

# 2003 Street Improvement Master Plan Update



## Town of Kill Devil Hills

**Revised March 2004**

Prepared For:  
Town of Kill Devil Hills  
PO Box 1719  
Kill Devil Hills, NC 27948

Prepared By:  
Albemarle Engineering, Inc.  
PO Box 3989  
Kill Devil Hills, NC 27948  
File: 6046C

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# 2003 Street Improvement Master Plan Update

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## Introduction

In July of 1994, the Kill Devil Hills Board of Commissioners initiated an inventory of the existing Town right-of-ways to determine the overall condition of the Town's roadways and those measures required to improve these right of ways to conform with the current Town standards. The purpose of this was to provide the following information:

- ◆ Produce a Town thoroughfare plan;
- ◆ Create an inventory of the existing roadway and drainage conditions;
- ◆ Provide a proposed numerical order for improvement;
- ◆ Determine present value and cost of the proposed improvements;
- ◆ Provide a roadway reconstruction plan in the event of a catastrophic loss of roadway infrastructure; and
- ◆ Create a tool for planning roadway improvements.

In January 1999, Town Street conditions were reevaluated and the street improvement master plan was updated. Elements of this update included:

- ◆ Provide an updated inventory of the existing roadway and drainage conditions of Town streets;
- ◆ Revised mission statement for prioritizing street improvements;
- ◆ Recommendations for funding alternatives and financing; and
- ◆ Analysis of plan implementation since 1995.

To accomplish these objectives, a number of tasks were initiated. A visual inspection of every roadway in Town was performed to determine the existing condition of the roadway surfaces, the roadside drainage patterns, the existence of utilities and other right-of-way uses. As street conditions were investigated, the right-of-way widths and lengths were inventoried using recorded subdivision plats. Improved roadway lengths were inventoried using the official Powell Bill Map, orthographic photographs, and field measurements. Summary information on each street was developed which included the street's subdivision, the existing length and width, the current pavement type, the presence of existing drainage, and roadway conditions. Upon completion of the physical evaluation of each street, a projected cost for improvement was developed. These costs were based upon improving the streets to current Town standards.

A number of meetings were held with the Street Improvement / Special Projects Subcommittee (including Planning Board members, citizens, the Town engineering consultants and staff) to ascertain the present and future needs of the Town regarding roadways, thoroughfare planning, and local access. In these meetings various issues were discussed and draft policies were developed. This report provides a summary of the existing and proposed municipal roadway and

street improvements. It does not include those rights-of-way east of NC 12 except for Windsong Court. The use and development of these street right-of-ways are intended for ocean access and is discussed in the Town's 1998 Shoreline Access Plan Update. Roadways maintained by NC DOT including NC 12, US 158, and SR 1217 are also not included.

This plan represents the culmination of many years of work by the Street Improvement / Special Projects Subcommittee, the Planning Board, Town Staff, and the Board of Commissioners.

In conformance with the plan set forth in 1999 by the Board of Commissioners, a re-evaluation of Town streets was conducted in 2003. Using this additional data, recommendations were made for the Master Plan update. This update includes:

- ◆ Re-evaluation of Town streets
- ◆ Standardization of evaluation methodology
- ◆ Analysis of streets improved since 1994
- ◆ Plan implementation objectives
- ◆ Guide for development of unimproved right-of-way

## **Thoroughfare Plan**

The development of a comprehensive plan for the Town accomplishes a number of important objectives pertaining to the safe and efficient movement of vehicular, bicycle, and pedestrian traffic. A thoroughfare plan includes many beneficial objectives, such as:

- 1) improved public safety and health; through reliable roads
- 2) improved personal mobility; through development of roads, bicycle and pedestrian ways
- 3) conservation of resources, time and energy; by providing efficient routes and corridors
- 4) enhancement of the environment and community quality; through stormwater management
- 5) improvement of economic factors; by enhancing neighborhood sense of worth

The primary objective of this thoroughfare plan is to provide a transportation system that promotes safe travel. Due to the seasonal population fluctuation of the Town, the formulation of this street thoroughfare plan provides for vehicular and pedestrian movement for year-round residents and visitors during both the peak summer months and off-season months. The current usage of US 158 (Croatan Highway) and NC 12 (Virginia Dare Trail) continues to increase, creating the need for the channeling of traffic onto alternate routes (the 1989 Citizens Advisory Committee's report on street improvements established a goal to "alleviate the need for extensive bypass and beach road travel within the Town"). The safe movement of vehicular, bicycle, and pedestrian traffic is paramount for the continued growth of the Town of Kill Devil Hills. This plan strives to promote these goals. The thoroughfare plan map is shown as an attachment to this document (Attachment I).

## **Street Classifications**

Streets within the Town have been classified into three categories: Arterial Streets, Collector Streets, and Local Access Streets. According to the National Committee on Urban Transportation, the following definitions are provided:

**Arterial Street:** A street that provides for through traffic movement between areas and across the city with direct access to abutting property. It is subject to restrictions regarding entrances, exits, and curb use.

**Collector Street:** A street that provides for traffic movement between major arterial and local access streets, with direct access to abutting property.

**Local Access Street:** A street that provides direct access to abutting land and for local traffic movement.

There are currently three streets within the Town that are classified as arterials. These arterials are US 158 (Croatan Highway), NC 12 (Virginia Dare Trail) and NC 1217 (Colington Road). These streets are all part of the North Carolina Department of Transportation (NCDOT) roadway system. Improvements and maintenance of these important corridors are the responsibility of the NCDOT. The Town has cooperated with the NCDOT regarding development along arterial streets by implementing various zoning and vehicular standards pertaining to access to these roadways, as well as providing initial response to hazardous ocean overwash conditions. Arterial streets should be subjected to control of entrances, exits and curb cuts.

The second roadway classification, collector streets, are typically subjected to a higher traffic volume than local access streets and tend to promote the movement of vehicles through neighborhoods. A number of streets have been designated as collector streets and are shown on the attached thoroughfare map.

The third class of Town streets, the local access streets, comprise the majority of streets in Town. While they are not subject to the volume of traffic of arterial and collector streets, they must be suitable for not only local access, but also for the movement of supporting services such as school buses, public services, and emergency service vehicles.

### **Street Right-of-Way Uses**

Improved street rights-of-way are primarily used for vehicular roadways, location of utilities, stormwater management, and access to abutting property. These rights-of-way also provide access for many supporting services, such as solid waste management and emergency services and must be properly maintained. Those rights-of-way which are currently undeveloped and not needed for access to property should be retained and utilized for future growth and to preserve and promote quality of life. A plan and map for unimproved right-of-ways within the Town, adopted by the Board of Commissioners on June 25, 2003, included plans for future right-of-way uses. These right-of-way improvements included future roads, drainage ways, utility corridors, recreational greenways, and abandonment. (Attachment 3)

## **References to Other Documents**

A number of Town adopted ordinances and plans have relevance to this plan. It is the intent of this document to supplement and support all other Town plans, studies and ordinances as they relate to streets for vehicular and pedestrian movement. The documents referenced are as follows:

- Town Code Chapter 91 - Streets and Sidewalks
- Town Code Chapter 152 - Subdivision Regulations
- Town Code Chapter 51 - Water
- Town Code Chapter 153 - Zoning
- Stormwater Management Plan, 2001
- Recreational Facilities Plan Update, 1997
- Shoreline Access Plan Update, 1998
- Land Use Plan Update, 1997
- Storm Hazard Mitigation and Post-Disaster Reconstruction Plan, 1996

This plan also encourages the further development and refinement of these documents as they relate to streets and roadways within the Town limits.

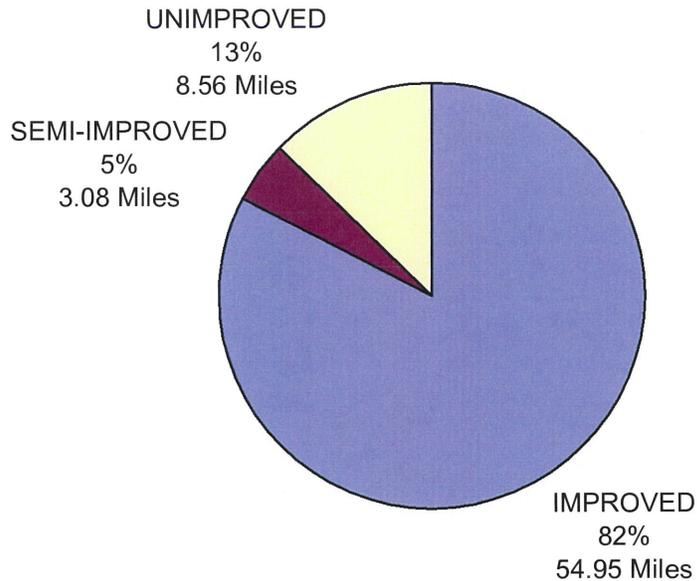
## **Existing Conditions**

This section reviews the existing roadway conditions and right-of-way improvements in the Town. Appendix B, Street Summaries provides a comprehensive listing of all improved and unimproved street rights-of-way including their width, length, subdivision, classification, drainage improvements, present surface, and condition. The following subsections discuss existing conditions observed in the visual inspections made in the spring of 2003.

### **Roadways**

The Town of Kill Devil Hills has approximately 66 miles of improved, semi-improved and unimproved roadways, not including the state-owned arterials. Of this total length, approximately 54.95 miles are paved with an improved hard surface of concrete or asphalt. The semi-improved lengths of gravel and clay roads comprise 3.08 miles with the remaining 8.56 miles consisting of unimproved streets. The improved hard surface roadways in the Town are primarily constructed of bituminous asphalt on a clay or stone base. Some of the older streets are built of concrete on a sand base. There also exist a number of semi-improved gravel or clay roads, and a few sand trails. Hard surface widths range from 15 feet to 42 feet. Shown below is a graphical representation of the existing right-of-way improvements.

## Right-of-Way Improvements - 2003



**Figure 1: Existing Right-of-Way Improvements**

In the 1994 and 1999 Street Improvement Master Plan, the existing improved roads were categorized into eight conditions: Excellent, Good, Fair 1, Fair 2, Fair 3, Poor, Semi-Improved, and Unimproved.

Streets given an Excellent rating consist of those which meet Town standards including the required width, asphalt, base and shoulder sections; include stormwater management and drainage measures; and have properly located utilities and services.

The streets classified as Good have a roadway surface free from cracks, potholes, edge damage, and shoulder degradation. Some have drainage features.

Streets classified within the Fair 1 - Fair 3 categories exhibit various levels of roadway degradation and lack of proper roadway drainage. Fair 1 ratings include streets which have some limited cracking and are beginning to show signs of wear. Fair 2 streets have more pronounced signs of cracking, edge and shoulder damage, settlement, and some limited patching. Fair 3 ratings indicate that the street has more severe degradation, settlement and patching. Limited stormwater management may or may not exist on these streets.

The Poor rating was given to those streets in Town experiencing extreme degradation. These roads have many patches, potholes, cracks, settlement, and edge and shoulder damage. Few have any stormwater management provisions and many experience ponding of stormwater during storm events. Many of the old concrete streets also fall into this category due to insufficient width and slab settlement/cracking.

The Semi-Improved rating was given to those streets that have no pavement. They are streets that are gravel, stone or soil. Some Semi-Improved streets are graded as necessary and when possible by the Town. They do not meet Town standards, including surface or width requirements.

The Unimproved rating was given to those streets that are designated rights-of-way that have not been developed. Unimproved streets are also known as “paper streets.” There has been no clearing or grading to these rights-of-ways; they may exist in their natural undeveloped state.

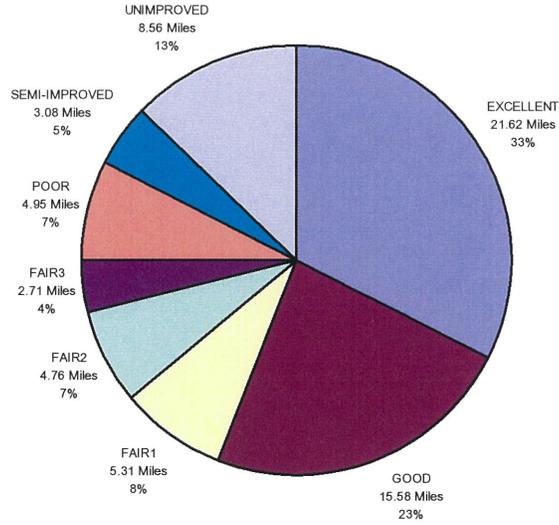
In the previous improved street evaluations, engineers visually inspected each street and proceeded to assign a rating based upon the criteria set forth for each category. While this rating system did allow for flexibility to account for unusual conditions, the final rating was a subjective decision. As the Town considered conducting these evaluations with Town personnel, a rating system was developed to standardize street evaluations.

