# TOWN OF KILL DEVIL HILLS

*Land Where Flight Began*

MEMORANDUM May 26, 2021

TO: Mayor and Board of Commissioners

FROM: Debora P. Diaz, Town Manager

REF: New Business

**2. Street Improvement Recommendation for 2021/2022 Fiscal Year – Revisions to Schedule (Attached NB-2)**

At its November 9, 2020, meeting, the Board of Commissioners approved the Street Improvement Recommendation for the 2021/2022 Fiscal Year, which included paving, drainage, water main replacement, and sidewalk construction on West Third Street. Adjoining work included projects on Seminole Street and along US 158, from West Third to West Fifth Streets.

Public Services Director Steve Albright's attached memorandum, which references Town Engineer Pete Burkhimer's project information (also attached), explains why revisiting the streets project is necessary: completion of the entire original project within budgeted funding is unlikely. Mr. Albright and Mr. Burkhimer have worked to regroup the project into smaller jobs to be completed over multiple years, that will stay within typical budget levels.

As re-proposed, next year's project, if the Board agrees, would create a project that includes full replacement of the water main, overlay of the remaining portions of West Third Street, and sidewalk completion. The project for 2022/2023 would then include resurfacing Seminole Street and Indian Drive (from Seminole to Apache), and the US 158 drainage project. Waterline replacements for 2022/2023 would include: Seminole Street, and Indian Drive, also from Seminole west to Apache Street. Resurfacing Wrightsville Boulevard from Goddard Street at the north end and to Carolyn Drive at the south end, along with replacement of several lengths of waterline would then combine as a project to be bid in 2023/2024.

Staff recommends the Board of Commissioners approve the revised projects timeline, as detailed in Mr. Burkhimer's memorandum, and:

- Approve the engineering services agreement with American Engineering in the total of $45,000 for the design and preliminary engineering phases for the water main replacement on West Third Street from Creek Street to Bay Drive.

A motion will be in order.

# TOWN OF KILL DEVIL HILLS
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Solid Waste


May 26, 2021

***Memorandum***

To: Debora P. Diaz, Town Manager

From: Stephen F. Albright, Public Services Director SA

*Subject:* **Street Improvement Recommendation for 2021-2022 Fiscal Year Revisions to Schedule**

At the November 9, 2020 meeting, the Board of Commissioners approved the design of the street, drainage and right-of-way improvements project for 2021-2022. The project includes paving, drainage, water main replacement and sidewalk work on W. Third Street. Additional work was planned adjacent to this project on Seminole and US 158 from W. Third to W. Fifth Streets. American Engineering has proceeded with the survey and preliminary design for these areas.

As outlined in Mr. Burkhimer's attached memo a number of issues have caused project cost estimates to increase making completion of the entire project within the budgeted funds unlikely. To stay within typical budget levels, staff has worked with Mr. Burkhimer to further break the project into two separate groups to be completed during a two year cycle and pushing Wrightsville Blvd. project back one fiscal year. This change will allow the needed AC water main replacement and the overlay of the remaining portions of W. Third Street (Option C) along with the sidewalk to be completed entirely next year.

If the Board of Commissioners agrees with these recommendations, a motion will be in order to:

- Approve the amended project schedule as outlined by Mr. Burkhimer
- Approve the engineering services agreement with American Engineering in the total amount of $45,000 for design phase services for the water main replacement from Creek to Bay Drive

ATTACHMENT NB-2

AMERICAN Engineering

May 19, 2021

Ms. Debora P. Diaz, Town Manager
Ms. Charlene Allen, Assistant Town Manager
P. O. Box 1719
Kill Devil Hills, NC 27948

By **e-mail**

Subject: Project ID **V20200 "B" – 2021/22 Street/Drainage Projects Recommendations: REVISED**

Dear Ms. Diaz and Ms. Allen:

On October 23 of last year, we provided you with our annual update on your capital projects program and our recommendation looking forward. Based on that recommendation, which was endorsed by staff and the SISPC, the Board of Commissioners authorized us to proceed with design and bidding of the following package of work (our alphanumeric designation is changed slightly from the prior letter):

**A1: West Third Street**: Street, stormwater, water main and sidewalk improvements, from US 158 westward through the Creek Street intersection.

