



TOWN OF KILL DEVIL HILLS

Land Where Flight Began

PUBLIC NOTICE

NOTICE IS HEREBY GIVEN that the Town of Kill Devil Hills Street Improvement and Special Projects Committee will hold a meeting on Tuesday, February 20, 2018 at 4:30 p.m. in the Meeting Room of the Administration Building, 102 Town Hall Drive, off Colington Road. The items to be discussed are listed below:

AGENDA

Call to Order

Agenda Approval

Approval of the Minutes of the January 24, 2017 meeting

Public Comment (Time limit of 3 minutes per person; 5 minutes per group)

Old Business

New Business

1. Street Improvement Recommendation for Fiscal Year 2018-19 and Plan Year 2019-20.
2. Stop Sign and Street Light Request – Indian Drive and Canal and along West Third Street

Adjournment

All citizens are cordially invited to attend.

Posted this 16th day of February 2018.

James Michael O'Dell
Administrative Specialist

Copies to: *Street Improvement and Special Projects Committee members in their meeting materials; Mayor & Board of Commissioners; Town Manager; all Town bulletin boards; KDH Sunshine List including all local news media; KDH Electronic Distribution List; website, social media; file*

Minutes of the January 24, 2017, Meeting of the Kill Devil Hills Street Improvement & Special Projects Committee (SISPC) held at 4:30 p.m. in the Meeting Room of the Administration Building, 102 Town Hall Drive, off Colington Road.

Members Present: Chair Mike Hogan, Stan Clough, Kevin Cox, Jerry Froehlich, Skip Jones, & Chris Stoessner, Alternate

Members Absent: none

Others Present: Meredith Guns, Assistant Planning Director; Steve Albright, Public Services Director; Bryan Brightbill, Assistant Planning Director, and Michael O'Dell, Administrative Specialist

Call to Order

Chair Mike Hogan called this meeting to order at 4:30 p.m., and thanked everyone for attending.

Agenda Approval

Skip Jones moved to approve the agenda for the meeting as presented. Kevin Cox seconded the motion, which was approved by a unanimous, 5-0, vote.

Approval of the Minutes of the April 26, 2016 Meeting

Mr. Jones moved to approve the minutes of the April 26, 2016, SISPC meeting as presented. Mr. Cox provided a second, and the minutes were approved as presented, with a unanimous 5-0, vote.

Public Comment (Time limit of 3 minutes per person; 5 minutes per group)

Molly Isaacs, 418 West Palmetto Street, Kill Devil Hills – Molly Isaacs stated that she did not know the status of a potential cut-through linking West Palmetto Street to Bay Drive or whether there are any issues to be resolved. She noted that the number of houses have tripled on her street since she moved almost 15 years ago. She asked the group to please pay careful attention about any cut through to Bay Drive from Palmetto Street, as she had a concern about increased traffic.

Pat Hanson, 418 West Palmetto Street, Kill Devil Hills – Pat Hanson stated she was unhappy with the whole situation. She noted that linking the West Palmetto Street and Bay Drive would make Palmetto Street a real thoroughfare. Such a change would negatively impact the

lives of people who have lived there a long time. Ms. Hanson said that it would be difficult with the additional traffic a cut-through would bring.

Old Business

New Business

1. Street Improvement Recommendation for Fiscal Year 2017-18 and Plan Year 2018-19

Planning Director Meredith Guns stated that Town Engineer Pete Burkheimer would be presenting the street improvement recommendations for 2017/18 Fiscal Year and the 2018/219 Plan Year. She noted that a current planned project was the completion of Phases III & IV of the Bay Drive Multi-Use Path, and the goal was to secure funding necessary to complete the improvements. Ms. Guns said the Town has received two grants for \$590,000 towards completion of the project

Public Services Director Steve Albright reported that a condition survey of all Town streets will be completed by the summer of 2017. Results of this survey, which is completed by Town staff, will update the Public Services Department and factor into future street improvement recommendations.

Mr. Burkheimer provided the group with an update of recently completed and ongoing street and infrastructure projects. He noted with the recent storms showed how stormwater efforts have demonstrated how well the Town has recovered after heavy rains and flooding.

The Town Engineer then presented street improvement recommendations for the Fiscal Year 2017/18 and Plan Year 2018/19, which are included with the meeting materials. He stated that completion of the Bay Drive Multi-Use Path Phases III and IV would provide almost four miles of pathway. Mr. Burkheimer stated he expects seven to eight months of work until substantial completion of the Multi-Use Path.

Mr. Cox asked about the status of sidewalks along US 158. Mr. Burkheimer stated that the Town examined pursuing the placement of sidewalks in front of the Dare Center (Phase III), but the plan was determined to be too expensive. He stated that the Town alternatively completed sidewalks east of US 158 (Phase IV), south of Colington Road. Ms. Guns stated that the sidewalk projects east of US 158 were now completed.

Mr. Cox moved to forward the Street Improvement Recommendation, which included the Bay Drive Multi-Use Path Phases III and IV, for Fiscal Year 2017-2018, and the Plan Year 2018-2019. Mr. Jones provided a second and the motion was approved by a unanimous, 5-0 vote.

2. Street Improvement Request – OBX Cottages Request to Improve West Eden Street and West Palmetto Street from Bath Street west to Bay Drive

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Street Improvement & Special Projects Committee Meeting

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Ms. Guns presented the request by OBX Cottages to improve West Eden Street and West Palmetto Street from Bath Street to Bay Drive. She stated that Mike Strader, of Quible Associates, was present and representing Outer Banks Cottages, LLC, which had submitted the request. Ms. Guns noted that both streets are currently listed on the unimproved right-of-way map to be improved, and that the improvements would be at cost of a private entity, with no cost for the Town. Staff recommended approval of the street improvement request, with two conditions: the Town Engineer and Public Services Department will approve the final engineered plan prior to construction, and all State and local permits must be secured prior to construction. Mr. Cox asked whether there is any consideration in widening the streets. Mr. Albright stated these streets were categorized on the Street Improvement Master Plan as local access, so a 20 foot-street width would meet all requirements and be the standard.

Stan Clough moved to recommend approve the request to improve West Eden Street and West Palmetto Street from Bath Street, west to Bay Drive, with the following conditions outlined in the Staff's memorandum. Jerry Froehlich seconded the motion. The motion was approved by a unanimous, 5-0 vote.

Mr. Burkheimer and Ms. Guns left the meeting at 5:14 p.m.

Chair Hogan introduced new alternate SISPC member Chris Stoessner to the group.

Adjournment

There being no other business before the Street Improvement & Special Projects Committee at this time, Mr. Froehlich moved to adjourn, and Mr. Cox provided a second. The motion carried by a unanimous, 5-0 vote, and the meeting adjourned.

It was 5:16 p.m.

Submitted by:

James Michael O'Dell
Administrative Specialist

These minutes were approved at the ____, 201__, meeting of the Street Improvement & Special Projects Committee.

Commissioner Mike Hogan, Chair

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Director of
Planning and Inspections
MEREDITH GUNS

Chief Building Inspector
MATT LOWCHER

Building Inspector
MARTY SHAW

Code Enforcement Officer
CHARLES THUMAN



Assistant Director of
Planning and Inspections
BRYAN BRIGHTBILL

Senior Planner
CAMERON RAY

Zoning Administrator
DONNA ELLIOTT

THE TOWN OF KILL DEVIL HILLS
NORTH CAROLINA

PLANNING DEPARTMENT

February 20, 2018

Memorandum

To: Street Improvement/ Special Project Subcommittee

From: Meredith Guns, Planning Director *MG*

Subject: Street Improvement Recommendation 2018-19 Fiscal Year (FY)

Attached is a memorandum and spreadsheet from Pete Burkheimer, P.E. with American Engineering and Town Engineer. The spreadsheet outlines street recommendations for 2018-19 FY, 2019-20 plan year and beyond. Additionally, the accompanying spreadsheet summarizes the past several years of projects and the remaining Fair 3 and Poor Streets. There is also one citizen request for street improvements to the West Sportsman Drive.

The 2018-19 recommendation is in the southwestern area of Kill Devil Hills including right-of-ways Whispering Pines Subdivision. The right-of-ways and drainage improvements will include Pine Grove Trail, Quail Lane, Goldie Street, Harrington Lane, Shay Street, Pine Grove Court, Pine Needle Court and Heather Lane. The estimated cost for the project including street improvements, drainage improvements and waterline replacement is approximately \$921,000. This will require additional funding by the Board of Commissioners.

The 2019-20 plan year will including West Hayman Boulevard (the circle to Bay Drive) drainage and overlay and Sixth Avenue and Town Hall Drive (overlay and drainage).

Please be prepared to discuss the proposed recommendations.

Sent from my iPhone

Begin forwarded message:

From: June Duck <jmduck01@gmail.com>
Date: August 14, 2017 at 2:36:37 PM EDT
To: June Duck <jmduck01@gmail.com>
Subject: Issues with standing water on West Sportsman Drive, Kill Devil Hills, NC

Over the past 15 years the topography has somewhat changed on West Sportsman Drive. New homes have been built and the level of soil that has been added in order to make the homes elevated from the street level have increased the drainage issues of rain water on West Sportsman Drive.