### **Rating System**

As part of the 2003 update, a standardized rating system was created and used for the categorizing paved Town streets. The Institute for Transportation Research and Education (ITRE) has developed a method for rating flexible (asphalt) pavements based on eight types of common pavement distress. This system, which has been adopted and refined by the NCDOT, was investigated for use within this update. Although it was found to contain a uniform and systematic method for rating pavement, the process remained somewhat subjective and cumbersome and did not account for any drainage features. Using the methods developed by ITRE, a new rating system was developed that provides a simplified, yet technical approach to assigning conditions to improved Town right-of-ways. This methodology incorporates existing drainage features into the pavement condition rating to provide an overall rating of either Excellent, Good, Fair1, Fair2, Fair3 or Poor as currently defined. The results of this rating system proved to be consistent with results obtained using the previous rating method when compared. Unfortunately, this system does not adequately evaluate concrete pavements. In lieu of the small amount of concrete pavements that remain with Town right-of-ways, it is not believed that a separated detailed method is necessary for evaluation purposes. An opinion resulting from a visual inspection for the presence of pavement cracks and unlevelled slabs, ride quality and drainage conditions shall remain the preferred method for determining the Right-of-Way Rating for concrete streets. Details of the rating methodology have been included in Appendix D.

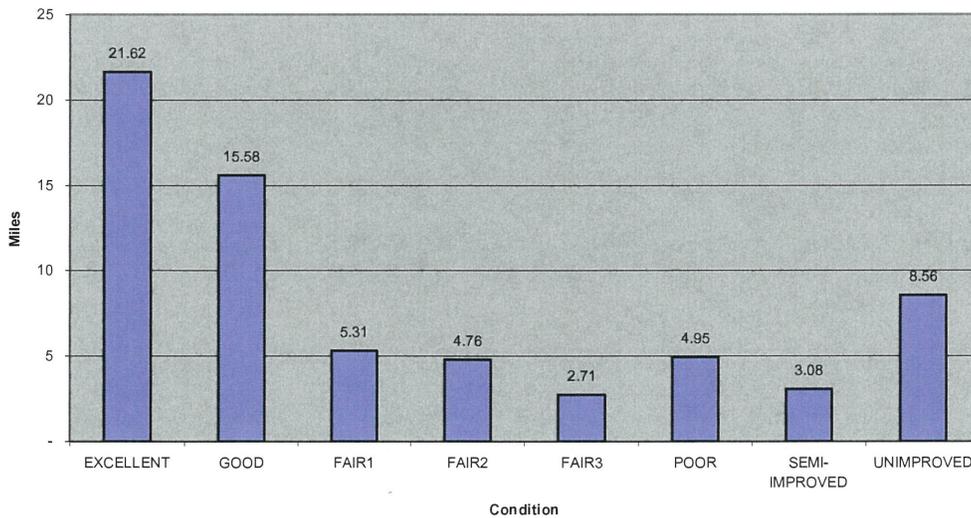
Figures (2-5) illustrate existing conditions in 2003 by percentages and miles and include conditions from 1995 and 1999. Gravel, stone and soil streets are being evaluated by methodology provided in Appendix E

**Figure 2**  
**ROW Conditions - 2003**



**Figure 2:** Street Conditions by Percent

**Figure 3**  
**ROW Conditions - 2003**



**Figure 3:** Street Conditions by Mile

**Figure 4**  
Existing Conditions 2003/1999/1995

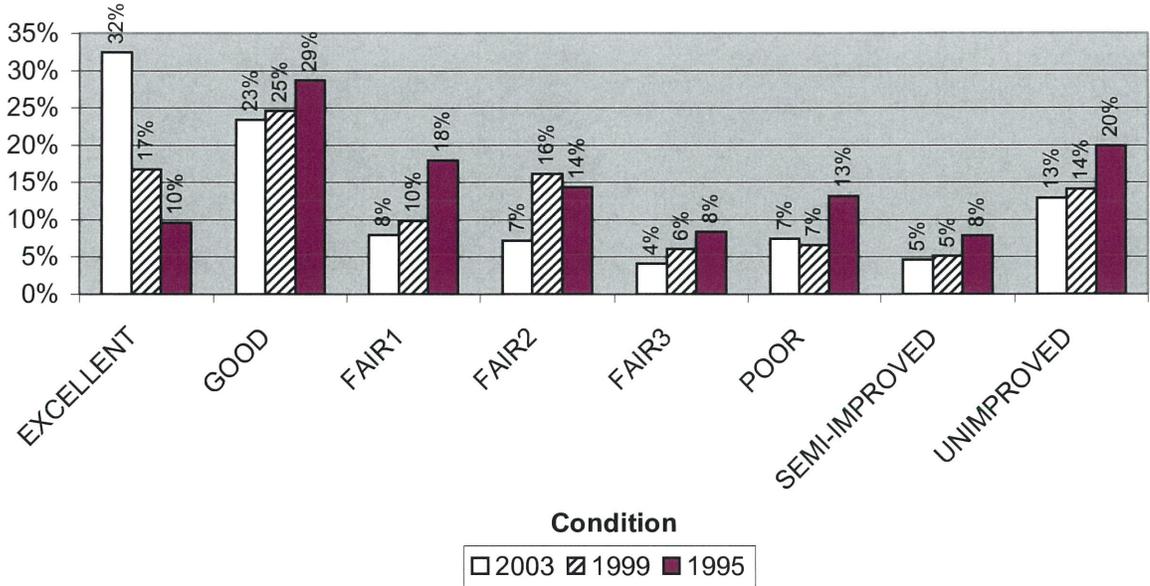


Figure 4: 2003/1999/1995 Street Condition Comparison by Percent

**Figure 5**  
Existing Conditions 2003/1999/1995

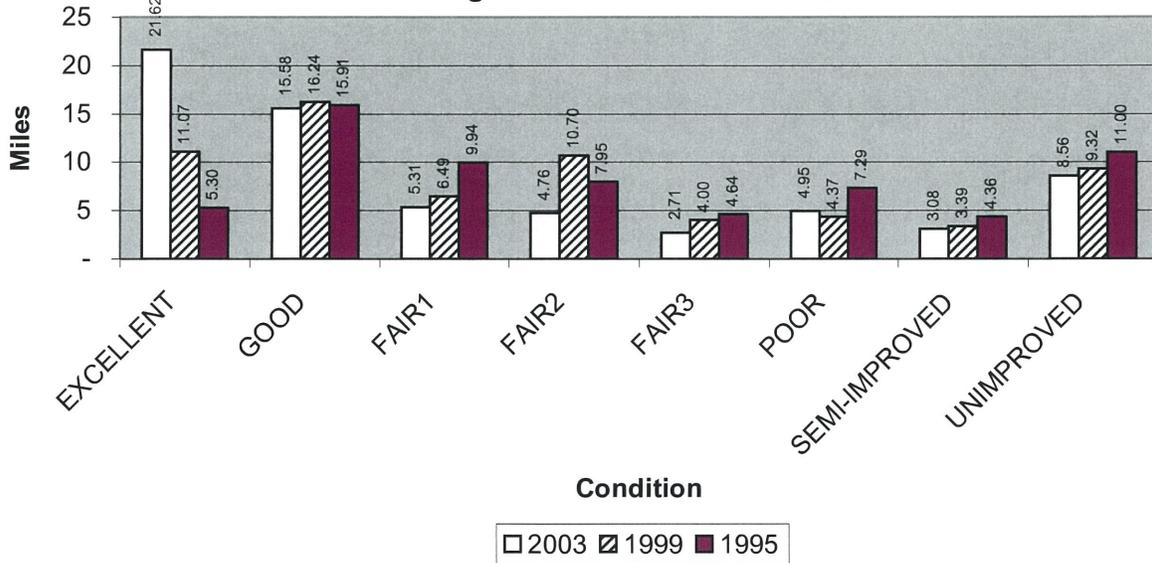


Figure 5: 2003/1999/1995 Street Condition Comparison by Miles

## **Drainage**

The primary stormwater drainage systems in the Town of Kill Devil Hills consist of open ditches and shallow roadside swales. The 2001 Stormwater Management Plan documents a number of drainage areas and illustrated the various components of these systems. The functions of the drainage ways throughout the Town are directly controlled by the existing grades, culverts and points of outfall to the ocean and sound. A number of areas experience roadway ponding during storm events. Many of these specific areas have been addressed during recent roadway improvements and continuing roadway maintenance. Some drainage ways are improved without improvements to adjacent roadways. These drainage only type projects have typically been constructed with annual street improvement projects for economic reasons. The Stormwater Management Plan provides information regarding the prioritization of drainage improvements and stipulates preferred construction methods.

Due to the existing gradient and fluctuating groundwater levels, many swales remain wet throughout much of the year. Hydrophytic vegetation experiences rapid growth within open ditches and presents a constant maintenance item for Town personnel. The drainage ways must be maintained and kept clear of debris and overgrown vegetation to properly function.

The same vegetation in the existing ditches helps to filter pollutants from the stormwater runoff prior to its discharge into the Atlantic Ocean and Albemarle Sound, thereby enhancing water quality. Streets constructed below the seven-foot elevation generally do experience some ponding in areas where a drainage system does not exist.

## **Utilities**

All improved, and a few unimproved, rights-of-way accommodate utilities. These utilities include waterlines, both overhead and underground electrical services, telephone lines, and cable television services. In a few locations, sanitary sewer force mains are present. Many water meters, valves, fire hydrants, telephone and cable television pedestals, utility poles, electrical transformers, driveway culverts and mail boxes exist within these right-of-ways. During recent street improvement projects, utilities have been found at depths ranging from six inches to six feet below the ground surface with varying alignments within the right-of-way.

## **Street Improvements**

Kill Devil Hills Town Code Chapter 91 - Streets and Sidewalks, contains construction methods and design criteria adopted by the Town regarding roadway improvements. New roadway construction requires the installation of an eight-inch crushed stone base, with two inches of HB asphalt and two inches of I-2 asphalt. Construction standards have been based upon a twenty-year service life expectancy. Continuing the improvement of Town streets is important to accommodate present and future levels of service. Street rights-of-way must also accommodate existing and future utilities and must provide adequate stormwater management. Roadways must be constructed to promote safe and efficient travel during adverse weather conditions. Flooding of the roadways must be avoided to extend pavement service life and to provide safe travel.

Stormwater from the roadway must also be contained within existing rights-of-way and away from private properties.

Improvement of Town roadways will provide inter-neighborhood corridors, mitigate congestion on US 158 and NC 12, and enhance neighborhood quality. As roads are constructed, supporting utility infrastructure shall also be installed. Where possible, pedestrian walkways and bicycle travel lanes shall be considered.

### **Collector and Local Access Streets**

One goal of this plan is to complete improvements to Collector Streets and Local Access Streets. Collector Streets shall be paved to a minimum pavement surface width of 24 feet with two-foot stone shoulders. Reduction of pavement widths may be considered based upon existing right-of-way widths to accommodate drainage features and utilities. In no instance shall a two-way street be paved to a width of less than 20 feet. Construction methods and materials must be in accordance with the Kill Devil Hills Town Code Chapter 91 - Streets and Sidewalks. Where possible and appropriate, pedestrian access, on-street parking and rumble strips along attached pedestrian walkways and bicycle trails shall be provided.

### **Rebuilding Concrete and Asphalt Streets**

Existing concrete roadways shall be removed and rebuilt to current standards or proof-rolled and improved with suitable base materials. Upon completion of filling and compaction, these roadways shall be surfaced with the appropriate asphalt types and thickness.

Existing asphalt streets shall be overlaid with the required asphalt materials. All streets shall be widened accordingly with eight inches of crushed stone or an equivalent amount of HB base material and paved with two inches of HB and two inches of I-2. Wedging and leveling shall be pursued as appropriate to promote surface drainage and to inhibit the ponding of stormwater. Two-foot stone shoulders shall be provided along all improved roadways unless the implementation of curb and gutters or other special edge treatment is approved by the Town. Unimproved streets must be built to the Town standards listed above. Pavement shall be generally aligned in the center of the right-of-way but in some cases may be offset to accommodate existing utilities and drainage features. Concrete curb and gutter sections shall be installed at all intersections.