**A2: Seminole Street**: Street, stormwater and water main improvements, from West Third Street southward to the Indian Drive intersection.

**A3: US 158**: Stormwater improvements, from West Third Street along the western side of the right of way through West Fifth Street and including a short section of water main replacement.

**B: West Third Street**: Sidewalk and stormwater improvements from Creek Street (the end of the A1 project above) westward to Bay Drive.

We presented you with the option to add an Alternate **C**, which would have added street and water main improvements in the **B** area, but that was rightly seen as adding considerable expense to an already-expensive package.

At this time, American Engineering is finishing up design of the package approved by the BOC, as summarized above. However, a number of things have become evident to us as the surveying was completed and the design proceeded—and as other external factors emerged:

1. Our detailed topographic surveying, and resulting preliminary engineering, revealed some challenges we hadn't foreseen as of our October letter to you:
    a. There are several blocks in the middle of West Third Street (in the **B** area) where the lots and their driveways on the south side rise up sharply from the street pavement. To keep the stormwater pipe from been prohibitively deep, disruptive and expensive, it needs to be

placed near the street, which is right where the present 8" asbestos-cement (AC) water main is. This essentially forces us to continue the water main replacement work included in **A1** farther west, adding cost.

b. To get the maximum present and future benefit from our stormwater pipes in both the **A1** and **B** areas, so these "trunk" lines can extend southward up drainage-challenged side streets, we realized the need to make these trunk lines deeper than we had earlier envisioned, adding cost.

c. We realized that the east end of the stormwater system consisted of old, 30" corrugated steel pipes laid right under the sidewalk and, in some areas, on incorrect grades. This and the condition of the existing concrete sidewalk and curb & gutter in the eastern part of West Third Street (the **A1** area) essentially make it necessary to remove and replace all those concrete items; we had hoped that at least some of it could be salvaged. The total replacement adds cost.

d. As design progressed into the western **B** area, we had hoped to do a lower cost-per-linear-foot treatment as we were able to do last summer with the Centennial Path extension. But we found that would result in installing storm drainage that wouldn't properly serve to give maximum future benefit to drainage-challenged side streets such as Virginia and Sunset. Adding proper drainage has added cost.

e. We also realized that any limited work (such as sidewalk and storm drainage only) in the **B** area would result in some wasted funds as we would have to do temporary driveway work that would be at least partially redone when the eventual street and water main work came later, adding future cost.

f. Finally, as the months went by, and especially in the last four months, we have begun to see rather dramatic increases in construction costs. We have all heard of the unbelievable inflation in building materials, but civil construction such as this project have not escaped the craziness, on both the labor and materials side. While we cannot accurately say exactly what the unit prices driving our bidders would be in six weeks or so when we would go out for bids, we know they will be higher than our pre-design estimates. We have already seen this in the bidding for Phase 1 of the Meekins Field Renovation.

2. In view of all of these factors, we now make the following revised recommendations to you, and ultimately through you to the Board of Commissioners:
    a. Let us **focus our efforts on just West Third Street**, but let's do ALL of West Third Street, from US 158 westward all the way to Bay Drive, with all four types of improvements: Streets, stormwater, water main and sidewalk. This will eliminate temporary improvements and avoid a second round of inconvenience and disruption due to a second project perhaps 5-10 years after the first.
    b. Let us defer the Seminole Street (**A2**) and US 158 Stormwater (**A3**) work to subsequent years. These are important improvements, but they can wait.