We would like to have your committee relook into what measures can be done to improve the drainage issues on that street and see if this could be accomplished perhaps using the information that the Engineer had previously developed and then add the additional homes to the previous topography report.

Water now stands after a mild rain in the 100 and 400 block and after a heavy rain in the 100, 400, 500, and at Bay Drive.

It would be greatly appreciated if you would consider relooking at the West Sportsman Drive road project.



February 14, 2018

The Kill Devil Hills Street Improvement and Special Projects Committee,
c/o Ms. Meredith Guns, Planning Director
Ms. Debora P. Diaz, Town Manager
P. O. Box 1719
Kill Devil Hills, NC 27948

By **e-mail**; original will follow by **mail**

Reference: **Project ID V17200 "B" – 2018/2019 Street/Drainage Projects Recommendations**

Dear Committee Members, Ms. Diaz and Ms. Guns:

This is our annual update on your capital projects program and our recommendation looking forward.

In the following points, we'll recap some recent accomplishments and note some other points that are influencing our thinking for the future:

What have we been doing since last meeting?

1. 2017 was another productive year:
 - a. 2016/17 Streets Project: Late in 2016, we bid and the Board awarded the 2016-17 main project, which included renewing streets and providing drainage improvements in West Clark Street, Mustian Street, Carlton Avenue and three cul-de-sacs in First Flight Village; AC water main replacement in Clark is also included. This work went well and was completed by Spring, 2017 as planned.
 - b. 2017/18 Project—KDH Multi-Use Path, Phases 3 & 4: Last year, we recommended a large, bold project to you—the completion of the Multi-Use Path Project. Instead of doing these two phases separately, perhaps 2-3 years apart, Town Staff, SISPC and the Board of Commissioners agreed "it's time" to connect the earlier phases done in 2008, 2011 and 2013. The project was designed through the first half of 2017 and bid in late summer. It is, by a good margin, the largest dollar value of any non-water project we've done, at about \$1.3 million. The project got off to a fast start, with the eastward shifting of Bay Drive and Canal Drive pavement to make space for the path being completed in mid-November. Due to a combination of weather, holiday and crew availability issues, little work was done in late November, December and early January, but pipe laying and rough grading began in mid-January and is proceeding well. The contractor is also placing stone base for the path itself in the northern area and is expected to begin work on east side driveway restoration in a week or so. We still expect the project to be substantially complete in mid spring and fully complete by late spring. We are greatly anticipating seeing this complete facility in service for our residents and guests!

What are the goals and principles of our capital projects?

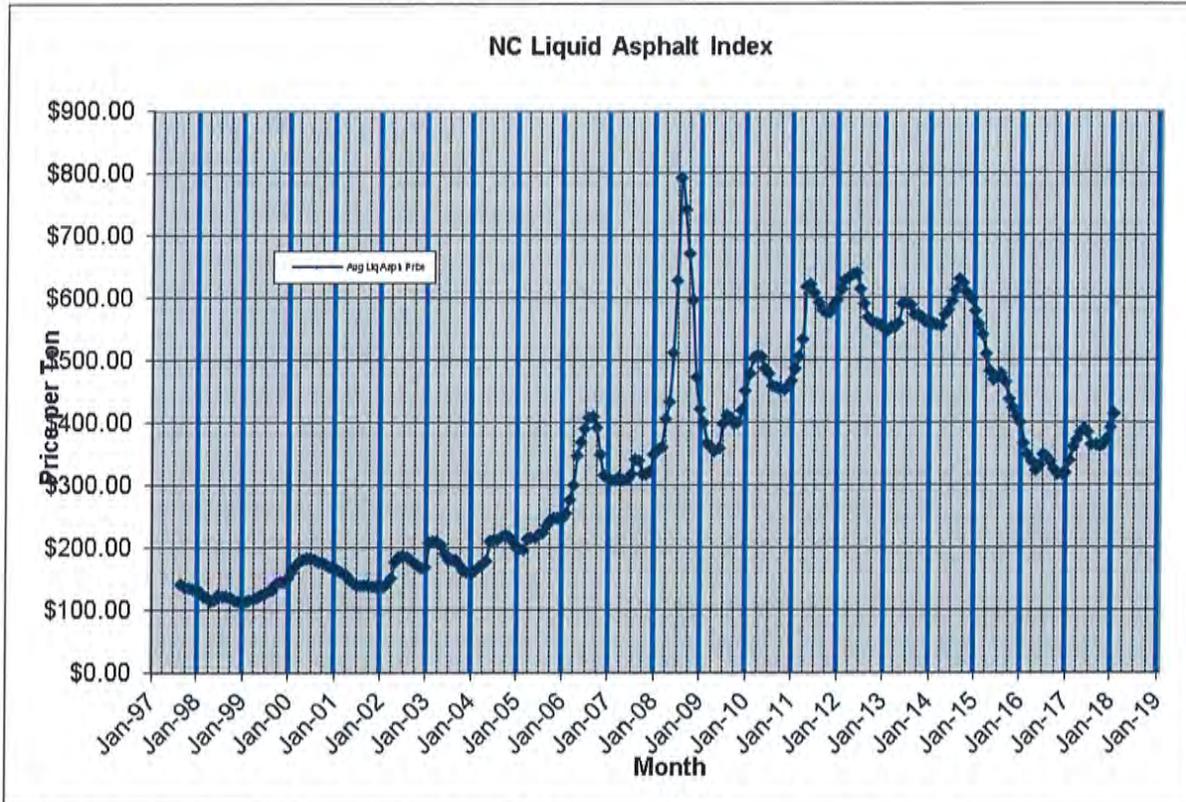
2. As we always note in these reports, our long-held goal of is to fix our Poor streets. Over the next 6-8 years, we expect to transition to more and more resurfacing of streets and less total reconstruction, as we bring the older streets up to a more durable standard of construction. After that, we will want to be resurfacing our streets right when they need it; in other words, there won't be any more Poor streets, or, they won't be on the Poor list very long.
3. Another goal, as noted before, is the gradual replacement of asbestos-cement (AC) water mains throughout town. Our current Water System Master Plan includes a multi-year recommended program in increments of about \$1.5 million at intervals of 2 or 3 years. As we consider street or street and drainage projects, we are always looking for the opportunity to replace AC water mains at the same time, which is more cost effective and causes less overall disruption to our residents.

The Master Plan also provides for the replacement of the 53-year-old elevated water tank at the Fire Station water facilities. We're in Detailed Design on this, with construction work to be bid later this year.

4. We have made great progress in improving storm drainage and stormwater management in a number of areas, there are still many areas with drainage challenges. The 2015 project was a giant step on our ongoing Memorial Boulevard Backbone effort, but we'll need to push southward in the future. Elsewhere, when we do a street project, we'll probably include drainage work, using our "sock drain" strategy in most cases. For example, the current Path project includes continuous sock drain for its entire length, which will provide significantly improved drainage service to these lower-elevation areas.
5. Considering the goals noted above, we reiterate the following points made in last year's report, which lay out our strategic goals and factors summarize what drives our recommendations with respect to future street and drainage projects:
 - a. As noted above, the well-received Multi-Use Path program was given high priority, and we much appreciated the support from the Parks and Recreation Trust Fund (PARTF) (\$250,000 awarded) and the Dare County Tourism Board (\$341,250 awarded). Now that this great facility is complete, our attention can and should turn to repairing poor streets as noted below, as well as smaller-scale pedestrian projects and stormwater/drainage work.
 - b. Fixing our Poor streets before they deteriorate to where a moderately-expensive overlay becomes an expensive reconstruction is just good stewardship. Your staff, with assistance from SISPC Chair Mike Hogan and Member Jerry Froelich, has just completed a complete re-inspection of Town-maintained road and streets. These inspections occur about every 5 years, and the last one was done in 2012. The

rating system is based on a point system, considering pavement condition and storm drainage service (or the lack of it). The rating categories are Excellent, Good, Fair1, Fair2, Fair3 and Poor. Before this latest rating, we only have about 2.6 miles of the Town's 63 miles of road in Poor Condition. With this inspection, another 3.77 miles dropped to Poor, bringing the Poor total up to 6.4 miles, or just over 10% of our streets. Hurricane Matthew may have contributed to this by wetting and softening street subgrades, as well as the extremely low temperatures recently (*e.g.*, East Martin Street failure).