### **Drainage**

Drainage features shall be improved in conjunction with roadway improvements. The installation of shallow swales and open ditches is preferred in order to accommodate stormwater. Drainage structures must be considered in areas where swale depths exceed 15 inches to be consistent with the Stormwater Management Plan. Drop inlets and culverts shall be installed where appropriate. Bituminous-coated, corrugated metal culverts, concrete culverts or approved equivalent materials shall be placed beneath roadways as needed. Culverts should be appropriately sized and installed in accordance with the street ordinance. These culverts shall be encased in a flowable fill concrete material to avoid roadway settlement. Culverts on drainage ways

shall be upgraded during roadway renovations in accordance with the 2001 Stormwater Management Plan. Additionally, driveways and swales must be constructed to accommodate the anticipated stormwater flows. All new driveway connections on existing streets shall be installed to accommodate the existing or proposed drainage pattern. Approved stormwater management practices include inverted driveways with shallow pocket swales; open roadway swale sections with under driveway culverts; closed culverted systems; and various combinations of these practices. Right-of-way improvements by private property owners shall be the responsibility of the property owner and shall be approved by the Public Services Department - Public Works Division or NCDOT as appropriate before being implemented. As-built survey drawings on all drainage improvements, including pipe sizes, inverts, rim elevations, curb pan elevations and other relevant information shall be provided for all roadway and drainage improvement projects.

### **Utilities**

Street repair or reconstruction must accommodate the existing and proposed utilities. Where possible, road improvements should not interfere with existing water lines, electrical services and other utilities. Underground placement of overhead utilities is a goal of the Town and shall be pursued wherever possible. When avoidable new streets, and widening of existing streets, should not prohibit accessibility to waterlines and services. Coordination with public and private utilities must be pursued to facilitate uninterrupted services to citizens during roadway construction. The location/relocation of utilities shall be accomplished prior to, or during, roadway construction to avoid damage to completed street and drainage improvements. Open roadway cutting and patching for installation of utilities shall be avoided but may be approved by the Public Services Department on a case by case basis depending on the condition of roadway surface. Changes to existing utilities must be documented for future use by the appropriate authorities. As-built drawings and digital information shall be developed for all utilities located within Town rights-of-way. Additionally, as-built information of new utility locations within the rights-of-way shall be required of those making such improvements.

### **Implementation Plan**

Based on the January 1999 survey of street conditions, Albemarle Engineering, Inc. established several financial scenarios for street improvements. The various scenarios were addressed regarding the amount of time and funding necessary to upgrade specific segments of the Town's streets. Albemarle Engineering, Inc. worked with the Finance Director to analyze the costs and provide financial forecasting. Each scenario provides a proposed time line for the project and cost estimates factoring inflation (present cost) over a designated time frame. These scenarios were reviewed by the Planning Board and presented at a joint worksession with the Board of Commissioners (April 20, 1999). Each scenario can be reviewed in Appendix A.

On April 20, 1999 and April 10, 2000 the Board of Commissioners approved the following amendment to the Street Improvement Master Plan as goals for funding for street improvements (variation of scenario 2b):

- ◆ Upgrading of all streets rated Fair-2 through Poor, including Semi-Improved streets.
- ◆ **Maintenance:** Budget sufficient funds to maintain steady state of the existing system, which requires repaving approximately 2.5% of the entire system each year.
- ◆ **Improving and Upgrading Street System:** The Board of Commissioners upon recommendation from the Street Improvement Sub-committee and Planning Board shall determine the rate at which improvements and upgrades shall be accomplished. Additional funds will be budgeted to implement desired improvement rate.
- ◆ **Performance:** Maintenance and performance will be evaluated on a systematic and continuous basis so entire street system is evaluated in 3-5 years increments. Public Works Division and Street Improvement Sub-committee shall report street conditions annually in conjunction with capital projects planning preceding the budget.
- ◆ The Board of Commissioners has discussed property assessments for requested improvements to unimproved and semi-improved roads.

As of the end of 2003, approximately 18.6% (12.4 miles) of the system is comprised of improved streets receiving a rating of Fair 2, Fair 3 or Poor. This decrease from 29% (19.1 miles) found in 1999 indicates that the Town is achieving its previous goal of improving 2.5% of the street system each year. Present day construction costs to improve these remaining streets are estimated to be approximately \$5,382,840.

Recent street improvement projects have focused primarily on improving existing pavement and drainage. The Town continues to consider unimproved and semi-improved right-of-ways for improvements on a case-by-case basis.

### **Storm Reconstruction Plan**

The Town of Kill Devil Hills recognizes the potential for a major loss of Town infrastructures, including roads, due to a catastrophic storm event. The proximity of a majority of Town streets to the Atlantic Ocean and the Albemarle Sound increases the potential for major damage to roads and utilities. To limit losses and promote safe travel, the intent of the Town is to build roads at or above the base flood elevation as determined by the National Flood Insurance Program (NFIP), where practical. In the event of a catastrophic loss of Town streets, this study is intended to serve as a basis for reconstruction.

### **Recommendations**

This section includes information provided by various boards, individuals and Town objectives as contained in the aforementioned related documents. It was developed to serve as a guide for current and future uses of the Town streets and rights-of-way. The information provided is not intended to be static and is expected to be continually developed and modified to meet future transportation needs of the Town.

## **Existing Improved and Semi-Improved Streets**

It is the intent of the Town of Kill Devil Hills to continue to improve the existing roadways of the Town. The inter-neighborhood corridors and collector streets should be improved first to facilitate efficient movement of vehicular traffic. An alphabetical list of roadways including street classification, right-of-way width, and condition of the street is attached as Appendix B - Street Summaries.

The 2003 Street Improvement Subcommittee established the following guidelines for annual recommendations:

1. Improve all or some portion of a Collector Street.
2. Distribute improvements throughout the Town (not all in the same area).
3. Distribute funding to the maximum number of streets per fiscal year (try not to select only costly projects in the same year, leaving little money for other projects).
4. Semi-improved streets shall be selected for improvement as appropriate and in accordance with the rating system established in Appendix E

A list including all Town streets sorted into the current condition of the right-of-way (Excellent - Unimproved) is attached as Appendix C.

## **Unimproved Rights-of-Way**

The unimproved rights-of-way, or “paper streets,” that exist in Town are important for providing access to existing lots, for providing areas for placement of utilities, and to provide for the implementation of stormwater management facilities

In June of 2003, The Street Improvement / Special Projects Subcommittee evaluated the potential of existing unimproved streets on a street-by-street basis. The results of this evaluation shall be utilized to assist in directing future develop in a manner that is consistent with the Board of Commissioner adopted plan (June 2003). Three classifications have been established to assist with these evaluation efforts and can be defined as follows:

Class One - Includes any right-of-way that is anticipated to be improved for vehicular traffic. This class includes all right-of-ways with frontage to at least one property that does not have frontage along another right-of-way.

Class Two - Right-of-ways that do not meet the criteria for class one and are considered for greenways with pedestrian, bike, drainage or utility uses. Vehicular traffic along these right-of-ways is neither necessary nor desirable at this time.

Class Three - Right-of-ways that may be considered for abandonment. These neither meets the criteria to be included in Class One, or Class Two and may be more valuable in private ownership. (Attachment 3)

## **Future Needs**

A number of future needs have arisen from information established in numerous public meetings. The potential for the loss of portions of NC 12 exists, especially in the northern limits of the Town. To accommodate the present and future needs of citizens and visitors, alternative measures should be investigated to provide a continuous north-south corridor between, and parallel to, US 158 and NC 12.

Previously defined goals include investigation of a soundside corridor from NC 1217 to the northern Town limits should be investigated to provide an evacuation route for vehicular traffic from the Colington area. This access should be controlled and open only during evacuation procedures to limit the increase of vehicular traffic in the soundside residential areas. The level of improvement for the connection to NC 1217 need not be made to Town standards but should be suitable for emergency vehicular traffic. This goal has been achieved through the construction of a pedestrian/bicycle path adjoining Colington Road to First Street. This path has been designed and constructed to facilitate vehicular traffic in the case of an emergency.

Pedestrian/bicycle planning shall continue to be pursued to encourage the use of alternative modes of travel and decrease the current vehicular traffic loads.

## **Conclusion**

Upon completion of the 2003 street re-evaluation, data was analyzed to evaluate the efforts put forth by the Town. Existing streets that were reconditioned in 1993 based on a 20-year design have now been in use for ten years. Nearly all of these streets have received a rating of "Excellent" in this recent evaluation. These efforts have resulted in 32.4% of the current Town inventory of right-of-ways receiving a rating of "Excellent". This percentage has increased from 8% when the initial study was performed in 1995.

The continuing improvements to existing streets and unimproved rights-of-way in the Town of Kill Devil Hills constitute a major investment of public funds. The improved overall conditions of many of the streets in Town is due to the continuing dedication of Town officials and staff to promote safe and efficient roads. A number of street and drainage needs have been identified and are scheduled for improvement within the near future. The necessity for providing high quality roadways and transportation systems has been identified in numerous plans and studies, and is promoted by this document. It is the intent of the Town to continue to improve all Town streets to a 20-year standard including the accommodation of existing and proposed utilities and stormwater drainage measures. As the percentage of deficient streets continues to decline, attention towards future maintenance needs should be considered. Pavement maintenance items that may be considered include crack sealing, patching, grinding and resurfacing. These alternatives may be dictated by cost, aesthetics, Town and contractor resources. Routine maintenance of drainage features is necessary for good system performance. The reduction in ponding assists in maintaining pavement in addition to the more obvious benefits. This plan serves as a general document and is subject to periodic adjustments based on current conditions; actual implementation may vary.

Funding for these improvements is currently being accomplished through the use of existing funds generated by property taxes, state funding measures and other sources. Further research into funding alternatives should be pursued.



# Appendix A

# ALBEMARLE ENGINEERING, INC.

P.O. Box 3989

KILL DEVIL HILLS, NC 27948

PH. (252) 441-2113

## MEMORANDUM

**DATE:** February 16, 1999  
**TO:** Kill Devil Hills Street Committee  
**FROM:** Jay Overton, P.E., P.L.S.  
**RE:** Street Improvement Financial Scenarios  
**CC:**

In response to inquiries from the February 2, 1999 meeting, we prepared several financial scenarios regarding the amount of time and funding necessary to upgrade specific segments of the Town's streets. We then provided our data to Ms. Teresa Pickrel to analyze the numbers and provide some financial forecasts. A brief synopsis of each scenario is listed below, along with Ms. Pickrel's findings.

1. Determine number of years necessary to upgrade streets listed at our current funding of \$600,000 per year.
  - a. Determine number of years necessary to upgrade all streets rated Fair-2 through Poor, including unimproved and semi-improved streets, assuming the Town will bear all costs.
  - b. Determine number of years necessary to upgrade all streets rated Fair-2 through Poor, including unimproved and semi-improved streets, assuming the Town will cost-share at 50% the burden of the unimproved streets.
  - c. Determine the number of years to upgrade only the paved streets rated at Fair-2 through Poor.

Present-Day Cost	Years to Fund (2% Inflation)	Years to Fund (3% Inflation)	Years to Fund (4% Inflation)
a \$11,796,188	24.59	28.76	35.98
b \$9,914,143	19.77	22.21	25.73
c \$7,212,333	13.57	14.58	15.82

2. Determine the annual contribution necessary to upgrade streets listed by 2008, twenty years after initial improvements utilizing our current standards.
- Determine contribution necessary to upgrade all streets rated Fair-2 through Poor, including unimproved and semi-improved streets, assuming the Town will bear all costs.
  - ✓ Determine annual contributions necessary to upgrade all streets rated Fair-2 through Poor, including unimproved and semi-improved streets, assuming the Town will cost-share at 50% the burden of the unimproved streets. *selectively*
  - Determine the annual contribution necessary to upgrade only the paved streets rated at Fair-2 through Poor.

Present-Day Cost	Annual Contribution (2% Inflation)	Annual Contribution (3% Inflation)	Annual Contribution (4% Inflation)
a \$11,796,188	\$1,416,878	\$1,470,903	\$1,525,485
b \$9,914,143	\$1,190,819	\$1,236,225	\$1,282,099
c \$7,212,333	\$866,296	\$899,328	\$932,700

3. Determine the annual contribution necessary to upgrade streets listed by 2019, twenty years after the date of this study.
- Determine contribution necessary to upgrade all streets rated Fair-2 through Poor, including unimproved and semi-improved streets, assuming the Town will bear all costs.
  - Determine annual contributions necessary to upgrade all streets rated Fair-2 through Poor, including unimproved and semi-improved streets, assuming the Town will cost-share at 50% the burden of the unimproved streets.
  - Determine the annual contribution necessary to upgrade only the paved streets rated at Fair-2 through Poor.