## What is recommended for the next three years?

With the changes discussed above, and staying true to the guiding principles outlined in our October letter, we depict our revised recommendations on the attached spreadsheet. Let's consider the various portions of this spreadsheet:

**Page 1:** This contains the most important information.

**FY 2020-21**: This shows the projects currently nearing completion of construction.

**FY 2021-22**: Per the discussion on the preceding pages, the upcoming fiscal year's candidate project is shown with **salmon shading**. Seminole Street and US 158 Drainage have been deferred until next year.

The estimated total cost of the revised project is $2,147,000. Of this, $1,061,000 is to be funded from the water fund and the remaining $1,086,000 from other funds, of which $200,000 is two years' of sidewalk funding.

**FY 2022-23**: As noted above, next year we propose to pick up the Seminole Street and US 158 Drainage projects, which we are proposing to defer to bring this year's project down to a manageable size. While we replace the 8" AC water main in Seminole Street, we now propose to turn the corner and replace the 6" and 8" AC lines in Indian Drive, from Seminole west to Apache. This year is indicated by **rose shading** The estimated total cost of this project group is $1,205,000, of which $473,000 is to be water-funded and the remaining $732,000 would be from our usual street and drainage funds sources.

**FY 2023-24:** The area with **blue shading** is intended to show the third year year out, FY 2023-24, in which we recommend the design and bidding of a major project on a one-mile section of **Wrightsville Boulevard**, from Goddard Street all the way

south to Carolyn Drive. The description of this project is the same as in the October, 2020 recommendation letter; it is just bumped back one year.

This project would renew the surface, which is in Poor condition, but also establish a medium-size storm drainage line as a major branch of the Memorial Boulevard storm drainage system. This will not only benefit Wrightsville Boulevard, but will take pressure off the parallel portion of Memorial Boulevard, by (a) intercepting more than half the flow that part of the Memorial System is trying to carry and (b) lowering the groundwater in the whole area through the "sock drain" effect discussed above.

Nearly half of the cost of this overall project is expected to be water distribution system improvements. Portions of the water lines in Wrightsville are undersized, or asbestos-cement lines, and/or may need adjustment to make room for the storm drains. Water line adjustments associated with a street and drainage project typically involve multiple water service shutoffs. Thus, we are proposing, while we are doing pipe work in the area, to replace old, existing asbestos-cement water mains in four streets running between US 158 and NC 12.

The total cost for this project is anticipated to be $2,096,000, of which $1,145,000 is street and drainage funding and the remaining $951,000 is water funding.

**FY 2024 and beyond:** Th area with **purple shading** maps out the remainder of a multi-year plan we set forth several years ago.

Notable is the remaining element of the Memorial Boulevard Trunk Drainage system, as two separate projects. If completed, we would also have worked through almost all of the remaining Poor streets.

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.

**All of Pages 2 and 3:** As in the October letter, this is a recap of the accomplishments of the last 15 years' projects. It is provided to help the Committee and others see our recommendation in its historical context.

**All of Page 4:** As with the October letter, this page accomplishes two things:

In the **Drainage Only** sections, we note past projects completed in the past 15 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.

In the final block, **POOR Streets Remaining**, we note the streets with a condition rating of 50 or lower, making them "Poor." This is a relatively short list, which will no doubt increase a bit with the 2022 Street Inspection Report. 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.

Very truly yours,

AMERICAN ENGINEERING ASSOCIATES, P.A.

W. P. Burkhimer, 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

5/18/21

## FY 2020-21

Preliminary Cost (Including design and construction administration. All costs in $000.)