- c. We had been making great progress in renewing our Poor streets, and we still have done so in recent years. However, three factors have eaten into our net gains:
 - i. As we'll discuss below, inflation has eroded our buying power somewhat over the last five years since the recession passed.
 - ii. We devoted two of the past five years (FY 12-13 and FY 17-18) to the Multi-Use Path Program.
 - iii. Our large and expensive 13-14 project, North Kitty Hawk Shores replaced a considerable length of "Poor" Memorial Boulevard, but its bigger emphasis was storm drainage. It made nearly a 10-fold drainage capacity increase in an area where the old pipes were grossly undersized and totally rusting away...but it diverted fund that could have fixed nearly a mile of Poor streets.
- d. Even though we need to press hard on the core mission of repairing Poor streets, while doing so we should continue bringing drainage relief to problem areas and to move toward the very successful program of sock drain and roadside swales.
- e. Where feasible, we should combine road improvement, drainage improvement and water main replacement into one project. This "holistic" approach saves money and disturbs our citizens less.
- f. To continue with the progress made during the last 12 years in renewing our streets and improving our drainage systems, **we will need to consider some increases in the annual level of funding for projects.** We believe the pricing of recent projects, while good and competitive, represents a post-recession inflationary trend in construction pricing. This trend has been partially masked by the drop in petroleum--and thus asphalt--prices (see graph below); however, as the graph shows, that downward trend has bottomed out and is heading up again. We appreciate the Board of Commissioner's continuing efforts to fund these capital projects at a workable level, and will always seek the best possible value for the Town's dollars. Many of the project packages we see in our future, over the next 7-10 years, have pricetags in the \$700,000 to \$900,000 range, and most of them are unlikely to be eligible for significant help from grant funding.



What is recommended for the next three years?

With those guiding principles established, we offer the following project-specific recommendations on the attached spreadsheet. Let's consider the various portions of this spreadsheet:

Page 1: This contains the most important information. (The projects being completed this spring are shown on Page 3 under Completed Projects.)

FY 2018-19: The area with **salmon shading** represents our recommendation to return to the Southwest Area of KDH. After the severe flooding of early 2010, we proceeded on an emergency basis to install a groundwater management storm drain system in Ocean Acres. The first phase of this was completed in late summer of 2010 and the second in 2012. The adjacent subdivision of Whispering Pines, to the north, has similar problems, but to date has received just a few stopgap improvements near the Pine Grove Trail connection to US 158 and around the Shay Street connection to the north. This year's project, if approved, will install "sock drain" throughout Whispering Pines and overlay all streets, clearing up over 18% of our new 6.4 mile Poor backlog.

We propose a typical schedule, with surveying and design done in March through June, review and permitting in July and August, with bids opened in September and work beginning in October. Substantial Completion would be spring of 2019. Total cost is forecast to be around \$921,000.00.

FY 2019-20: The following year's candidate project is shown with **blue shading**. This is actually two projects, which could either be bid at one time or broken into a "Fall" and "Spring" project as is proposed for the following year.

Hayman Boulevard includes the entire Ocean Park circle and then westward to Bay Drive. It has a lower Poor score of 43.0; patching and an overlay will fix the street, and "sock drain" will greatly improve drainage of the area.

Sixth Avenue, from Airstrip to Baum, is in poor condition (46.6) and needs attention. Town Hall Drive is also in poor condition, with a 45.4 rating, with poor surface drainage and riding quality.

The estimated total cost of these projects is \$937,000.

FY 2020-21: The area with **green shading** is intended to show a third year, in which we recommend the design and bidding of two medium-sized projects as Fall and Spring projects, as we have done in some past years.

Fall Project: We propose four streets in a compact project area be addressed: Teakwood Lane and Captains Circle (Landings, Phase 3) and part of Cedar Drive and Captains Lane (First Flight Village, Phase 3). A total of 3,460' of street, or about 2/3 of a mile, of old streets would be renewed; most are already Poor and Cedar Drive is a low Fair3, on the brink of Poor. It makes sense to catch all these at once and upgrade their substandard drainage. The anticipated cost is \$431,000.

Spring Project: We propose to address five streets scattered "between the highways": East Helga Street and East Fourth, which would be overlaid with some drainage improvements. East Dean Street and East Martin Street would also be overlaid, with drainage needs to be assessed further (an adjacent portion of East Martin totally failed due to freezing weather a few weeks ago and had to be repaired on an emergency basis). Also, Briggs Street, which has been maintained by the Town as a gravel road for many years, would finally be paved, with proper drainage installed. The total anticipated cost for this is \$477,000.

FY 2021-22: Th area with **purple shading** is presented somewhat differently than in past recommendation letters. Instead of lumping half a dozen or so projects into the third year, we have made a more specific recommendation, just above, for FY 2020-21; and this section indicates a menu of additional projects that, taken together with the previous three Fiscal Years, maps out a 10-Year Plan of Street Improvements.

As noted, SISPC and BOC certainly may add to or subtract from, and/or may re-order, this list. But, it represents a useful point of beginning for longer term capital project planning.

In this letter report, we will not discuss the seven projects presented in this section in as much detail as the near-term projects. Broadly, we note the following:

- If this program is full executed, essentially all of our Poor streets will be upgraded. Of course, a new rating done in about 2023 will doubtless see some of our Fair3 roads drop to Poor, but hopefully it will be a smaller number than this cycle.
- Included in the six mid-term project are two more phases of the Memorial Boulevard trunk drainage system. Phase 2 will fix about 0.3 mile of Poor street, but your Town Engineer is an earnest proponent of continuing to relive flooding in the southern portion of Memorial Boulevard.
- All of the remaining projects are worthy and important and will need to be done. Citizen input, as well as staff and leadership team participation, will lead us to wise decisions as to their relative priorities.
- It is hoped that SISPC and BOC will continue to provide budgetary support for small, as-needed storm drainage projects. These help staff deal with small-scale, suddenly-arising situations in an effective manner.
- We stand ready to execute the guidance of SISPC and BOC on annual efforts to expand our system of walkways, as we have in past years. The Multi-Use Path absorbed all such funds for the current fiscal year, but its completion will allow, if it's the Board's pleasure, the resumption of medium-scale sidewalk extensions.

All of Page 2 and Top of Page 3: This is a recap of the accomplishments of the last 12 years' projects. It is provided to help the Committee and others see our recommendation in its historical context.

Remainder of Page 3: This page accomplishes two things:

In the **Drainage Only** sections, we note past projects completed in the past 12 years.

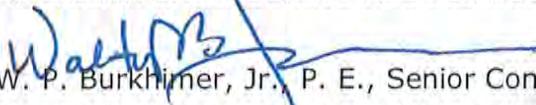
In the block after that is a list of drainage projects still remaining from the Town's 2005 Multi-Year Drainage Plan. Especially notable among these, **Memorial Avenue Ditch**, is discussed above.

All of Page 4: This block got much larger, as discussed above, due to the just completed Town-wide condition rating. Those which are recommended to be done in the 10-Year Street Capital Program are shaded with the color to match each year's recommendations

Thank you for your careful consideration of our recommendations. We'll see you Tuesday afternoon, February 20, 2018.

Very truly yours,

AMERICAN ENGINEERING ASSOCIATES, P.A.


W. P. Burkholder, Jr., P. E., Senior Consultant

Cc: Mr. Steve Albright, Public Services Director
Ms. Meredith Guns, Planning Director

KILL DEVIL HILLS -- Street And Drainage Improvements Recommendations

FY 2018-19 Project	Condition	Rating	Length	Remarks	Preliminary Cost (Including design and construction administration. All costs in \$000.)			
					Street	Drainage	WM	Total
Whispering Pines ; sock drain tying into adjacent systems; overlay all streets								
Pine Gove Trail	Poor	46.3	2,170	50% drainage	\$167	\$87	\$10	\$264
Quail Lane	Poor	42.0	3,160	65% drainage	\$243	\$164	\$15	\$423
Goldie Street	Fair3	56.4	150		\$12	\$0		\$12
Harrington Lane (Burns to Pine Grove)	Poor	38.3	510	100% drainage	\$39	\$41	\$15	\$95
Shay Street (Quail to Dean)	Poor	41.0	320	100% drainage	\$25	\$26		\$50
Pine Cone Court	Fair3	54.0	180		\$14	\$0		\$14
Pine Needle Court	Poor	42.3	180		\$14	\$0		\$14
Heather Lane	Poor	46.0	320	100% drainage	\$25	\$26		\$50
			6,990		\$538	\$343	\$40	\$921
			6,160	1.17 miles Poor				

FY 2019-20 Project	Condition	Rating	Length	Remarks	Preliminary Cost (Including design and construction administration. All costs in \$000.)			
					Street	Drainage	WM	Total
Hayman Blvd & Plymouth Ave					\$278	\$143	\$30	\$451
Hayman Cir W to Bay; extend drainage; 1.5" overlay	Poor	43.0	3,260		\$179	\$130	\$25	
Plymouth Ave, overlay	Poor	39.4	180		\$99	\$13	\$5	
Sixth Avenue & Town Hall Drive					\$341	\$95	\$50	\$486
Town Hall Dr, overlay; drain	Poor	45.4	1,030		\$113	\$41	\$25	
Sixth Av (Airstrip to Baum), overlay & drain	Poor	46.6	1,340		\$228	\$54	\$25	