Present-Day Cost	Annual Contribution (2% Inflation)	Annual Contribution (3% Inflation)	Annual Contribution (4% Inflation)
a \$11,796,188	\$707,271	\$769,795	\$834,600
b \$9,914,143	\$594,428	\$646,977	\$701,442
c \$7,212,333	\$432,434	\$470,662	\$510,285

# **Appendix B**

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>	
<i>8TH STREET - EAST</i>	<i>C</i>	<i>50'</i>		
	Good			1,015
				<b>1,015</b>
<i>8TH STREET - WEST</i>	<i>LA</i>	<i>50'</i>		
	Poor			1,465
	UnImproved			250
				<b>1,715</b>
<i>AIRSTRIP RD</i>	<i>LA</i>	<i>60'</i>		
	Excellent			329
	Good			2,801
	UnImproved			165
				<b>3,295</b>
<i>ALEXANDER LN</i>	<i>LA</i>	<i>50'</i>		
	Excellent			190
				<b>190</b>
<i>ALMA ST</i>	<i>LA</i>	<i>50'</i>		
	Semi-Improved			440
	UnImproved			150
				<b>590</b>
<i>ANCHOR CT</i>	<i>LA</i>	<i>50'</i>		
	Fair2			120
				<b>120</b>
<i>APACHE ST</i>	<i>LA</i>	<i>50'</i>		
	Excellent			2,750
				<b>2,750</b>
<i>ARCH ST - EAST</i>	<i>LA</i>	<i>50'</i>		
	Excellent			915
				<b>915</b>
<i>ARCH ST - WEST</i>	<i>LA</i>	<i>50'</i>		
	Good			1,865
				<b>1,865</b>
<i>ARCHDALE ST - EAST</i>	<i>LA</i>	<i>60'</i>		
	Good			850
				<b>850</b>
<i>ARCHDALE ST - WEST</i>	<i>LA</i>	<i>60'</i>		
	Excellent			1,275
	UnImproved			1,450
				<b>2,725</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>	
<i>ARMSTRONG CT.</i>	<i>LA</i>	<i>50'</i>		
	Fair3			215
				<b>215</b>
<i>ASHEVILLE DR</i>	<i>LA</i>	<i>60'</i>		
	Excellent			980
				<b>980</b>
<i>ATLANTIC ST - EAST</i>	<i>LA</i>	<i>42'</i>		
	Excellent			990
				<b>990</b>
<i>ATLANTIC ST. - WEST</i>	<i>LA</i>	<i>42'</i>		
	Excellent			1,135
	Poor			510
				<b>1,645</b>
<i>AVALON DR - EAST</i>	<i>LA</i>	<i>50'</i>		
	Good			915
				<b>915</b>
<i>AVALON DR - WEST</i>	<i>C</i>	<i>50'</i>		
	Good			3,025
				<b>3,025</b>
<i>AVIATION AVE - EAST</i>	<i>LA</i>	<i>60'</i>		
	Excellent			685
	Semi-Improved			225
	UnImproved			50
				<b>960</b>
<i>AVIATION AVE - WEST</i>	<i>LA</i>	<i>60'</i>		
	Excellent			420
				<b>420</b>
<i>AYCOCK ST - EAST</i>	<i>LA</i>	<i>60'</i>		
	Excellent			375
	Semi-Improved			300
	UnImproved			175
				<b>850</b>
<i>AYCOCK ST - WEST</i>	<i>LA</i>	<i>60'</i>		
	Excellent			1,500
	UnImproved			1,350
				<b>2,850</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>AZTEC ST</i>	<i>LA</i>	<i>25'</i>	
	Fair1		630
	UnImproved		600
			<b>1,230</b>
<i>BAKER AVE</i>	<i>LA</i>	<i>60'</i>	
	Excellent		770
	UnImproved		200
			<b>970</b>
<i>BATH ST</i>	<i>LA</i>	<i>60'</i>	
	Fair1		850
	UnImproved		1,925
			<b>2,775</b>
<i>BAUM ST - EAST</i>	<i>LA</i>	<i>50'</i>	
	Fair1		915
			<b>915</b>
<i>BAUM ST - WEST</i>	<i>C</i>	<i>50'</i>	
	Excellent		1,720
	UnImproved		725
			<b>2,445</b>
<i>BAY DRIVE</i>	<i>C</i>	<i>Varies'</i>	
	Excellent		2,005
	Good		1,203
	Good		4,311
	Poor		2,506
			<b>10,025</b>
<i>BELL AVE</i>	<i>LA</i>	<i>60'</i>	
	Good		610
	UnImproved		50
			<b>660</b>
<i>BICKETT ST - EAST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		850
			<b>850</b>
<i>BICKETT ST - WEST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		560
	UnImproved		2,430
			<b>2,990</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>BLUE JAY AVE</i>	<i>LA</i>	<i>50'</i>	
	Excellent		130
	Semi-Improved		900
	UnImproved		2,190
			<b>3,220</b>
<i>BOBBY LEE TRAIL</i>	<i>LA</i>	<i>Varies'</i>	
	Excellent		740
			<b>740</b>
<i>BOUNDARY ST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		375
	Semi-Improved		900
	UnImproved		3,090
			<b>4,365</b>
<i>BRIGGS ST</i>	<i>LA</i>	<i>50'</i>	
	Good		270
	Semi-Improved		650
	UnImproved		450
			<b>1,370</b>
<i>BURNS DR</i>	<i>LA</i>	<i>60'</i>	
	Fair1		3,715
			<b>3,715</b>
<i>CALVIN ST</i>	<i>LA</i>	<i>50'</i>	
	Good		915
			<b>915</b>
<i>CAMELLIA DR</i>	<i>LA</i>	<i>40'</i>	
	Good		250
	Poor		350
			<b>600</b>
<i>CAMERON ST</i>	<i>LA</i>	<i>50'</i>	
	Fair2		1,814
			<b>1,814</b>
<i>CANAL DR</i>	<i>C</i>	<i>50'</i>	
	Excellent		3,348
	Good		1,302
			<b>4,650</b>
<i>CAPTAINS CIRCLE</i>	<i>LA</i>	<i>50'</i>	
	Fair1		425
			<b>425</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>CAPTAINS LN</i>	<i>LA</i>	<i>50'</i>	
	Good		865
			<b>865</b>
<i>CARDINAL ST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		920
	Good		1,640
			<b>2,560</b>
<i>CARLOW AVE</i>	<i>LA</i>	<i>60'</i>	
	Excellent		720
	UnImproved		250
			<b>970</b>
<i>CARLTON AVE - EAST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		960
			<b>960</b>
<i>CARLTON AVE - WEST</i>	<i>LA</i>	<i>50'</i>	
	Poor		420
			<b>420</b>
<i>CAROLYN DR</i>	<i>LA</i>	<i>50'</i>	
	Good		1,100
			<b>1,100</b>
<i>CEDAR DR - WEST</i>	<i>LA</i>	<i>50'</i>	
	Fair1		2,900
			<b>2,900</b>
<i>CHARLOTTE LN</i>	<i>LA</i>	<i>50'</i>	
	Excellent		190
			<b>190</b>
<i>CHARLOTTE ST</i>	<i>LA</i>	<i>40'</i>	
	Fair1		664
			<b>664</b>
<i>CHOWAN - WEST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		2,550
			<b>2,550</b>
<i>CHOWAN ST - EAST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		298
	Poor		552
			<b>850</b>
<i>CLAM SHELL DR</i>	<i>LA</i>	<i>50'</i>	
	Good		3,220
			<b>3,220</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>CLARK ST - EAST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		915
			<b>915</b>
<i>CLARK ST - WEST</i>	<i>LA</i>	<i>50'</i>	
	Fair2		1,495
	UnImproved		1,800
			<b>3,295</b>
<i>CLIPPER CT</i>	<i>LA</i>	<i>50'</i>	
	Fair1		120
			<b>120</b>
<i>COLUMBIA AVE</i>	<i>LA</i>	<i>60'</i>	
	Excellent		260
	Fair2		860
	UnImproved		1,590
			<b>2,710</b>
<i>CONSOLE LN</i>	<i>LA</i>	<i>50'</i>	
	Excellent		215
			<b>215</b>
<i>COOKE PL</i>	<i>LA</i>	<i>50'</i>	
	Fair2		320
			<b>320</b>
<i>COPLEY DR</i>	<i>LA</i>	<i>60'</i>	
	Good		990
			<b>990</b>
<i>CORAL DR</i>	<i>LA</i>	<i>50'</i>	
	Poor		320
			<b>320</b>
<i>CORRIGAN ST - EAST</i>	<i>LA</i>	<i>50'</i>	
	Good		315
	UnImproved		600
			<b>915</b>
<i>CORRIGAN ST - WEST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		1,020
	UnImproved		2,125
			<b>3,145</b>
<i>COVE CT</i>	<i>LA</i>	<i>50'</i>	
	Excellent		750
			<b>750</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>CREEK ST</i>	<i>LA</i>	<i>50'</i>	
	Good		1,530
			<b>1,530</b>
<i>DAVID LN</i>	<i>LA</i>	<i>50'</i>	
	Excellent		190
			<b>190</b>
<i>DEAN ST - WEST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		860
	UnImproved		340
			<b>1,200</b>
<i>DEAN ST. - EAST</i>	<i>LA</i>	<i>50'</i>	
	Good		390
			<b>390</b>
<i>DOCK ST</i>	<i>LA</i>	<i>50'</i>	
	Poor		590
	Semi-Improved		250
			<b>840</b>
<i>DOGWOOD LN</i>	<i>LA</i>	<i>50'</i>	
	Excellent		990
			<b>990</b>
<i>DOLLY ST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		570
			<b>570</b>
<i>DURHAM ST - EAST</i>	<i>LA</i>	<i>40'</i>	
	Good		665
			<b>665</b>
<i>DURHAM ST - WEST</i>	<i>C</i>	<i>40'</i>	
	Good		3,065
			<b>3,065</b>
<i>EDEN ST - EAST</i>	<i>LA</i>	<i>60'</i>	
	Semi-Improved		350
	UnImproved		500
			<b>850</b>
<i>EDEN ST - WEST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		1,900
	UnImproved		1,000
			<b>2,900</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>EDENTON ST</i>	<i>LA</i>	<i>50'</i>	
	Fair1		1,400
			<b>1,400</b>
<i>EIGHTH AVE</i>	<i>LA</i>	<i>50'</i>	
	Poor		1,800
	Semi-Improved		750
			<b>2,550</b>
<i>ELIZ. CITY ST</i>	<i>LA</i>	<i>50'</i>	
	Good		1,480
			<b>1,480</b>
<i>ELIZABETH ST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		730
			<b>730</b>
<i>ELM CT</i>	<i>LA</i>	<i>50'</i>	
	Fair3		245
			<b>245</b>
<i>EVANS PL</i>	<i>LA</i>	<i>50'</i>	
	Excellent		170
			<b>170</b>
<i>FERRIS AVE</i>	<i>LA</i>	<i>60'</i>	
	Excellent		625
	Fair1		345
			<b>970</b>
<i>FIFTH ST - EAST</i>	<i>C</i>	<i>50'</i>	
	Excellent		750
	Good		275
			<b>1,025</b>
<i>FIFTH ST - WEST</i>	<i>C</i>	<i>50'</i>	
	Excellent		3,475
			<b>3,475</b>
<i>FIL LN</i>	<i>LA</i>	<i>50'</i>	
	Excellent		215
			<b>215</b>
<i>FIRST FLIGHT LN</i>	<i>LA</i>	<i>50'</i>	
	Excellent		1,100
			<b>1,100</b>
<i>FIRST ST - EAST</i>	<i>C</i>	<i>30'</i>	
	Fair1		975
			<b>975</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>FIRST ST - WEST</i>	<i>C</i>	<i>60'</i>	
	Good		1,792
	Fair1		1,017
	Poor		2,034
			<b>4,843</b>
<i>FOURTH ST - EAST</i>	<i>LA</i>	<i>50'</i>	
	UnImproved		1,025
			<b>1,025</b>
<i>FOURTH ST - WEST</i>	<i>LA</i>	<i>50'</i>	
	Good		3,245
			<b>3,245</b>
<i>FOX ST</i>	<i>C</i>	<i>50'</i>	
	Excellent		280
	Good		1,740
	Semi-Improved		300
	UnImproved		250
			<b>2,570</b>
<i>FRANCES LN</i>	<i>LA</i>	<i>50'</i>	
	Excellent		215
			<b>215</b>
<i>FRANKLIN ST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		1,190
			<b>1,190</b>
<i>FRESH POND DR - EAST</i>	<i>LA</i>	<i>30'</i>	
	Excellent		1,090
			<b>1,090</b>
<i>FRESH POND DR - WEST</i>	<i>LA</i>	<i>30'</i>	
	Excellent		1,645
			<b>1,645</b>
<i>FROELICH PL</i>	<i>LA</i>	<i>50'</i>	
	Excellent		240
			<b>240</b>
<i>GEORGIA LN</i>	<i>LA</i>	<i>50'</i>	
	Fair1		640
			<b>640</b>
<i>GLIDER CT</i>	<i>LA</i>	<i>50'</i>	
	Excellent		285
			<b>285</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>GODDARD AVE - EAST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		515
			<b>515</b>
<i>GODDARD AVE - WEST</i>	<i>LA</i>	<i>60'</i>	
	UnImproved		440
			<b>440</b>
<i>GOLDIE ST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		690
	Fair2		360
	UnImproved		150
			<b>1,200</b>
<i>GREENSBORO ST</i>	<i>LA</i>	<i>40'</i>	
	Fair1		664
			<b>664</b>
<i>GREENVILLE ST</i>	<i>LA</i>	<i>40'</i>	
	Good		664
			<b>664</b>
<i>GUNAS DR</i>	<i>LA</i>	<i>60'</i>	
	Good		1,690
			<b>1,690</b>
<i>HAMPTON ST</i>	<i>LA</i>	<i>50'</i>	
	Fair1		1,190
			<b>1,190</b>
<i>HARDING ST</i>	<i>LA</i>	<i>30'</i>	
	UnImproved		3,320
			<b>3,320</b>
<i>HARPOON DR</i>	<i>LA</i>	<i>40'</i>	
	Poor		245
			<b>245</b>
<i>HARRINGTON AVE</i>	<i>LA</i>	<i>60'</i>	
	Fair2		1,210
			<b>1,210</b>
<i>HAYMAN BLVD. - EAST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		850
			<b>850</b>
<i>HAYMAN BLVD. - WEST</i>	<i>LA</i>	<i>60'</i>	
	Good		435
	Fair2		2,990
			<b>3,425</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>HEATHER LN</i>	<i>LA</i>	<i>60'</i>	
	Fair2		440
			<b>440</b>
<i>HELEN LN</i>	<i>LA</i>	<i>50'</i>	
	Excellent		195
			<b>195</b>
<i>HELGA ST - EAST</i>	<i>LA</i>	<i>50'</i>	
	Good		940
			<b>940</b>
<i>HELGA ST - WEST</i>	<i>LA</i>	<i>50'</i>	
	Fair3		1,965
			<b>1,965</b>
<i>HIGHVIEW ST</i>	<i>LA</i>	<i>50'</i>	
	Fair1		1,190
			<b>1,190</b>
<i>HILL ST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		510
	Semi-Improved		150
			<b>660</b>
<i>HILLSIDE DR - EAST</i>	<i>LA</i>	<i>50'</i>	
	UnImproved		265
			<b>265</b>
<i>HILLSIDE DR - WEST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		150
	Good		250
			<b>400</b>
<i>HOLLY ST - EAST</i>	<i>LA</i>	<i>50'</i>	
	Good		440
	Semi-Improved		150
	UnImproved		400
			<b>990</b>
<i>HOLLY ST - WEST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		2,055
	UnImproved		1,140
			<b>3,195</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>INDIAN DR</i>	<i>LA</i>	<i>50'</i>	
	Excellent		283
	Good		2,407
	UnImproved		280
			<b>2,970</b>
<i>JEAN CT</i>	<i>LA</i>	<i>60'</i>	
	Fair3		270
			<b>270</b>
<i>JEFFREY CT</i>	<i>LA</i>	<i>50'</i>	
