than by any of the other three Build Alternatives. Existing levels range from 48 to 54 dBA, and 2025 No-Build levels, ranging from 50 to 55 dBA, represent only a slight increase. Alternative A levels, ranging from 52 to 59 dBA, represent an increase of 4 to 8 dBA over existing levels, and will be 2 to 6 dBA higher than No-Build levels. Alternative B levels, ranging from 51 to 58 dBA, will be slightly less than those of Alternative A. Alternative B levels represent an increase of 1 to 5 dBA over existing levels and will be up to 4 dBA higher than 2025 No-Build levels. Noise levels with Alternatives C or D will range from 50 to 54 dBA, representing increases over existing levels of no more than 2 dBA (Alternative C) and 3 dBA (Alternative D). The Build levels with either Alternative C or D will be virtually the same as No-Build levels.

Brandywine Drive, located approximately parallel to Alternative A through much of the project area, is comprised of a single-family residential community that will be affected in some areas by noise levels from all of the Alternatives, particularly Alternative A. Existing levels at the properties along the west side of Brandywine Drive range from 51 to 56 dBA and will increase only slightly to 52 to 57 dBA by 2025 under the No-Build condition. Alternative A levels will range from 54 to 64 dBA and represent as much as a 10 dBA increase over existing levels and a 9 dBA increase over No-Build levels at one residence. Alternative B levels, ranging from 54 to 58 dBA, will be no more than 4 dBA and 3 dBA higher than existing and No-Build levels respectively. Noise levels with Alternative C or D will range from 53 to 57 dBA and will be no more than 2 dBA (Alternative C) and 3 dBA (Alternative D) higher than existing levels and no more than 1 to 2 dBA higher than No-Build levels.

Noise levels at the Hearthwood Apartment Homes, located at the north end of Michie Drive, are predicted to range from 52 to 58 dBA and 54 to 59 dBA for existing and 2025 No-Build conditions respectively. These levels will increase by up to 11 dBA (existing) and 9 dBA (No-Build) with Alternative A, which will have levels ranging from 56 to 68 dBA. Alternatives B, C, or D with levels ranging from 54 to 63 dBA, 53 to 63 dBA, and 53 to 62 dBA respectively will increase existing levels by up to 5 to 6 dBA and No-Build levels by up to 4 to 5 dBA.

The apartments, located on Michie Drive near the intersection with Hydraulic Road, are predicted to receive existing and No-Build levels ranging from 58 to 60 dBA and 59 to 61 dBA respectively. Alternative A, with levels ranging from 62 to 66 dBA, will increase existing levels by 3 to 8 dBA and will be up to 6 dBA higher than 2025 No-Build levels. Each of the other three Build Alternatives will have levels ranging from 60 to 62 dBA, representing only a 1 to 2 dBA increase over existing levels and no more than a 1 dBA increase over existing levels.

Design year 2025 noise impact was identified at ten (10) residential properties along the Alternative A corridor. Five (5) residences will be impacted as a result of the occurrence of both (1) traffic-noise levels approaching or exceeding the FHWA Noise Abatement Criteria (NAC) for Activity Category B and (2) a substantial increase between existing noise levels and 2025 Build noise levels. Four (4) residences will be impacted only by levels equaling or exceeding 66 dBA, and one (1) residence will be impacted only as a result of a substantial increase in noise levels. Noise impact of either type is not expected to occur with Build Alternatives B, C or D.

Noise abatement was considered for the impacts expected with Alternative A. Constructing a noise barrier to protect nine (9) of the impacted residential properties appears feasible. For the tenth impacted property, construction of a barrier or a berm is considered feasible.

Table 6 – Noise Barrier Locations

Barrier Location	Location	Height (ft)	Length (ft)	Surface Area (sq ft)	Protected (Benefited) Properties
Brandywine Drive	Alternative A NB 43+50 – 40+00	10	384	3,837	1
Michie Dr/ Hearthwood Apartment Homes	Alternative A SB 48+50 – 53+85, 54+15 – 56+25	10	729	7,292	9 (2)

Construction activity may cause intermittent fluctuations in noise levels. During the construction phase of the project, all reasonable measures will be taken to minimize its noise impact.