FY 2020-21	Condition	Rating	Length	Remarks	Preliminary Cost (Including design and construction administration. All costs in \$000.)			
					Street	Drainage	WM	Total
FALL Project								
First Flight Village 3 / Landings 3					\$242	\$138	\$50	\$431
Cedar Dr, Captains Ln, Teakwood Ln, Captains Cir; ex WM is PVC; overlay & drainage								
SPRING Project								
Between the Highways					\$283	\$91	\$103	\$477
Overlay E Helga, E Fourth w Drainage	Poor	41±	1,130		\$90	\$45	\$25	
Build Briggs w Drainage	Poor	26	234		\$40	\$9	\$25	
E Dean St, overlay	Poor	50	300		\$51	\$12	\$26	
E Martin St, overlay	Poor	51	600		\$102	\$24	\$27	
Total for FY 2020-21:					\$907			

FY 2021-22 and beyond	Condition	Rating	Length	Remarks	Preliminary Cost (Including design and construction administration. All costs in \$000.)			
					Street	Drainage	WM	Total
<i>(provided not as a formal recommendation, just to stimulate future thinking)</i>								
Memorial Blvd Drainage Trunk, Phase 2					\$260	\$445	\$50	\$755
Carlton, Corrigan, Clark, DW's, "SOD"; overlay Mem. F1, F2, P								
Memorial Blvd Drainage Trunk, Phase 3					\$330	\$150	\$480	\$960
Martin thru Carolyn; parallel 30", WM adjustments								
Wrightsville Blvd					\$427	\$214	\$299	\$940
Goddard to Carolyn; overlay, sock drain; upgrade 60% of WM								
W Third St (US 158 to Creek; extend drainage);					\$169	\$223	\$146	\$538
W Third: extend drainage 1.5" overlay	Poor	43.3	1,194		\$72	\$186	\$121	
Seminole St (W Third to Indian)	Poor	46	930		\$98	\$37	\$25	
W Sportsman & Dock					\$333	\$142	\$266	\$741
W Sportsman Dr	Poor	46	2,997		\$240	\$120	\$240	
Dock Street	Poor	26.6	549		\$93	\$22	\$26	
Ocean Acres WM Replacement					\$420	\$50	\$588	\$1,058
Replace All AC with PVC; overlay streets; drainage done urgently 2010-12. Pavement issue, Ocean Acres Dr from 2012								
TOTAL OF 6 PROJECTS:					\$1,610	\$1,404	\$1,499	\$4,512
AVERAGE SIZE:								\$752

KILL DEVIL HILLS -- Street And Drainage Improvements Recommendations**Blocks Below Summarize Previous Years' Projects**

Note: Older project printed small to save space; more recent ones larger on next page

2005 Fall Project		(May 2003)	Poor Streets Fixed This Season: 400 ft		Cumulative Length, Poor Streets Fixed
Street	Street Condition	Length	Status		
Eighth Ave (Martin to Airstrip)	Semi-improved	450	Completed		
Ninth Ave (Martin to Airstrip)	Poor	400	Completed		400
Culvert repairs					
2006 Spring Project		(May 2003)	Poor Streets Fixed This Season: 380 ft		Cumulative Length, Poor Streets Fixed
Street	Street Condition	Length	Comments		
West Baum St	Unimproved	600	No Award Spring 05, Fall 05, Spring 06		
W. Fresh Pond/ W. Lake Drive Connector	Poor	380	Completed		780
Creek St (Third to Indian)	Drainage	600	Completed		
Cardinal St (800 block)	Drainage	425	Completed		
2006 Fall Project		(May 2003)	3,650 Poor Streets Fixed This Season: 3,650 ft		Cumulative Length, Poor Streets Fixed
Street	Street Condition	Length	Comments		
Sir Walter Rd	Poor	1,920	Completed		2,700
Princess Anne Dr (Camellia to First)	Poor	720	Completed		3,420
Camellia Dr (Sir Walter to Princess Anne)	Poor	350	Completed		3,770
East Landing Dr (Cove to US 158)	Poor	660	Completed; ovenay		4,430
2007 Spring Project		(2007 rating)	3,520 Poor Streets Fixed This Season: 3,520 ft		Cumulative Length, Poor Streets Fixed
Street	Street Condition	Length	Comments		
Seagate Ct	Poor	100	Completed		4,530
Sea Village La	Poor	500	Completed		5,030
Sea Wing Ct	Poor	100	Completed		5,130
Raymond Ave (Wilkinson to Arch)	Poor	1,625	Completed		6,755
Raymond Ave (Arch to Town Line)	Fair 3	600	No Award Spring 07, built 2013		
E. Chowan St (NC 12 to Raymond)	Poor	595	Completed		7,350
E. Somer St (NC 12 to Raymond)	Poor	800	Completed		8,150
2007-08 Project		(2007 rating)	3,350 Poor Streets Fixed This Season: 2,350 ft		Cumulative Length, Poor Streets Fixed
Street	Street Condition	Length	Comments		
Bay Dr (Nixonton to Town Line)	Poor	2,350	Includes Multi-Purpose Trail		10,300
Bay Dr (Hayman to Nixonton)(Drainage)	Good	1,300	Drainage only; future trail		
Various Drainage Projects (also listed Drainage Only below)					
2008-09 Project		(2007 rating)	6,482 Poor Streets Fixed This Season: 4,140 ft		Cumulative Length, Poor Streets Fixed
Street	Street Condition	Length	Comments		
St. Louis St (Susan to Bay)	Poor	41.4	1,426 Completed		11,726
Wallace St (Susan to Lee)	Poor	22.6	717 Completed		12,443
Truxton St (Lee to Bay)	Poor	43.8	744 Completed		13,187
Wilkinson St (Lee to Bay)	Poor	44.4	1,253 Completed	2.73	14,440
Lee Ave (Wilkinson to Cameron)	Fair3	54.0	2,342 Completed		
Palmetto St (Lee to Bath)	Poor	22.0	529 No Award Winter 08, built 2014		
E. Avalon Drainage, Phase 3 (also listed Drainage Only below) Complete; New Bern Street portion not awarded Winter 08					
2009-10 Project		(2007 rating)	4,126 Poor Streets Fixed This Season: 2,362 ft		Cumulative Length, Poor Streets Fixed
Street	Street Condition	Length	Comments		
W First St (Canal to Ketch)	Poor	50.6	566 w/MP Trail; Completed		15,006
W First St (Ketch to Landing)	Excellent	97.1	1,764 w/MP Trail; Completed		
W First St (Landing to south end)	Poor	46.1	1,796 w/MP Trail; Completed		16,802
2010-11 Project		(2007 rating)	3,655 Poor Streets Fixed This Season: 0 ft		Cumulative Length, Poor Streets Fixed
Street	Street Condition	Length	Comments		
Phase 1A completed, stormwater only, on urgent basis					
Ocean Acres Dr (158 to Copley W)	Fair3	59.0	2,800 Stormwater infiltration only		16,802
Harrington Lane (OA to Burns)	Good	89.0	250 Stormwater infiltration only		
Bell Avenue (OA to Burns)	Fair1	71.0	250 Stormwater infiltration only		
Gunas Dr (portion n of OA)	Fair1	75.0	135 Stormwater infiltration only		
burns Dr (short portions)	Fair3	59.0	220 Stormwater infiltration only		
Fall FY 2011-2012 Project			3,950 Poor Streets Fixed This Season: 950 ft		Cumulative Length, Poor Streets Fixed
Street	Street Condition	Length	Comments		
SW AREA (Ocean Acres) Stormwater, Phase 2					
Ocean Acres Drive	Fair3	59.0	3,050 1.5" Overlay only		17,602
Ocean Acres Drive	Poor	49.0	800 2" Overlay only		
Burns Drive	Fair3	60.4	900 stormwater only		
Harrington Ave (Burns-Gunas)	Fair2	67.0	250 stormwater only		
Gunas Drive	Fair1	75.0	700 stormwater only		
Copley Drive	Fair1	77.0	400 stormwater only		
Jones Court	Poor	43.0	150 2" Overlay only		17,752
Adjust WVM and remove "jumpers"					
Spring FY 2011-12 Project			1,252 Poor Streets Fixed This Season: 1,252 ft		Cumulative Length, Poor Streets Fixed
Street	Condition	Length	Remarks		
Pirates Loop	Poor	47.0	709 full reconstruction; grade change		18,461
Coral Drive	Poor	48.4	302 full reconstruction		18,763
Harpoon Drive	Poor	48.4	241 overlay		19,004
1,252					
Fall FY 2012-13 Project			4,951 Poor Streets Fixed This Season: 1,579 ft		Cumulative Length, Poor Streets Fixed
Street	Condition	Length	Remarks		
Parkwood Area (road reconstruction & drainage)					
Parkwood Dr	Poor	50.4	1,352 full reconstruction		20,356
Maple Ct	Fair 2	70.0	223 overlay		
Myrtle Ct	Poor	48.4	227 overlay		20,583
Elm Ct	Fair 3	52.4	245 overlay		
Telegraph Ct	Fair 3	52.4	400 overlay		
4,951					
Spring FY 2012-13 Projects			3,570 Poor Streets Fixed This Season: 0 ft		Cumulative Length, Poor Streets Fixed
Street	Condition	Length	Remarks		
Bay Drive Multi-Use Path, Phase 2					
Bay Drive (Avalon to Wilkinson)	Good	86.2	2,555 full reconstr., first 2 blocks		20,583
Bay Drive (Wilkinson to Nixonton)	Fair 2	41.7	415 overlay		
Raymond Ave (Arch to Town Line)					
	Fair 3	54.0	600		
3,570					