	Excellent		215
			<b>215</b>
<i>JONES CT</i>	<i>LA</i>	<i>50'</i>	
	Poor		195
			<b>195</b>
<i>KELLY CT</i>	<i>LA</i>	<i>50'</i>	
	Excellent		265
			<b>265</b>
<i>KETCH LN</i>	<i>LA</i>	<i>50'</i>	
	Excellent		2,200
			<b>2,200</b>
<i>KITTY CT</i>	<i>LA</i>	<i>50'</i>	
	Excellent		215
			<b>215</b>
<i>LAKE DRIVE - EAST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		1,090
			<b>1,090</b>
<i>LAKE DRIVE - WEST</i>	<i>LA</i>	<i>50'</i>	
	Good		1,480
	UnImproved		190
			<b>1,670</b>
<i>LANDING DR - EAST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		323
	Poor		657
			<b>980</b>
<i>LANDING DR - WEST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		3,850
			<b>3,850</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>LARK ST</i>	<i>LA</i>	<i>50'</i>	
	Good		220
			<b>220</b>
<i>LAURA LN</i>	<i>LA</i>	<i>50'</i>	
	Excellent		215
			<b>215</b>
<i>LEE ST</i>	<i>C</i>	<i>60'</i>	
	Excellent		1,236
	Fair3		1,814
	UnImproved		565
			<b>3,615</b>
<i>LISA CT</i>	<i>LA</i>	<i>50'</i>	
	Excellent		215
			<b>215</b>
<i>LIVE OAK CT</i>	<i>LA</i>	<i>50'</i>	
	Excellent		695
			<b>695</b>
<i>LOBLOLLY CT</i>	<i>LA</i>	<i>50'</i>	
	Excellent		245
			<b>245</b>
<i>LOWELL AVE</i>	<i>LA</i>	<i>60'</i>	
	Excellent		683
	Semi-Improved		68
	UnImproved		214
			<b>965</b>
<i>MAPLE CT</i>	<i>LA</i>	<i>50'</i>	
	Fair1		245
			<b>245</b>
<i>MARTIN ST - EAST</i>	<i>C</i>	<i>50'</i>	
	Good		915
			<b>915</b>
<i>MARTIN ST - WEST</i>	<i>C</i>	<i>50'</i>	
	Good		3,095
			<b>3,095</b>
<i>MARTONE LN</i>	<i>LA</i>	<i>50'</i>	
	Excellent		190
			<b>190</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>MARY HILL CT</i>	<i>LA</i>	<i>60'</i>	
	Fair2		270
			<b>270</b>
<i>MAXINE ST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		200
	Semi-Improved		250
	UnImproved		250
			<b>700</b>
<i>MCCABE PL</i>	<i>LA</i>	<i>50'</i>	
	Excellent		285
			<b>285</b>
<i>MEADOWLARK ST - EAST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		575
			<b>575</b>
<i>MEADOWLARK ST - WEST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		420
			<b>420</b>
<i>MEMORIAL AVE</i>	<i>C</i>	<i>60'</i>	
	Excellent		4,730
	Good		830
	Fair2		1,590
	Fair3		460
	Poor		1,560
	UnImproved		200
			<b>9,370</b>
<i>MITCHELL CT</i>	<i>LA</i>	<i>50'</i>	
	Excellent		265
			<b>265</b>
<i>MOLLIE ST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		500
	Semi-Improved		150
	UnImproved		40
			<b>690</b>
<i>MONUMENT LN</i>	<i>LA</i>	<i>50'</i>	
	Excellent		680
			<b>680</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>MUSTIAN ST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		580
	Good		300
	Fair2		770
			<b>1,650</b>
<i>MYRTLE CT</i>	<i>LA</i>	<i>50'</i>	
	Fair3		245
			<b>245</b>
<i>NEPTUNE DR</i>	<i>C</i>	<i>60'</i>	
	Excellent		1,015
			<b>1,015</b>
<i>NEW BERN ST</i>	<i>LA</i>	<i>50'</i>	
	Good		1,600
			<b>1,600</b>
<i>NEWPORT NEWS ST</i>	<i>LA</i>	<i>50'</i>	
	Good		1,190
			<b>1,190</b>
<i>NINTH AVE</i>	<i>LA</i>	<i>50'</i>	
	Excellent		1,117
	Poor		393
			<b>1,510</b>
<i>NIXONTON ST</i>	<i>LA</i>	<i>60'</i>	
	Fair2		940
			<b>940</b>
<i>NORFOLK ST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		1,190
			<b>1,190</b>
<i>OCEAN ACRES DR - WEST</i>	<i>C</i>	<i>60'</i>	
	Excellent		207
	Fair1		3,078
	Poor		660
	Semi-Improved		1,500
			<b>5,445</b>
<i>OCEAN BAY BLVD - WEST</i>	<i>C</i>	<i>100'</i>	
	Good		370
	Semi-Improved		390
	UnImproved		1,100
			<b>1,860</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>OLD NAGS HEAD RD</i>	<i>ENV</i>	<i>?'</i>	
	Semi-Improved		5,220
			<b>5,220</b>
<i>OREGON AVE - EAST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		576
	Good		384
			<b>960</b>
<i>OREGON AVE - WEST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		420
			<b>420</b>
<i>ORVILLE CT</i>	<i>LA</i>	<i>50'</i>	
	Excellent		265
			<b>265</b>
<i>PALMETTO ST - EAST</i>	<i>LA</i>	<i>60'</i>	
	Good		850
			<b>850</b>
<i>PALMETTO ST - WEST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		1,223
	Poor		677
	UnImproved		1,025
			<b>2,925</b>
<i>PARK AVE</i>	<i>LA</i>	<i>50'</i>	
	Excellent		500
			<b>500</b>
<i>PARKWOOD DR</i>	<i>LA</i>	<i>50'</i>	
	Fair3		1,370
			<b>1,370</b>
<i>PERCY ST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		680
			<b>680</b>
<i>PERRY LN</i>	<i>LA</i>	<i>50'</i>	
	UnImproved		450
			<b>450</b>
<i>PETER LN</i>	<i>LA</i>	<i>50'</i>	
	Excellent		190
			<b>190</b>
<i>PHOEBUS ST</i>	<i>LA</i>	<i>50'</i>	
	Fair1		1,190
			<b>1,190</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>PINE CONE CT</i>	<i>LA</i>	<i>60'</i>	
	Fair1		195
			<b>195</b>
<i>PINE GROVE TR</i>	<i>LA</i>	<i>60'</i>	
	Fair2		1,730
			<b>1,730</b>
<i>PINE NEEDLE CT</i>	<i>LA</i>	<i>60'</i>	
	Fair3		195
			<b>195</b>
<i>PINEHURST AVE</i>	<i>LA</i>	<i>60'</i>	
	Good		720
	UnImproved		250
			<b>970</b>
<i>PIRATES LOOP</i>	<i>LA</i>	<i>50'</i>	
	Poor		665
			<b>665</b>
<i>PLYMOUTH AVE</i>	<i>LA</i>	<i>50'</i>	
	Poor		150
	UnImproved		2,700
			<b>2,850</b>
<i>POND ST</i>	<i>LA</i>	<i>50'</i>	
	Poor		110
	UnImproved		160
			<b>270</b>
<i>PORTRHOLE CT</i>	<i>LA</i>	<i>50'</i>	
	Excellent		685
			<b>685</b>
<i>PORTSMOUTH ST</i>	<i>LA</i>	<i>50'</i>	
	Good		1,190
			<b>1,190</b>
<i>PRINCESS ANNE RD</i>	<i>LA</i>	<i>40'</i>	
	Excellent		913
	Poor		717
			<b>1,630</b>
<i>QUAIL LN</i>	<i>LA</i>	<i>60'</i>	
	Fair2		2,900
			<b>2,540</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>RALEIGH AVE</i>	<i>LA</i>	<i>60'</i>	
	Fair1		970
			<b>970</b>
<i>RANDOM ST</i>	<i>LA</i>	<i>15'</i>	
	Poor		570
			<b>570</b>
<i>RAYMOND AVE</i>	<i>C</i>	<i>Varies'</i>	
	Excellent		2,076
	Fair3		568
	Poor		1,426
			<b>4,070</b>
<i>REMELE PL</i>	<i>LA</i>	<i>50'</i>	
	Excellent		360
			<b>360</b>
<i>ROAD ST</i>	<i>LA</i>	<i>30'</i>	
	UnImproved		440
			<b>440</b>
<i>ROCKY MOUNT ST</i>	<i>LA</i>	<i>40'</i>	
	Fair1		664
			<b>664</b>
<i>ROSA ST</i>	<i>LA</i>	<i>50'</i>	
	Semi-Improved		250
	UnImproved		440
			<b>690</b>
<i>SALEM AVE</i>	<i>LA</i>	<i>60'</i>	
	Excellent		625
			<b>625</b>
<i>SCHOONER CT</i>	<i>LA</i>	<i>50'</i>	
	Fair2		270
			<b>270</b>
<i>SCOTT ST</i>	<i>LA</i>	<i>30'</i>	
	UnImproved		3,430
			<b>3,430</b>
<i>SEA GATE CT</i>	<i>LA</i>	<i>Varies'</i>	
	Poor		140
			<b>140</b>
<i>SEA SWEPT RD</i>	<i>LA</i>	<i>50'</i>	
	Good		1,530
			<b>1,530</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>SEA VILLAGE LN</i>	<i>LA</i>	<i>50'</i>	
	Poor		495
			<b>495</b>
<i>SEA WING CT</i>	<i>LA</i>	<i>Varies'</i>	
	Poor		115
			<b>115</b>
<i>SEAGULL CT</i>	<i>LA</i>	<i>Varies'</i>	
	Good		85
			<b>85</b>
<i>SEALOFT CT</i>	<i>LA</i>	<i>50'</i>	
	Fair2		170
			<b>170</b>
<i>SECOND ST</i>	<i>LA</i>	<i>30'</i>	
	Good		965
			<b>965</b>
<i>SEMINOLE ST</i>	<i>LA</i>	<i>50'</i>	
	Good		600
	Fair2		920
	UnImproved		30
			<b>1,550</b>
<i>SEVENTH AVE</i>	<i>LA</i>	<i>50'</i>	
	Poor		1,810
	Semi-Improved		600
	UnImproved		150
			<b>2,560</b>
<i>SHARON CT</i>	<i>LA</i>	<i>50'</i>	
	Excellent		215
			<b>215</b>
<i>SHAY ST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		595
	Poor		350
	UnImproved		205
			<b>1,150</b>
<i>SHILOH ST</i>	<i>LA</i>	<i>60'</i>	
	Fair3		1,090
			<b>1,090</b>
<i>SIOUX ST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		1,530
			<b>1,530</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>SIR WALTER RD</i>	<i>LA</i>	<i>40'</i>	
	Poor		1,920
			<b>1,920</b>
<i>SIXTH AVE</i>	<i>LA</i>	<i>Varies'</i>	
	Excellent		1,125
	Fair3		1,385
	Semi-Improved		350
	UnImproved		500
			<b>3,360</b>
<i>SMALL PL</i>	<i>LA</i>	<i>50'</i>	
	Excellent		170
			<b>170</b>
<i>SMITHFIELD ST</i>	<i>LA</i>	<i>50'</i>	
	Good		1,190
			<b>1,190</b>
<i>SOBLE DR</i>	<i>LA</i>	<i>50'</i>	
	Good		850
			<b>850</b>
<i>SOTHEL ST - EAST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		330
	Poor		490
	UnImproved		30
			<b>850</b>
<i>SOTHEL ST - WEST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		2,600
			<b>2,600</b>
<i>SPORTSMAN DR - EAST</i>	<i>LA</i>	<i>39'</i>	
	Fair1		915
			<b>915</b>
<i>SPORTSMAN DR - WEST</i>	<i>LA</i>	<i>39'</i>	
	Fair2		2,975
			<b>2,975</b>
<i>ST. CLAIR ST - EAST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		575
			<b>575</b>
<i>ST. CLAIR ST - WEST</i>	<i>LA</i>	<i>60'</i>	
	Good		420
			<b>420</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>ST. LOUIS ST</i>	<i>LA</i>	<i>50'</i>	
	Fair3		1,385
			<b>1,385</b>
<i>SUFFOLK ST</i>	<i>C</i>	<i>50'</i>	
	Good		2,490
			<b>2,490</b>
<i>SUNSET AVE</i>	<i>LA</i>	<i>50'</i>	
	Excellent		525
	Good		1,005
			<b>1,530</b>
<i>SUSAN DR</i>	<i>LA</i>	<i>50'</i>	
	Fair3		885
			<b>885</b>
<i>SUTTON AVE</i>	<i>LA</i>	<i>60'</i>	
	Excellent		710
	Good		260
			<b>970</b>
<i>SWAN ST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		2,510
	UnImproved		50
			<b>2,560</b>
<i>TANYA DR</i>	<i>LA</i>	<i>50'</i>	
	Good		1,015
			<b>1,015</b>
<i>TEAKWOOD LN</i>	<i>LA</i>	<i>50'</i>	
	Fair2		340
			<b>340</b>
<i>TEAL CT</i>	<i>LA</i>	<i>?'</i>	
	Semi-Improved		120
			<b>120</b>
<i>TELEGRAPH CT</i>	<i>LA</i>	<i>50'</i>	
	Fair1		445
			<b>445</b>
<i>TENTH AVE</i>	<i>LA</i>	<i>50'</i>	
	Excellent		825
	UnImproved		515
			<b>1,340</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>TERN CT</i>	<i>LA</i>	<i>50'</i>	
	Excellent		620
			<b>620</b>
<i>THEODORE ST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		730
	UnImproved		730
			<b>730</b>
<i>THIRD ST - EAST</i>	<i>C</i>	<i>50'</i>	
	Excellent		970
			<b>970</b>
<i>THIRD ST - WEST</i>	<i>C</i>	<i>50'</i>	
	Fair1		2,320
	Poor		1,250
	UnImproved		200
			<b>3,770</b>
<i>TOWN HALL DR</i>	<i>C</i>	<i>N/A'</i>	
	Fair2		1,160
			<b>1,160</b>
<i>TRUXTON ST</i>	<i>LA</i>	<i>60'</i>	
	Fair3		1,520
			<b>1,520</b>
<i>UPPER DUNE DR</i>	<i>LA</i>	<i>50'</i>	
	Excellent		1,550
			<b>1,550</b>
<i>VEELEE DR</i>	<i>LA</i>	<i>50'</i>	
	Excellent		780
			<b>1,175</b>
<i>VETERANS DR</i>	<i>C</i>	<i>Varies'</i>	
	Excellent		2,957
	Semi-Improved		1,393
	UnImproved		337
			<b>4,657</b>
<i>VILLAGE LN</i>	<i>LA</i>	<i>50'</i>	
	Excellent		1,950
			<b>1,950</b>
<i>VIRGINIA AVE</i>	<i>LA</i>	<i>50'</i>	
	Good		1,530
			<b>1,530</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>WALKER ST - EAST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		850
			<b>850</b>
<i>WALKER ST. - WEST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		2,785
			<b>2,785</b>
<i>WALLACE ST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		670
	Fair3		715
			<b>1,385</b>
<i>WAX MYRTLE CT</i>	<i>LA</i>	<i>50'</i>	
	Excellent		285
			<b>285</b>
<i>WILBUR CT</i>	<i>LA</i>	<i>50'</i>	
	Excellent		215
			<b>215</b>
<i>WILKINSON ST - EAST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		850
			<b>850</b>
<i>WILKINSON ST - WEST</i>	<i>LA</i>	<i>60'</i>	
	Excellent		556
	Good		555
	Fair2		1,414
			<b>2,525</b>
<i>WILSON ST</i>	<i>LA</i>	<i>40'</i>	
	Good		664
			<b>664</b>
<i>WINDSONG WAY</i>	<i>LA</i>	<i>50'</i>	
	Poor		350
			<b>350</b>
<i>WOOD DUCK LN</i>	<i>LA</i>	<i>60'</i>	
	Semi-Improved		620
			<b>620</b>
<i>WOODMERE AVE</i>	<i>LA</i>	<i>60'</i>	
	Excellent		790
	Fair2		100
	UnImproved		80
			<b>970</b>