5.3.8 Water Quality

The primary water resource in the project window is Meadow Creek, a perennial stream located between the commercial development along Route 29 and Brandywine Drive on the southeastern portion of the study window. The drainage area of Meadow Creek is less than five square miles as it flows through the project.

Impacts to the stream vary depending upon the proposed alignment.

Alternative A

Alternative A crosses Meadow Creek twice, at the northern end of the project and again at the southern end near the Hearthwood Apartment Homes. Both crossings are anticipated to be bridges that completely span the stream and floodplain. Alternative A impacts a small channel near the intersection of Greenbrier Drive and Hillsdale Drive (90 LF, 0.02 acre).

Alternative B

Alternative B requires approximately 116 linear feet of channel relocation of Meadow Creek. An ox-bow in the stream will be eliminated and replaced with a straighter channel to allow the new road to encroach into the floodplain. In addition, a small portion (90 LF, 0.02 acre) of a channel near the intersection of Greenbrier Drive and Hillsdale Drive will be impacted, along with a small side channel (61 LF) near Seminole Court. The total stream impacts for Alignment B are 267 LF (0.07 acre).

Alternatives C and D

Alternatives C and D do not cross Meadow Creek.

A small tributary to Meadow Creek, which has been heavily impacted by the commercial development, briefly appears along the southern end of the Pepsi Plant parking lot before it is again piped beneath the road and development. It reappears in the floodplain near its confluence with Meadow Creek. Alignment C impacts this tributary for approximately 161 LF (0.01 acre).

De-icing and abrasive compounds may be used on major roads to maintain roadway utilization during inclement weather. Sodium chloride, calcium chloride, sand and mixed

abrasives may be used for snow and ice control. De-icing compounds are only used during emergency conditions when conventional snow removal techniques cannot be used.

Special care will be used when applying herbicides and pesticides during and after construction. Application rates will be strictly controlled to the minimum effective levels to reduce the potential for runoff of excess materials.

Additionally, substances from automobile tires, brake linings, motor oil, and gasoline may be contained in roadway runoff. Heavy metals are generally associated with particulate matter, with dissolved fractions remaining below detection limits. These impacts, while long-term, are not expected to be significant.

Short-term impacts from the construction activities will be mitigated by the proper use of erosion and sediment controls. A temporary reduction in benthic invertebrates may be anticipated, but is not expected to contribute to long-term decline in higher-level organisms.

5.3.9 Wetlands

Waters of the U.S. included wetlands within the project limits that were delineated by Williamsburg Environmental Group, Inc. in February, 2004 and submitted to the Corps of Engineers for confirmation in April, 2004. There are approximately 3.099 acres of wetlands within the study window as shown in Figures 2 through 5. Impacts to the wetlands vary depending upon alignment.

Alternative A

Alignment A will impact 0.43 acre of wetlands with the construction of the segment connecting Seminole Court with Hillsdale Drive. It will also impact approximately 90 LF (0.02 acre) of stream channel near Greenbrier Drive.

Alternative B

Alternative B will impact 0.44 acre of wetlands, in the same general location as Alternative A. As mention earlier, this alignment also creates impacts to 267 LF (0.07 acre) of stream channel.

Alternative C

Alternative C will impact a small amount (0.26 acre) of wetlands surrounding the stormwater management (SWM) pond at the corner of Greenbrier Drive and Hillsdale Drive and temporarily impact 0.53 acres of open water within the same SWM pond. The pond will be removed and rebuilt along the side of the new roadway. No net loss of open water is expected. This Alternative also impacts approximately 161 LF (0.03 acre) of a fragmented stream near the Pepsi Plant and 0.33 acre of open water within the same SWM pond.