KILL DEVIL HILLS -- Street And Drainage Improvements Recommendations**Previous Years' Projects (continued from previous page)**

FY 2013-14 Project: NW Area 2		<u>Condition</u>	<u>Length</u>	<u>Remarks</u>	Cumulative Length, Poor Streets Fixed
Nixonton Street	Poor	42.0	1,039		
Bath Street	Poor	40.4	948		
Mary Hill Court	Poor	46.0	367		26,666
Columbia Avenue	Poor	37.4	777		5.05 miles
Jean Court	Poor	46.0	374		
Shiloh Street	Poor	42.0	1,159		
Truxton Street	Poor	50.0	890		
Wilkinson St (Columbia to 158)	Fair1	73.0	725		
Palmetto St (Lee to Bath)(Alternate?)	Poor	22.0	529		
			6,808	6,083 ft poor	

FY 2014-15 Project: N KHShores		<u>Condition</u>	<u>Length</u>	<u>Remarks</u>	Cumulative Length, Poor Streets Fixed
Memorial Blvd. (Wright-Woodmere)	Poor	29.2	1,965		
Memorial Blvd. (48" pipe replacing ex. culverts)			1,080	1,080' is part of 1,965'	
Aviation Avenue	Excellent	95.6	550		28,631
Pinehurst Avenue	Fair1	73.6	550		5.42 miles
Sutton Avenue	Good	81.4	550		
Carlow Avenue	Good	90.8	550		
Raleigh Avenue	Fair2	68.4	945	158 to NC12	
Baker Avenue	Excellent	95.6	550		
Ferris Avenue	Fair1	71.2	550		
			2,910	1,965 ft poor	

FY 2015-16: Northwest Area, Phase 3, Wrightsville, Memorial, Sioux Drainage and E & W Eighth		<u>Condition</u>	<u>Length</u>	<u>Remarks</u>	Cumulative Length, Poor Streets Fixed
Memorial Blvd. (Baum - halfway to Corrigan)	Poor	37.4	200	bid Sep 14; not awarded	
Wrightsville Blvd (Eighth to north end)	Poor	38.6	738	bid Sep 14; not awarded	32,596
Cameron Street	Poor	45.4	1,865		6.17 miles
Susan Drive	Poor	48.4	1,160		
E Eighth Street	Fair3	54.6	1,025	Nags Head 50% share: \$0	
W Eighth St	Fair2	67.0	1,417	Nags Head 50% share: \$100	
			6,405	3,965 ft poor	

FY 2016-17: Clark/Blue Jay St, Mustian St, Carlton Ave, Cooke Pl, Anchor Ct, Schooner Ct		<u>Condition</u>	<u>Length</u>	<u>Remarks</u>	Cumulative Length, Poor Streets Fixed
W Clark Street	Poor	48.0	1,396	begin Dec 16, complete Apr 17	
Blue Jay Street				begin Dec 16, complete Apr 17	36,561
Mustian Street	Poor	43.8	1,625	begin Dec 16, complete Apr 17	6.92 miles
W Carlton Ave	Poor	43.8	401		
Cooke Place	Poor	42.0	262	begin Dec 16, complete Apr 17	
Anchor Court	Poor	44.4	79	begin Dec 16, complete Apr 17	
Schooner Court	Fair2	56.4	200	begin Dec 16, complete Apr 17	
			3,963	3,965 ft poor	

FY 2017-87: Bay Drive Multi-Use Path, Phases 3 & 4		<u>Condition</u>	<u>Length</u>	<u>Remarks</u>	Cumulative Length, Poor Streets Fixed
Canal Dr, W First to Indian	Good	81.0	1,325		36,561
Bay, Indian to Avalon	Fair3	58.2	4,275		6.92 miles
			5,600	0 ft poor	

Drainage Only Areas Completed

(per Albemarle & Associates 2005 Multiyear Drainage Plan)

<u>Street or Area</u>	<u>Nature of Problem</u>	<u>Comments</u>
06-07, East Avalon, Phase 1	Residential property Flooding	Avalon Street ONLY, not whole project; Completed Fall 04
07-08, Cardinal St	Residential property Flooding	Completed Spring 06
07-08, Creek St	Residential property Flooding	Completed Spring 06
07-08, Cedar Dr	Residential property Flooding	Completed Spring 06
06-07, East Avalon, Phase 2	Residential property Flooding	Completed Winter 07-08
Second St / Princess Anne Dr	Residential property Flooding	Completed Winter 07-08
Martin St / Blue Jay St	Commercial property flooding	Completed Winter 07-08
Baum St / Memorial Ave	Failing CMP, roadway damage	Completed Winter 07-08
East Fresh Pond Dr	Residential property Flooding	Completed Winter 07-08
East Holly St	Open ditch; safety issues	Completed Winter 07-08
08-09, East Avalon, Phase 3	Residential property Flooding	Completed Winter 08-09, except New Bern St
10-11, Southwest Area, Phase 1A	Residential property Flooding	Completed Summer 10
10-11, Southwest Area, Phase 2	Residential property Flooding	Completed Fall 11
14-15, NKHS, Memorial Ditch Phase 1	Failing CMP; develop backbone	Completed Spring 15
15-16, Sioux Street Drainage	Residential property Flooding	Completed Winter 15-16; owners provided easements

07-08, denotes Plan Year (FY) per Albemarle & Assoc. 2005 Multiyear Drainage Plan; ND = Not Determined

Drainage Only Areas Remaining

(per Albemarle & Associates 2005 Multiyear Drainage Plan)

<u>Street or Area</u>	<u>Nature of Problem</u>	<u>Comments</u>
Memorial Ave Ditch, Phases 2 & 3	Flooding; culvert failure	Continue 2-mile Master Plan; ocean outfall reliever. Ph. 1 done 14-15.
Third St		1200 Complete E portion with Street work.
09-10, Quail La / Shay / Dean St		Some work by Town forces 2010

07-08, denotes Plan Year (FY) per Albemarle & Assoc. 2005 Multiyear Drainage Plan; ND = Not Determined

KILL DEVIL HILLS -- Street And Drainage Improvements Recommendations

POOR Streets Remaining (after completion of 2017/18 projects; 2017 rating, bold dropped to Poor in 2017)			Type (Collector or Local Access)
In "Poor Streets Remaining," streets highlighted with the following colors of shading are recommended on the first page for the following Fiscal Year:		FY 2018-2019	FY 2019-2020
E. HELGA ST	Poor	900	LA
BRIGGS ST (South of Arch)	Poor	234	LA
PLYMOUTH AVE	Poor	180	LA
W. HAYMAN BLVD. (Including Circle, to Bay)	Poor	3,260	LA
RANDOM ST (Concrete)	Poor	512	LA
W. SPORTSMAN DR	Poor	2,997	LA
DOCK ST (Concrete)	Poor	549	LA
E. FOURTH ST	Poor	230	LA
SEMINOLE ST (W Third to Indian)	Poor	930	LA
W. THIRD ST (US 158 to Creek)	Poor	1,194	LA
CAPTAIN'S CIR	Poor	410	LA
TEAKWOOD LN	Poor	320	LA
CEDAR DR (W First to W First)	Poor	1,890	LA
TOWN HALL DR	Poor	1,030	LA
WRIGHTSVILLE BLVD (Goddard to Carolyn)	Poor	5,340	LA
MEMORIAL BLVD (1228 S to Martin)	Poor	1,540	C
SIXTH AVE (Baum to Airstrip)	Poor	1,340	LA
E. MARTIN ST	Poor	600	LA
E. DEAN ST	Poor	300	LA
SHAY ST (Dean to Quail)	Poor	428	LA
PINE GROVE TR (Quail to Goldie)	Poor	1,607	LA
QUAIL LN (Pine Grove to Heather+)	Poor	2,814	LA
PINE NEEDLE CT	Poor	157	LA
HARRINGTON AVE Ocean Acres to Pine Grove)	Poor	900	LA
HEATHER LN	Poor	320	LA
BURNS DR	Poor	3,660	LA
POND ST	Poor	152	LA
Total miles falling to Poor w/2017 Street Rating:	3.77 miles	19,890	
Poor (2017) Streets After 17-18 Project	6.40 miles	33,794 ft	Up from 2.63 miles in January, 2017 Recommendation, due to re-rating

Director of
Planning and Inspections
MEREDITH GUNS

Chief Building Inspector
MATT LOWCHER

Building Inspector
MARTY SHAW

Code Enforcement Officer
CHARLES THUMAN



Assistant Director of
Planning and Inspections
BRYAN BRIGHTBILL

Senior Planner
CAMERON RAY

Zoning Administrator
DONNA ELLIOTT

THE TOWN OF KILL DEVIL HILLS
NORTH CAROLINA

PLANNING DEPARTMENT

February 20, 2018

Memorandum

To: Street Improvement/Special Project Committee

From: Meredith Guns, Planning Director 

Subject: Stop Sign and Street Light Request – Indian Drive and Canal and along West Third Street

Attached to this memorandum is a letter from Calvin Glover, Jr. requesting the Town install a three way stop at the intersection of Indian Drive and Canal Drive. Additionally, Mr. Glover is requesting installation of street lights on existing utility poles at each intersection along West Third Street.