<i>Name</i>	<i>Class</i>	<i>R/W</i>	<i>Width</i>
<i>WRIGHT AVE - EAST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		576
	Fair1		384
			<b>960</b>
<i>WRIGHT AVE - WEST</i>	<i>LA</i>	<i>50'</i>	
	Excellent		420
			<b>420</b>
<i>WRIGHTSVILLE BLVD</i>	<i>C</i>	<i>60'</i>	
	Good		4,774
	Poor		651
	UnImproved		175
			<b>5,600</b>
<i>WYANDOTTE ST</i>	<i>LA</i>	<i>50'</i>	
	Good		1,530
			<b>1,530</b>
<i>YARDARM LN</i>	<i>LA</i>	<i>50'</i>	
	Excellent		390
			<b>390</b>
<i>YORKTOWN ST</i>	<i>LA</i>	<i>50'</i>	
	Good		1,190
			<b>1,190</b>

# Appendix C

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## *Kill Devil Hills - Excellent Streets*

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<i>Name</i>	<i>Class</i>	<i>Length</i>
MEMORIAL AVE	C	4,730
LANDING DR - WEST	LA	3,850
FIFTH ST - WEST	C	3,475
CANAL DR	C	3,348
VETERANS DR	C	2,957
WALKER ST. - WEST	LA	2,785
APACHE ST	LA	2,750
SOTHEL ST - WEST	LA	2,600
CHOWAN - WEST	LA	2,550
SWAN ST	LA	2,510
KETCH LN	LA	2,200
RAYMOND AVE	C	2,076
HOLLY ST - WEST	LA	2,055
BAY DRIVE	C	2,005
VILLAGE LN	LA	1,950
EDEN ST - WEST	LA	1,900
BAUM ST - WEST	C	1,720
FRESH POND DR - WEST	LA	1,645
UPPER DUNE DR	LA	1,550
SIOUX ST	LA	1,530
AYCOCK ST - WEST	LA	1,500
ARCHDALE ST - WEST	LA	1,275
LEE ST	C	1,236
PALMETTO ST - WEST	LA	1,223
NORFOLK ST	LA	1,190
FRANKLIN ST	LA	1,190
ATLANTIC ST. - WEST	LA	1,135
SIXTH AVE	LA	1,125
NINTH AVE	LA	1,117
FIRST FLIGHT LN	LA	1,100
LAKE DRIVE - EAST	LA	1,090
FRESH POND DR - EAST	LA	1,090
CORRIGAN ST - WEST	LA	1,020

January, 1999

Prepared By Albemarle Engineering, Inc.

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\* Indicates streets which the BOC has authorized contracts for street improvement projects since the survey date

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## *Kill Devil Hills - Excellent Streets*

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<i>Name</i>	<i>Class</i>	<i>Length</i>
NEPTUNE DR	C	1,015
DOGWOOD LN	LA	990
ATLANTIC ST - EAST	LA	990
ASHEVILLE DR	LA	980
THIRD ST - EAST	C	970
CARLTON AVE - EAST	LA	960
CARDINAL ST	LA	920
CLARK ST - EAST	LA	915
ARCH ST - EAST	LA	915
PRINCESS ANNE RD	LA	913
DEAN ST - WEST	LA	860
WILKINSON ST - EAST	LA	850
WALKER ST - EAST	LA	850
HAYMAN BLVD. - EAST	LA	850
BICKETT ST - EAST	LA	850
TENTH AVE	LA	825
WOODMERE AVE	LA	790
VEELEE DR	LA	780
BAKER AVE	LA	770
COVE CT	LA	750
FIFTH ST - EAST	C	750
BOBBY LEE TRAIL	LA	740
ELIZABETH ST	LA	730
THEODORE ST	LA	730
CARLOW AVE	LA	720
SUTTON AVE	LA	710
LIVE OAK CT	LA	695
GOLDIE ST	LA	690
PORTRHOLE CT	LA	685
AVIATION AVE - EAST	LA	685
LOWELL AVE	LA	683
PERCY ST	LA	680
MONUMENT LN	LA	680

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## *Kill Devil Hills - Excellent Streets*