Alternative D

Alternative D impacts both the area around the SWM pond at the corner of Greenbrier Drive and Hillsdale Drive as well as the wetlands along Meadow Creek. Permanent impacts for this alignment are estimated at 0.63 acre of wetlands. Temporary impacts include 0.53 acres of open water within the same SWM pond. The pond will be removed and rebuilt along the

side of the new roadway. No net loss of open water is expected. Impacts for this alignment are estimated at 0.51 acre of wetlands and 0.33 acre of open water.

Any unavoidable permanent or temporary impacts to jurisdictional areas which result from final design of the project will be properly permitted and mitigated in accordance with appropriate local, state and federal regulations. These impacts to the wetlands are an estimate based on the preliminary engineering report. The actual acreage may vary slightly based on final design plans for the chosen Alternative. This final design acreage will be used when applying for permits and designing mitigation. The designer will continue to avoid and minimize wetland and stream impacts if the project continues through the design process.

5.3.10 Permits

All applicable permits will be acquired prior to construction of the project. Permits anticipated for the construction of this project include Section 401 Water Quality permit, a Section 404 Corps of Engineers permit and a Virginia Water Protection permit. Mitigation will be included in the permit applications as required for the chosen alignment. Prior to construction, a Virginia Pollutant Discharge Elimination System (VPDES) permit will be acquired for land disturbing activities and a Stormwater Pollution Prevention Plan (SWPPP) will be prepared.

5.3.11 Wildlife

The area in the eastern portion of the study window is largely undisturbed and provides an environment that supports wildlife. These types of areas are known to benefit small mammals and birds in urban areas when left undisturbed.

Alternative A

Alternative A has the greatest impact on the natural areas of the Meadow Creek stream valley and will therefore have the greatest impact on the wildlife.

Alternative B

Alternative B is on the western side of the Meadow Creek stream valley and follows closely behind the Pepsi Plant and the Seminole Square Shopping Center. This Alternative will still impact some natural areas and therefore some wildlife habitat, but it will do so to a much lesser extent than Alternative A.

Alternative C

Alternative C has no impact on the Meadow Creek stream valley or any natural or undisturbed areas within the project area and would impact wildlife less than the other Alternatives.

Alternative D

Alternative D passes behind the Pepsi Plant before tying into Seminole Court. The section of the proposed Hillsdale Drive Extension behind the Pepsi Plant is the only section that will impact undeveloped land. The impacts of this Alternative will be minor in comparison to Alternative A or B.

5.3.12 Floodplains

The Meadow Creek floodplain, as designated by the Federal Emergency Management Agency (FEMA), is present in the eastern portion of the project window. Impacts to the floodplain vary depending upon the alignment.

Alternative A

Alternative A crosses Meadow Creek at two locations. The impacts to the floodplain have been minimized by proposing bridges at both locations that will span the stream and the floodplain. This Alternative is benched into the existing the hillside but will still have minor impacts on the floodplain. The total acreage impacted by this Alternative is 1.81 acres.

Alternative B

Alternative B has the largest floodplain impact of all the Alternatives under consideration. The total impact area will be 3.00 acres. Because this Alternative follows behind the Pepsi Plant and the Seminole Square Shopping Center at about the same elevation of the existing ground the fill slopes that are required to construct this Alternative, will encroach into the floodplain for most of the length of this Alternative. This impact can be minimized with the construction of retaining walls along eastern side of the roadway for most of its length. This will have a significant impact on the construction cost of the project but should be evaluated during design to achieve the balance between this and other mitigation Alternatives.

Alternative C

Alternative C does not impact the Meadow Creek floodplain.

Alternative D

Alternative D will impact the Meadow Creek floodplain as it passes behind the Pepsi Plant. The total impact area is 0.92 acres. A retaining wall at this location (approximate station 29+50 to 33+00) should be evaluated during the design to determine if this is the best mitigation approach.

Regardless of the Alternative selected, a complete hydraulic study will be required to ensure that there is now increase in the 100 year flood elevation.

5.3.13 Wild and Scenic Rivers

There are no wild and scenic rivers in the project area. The project will not impact any streams on the National Park Service Nationwide Inventory or Final List of Rivers.