As you may recall, in 2008 the Board of Commissioners directed staff and the SISPC to use the Manual on Uniform Traffic Control Devices (MUTCD) as a guide for determining regulatory traffic signs. The MUTCD has been adopted by the State of North Carolina and is the standard for use on all public roadways. The manual includes a section on placement of stop signs. The criteria for placement of stop sign includes (excerpt from *MUTCD Section 2B*):

STOP signs should be used if engineering judgment indicates that one or more of the following conditions exist:

- A. Intersection of a less important road with a main road where application of the normal right-of-way rule would not be expected to provide reasonable compliance with the law;
- B. Street entering a through highway or street;
- C. Unsignalized intersection in a signalized area; and/or
- D. High speeds, restricted view, or crash records indicate a need for control by the STOP sign.

STOP signs should not be used for speed control.

STOP signs should be installed in a manner that minimizes the numbers of vehicles having to stop.

Page 2:
SISPC 2-20-18

A request for stop signs and other traffic control devices at this intersection was reviewed by the committee and the Board of Commissioners in 2009. Attached are the Town Engineer's comments which specifically stand by his finding from 2009 which does not support placement of stop signs at this intersection (attached). Also attached are comments from Public Services Department which recommend additional limb removal to increase visibility. Additionally, the MUTCD does not support stop signs at such an intersection because Indian Drive is subordinate to Bay Drive and Canal Drive and therefore should not require the through street to "stop".

Regarding the requested lighting on West Third Street, the Public Services Director's comment are attached and request very careful consideration for adding lighting in front of homeowners not requesting such and this request does not follow the Board of Commissioner's policy for streetlights (see attached).

1708 Apache Street
Kill Devil Hills, NC 27948
October 16, 2017

Ms. Meredith Gunns
Planning Director
Town of Kill Devil Hills
Post Office Box 1719
Kill Devil Hills, NC 27948

Dear Ms. Gunns:

I am writing to share with you two traffic issues that I have encountered as I have driven and traveled on foot in Kill Devil Hills and to share some possible remedies.

The point where Indian Drive meets Canal Street and Bay Drive has become increasingly difficult to negotiate in my car and on foot. The angle at which the streets meet is very sharp, and the visibility from one street to the other is extremely limited—in all directions. Add to this the fact that drivers heading north/west on Canal Street tend to *accelerate* as they exit the rather sharp curve on the street. I find that it is often the case, when exiting Indian Drive, that vehicles suddenly appear, even though the way initially appears clear.

I know that there are yellow warning signs, *encouraging* drivers to slow down, but I believe that these signs are taken only as light encouragement. I believe that a three-way stop at this intersection would improve the safety for cars exiting Indian and pedestrians attempting to get on Bay Drive.

I am aware that the Town has a policy against using stop signs as traffic-calming, but this is not, strictly speaking, a *calming* problem. It is a *visibility* problem.

The construction of the new multi-use path will not alleviate this problem because it will still be necessary to negotiate the crossing of Canal/Bay Drive to get to the path. And traffic will still tend to accelerate as it departs the curve.

My second concern is Third Street. The street gets heavy use by drivers and pedestrians, and at night, the vehicle vs pedestrian problem can become critical. A large part of the problem is that drivers *cannot see* pedestrians at night. There are a few street lights along Third, but there are not nearly enough. I am asking if it would be possible for the Town to install (on existing utility poles) sodium vapor or LED street lights at each of the cross streets along Third.

The increased lighting would allow drivers to better see pedestrians and help keep them driving on the right side of the road. In the darkness, drivers often take to the middle of Third Street.

In addition, improved lighting might help calm night traffic along this route. The current dark driving conditions on Third Street can provide some drivers with a sense of anonymity and invisibility and a perceived license to speed. Additionally, the absence of lighting deprive drivers exterior cues to their speed, as there are very few visible references points in the darkness.

I am aware that there is a (much-needed) long-term improvement plan for Third Street that involves sidewalks and repaving. But that plan, I believe, is several years away from implementation. Pole-mounted street lighting augmentation would represent an immediate remedy. What is more, the lighting would require a relatively small investment and could easily be relocated, with utility poles, as part of the improvement project's implementation.

I would be happy to discuss these matters with you or your staff.

Sincerely,

A handwritten signature in black ink that reads "Calvin A. Glover, Jr." with a stylized flourish at the end.

Calvin A. Glover, Jr.

Guns, Meredith

From: Albright, Steve
Sent: Wednesday, February 14, 2018 10:16 AM
To: Pete Burkheimer; Guns, Meredith
Cc: Quidley, Mary; Diaz, Debbie; Turner, Tote; Dail, Derek
Subject: RE: Street Comments - Canal and West Third Street - Glover

Public Services staff stands by to assist with limb removal. In the past, we have:

1. Limbed up the live oak on the south side of the intersection.
2. Mowed and trimmed a large triangle on the north side. It is in much better condition than it was when issue was first raised in 2009.
3. We added a stop bar and white 4" edge line through the radius. This will be removed by the current project. Consideration may be needed to restore or modify based on Pete's recommendation.

Regarding street lights or watch lights, a past policy has existed allowing property owners to pay for installation and a minimum years of service prior to requesting the town take over the monthly payment of such lights. Careful consideration should be made prior to adding lights in front of others homes and waiving the payment requirements as this may be establishing a new procedure that others would want similar consideration. What other streets could make similar arguments? Below is the policy I have used previously in a letter regarding the watch light policy:

The Board of Commissioners has developed the following policy regarding the acceptance of streetlights: If a property owner has a streetlight installed which is of benefit to a roadway and to his/her neighbors, the Town of Kill Devil Hills will take over payment on that light based on the following conditions:

1. *The installer has paid for the streetlight in question for no less than two (2) years;*
2. *It has been determined by the Town that the streetlight in question illuminates public property in the amount of no less than fifty (50) percent (50% of the light should be in the street);*
3. *The Town determines that the size and kind of light is reasonable for the purpose for which installed; and*
4. *The Town reserves the right to have any and all streetlights removed.*

The Board of Commissioners delegated the authority to the Town Manager for streetlight acceptance based on the above-listed criteria.

My recommendation regarding speed if valid, is that it should be enforced.

Please let me know how I can assist.

Steve Albright

Public Services Director
Town of Kill Devil Hills
107 Town Hall Drive
PO Box 1719
Kill Devil Hills, NC 27948
Office - 252-480-4086

Fax – 252-441-6136

www.kdhnc.com



From: Pete Burkhimer [mailto:PBurkhimer@american-ea.com]
Sent: Wednesday, February 14, 2018 10:08 AM
To: Guns, Meredith; Albright, Steve
Cc: Quidley, Mary; Diaz, Debbie
Subject: RE: Street Comments - Canal and West Third Street - Glover

On detailed consideration, I stand by the findings in my July 13, 2009 memorandum on sharp curves and related subjects. The Manual on Uniform Traffic Control Devices (MUTCD) does not support the use of an all-way stop at the Canal/West Third/Indian intersection.

We are narrowing the road from 24' to 20', which will have some traffic-calming effect. Certainly, we should be vigilant to make sure vegetation, etc. is not impairing visibility.

Pete Burkhimer, PE

Senior Consultant



**AMERICAN
Engineering**

448 Viking Drive, Suite 170

Virginia Beach, VA 23452

(757) 468-6800 -- fax 468-4966

pburkhimer@american-ea.com

wpburkhimer1@gmail.com

Note: Please immediately discontinue using wpburkhimer1@cox.net

From: Pete Burkhimer
Sent: Wednesday, December 06, 2017 1:39 PM
To: Guns, Meredith <MEREDITH@kdhnc.com>; Albright, Steve <Steve@kdhnc.com>
Cc: Quidley, Mary <MARY@kdhnc.com>; Diaz, Debbie <debbie@kdhnc.com>
Subject: RE: Street Comments - Canal and West Third Street - Glover

I want to take yet another look at this, in person, before a final opinion. Some quick thoughts:

1. Some additional limb removal to improve visibility may be in order.
2. I'm still not inclined to favor any sort of special paint markings.
3. Since it appears we are keeping, for the long term, the in-line STOP signs along Bay Drive and W first Street, there would at least be some consistency in doing an all-way stop at this intersection.

More will follow.