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<i>Name</i>	<i>Class</i>	<i>Length</i>
WALLACE ST	LA	670
SALEM AVE	LA	625
FERRIS AVE	LA	625
TERN CT	LA	620
SHAY ST	LA	595
MUSTIAN ST	LA	580
WRIGHT AVE - EAST	LA	576
OREGON AVE - EAST	LA	576
ST. CLAIR ST - EAST	LA	575
MEADOWLARK ST - EAST	LA	575
DOLLY ST	LA	570
BICKETT ST - WEST	LA	560
WILKINSON ST - WEST	LA	556
SUNSET AVE	LA	525
GODDARD AVE - EAST	LA	515
HILL ST	LA	510
MOLLIE ST	LA	500
PARK AVE	LA	500
WRIGHT AVE - WEST	LA	420
MEADOWLARK ST - WEST	LA	420
AVIATION AVE - WEST	LA	420
OREGON AVE - WEST	LA	420
YARDARM LN	LA	390
BOUNDARY ST	LA	375
AYCOCK ST - EAST	LA	375
REMELE PL	LA	360
SOTHEL ST - EAST	LA	330
AIRSTRIP RD	LA	329
LANDING DR - EAST	LA	323
CHOWAN ST - EAST	LA	298
GLIDER CT	LA	285
MCCABE PL	LA	285
WAX MYRTLE CT	LA	285

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## *Kill Devil Hills - Excellent Streets*

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<i>Name</i>	<i>Class</i>	<i>Length</i>
INDIAN DR	LA	283
FOX ST	C	280
MITCHELL CT	LA	265
KELLY CT	LA	265
ORVILLE CT	LA	265
COLUMBIA AVE	LA	260
LOBLOLLY CT	LA	245
FROELICH PL	LA	240
CONSOLE LN	LA	215
FIL LN	LA	215
LAURA LN	LA	215
FRANCES LN	LA	215
WILBUR CT	LA	215
KITTY CT	LA	215
SHARON CT	LA	215
LISA CT	LA	215
JEFFREY CT	LA	215
OCEAN ACRES DR - WEST	C	207
MAXINE ST	LA	200
HELEN LN	LA	195
PETER LN	LA	190
MARTONE LN	LA	190
ALEXANDER LN	LA	190
CHARLOTTE LN	LA	190
DAVID LN	LA	190
EVANS PL	LA	170
SMALL PL	LA	170
HILLSIDE DR - WEST	LA	150
BLUE JAY AVE	LA	130

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*114,176*

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## *Kill Devil Hills - Good Streets*

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<i>Name</i>	<i>Class</i>	<i>Length</i>
WRIGHTSVILLE BLVD	C	4,774
BAY DRIVE	C	4,311
FOURTH ST - WEST	LA	3,245
CLAM SHELL DR	LA	3,220
MARTIN ST - WEST	C	3,095
DURHAM ST - WEST	C	3,065
AVALON DR - WEST	C	3,025
AIRSTRIP RD	LA	2,801
SUFFOLK ST	C	2,490
INDIAN DR	LA	2,407
ARCH ST - WEST	LA	1,865
FIRST ST - WEST	C	1,792
FOX ST	C	1,740
GUNAS DR	LA	1,690
CARDINAL ST	LA	1,640
NEW BERN ST	LA	1,600
VIRGINIA AVE	LA	1,530
CREEK ST	LA	1,530
WYANDOTTE ST	LA	1,530
SEA SWEPT RD	LA	1,530
LAKE DRIVE - WEST	LA	1,480
ELIZ. CITY ST	LA	1,480
CANAL DR	C	1,302
BAY DRIVE	C	1,203
PORTSMOUTH ST	LA	1,190
YORKTOWN ST	LA	1,190
SMITHFIELD ST	LA	1,190
NEWPORT NEWS ST	LA	1,190
CAROLYN DR	LA	1,100
TANYA DR	LA	1,015
8TH STREET - EAST	C	1,015
SUNSET AVE	LA	1,005
COPLEY DR	LA	990

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## *Kill Devil Hills - Good Streets*

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<i>Name</i>	<i>Class</i>	<i>Length</i>
SECOND ST	LA	965
HELGA ST - EAST	LA	940
AVALON DR - EAST	LA	915
MARTIN ST - EAST	C	915
CALVIN ST	LA	915
CAPTAINS LN	LA	865
SOBLE DR	LA	850
PALMETTO ST - EAST	LA	850
ARCHDALE ST - EAST	LA	850
MEMORIAL AVE	C	830
PINEHURST AVE	LA	720
DURHAM ST - EAST	LA	665
WILSON ST	LA	664
GREENVILLE ST	LA	664
BELL AVE	LA	610
SEMINOLE ST	LA	600
WILKINSON ST - WEST	LA	555
HOLLY ST - EAST	LA	440
HAYMAN BLVD. - WEST	LA	435
ST. CLAIR ST - WEST	LA	420
DEAN ST. - EAST	LA	390
OREGON AVE - EAST	LA	384
OCEAN BAY BLVD - WEST	C	370
CORRIGAN ST - EAST	LA	315
MUSTIAN ST	LA	300
FIFTH ST - EAST	C	275
BRIGGS ST	LA	270
SUTTON AVE	LA	260
HILLSIDE DR - WEST	LA	250
CAMELLIA DR	LA	250
LARK ST	LA	220
SEAGULL CT	LA	85

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82,267

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## *Kill Devil Hills - Fair1 Streets*

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<i>Name</i>	<i>Class</i>	<i>Length</i>
BURNS DR	LA	3,715
OCEAN ACRES DR - WEST	C	3,078
CEDAR DR - WEST	LA	2,900
THIRD ST - WEST	C	2,320
EDENTON ST	LA	1,400
HIGHVIEW ST	LA	1,190
PHOEBUS ST	LA	1,190
HAMPTON ST	LA	1,190
FIRST ST - WEST	C	1,017
FIRST ST - EAST	C	975
RALEIGH AVE	LA	970
SPORTSMAN DR - EAST	LA	915
BAUM ST - EAST	LA	915
BATH ST	LA	850
CHARLOTTE ST	LA	664
GREENSBORO ST	LA	664
ROCKY MOUNT ST	LA	664
GEORGIA LN	LA	640
AZTEC ST	LA	630
TELEGRAPH CT	LA	445
CAPTAINS CIRCLE	LA	425
WRIGHT AVE - EAST	LA	384
FERRIS AVE	LA	345
MAPLE CT	LA	245
PINE CONE CT	LA	195
CLIPPER CT	LA	120

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**28,046**

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## *Kill Devil Hills - Fair2 Streets*

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<i>Name</i>	<i>Class</i>	<i>Length</i>
HAYMAN BLVD. - WEST	LA	2,990
SPORTSMAN DR - WEST	LA	2,975
QUAIL LN	LA	2,900
CAMERON ST	LA	1,814
PINE GROVE TR	LA	1,730
MEMORIAL AVE	C	1,590
CLARK ST - WEST	LA	1,495
WILKINSON ST - WEST	LA	1,414
HARRINGTON AVE	LA	1,210
TOWN HALL DR	C	1,160
NIXONTON ST	LA	940
SEMINOLE ST	LA	920
COLUMBIA AVE	LA	860
MUSTIAN ST	LA	770
HEATHER LN	LA	440
GOLDIE ST	LA	360
TEAKWOOD LN	LA	340
COOKE PL	LA	320
MARY HILL CT	LA	270
SCHOONER CT	LA	270
SEALOFT CT	LA	170
ANCHOR CT	LA	120
WOODMERE AVE	LA	100

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**25,158**

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## *Kill Devil Hills - Fair3 Streets*

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<i>Name</i>	<i>Class</i>	<i>Length</i>
HELGA ST - WEST	LA	1,965
LEE ST	C	1,814
TRUXTON ST	LA	1,520
SIXTH AVE	LA	1,385
ST. LOUIS ST	LA	1,385
PARKWOOD DR	LA	1,370
SHILOH ST	LA	1,090
SUSAN DR	LA	885
WALLACE ST	LA	715
RAYMOND AVE	C	568
MEMORIAL AVE	C	460
JEAN CT	LA	270
MYRTLE CT	LA	245
ELM CT	LA	245
ARMSTRONG CT.	LA	215
PINE NEEDLE CT	LA	195

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*14,327*

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## *Kill Devil Hills - Poor Streets*

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<i>Name</i>	<i>Class</i>	<i>Length</i>
BAY DRIVE	C	2,506
FIRST ST - WEST	C	2,034
SIR WALTER RD	LA	1,920
SEVENTH AVE	LA	1,810
EIGHTH AVE	LA	1,800
MEMORIAL AVE	C	1,560
8TH STREET - WEST	LA	1,465
RAYMOND AVE	C	1,426
THIRD ST - WEST	C	1,250
PRINCESS ANNE RD	LA	717
PALMETTO ST - WEST	LA	677
PIRATES LOOP	LA	665
OCEAN ACRES DR - WEST	C	660
LANDING DR - EAST	LA	657
WRIGHTSVILLE BLVD	C	651
DOCK ST	LA	590
RANDOM ST	LA	570
CHOWAN ST - EAST	LA	552
ATLANTIC ST. - WEST	LA	510
SEA VILLAGE LN	LA	495
SOTHEL ST - EAST	LA	490
CARLTON AVE - WEST	LA	420
NINTH AVE	LA	393
WINDSONG WAY	LA	350
SHAY ST	LA	350
CAMELLIA DR	LA	350
CORAL DR	LA	320
HARPOON DR	LA	245
JONES CT	LA	195
PLYMOUTH AVE	LA	150
SEA GATE CT	LA	140
SEA WING CT	LA	115
POND ST	LA	110

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## *Kill Devil Hills - Poor Streets*

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<i>Name</i>	<i>Class</i>	<i>Length</i>
		<i>26,143</i>

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## *Kill Devil Hills - Semi-Improved Streets*

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<i>Name</i>	<i>Class</i>	<i>Length</i>
OLD NAGS HEAD RD	ENV	5,220
OCEAN ACRES DR - WEST	C	1,500
VETERANS DR	C	1,393
BOUNDARY ST	LA	900
BLUE JAY AVE	LA	900
EIGHTH AVE	LA	750
BRIGGS ST	LA	650
WOOD DUCK LN	LA	620
SEVENTH AVE	LA	600
ALMA ST	LA	440
OCEAN BAY BLVD - WEST	C	390
EDEN ST - EAST	LA	350
SIXTH AVE	LA	350
AYCOCK ST - EAST	LA	300
FOX ST	C	300
MAXINE ST	LA	250
ROSA ST	LA	250
DOCK ST	LA	250
AVIATION AVE - EAST	LA	225
HOLLY ST - EAST	LA	150
MOLLIE ST	LA	150
HILL ST	LA	150
TEAL CT	LA	120
LOWELL AVE	LA	68

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*16,276*

## *Kill Devil Hills - UnImproved Streets*

<i>Name</i>	<i>Class</i>	<i>Length</i>
SCOTT ST	LA	3,430
HARDING ST	LA	3,320
BOUNDARY ST	LA	3,090
PLYMOUTH AVE	LA	2,700
BICKETT ST - WEST	LA	2,430
BLUE JAY AVE	LA	2,190
CORRIGAN ST - WEST	LA	2,125
BATH ST	LA	1,925
CLARK ST - WEST	LA	1,800
COLUMBIA AVE	LA	1,590
ARCHDALE ST - WEST	LA	1,450
AYCOCK ST - WEST	LA	1,350
HOLLY ST - WEST	LA	1,140
OCEAN BAY BLVD - WEST	C	1,100
PALMETTO ST - WEST	LA	1,025
FOURTH ST - EAST	LA	1,025
EDEN ST - WEST	LA	1,000
THEODORE ST	LA	730
BAUM ST - WEST	C	725
AZTEC ST	LA	600
CORRIGAN ST - EAST	LA	600
LEE ST	C	565
TENTH AVE	LA	515
EDEN ST - EAST	LA	500
SIXTH AVE	LA	500
BRIGGS ST	LA	450
PERRY LN	LA	450
ROSA ST	LA	440
ROAD ST	LA	440
GODDARD AVE - WEST	LA	440
HOLLY ST - EAST	LA	400
DEAN ST - WEST	LA	340
VETERANS DR	C	337

\* Indicates streets which the BOC has authorized contracts for street improvement projects since the survey date

<i>Name</i>	<i>Class</i>	<i>Length</i>
INDIAN DR	LA	280
HILLSIDE DR - EAST	LA	265
8TH STREET - WEST	LA	250
PINEHURST AVE	LA	250
CARLOW AVE	LA	250
FOX ST	C	250
MAXINE ST	LA	250
LOWELL AVE	LA	214
SHAY ST	LA	205
MEMORIAL AVE	C	200
THIRD ST - WEST	C	200
BAKER AVE	LA	200
LAKE DRIVE - WEST	LA	190
WRIGHTSVILLE BLVD	C	175
AYCOCK ST - EAST	LA	175
AIRSTRIIP RD	LA	165
POND ST	LA	160
ALMA ST	LA	150
SEVENTH AVE	LA	150
GOLDIE ST	LA	150
WOODMERE AVE	LA	80
AVIATION AVE - EAST	LA	50
BELL AVE	LA	50
SWAN ST	LA	50
MOLLIE ST	LA	40
SEMINOLE ST	LA	30
SOTHEL ST - EAST	LA	30
		<b><i>45,181</i></b>

\* Indicates streets which the BOC has authorized contracts for street improvement projects since the survey date

# Appendix D

## Right-of-Way Rating Guidelines



**Alligator Cracking:** Portions of pavement heavily cracked in a “shattered” or “alligator” pattern. Pavement edge damage is included in this category.