5.3.14Aesthetics – View Shed

Through the public involvement process it was clear that the citizens of the surrounding communities, particularly those in the Brookmill and Brandywine communities, are concerned about the impact the Build Alternatives will have on the view from their homes and neighborhood.

A review of the impacts each Build Alternative will have on the view shed of the Brookmill and Brandywine communities and the Hearthwood Apartment Homes was made both in the field and in the office utilizing existing mapping for the present conditions and the alignment and grade for each Alternative.

Alternative A
Alternative A impacts the largest area of forested land and comes closest to the Brookmill and Branchlands communities. As a result, large portions of the roadway will be visible within these communities and some homes in the Hearthwood Apartment Homes community. This Alternative does not impact the existing screening behind the Pepsi Plant or the Seminole Square Shopping Center: therefore, the view of the Shopping Center is not altered.

Alternative B
Alternative B impacts forested areas on its northern end and removes nearly all of the established screening behind the Pepsi Place and the Seminole Square Shopping Center. Although the existing forested area will be left in place for most of the length of this Alternative (because of the alignment and grade of this Alternative), the roadway will be visible to more residents than any other Alternative. In addition, the loss of the existing screening will visually expose the communities to the Pepsi Plant and the back side of the Seminole Square Shopping Center. The vegetation behind the Hearthwood Apartment Homes will be removed with this Alternative, exposing the back side of the complex to the roadway, parking areas and the Cinema 4 Theater.

Alternative C
Alternative C is located the greatest distance away from the Brookmill and Brandywine communities. The alignment does not impact forested lands or the established screening behind the Pepsi Plant or the Seminole Square Shopping Center. The vegetation behind the Hearthwood Apartment Homes will be removed with this Alternative, exposing the back side of the complex to the roadway, parking areas and the Cinema 4 Theater.

Alternative D
Alternative D has minimal impact to forested lands, but does remove the established screening behind the Pepsi Plant. This exposes the residents of Brookmill and some in Branchlands to the Pepsi Plant. The vegetation behind the Hearthwood Apartment Homes which will be removed with this Alternative, thereby exposing the back side of the complex to the roadway, parking areas and the Cinema 4 Theater.

The view shed impacts of the four Build Alternatives can be ranked as follows:

- Alternative B impact has the greatest negative view shed impact to the adjacent communities because it affects the existing screening behind the Pepsi Plant, the Seminole Square Shopping Center and forested lands. This Alternative exposes the communities to the roadway, the Pepsi Plant and the Shopping Center. It also removes the vegetation behind the Hearthwood Apartment Homes, exposing the residents to the roadway, parking lots and the Cinema 4 Theater.
- Alternative A ranks second in terms of negative impact because it affects the largest amount of forested area and visually exposes the communities to the largest sections of roadway. It does leave the existing screening in place so visual exposure to the Pepsi Plant and the Shopping Center is generally unchanged.

- Alternative D ranks third in terms of negative impacts. This Alternative has little impact on forested land but does remove a section of the existing screening at the Pepsi Plant. It also removes the vegetation behind the Hearthwood Apartment Homes, exposing the residents to the roadway, parking lots and the Cinema 4 Theater.
- Alternative C has the least amount of visual impacts. It does not take any forested land or any of the existing screening, but it does impact the Hearthwood Apartment Homes in the same way Alternative D does.

5.3.15 Threatened and Endangered Species

The Virginia Department of Conservation and Recreation's Division of Natural Heritage (DCR) searched its Biotic Data System for occurrences of natural heritage resources for the study area. These resources include habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities and significant geologic formations. While biotics were present in the general area, it was stated that the scope of the activity and the distance to the resources would not adversely impact the resources. Alignments C and D were determined to have the lowest potential to impact the Meadow Creek ecosystem. No State Natural Area Preserves under the DCR's jurisdiction are present in the study area.

Under an agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, the DCR represents the VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity has been determined to have no impact on any state-listed plants or insects.