Pete Burkhimer, PE

Senior Consultant

 **AMERICAN**
Engineering
448 Viking Drive, Suite 170
Virginia Beach, VA 23452
(757) 468-6800 -- fax 468-4966
pburkhimer@american-ea.com

From: Guns, Meredith [<mailto:MEREDITH@kdhnc.com>]
Sent: Wednesday, December 06, 2017 1:18 PM
To: Albright, Steve <Steve@kdhnc.com>; Pete Burkhimer <PBurkhimer@american-ea.com>
Cc: Quidley, Mary <MARY@kdhnc.com>; Diaz, Debbie <debbie@kdhnc.com>
Subject: RE: Street Comments - Canal and West Third Street - Glover

Sorry I guess I mislabeled the letter. Here is it sorry

Meredith

From: Guns, Meredith
Sent: Wednesday, December 06, 2017 12:07 PM
To: Albright, Steve; Pete Burkhimer (PBurkhimer@american-ea.com)
Cc: Quidley, Mary; Diaz, Debbie
Subject: Street Comments - Canal and West Third Street - Glover

Good Afternoon Steve and Pete,

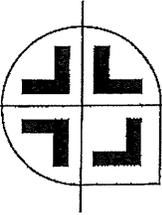
Attached is a letter of concern (compliant) regarding the intersection of Indian and Canal and Bay and the curve in the road. I have also attached minutes from 2009 where this issue was thoroughly vetted but since work is occurring in this area I thought we could look at it. The letter also expresses concerns regarding West Third street and potential vehicular/pedestrian conflicts and a request for street lights.

I am not sure this is a matter for the SISPC but wanted to run it by you all and get your input. It may be a matter that a well thought out response would suffice. But if street lights are a consideration I think it is a matter for the Board of Commissioners and the adjacent property owners need to be notified.

Look forward to your thoughts.

Meredith B. Guns
Planning Director
PO Box 1719
Kill Devil Hills, NC 27948
Phone: 252-449-5318

Fax: 252-441-4102



Practicing in North Carolina as
engineering services of virginia, inc

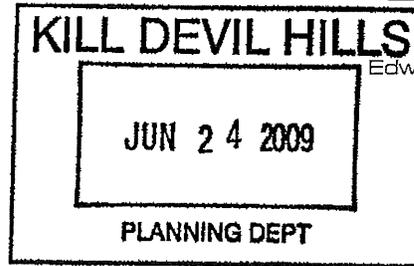
engineering services inc

Civil Engineering • Land Surveying

Gerard P. Brunick, Jr., L.S.
Walton P. Burkheimer, Jr., P.E.

Sharon D. Hoel, P.E.
Michael Rheinhardt, L.S.
Edward F. Rudiger, Jr., L.S.

June 16, 2009



Ms. Meredith Guns, Assistant Planning Director
P. O. Box 1719
Kill Devil Hills, NC 27948

By **e-mail**; original will follow by **mail**

Reference: Project ID **08200 "B"** – **Pavement Marking and Signage Recommendations on Curved Streets**

Dear Ms. Guns:

In January, we reported my recommendations regarding pavement marking and signage on curved streets. A brief summary of those recommendations, which were based on the *Manual on Uniform Traffic Control Devices for Streets and Highways* (MUTCD) and our own professional opinions, follows:

1. On the Town's 25 mph local streets and minor collectors, signs and pavement markings are generally not required or appropriate, and their excessive use would dull their effectiveness.
2. Signage and other measures may be appropriate at a limited number of locations, where combinations of the following factors are present:
 - a. Higher traffic volumes
 - b. Very sharp curve radii
 - c. Poor visibility through the curve(s)
 - d. An intersection(s) falls within the curve(s)
 - e. Pavement width is narrow, road edge drops off, or similar physical factor.
 - f. High accident experience.

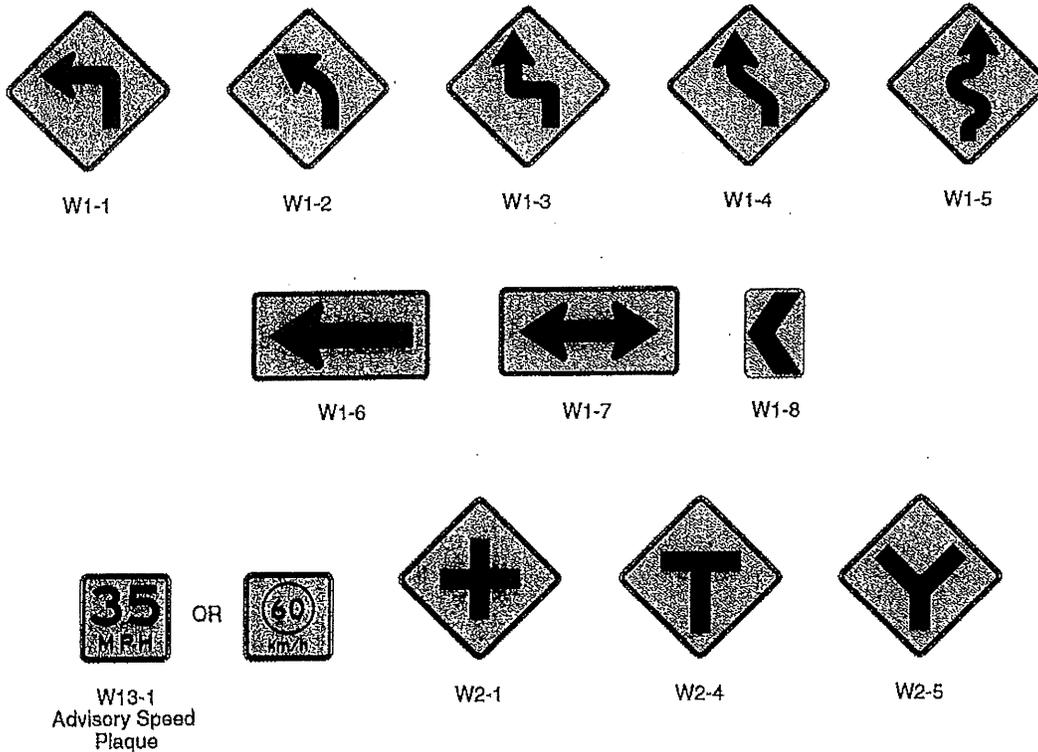
We agreed to review the curves in town according to these criteria, and this letter will serve as a report of our findings. We appreciate the input of Town Staff, who have observed actual field conditions in town much more frequently, and for more years, than we have.

As a general finding, we recommend that most of these curves should have no action taken. For those where we feel action is appropriate, warning signage is the only recommended action, other than periodic policing for speeding and other compliance issues. On the following page is an excerpt from the MUTCD, Part 5, Traffic Control Devices for Low-Volume Roads, showing signs to be applied to deal with horizontal alignment issues on low volume roads such as ours. We recommend that the Town install only signs which match, or are closely derived from, these MUTCD standards.

ATTACHMENT NB-1

3351 Stoneshore Road
Virginia Beach, VA 23452
(757) 468-6800
FAX: (757) 468-4966
email@esiofva.com

Figure 5C-1. Horizontal Alignment and Intersection Warning Signs on Low-Volume Roads



On the following pages are a listing of 15 curve locations on paved town roads in Kill Devils with centerline radii less than (sharper than) 310'. Generally, we have ordered these from the south end of town northward. We have subjectively rated them according to the parameters above, and made a recommendation regarding each.

Some of these are individual curves; others are reverse curves or multiple curves in sequence.

Ratings of 1-5 are assigned for each factor, with a lower number meaning a better condition, less needful of signage or special treatment. For the Accident Experience factor, the number represents the number of accidents occurring from 2005 through May, 2009. No attempt is made to determine whether each accident was caused or significantly contributed to by the curve geometry, by alcohol and/or by speeding or other factors.

The phrase "at replacement time" means "when the sign is worn or damaged to the extent where its replacement is needed, or has been lost or stolen." The point is that, when such a sign would naturally be up for replacement, a different sign type should be used, but the change isn't a high priority.

June 16, 2009
 Page 3

1. East Martin Street at Wrightsville Avenue

a. Ratings:

1. Traffic Volume.....	3
2. Visibility / Obstructions.....	2
3. Sharpness / Low Radius.....	2
4. Aggravated by Intersection in Curve	3
5. Physical Factors (Width, etc.).....	2
6. Visitors in Traffic Stream	4
7. Accident Experience	0
8. Total	16



b. Photo:

c. Recommendations: No action is warranted.

2. Mustian Street-Hillside Drive-Fox Street

a. Ratings:

1. Traffic Volume.....	3
2. Visibility / Obstructions.....	2
3. Sharpness / Low Radius.....	4
4. Aggravated by Intersection in Curve	4
5. Physical Factors (Width, etc.).....	3
6. Visitors in Traffic Stream	3
7. Accident Experience	0
8. Total	19



b. Photos:

c. Recommendations:

1. Replace double W1-8 on Mustian SB approach with W1-7 at replacement time (2nd photo)
2. Fox NB approach is OK (1st photo).
3. Consider W1-1 on Blue Jay NB approach (3rd photo) if there's ever any accident experience.