**Ride quality:** Pavement has deteriorated due to the above conditions to a point that deficiencies can be noticed in a moving vehicle through bumpiness, noise or other disturbance.



**Bleeding:** Film of bituminous material pushed to the surface of the pavement.

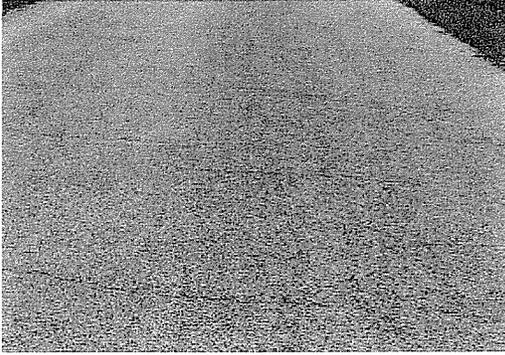


**Patching:** Presence of patching from previous maintenance of pavement.

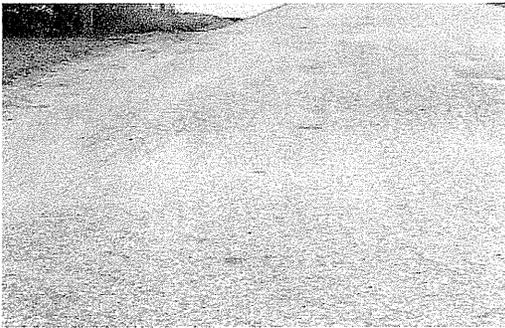
Included at the end of this appendix is a Pavement Condition Worksheet to be used for the evaluation. The worksheet is divided into columns for each section of the street. Streets may be evaluated as a whole or in sections if constructed/reconditioned at separate times. Rows beneath each column have been assigned a distress as mentioned above, as well as row for the drainage condition. Each section shall be assigned a value between 0 and 3 for each type of distress as well as for the drainage condition. These numbers should be based upon the following criteria:

## Right-of-Way Rating Guidelines

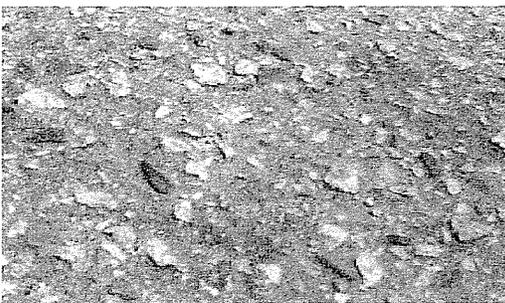
The following methodology for rating improved right-of-ways utilizes criteria set forth by the Institute for Transportation Research and Education and adopted by the North Carolina Department of Transportation. This rating system defines the following eight distresses for flexible pavements: Block Cracking, Rutting, Raveling, Oxidation, Bleeding, Ride Quality, Patching and Alligator Cracking. Descriptions for each of these distresses are as follows:



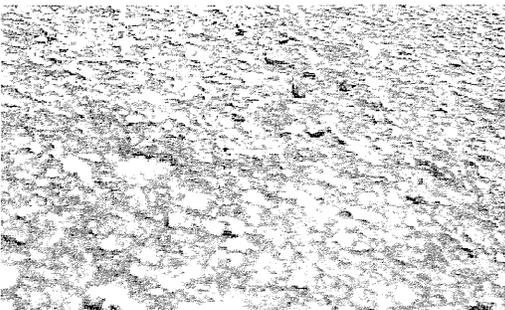
**Block Cracking** : Occasional or somewhat evenly spaced cracks typically running across or along the pavement. Very common where concrete has been overlaid by asphalt due to shifting of slabs.



**Rutting**: Surface depression within the pavement, usually caused by deformation in any of the pavement layers or subgrade.



**Oxidation**: Wearing away of asphalt binder on the surface of the pavement. Binder coarse has worn away to expose top and portions of the sides of coarse aggregate giving pavement a rough feel.



**Raveling**: Advanced form of oxidation where aggregate is beginning to come loose, giving pavement a “pitted” look in areas.

## Right-of-Way Rating Guidelines

### Pavement Condition:

- 0 No sign of this type of distress (or an isolated and minor sign) of this distress on the section of roadway being rated.
- 1 This distress is found on more than an isolated location, but less than 30% of the length of the section of roadway being rated.
- 2 The pavement shows signs of this distress on more than 30% but less than 60% of the length of the section of roadway being rated.
- 3 Sign of this type of distress can be found on more than 60% of the total length of the section of roadway being rated.

### Drainage Condition:

- 0 The right-of-way has drainage features such as adequately crowned pavement, swales and inverted driveways, drop inlets and culverts. There appear to be no obstructions reducing the functionality of these drainage features.
- 1 Drainage features are present within the right-of-way but with some obstructions reducing the overall functionality.
- 2 Drainage features are present within the right-of-way but not functioning due to obstructions.
- 3 No drainage features are present within the right-of-way.

Similar sections may also be evaluated on a "block-by-block" basis to find a composite value for each distress. Once all the values have been determined, the equations found on the following page can be used to determine the Pavement Condition Rating (PCR) and Drainage Condition Rating (DCR). From these two ratings, an Overall Condition Rating (OCR) may be determined. The maximum rating that may be obtained is 100, and a scale has been included to assign the Right-of-Way Ratings of Excellent, Good, Fair 1, Fair 2, Fair3 and Poor based on the Overall Pavement Condition Rating. These formulas may be easily entered into a spreadsheet for data management and calculation purposes.

## Right-of-Way Rating Guidelines

### Pavement Condition Rating (PCR)

$$\text{PCR} = 100 - (\text{AC}) * (10) - (\text{BC}) * (5) - (\text{RT}) * (5) - (\text{RV}) * (5) - (\text{OX}) * (3) - (\text{BL}) * (5) - (\text{RQ}) * (5) - (\text{PA}) * (5)$$

### Drainage Condition Rating (DCR)

$$\text{DCR} = 100 - (\text{DR}) * (17)$$

### Overall Condition Rating (OCR)

$$\text{OCR} = (0.80) * (\text{PCR}) + (0.20) * (\text{DCR})$$

#### Overall Condition Rating

#### Right-of-Way Rating

91 - 100	Excellent
81 - 90	Good
71 - 80	Fair 1
61 - 70	Fair 2
51 - 60	Fair 3
Less than 51	Poor

Note: This method has been created to measure asphalt pavement only. For the small number of remaining Town right-of-ways containing concrete pavement, an opinion resulting from a visual inspection for the presence of pavement cracks and unlevelled slabs, ride quality and drainage conditions shall remain the preferred method for determining the Right-of-Way Rating.

# **Appendix E**

## **Semi-Improved Street Rating Criteria**

As of February 2004, there are approximately 3.1 miles of Town owned semi-improved right-of-ways. On a case-by-case basis, the Town has funded improvements to portions of these right-of-ways for various reasons. With this update, the Town has established a system for evaluating semi-improved rights-of-way for improvement. The following summarizes various criteria that should be considered under this system:

### **Existing Condition of the Right-of-Ways**

- Overall length of the section under consideration.
- Existing roadway surface (*i.e. gravel, sand, soil, clay or other?*).
- Would the improvements create a new connection or result in a “dead-end” section of roadway.

### **Current Function of Right-of-Way**

- Number of properties the semi-improved right-of-way accesses that are not accessed by another improved right-of-way.
- Number of homes currently adjacent to the semi-improved right-of-way.
- Number of businesses currently adjacent to the semi-improved right-of-way.

### **Current Town Maintenance Responsibilities**

- Annual maintenance costs.
- Drainage problem areas.

### **Potential Function of Right-of-Way**

- Could the street serve as a Collector if improved?
- Would the improvement assist in providing any other economic benefit to the Town?
- If the improvement would create a connection? Consider access for emergency and municipal services.

### **Other Considerations**

- Benefits should be reviewed on a “per linear foot” basis.
- Funding (possibly alternative funding) sources available.

TOWN OF  
**KILL DEVIL HILLS**  
DARE COUNTY, NORTH CAROLINA

**THOROUGHFARE PLAN**

LEGEND

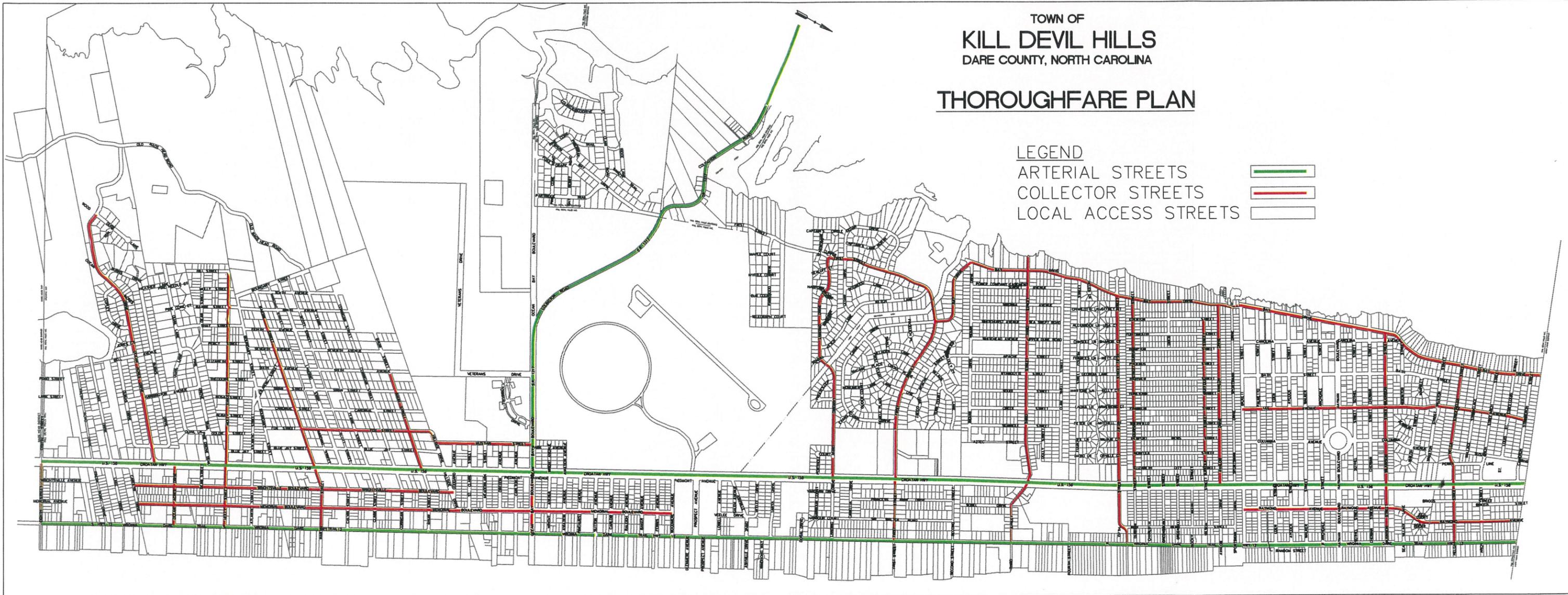
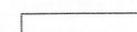
ARTERIAL STREETS



COLLECTOR STREETS



LOCAL ACCESS STREETS



TOWN OF  
**KILL DEVIL HILLS**  
DARE COUNTY, NORTH CAROLINA

UNIMPROVED RIGHT-OF-WAY ASSESSMENT

UPDATED SEPTEMBER 2006

LEGEND

-  EXISTING IMPROVED STREETS
-  DRAINAGE, UTILITIES, RECREATION & GREENWAYS
-  IMPROVE
-  ABANDON