The Virginia Department of Game and Inland Fisheries' Fish and Wildlife Information System documented the James spinymussel (*Pleurobema collina*) approximately 1.75 miles from the project. This mussel is listed as both a federal and a state endangered species. Coordination with the U.S. Fish and Wildlife Service resulted in their request for a mussel survey of the project area should Alternative A, B or D be selected.

Further coordination with these agencies will continue once an alignment has been chosen. Endangered or threatened species issues will be resolved prior to the permit application process.

5.3.16 Historic and Archaeological Preservation

The study is evaluating four separate alignments within the study window. The area in the study window was researched though the Virginia Department of Historic Resources archives and databases for known archaeological and architectural resources. No architecturally significant structures were found in the search.

This background search indicated one known site, roughly located at the "southside of Route 29 opposite the northern end of Sperry" positioned on a "ridge which slopes toward Meadow Creek". This site was recorded by a University of Virginia student and was described as a prehistoric camp containing points and quartz pieces. No determination was made as to its historic significance.

Once an Alternative is chosen, a Phase I Cultural Resources survey will be performed. Areas previously disturbed by the construction of shopping centers, road and housing are unlikely to retain any historically significant artifacts. Alternative A, which includes the largest amount of undisturbed land, is most likely to contain archaeological sites.

5.3.17 Hazardous Material

Williamsburg Environmental Group, Inc. reviewed information from the Federal Government and the Commonwealth of Virginia regarding registered hazardous waste sites regulated under the Resource Conservation and Recovery Act (RCRA) and CERCLA. The RCRA Notifiers list and CERCLIS include sites that have notified state or federal agencies, due to hazardous material/waste generating, transporting or storing activities. The sites may have also undergone inspections or site assessments because of actual or suspected spills or releases. The identification of a site does not necessarily indicate illegal activity or confirmation that an actual health or environmental threat exists. Federal information was gathered and reviewed through InfoMap Technologies, Inc.'s (InfoMap) databases included the National Priority List (NPL), CERCLIS list, the Facility Index System (FINDS), the Emergency Response Notification System (ERNS), and the RCRA information. State information gathered and reviewed through InfoMap included the State Priority List, Underground Storage Tank (UST) Registry, Spill Reports and Solid Waste Facility Information.

The regulatory records review conducted by Williamsburg Environmental Group, Inc. for the project area identified a total of 97 different sites within the general vicinity of the project area. Several of these sites are identified within the limits of the project area. The Pepsi Cola Bottling Company of Central Virginia appears to be the only site which has the possibility of being part of all four of the Alternatives. It is currently listed as having registered underground storage tanks and leaking underground storage tanks. The location of these tanks on the property is not known. One of the leaking underground storage tanks currently has a remediation status of closed and the other has a remediation status of open. Since the exact location of these tanks is not known at this time and one of the tanks is currently undergoing remediation, they could pose a potential material threat to all four of the Alternatives.

Several of the sites identified in the regulatory records review are listed as "Non-geocoded", which means that these sites do not have a specific address; therefore, they could not be mapped. These sites were identified because they are either listed as being in the Charlottesville area or the road on which they are located extends through or around the project area. These sites are identified as CERCLIS sites, RCRA generator sites, Emergency Response Notification Sites (ERNS), state hazardous waste sites, solid waste landfill sites, regulated underground storage tank or aboveground storage tank sites, and leaking underground storage tank sites. Depending on the exact location of these sites, they could pose a material threat to the project area.

A detailed Phase I Environmental Site Assessment will be performed on the selected project alignment to verify the location of any potentially hazardous material.

5.4 Cost Estimates

The cost estimates for the Build Alternatives were provided by VDOT utilizing information developed by JMT. The cost is broken down into Preliminary Engineering, Right-of-Way and Construction.