3. West Landing Drive, Reverse Curves Pirates Loop through Seagull Court

a. Ratings:

1. Traffic Volume.....	4
2. Visibility / Obstructions.....	4
3. Sharpness / Low Radius.....	3
4. Aggravated by Intersection in Curve	3
5. Physical Factors (Width, etc.).....	3
6. Visitors in Traffic Stream	2
7. Accident Experience	2
8. Total	21



b. Photos:

c. Recommendations:

1. Existing signage generally appropriate.
2. W1-4 with W13-1 speed plaque on EB approach (2nd photo) is preferable. Replace W1-2 on WB approach with W1-4 at replacement time (1st photo).

4. West Landing Drive, Reverse Curves at Harpoon and Anchor Courts

a. Ratings:

1. Traffic Volume.....	4
2. Visibility / Obstructions.....	3
3. Sharpness / Low Radius.....	3
4. Aggravated by Intersection in Curve	3
5. Physical Factors (Width, etc.).....	2
6. Visitors in Traffic Stream	2
7. Accident Experience	0
8. Total	16



b. Photo:

c. Recommendations:

1. The characteristics of this reverse curve are not much different from those to the east on W. Landing Drive (3 above).
2. Provide W1-4's with speed plaques (15 mph) on both approaches.

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5. West First Street at Ketch Lane

a. Ratings:

1. Traffic Volume.....	3
2. Visibility / Obstructions.....	3
3. Sharpness / Low Radius.....	3
4. Aggravated by Intersection in Curve	4
5. Physical Factors (Width, etc.).....	2
6. Visitors in Traffic Stream	2
7. Accident Experience	0
8. Total.....	17



b. Photos:

c. Recommendations: Watch for complaints or accident experience. Marginal candidate for W1-2's with speed plaques on both approaches.

6. Canal Drive just north of West First Street

a. Ratings:

1. Traffic Volume.....	3
2. Visibility / Obstructions.....	4
3. Sharpness / Low Radius.....	5
4. Aggravated by Intersection in Curve	4
5. Physical Factors (Width, etc.).....	2
6. Visitors in Traffic Stream	2
7. Accident Experience	0
8. Total.....	20



b. Photos:

c. Recommendations: This would be a candidate for a W1-2 with speed plaque (15 mph) but W3-1 "Stop Ahead" appears to be giving adequate caution. Consider W1-2 with "Stop Ahead" plaque.

7. Canal Drive between West First Street and Indian Drive

a. Ratings:

1. Traffic Volume.....	3
2. Visibility / Obstructions.....	2
3. Sharpness / Low Radius.....	4
4. Aggravated by Intersection in Curve	2
5. Physical Factors (Width, etc.).....	2
6. Visitors in Traffic Stream	2
7. Accident Experience.....	0
8. Total.....	15



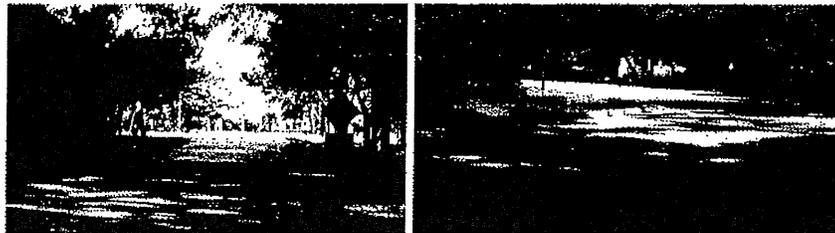
b. Photos:

c. Recommendations: Recommend W1-2's with speed plaques (15 mph) on both approaches.

8. Bay Drive/Canal Drive at Indian Drive

a. Ratings:

1. Traffic Volume.....	4
2. Visibility / Obstructions.....	3
3. Sharpness / Low Radius.....	4
4. Aggravated by Intersection in Curve	4
5. Physical Factors (Width, etc.).....	3
6. Visitors in Traffic Stream	2
7. Accident Experience.....	2
8. Total.....	22



b. Photos:

c. Recommendations:

1. Currently-installed modified W1-2 with "Intersection Ahead" plaque on both approaches, along with stop bar on Indian and skip lines on inside edge, seem reasonable and effective.

9. East Third Street at Sobel Drive

a. Ratings:

1. Traffic Volume.....	4
2. Visibility / Obstructions.....	2
3. Sharpness / Low Radius.....	2
4. Aggravated by Intersection in Curve	3
5. Physical Factors (Width, etc.).....	2
6. Visitors in Traffic Stream	4
7. Accident Experience.....	1
8. Total.....	18



b. Photos:

c. Recommendations: This has an extremely short radius. W1-2's with speed plaques (20 mph) on both approaches.

10. East Fifth Street Reverse Curve at New Bern Street

a. Ratings:

1. Traffic Volume.....	5
2. Visibility / Obstructions.....	2
3. Sharpness / Low Radius.....	5
4. Aggravated by Intersection in Curve	3
5. Physical Factors (Width, etc.).....	2
6. Visitors in Traffic Stream	5
7. Accident Experience.....	0
8. Total.....	22

b. Photos:



c. Recommendations:

1. Due perhaps to its good width, this seems to drive better than its tiny radius would indicate. But there's a lot going on, with pedestrians, neighborhood parking lot, etc., so some extra measures seem reasonable.
2. W1-4's on both approaches are recommended, with speed plaques at 20 mph.

11. Bay Drive between W. Durham Street and Dock Street

a. Ratings:

1. Traffic Volume.....	4
2. Visibility / Obstructions.....	2
3. Sharpness / Low Radius.....	3
4. Aggravated by Intersection in Curve	2
5. Physical Factors (Width, etc.).....	2
6. Visitors in Traffic Stream	2
7. Accident Experience	0
8. Total	15



b. Photos:

c. Recommendations: Although radius is rather sharp, deflection angle is slight. No action recommended.

12. Bay Drive, Reverse Curves near Bickett St., Sportsman Dr. and Avalon Dr.

a. Ratings:

1. Traffic Volume.....	4
2. Visibility / Obstructions.....	2
3. Sharpness / Low Radius.....	3
4. Aggravated by Intersection in Curve	3
5. Physical Factors (Width, etc.).....	2
6. Visitors in Traffic Stream	2
7. Accident Experience	0
8. Total	16



b. Photos:

c. Recommendations: These curves have fairly slight deflection angles, so their somewhat sharp radii don't create much problem. No action recommended.

13. Bay Drive between Wilkinson Street and Nixonton Street

a. Ratings:

1. Traffic Volume.....	4
2. Visibility / Obstructions.....	2
3. Sharpness / Low Radius.....	4
4. Aggravated by Intersection in Curve	2
5. Physical Factors (Width, etc.).....	2
6. Visitors in Traffic Stream	2
7. Accident Experience.....	1
8. Total.....	17



b. Photos:

c. Recommendations: A marginal candidate for W1-2's on each approach. Nixonton intersection with stop sign helps keep traffic slowed.

14. W. Helga Street Reverse Curve at Sea Village Lane and 2 Courts

a. Ratings:

1. Traffic Volume.....	3
2. Visibility / Obstructions.....	3
3. Sharpness / Low Radius.....	3
4. Aggravated by Intersection in Curve	3
5. Physical Factors (Width, etc.).....	2
6. Visitors in Traffic Stream	2
7. Accident Experience.....	0
8. Total.....	16



b. Photos:

c. Recommendations: Radii are moderate, but visibility is good. No action recommended.

15. W. Helga Street Reverse Curve at Perry Lane and Susan Drive

a. Ratings:

1. Traffic Volume.....	3
2. Visibility / Obstructions.....	3
3. Sharpness / Low Radius.....	3
4. Aggravated by Intersection in Curve	3
5. Physical Factors (Width, etc.).....	2
6. Visitors in Traffic Stream	2
7. Accident Experience	0
8. Total.....	16



b. Photos:

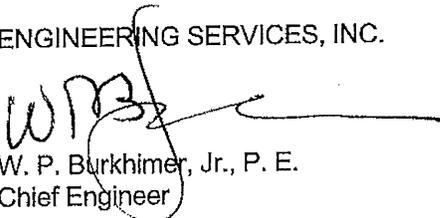
- c. Recommendations: These curves have moderate radii by rather slight deflection angles. No action recommended.

In summary, we recommend no action at 6 of these 15 (numbers 1, 6, 11, 12, 14 and 15). We find that 5 of them marginally deserve signage, or a signage modification at time of routine sign replacement (numbers 2, 3, 5, 7 and 13). We suggest that 4 deserve a higher priority, although none of these are critically urgent (number 4, West Landing Drive's more westerly reverse curve; number 8, Bay Drive/Canal Drive at Indian Street; number 9, East Third Street at Sobel Drive; and number 10, East Fifth Street at New Bern Street.)

Thank you for your careful consideration of our recommendations.

Very truly yours,

ENGINEERING SERVICES, INC.


W. P. Burkheimer, Jr., P. E.
Chief Engineer

Cc: Mr. Randy Metzger, Public Services Director
Chief Gary L. Britt, Police Department