Table 7 – Estimated Project Cost

	Preliminary Engineering	Right-of-Way	Construction	Total
Alternative A	$1,992,000	$13,214,300	$12,437,000	$27,643,300
Alternative B	$1,199,000	$11,446,850	$6,666,000	$19,311,850
Alternative C	$1,035,000	$15,243,500	$5,566,000	$21,844,500
Alternative D	$1,114,000	$10,410,400	$6,090,000	$17,614,400

It should be noted that the right-of-way costs reflect the worst case scenario. This is the appropriate approach at this preliminary stage in the project, given the considerable unknowns that exist until more detailed design is done. However, if Alternative C is ultimately selected as the Build Alternative, the owners of the Seminole Square Shopping Center have indicated a willingness to work with the City to reduce the right-of-way cost of this Alternative. This effort would most likely be accomplished by working with the City and the engineers to minimize the number of businesses that will have relocated and could result in the dedication of right-of-way. The preliminary engineering and construction cost of Alternative C are the lowest of the Alternatives under consideration. If right- of-way cost can be reduced through some cooperative effort with the owners of the Seminole Square Shopping Center, Alternative C could become the most cost effective Alternative.

5.5 Comparative Summary

A comparative summary of the project's impacts discussed throughout this section is shown in Tables 8 and 9.

Table 8
Comparative Summary
http://www.hillsdaledrive.org/docs/table8.pdf

Table 9
Comparative Summary
http://www.hillsdaledrive.org/docs/table9.pdf

6.0 ADDITIONAL ISSUES AND CONCERNS

6.1 Citizen Comment Summary

The three Citizen Information Meetings (CIM) held during the study were well attended and provide the study team with a better understanding of the issues and concerns of the citizens in the immediate area of the project as well as in the surrounding communities. The majority of attendees at all of the meetings were homeowners living within or adjacent to the study area. The first CIM was held on June 4, 2003. There were 76 people in attendance according to the sign-in sheet. Thirty-eight (38) comments were received along with one petition containing fifty-seven (57) signatures. The following summarizes the comments received:

- 25 people are opposed to the project.
- 17 individuals would support the project if their concerns are addressed.
- 57 people represented on one petition are opposed to the project.
- Note: We did not ask specific questions on the comment sheet.

A second CIM was held on September 25, 2003. Fifty (50) people signed in but the attendance was estimated at between 80 and 90 people. At this meeting the preliminary concepts of the four Build Alternatives were presented. The following questions were included on the comment sheet to focus responses on one of the Alternatives presented:

1. What comments do you have concerning the alignment Alternatives that were presented? (Please specify which Alternative (i.e., A, B…etc.)
2. What safety features recommended in the "Hillsdale Safety Study" would you like to see considered for this project?
3. Please provide us with any comments or additional information that you feel would assist in the completion of the study.

Fifty-eight (58) written comments were received. The following summarizes the comments received:

- Support for Alternative A 3
- Support for Alternative B 9
- Support for Alternative C 16
- Support for Alternative D 4
- Support for Alternative E (No-Build) 13

In addition there were:

- 9 - Were in support of the Hillsdale Extension but offered no Alternative preference.
- 4 – Provided comment but had no Alternative preference.
- 2 - Offered additional Alternatives.
- 1 – Offered comments not related to the study.
- 1 – Asked a question.

The major concerns expressed by those citizens that have participated in the study process can be summarized as follows:

- Pedestrian safety on existing Hillsdale Drive and the fear the increased traffic will make the situation worse.
- Increased traffic.
- Increased noise.
- Increased crime and reduced property values.

6.2 Safety

There has been a great deal of concern expressed about safety throughout the study process by neighboring citizens and by the Steering Committee. There is concern that an already perceived dangerous situation will get worse with the construction of any of the Build Alternatives or even with the No-Build Alternative. The concern is for both pedestrian and driver safety.

The Brookmill and Branchlands Communities have expressed concern about the present Hillsdale Drive/Greenbrier Drive intersection. The intersection is not signalized and as traffic continues to increase, it is becoming more difficult to enter and exit these neighborhoods. Without the safety improvements, the situation could become increasingly more problematic with any of the Alternatives being studied, including the No-Build. All the Build Alternatives propose signalizing this intersection. If the No-Build Alternative is selected, the intersection will still need to be signalized at some point in the future.

Pedestrian safety causes the most concern. The surrounding communities, particularly Brookmill and Branchlands which are located at the north end of the project, have been the most vocal about pedestrian safety. They are retirement communities and, along with walking to near by shopping centers, many residents walk to the nearby facilities that provide services and activities that cater to the senior citizen community. The Senior Center is one such destination that provides day and night time activities and is already suffering from a lack parking during some activities.

The 29/H/250 study conducted by the Thomas Jefferson Planning District Commission (TJPDC) has recommended a number of safety improvements along the existing Hillsdale Drive north of the study area and has been successful in obtaining funding grants for the design and construction of some of their recommendations. The first priority will be some intersection improvements that will incorporate pedestrian friendly features and will also serve to help calm traffic and reduce speed. More information about this study can be found on the TJPDC web site at www.tjpdc.org . The ideas and concepts developed for existing Hillsdale Drive should be considered and, where appropriate, incorporated into the Hillsdale Drive Extension design.

6.3 Typical Section

The typical section used throughout the study is based on the existing Hillsdale Drive typical section. This was done to maintain consistency in the comparison of each Alternative; however, during the design process, the typical section could be tailored to specific situations in order to mitigate or enhance particular circumstances. The following are some observations and thoughts that were developed by the Study Team during the process. It was felt that this level of detail is beyond what is traditionally done in a location study and these ideas need to be explored in depth in the future during the design process.

Alternative A
From the connection to Seminole Court to the intersection with Hydraulic Drive, the center turn lane is not needed and could be eliminated, reducing the impact to Meadow Creek, the floodplain, bridge widths, etc., and reducing construction costs. Another option is to provide a landscaped median in the area now proposed for the third lane, creating a parkway setting with landscaping that can be developed as a traffic calming measure. This concept, however, will increase the construction and future maintenance cost.

Alternative B
There may be opportunities to eliminate the center turn lane through this Alternative but this possibility may be somewhat limited because of the two connections provided into the Seminole Square Shopping Center. Both of these locations will require the center turn lane. The distance required to transition from two lanes to two lanes with the center turn lane and back to the two lane typical section, may make the two lanes section too short to be feasible.

Alternative C
A two lane typical section will likely be required to minimize impacts for Hillsdale Drive as it threads between the Post Office and the Pepsi Plant. The two lane section should extend across the existing stormwater management pond and through the businesses on the north end of the Shopping Center. This will help 1) minimize the roadway's impacts on the Post Office parking and the truck loading access door on the west side of the Pepsi Plant, 2) it will decrease the footprint of the fill in the existing stormwater management pond, decreasing the impacts, and 3) will hopefully reduce the number of businesses that will be relocated with this Alternative.

The Study Team also believes that the possibility of a separate pedestrian and bicycle trail from Greenbrier Drive near the Brookmill and Branchlands communities should be investigated to determine the feasibility of providing such a facility as part of the construction of this project. The alignment could follow a path similar to the northern section of Alternative A or B and tie into Seminole Court near the Pepsi Plant entrance. Care must be taken to ensure ADA requirements for the grades are attainable. If this proves to be a viable and desirable feature of the project, then perhaps the reduced typical section mention above can be reduced even further.

Alternative D
There are probably fewer opportunities for a reduced typical section on this Alternative. The alignment utilizes the largest portion of existing streets than any other Alternative under consideration, thereby reducing the opportunities and benefits of a reduced typical section.

All Alternatives may require additional left and/or right turn lanes if traffic and operation requirements so dictate.

6.4 Parking
Adequate parking has been an ongoing concern and a topic of discussion at nearly all of the Steering Committee meetings. There are no direct impacts to any of the residential areas; however, businesses, and the Senior Center, a non-profit organization, are affected to some degree with all of the Alternatives. The on street parking on Pepsi Place has become an important resource to handle overflow parking for the Senior Center, the Jordan Building and for

the Laurels, which recently opened. The Steering Committee feels strongly that this parking must be preserved or replaced with an equal number of convenient parking spaces with any Alternative selected, including the No-Build.

The approximate impacts are shown in Figure 7. This information was collected from aerial photos and should be used for comparative purposes only.

Alternative A
Alternative A takes the fewest parking spaces, impacting areas east of the Senior Center and the Jordan Building. There will also be some impact to the parking at the University Tire and Auto Center.

Alternative B
Alternative B also impacts the Senior Center and the Jordan Building in the same manner as Alternative A. The new connection from Hillsdale Drive to Line Drive will also impact the Cinema 4 Theater. This Alternative will have less impact on the theater than do Alternatives C and D, but the impact will still be significant. There will also be some impact to eastern end of K-Mart Plaza in the area of the Terrace Theater (closed) and the Express Car Wash.

Alternative C
Alternative C impacts the largest number of parking spaces. The on-street parking along Pepsi Place would be eliminated and, as the alignment passes through the Seminole Square Shopping Center, the major impact will be on those parking spaces adjacent to the new roadway. These parking spaces are generally the most distant from the businesses they serve and many have minimum impact except when the parking lots are operating at near capacity. The exception to this is the Cinema 4 Theater. This Alternative will split the parking lot, resulting in a significant loss of parking. Like Alternative B, Alternative C will have the same impact to the eastern end of the K-Mart Plaza.

Alternative D
Alternative D will also eliminate the on-street parking along Pepsi Place and will have significant impact to the employee parking lot at the Pepsi Plant. As this Alternative passes through the Seminole Square Shopping Center, it primarily impacts the outlying parking areas in the same manner as Alternative C. The impacts to the Cinema 4 Theater and K-Mart Plaza are the same as Alternative C.

The Senior Center has expressed a great deal of concern about what import the loss of parking will have on the Center's operations and its ability to serve the community. The following are some facts about the Center and the services they provide:

- Established in 1960 as the second senior center in Virginia
- First nationally accredited Senior Center in Virginia;
- 2,100 members, age 50 or older;
- 80+ regular programs in fitness, lifelong learning, arts, recreation and volunteer service;
- 50+ special programs annually;

- An average of 75 other local organizations (non-profit, government and corporate) use the facility annually;
- An average of 12 programs daily;
- An average of 1,000 participants use the facility each week, or about 200 per weekday;
- Open Monday-Friday from 8:30 a.m. to 4:30 p.m.;
- Offer special programs in the evening and weekends;
- Plan to expand hours for evenings and weekends regularly as early as April, 2005.

As the Senior Center continues to grow, parking will continue to be an issue. Alternatives A and B have the most significant impact, but the Center will continue to have parking issues regardless of the Alternative ultimately selected, including the No-Build. The solution to this parking problem will not be resolved with this study; however, if a Build Alternative is selected and if the design includes features that encourage and enhance unofficial pedestrian traffic in the area and promote safety and traffic calming measures, the demand for additional parking at the Center may not grow as rapidly as the Center itself. Increased access to public transportation may also provide some additional relief to the Center's parking issue.

FIGURE 7
Parking Spaces Impacts
http://www.hillsdaledrive.org/docs/48.pdf

6.5 Roundabouts

Roundabouts are proposed at various locations throughout the area in the TJPDC 29/H/250 study. The focus of this study is to select an Alternative for a Hillsdale Drive Extension and it did not evaluate specific design features. The Steering Committee looked at a preliminary layout of a roundabout at the Hillsdale Drive/Greenbrier Drive intersection and concluded that a roundabout might be possible at this location. It will take additional property from the Senior Center and Rosewood Village and will impact the parking at Rosewood Village, but neither building would be taken. The cursory review done as part of this study indicated that roundabouts at the locations proposed in the 29/H/250 study (Hillsdale Drive/Greenbrier Drive, Seminole Court/Zan Road and Hillsdale Drive Extended/Hydraulic Road) are physically possible without significant increases in land acquisition and will likely function at an acceptable level of service. The concepts should be explored further during the design phase of this project.