| FALL Bid Package | Condition | Rating | Length | Remarks | Street | Drainage | WM | Total |
|---|---|---|---|---|---|---|---|---|
| **First Flight Village 3 / Landings 3** | F3-Poor | 48± | **3,460** | | **$348** | **$250** | **$35** | **$633** |
| Cedar Dr, Captains Ln, Teakwood Ln, Captains Cir; ex WM is PVC; overlay & drainage | | | | | | | | |
| **SPRING Bid Package** | | | | | | | | |
| **Between the Highways** | | | **2,564** | | **$472** | **$270** | **$44** | **$786** |
| Overlay E Helga, E Fourth w Drainage | Poor | 41± | 1,130 | | $156 | $58 | $12 | |
| Build Briggs w Drainage | Poor | 26 | 234 | | $120 | $45 | $12 | |
| E Dean St, overlay | Poor | 50 | 300 | | $36 | $24 | $0 | |
| E Martin St, overlay | Poor | 51 | 900 | | $231 | $72 | $20 | |
| | | | **6,024** | *1.14 miles Poor* | | **Total for FY 2020-21:** | | **$1,419** |

## FY 2021-22

**Revised Recommendation 5-18-21**

Preliminary Cost (Including design and construction administration. All costs in $000.)

| | Condition | Rating | Length | Remarks | Street | Drainage | WM | Total |
|---|---|---|---|---|---|---|---|---|
| | | | | **Sidewalk Funding** | | | | |
| **W Third St (US 158 to Bay Drive)** | | | | **$200** | **$421** | **$465** | **$1,061** | **$2,147** |
| drainage, overlay, WM, SW (158-Creek) | Poor | 43.3 | 1,194 | $65 | $201 | $238 | $419 | **$923** |
| drainage, overlay, WM, SW (Creek-Bay) | Fair3 | 58.6 | 2,587 | $135 | $220 | $227 | $642 | **$1,224** |
| | | | 3,781 | *0.72 miles Poor* | | | | |
| | | | | *Street & Drainage Funding Required (Total above, minus **WM & SW**):* | | | | ***$886*** |

## FY 2022-23

**Revised Recommendation 5-18-21**

Preliminary Cost (Including design and construction administration. All costs in $000.)

| | Condition | Rating | Length | Remarks | Street | Drainage | WM | Total |
|---|---|---|---|---|---|---|---|---|
| **Seminole St/Indian Dr & US 158 Drainage** | | | | | **$240** | **$492** | **$473** | **$1,205** |
| Indian Dr (Seminole-Apache), St, Dr, WM | Fair3 | 58 | 870 | AC WM | $87 | $20 | $183 | **$290** |
| Seminole St (W Third-Indian) St, Dr, WM | Poor | 46 | 930 | AC WM | $153 | $58 | $202 | **$414** |
| US 158 Drainage (W Third to W Fifth) | replace 7 culverts w/36" & 30" | | | | | $414 | $88 | **$502** |
| | | | 1,800 | *0.34 miles Poor* | | | | |
| | | | | *Street & Drainage Funding Required (Total above, minus **WM**):* | | | | ***$732*** |

## FY 2023-24

**Revised Recommendation 5-18-21**

Preliminary Cost (Including design and construction administration. All costs in $000.)

| | Condition | Rating | Length | Remarks | Street | Drainage | WM | Total |
|---|---|---|---|---|---|---|---|---|
| **Wrightsville Blvd** | **Poor** | 46 | 5,340 | | **$659** | **$486** | **$951** | **$2,096** |
| Goddard to Carolyn; overlay, 30" sock drain; upgrade 60% of WM | | | | | $659 | $486 | $433 | |
| Neptune Drive, replace AC WM, 6" | | | *940* | | | | $127 | |
| Atlantic Street, replace AC WM, 8" | | | *940* | | | | $155 | |
| Clark Street, replace AC WM, 8" | | | *950* | | | | $157 | |
| Neptune Drive, replace AC WM, 6" | | | *590* | | | | $80 | |
| | | | 5,340 | *1.01 miles Poor* | | | | |
| | | | | *Street & Drainage Funding Required (Total above, minus WM):* | | | | ***$1,145*** |

## FY 2024-25 and beyond

Preliminary Cost (Including design and construction administration. All costs in $000.)

*(provided not as a formal recommendation, just to stimulate future thinking)*

| | Condition | Rating | Length | Remarks | Street | Drainage | WM | Total |
|---|---|---|---|---|---|---|---|---|
| **Memorial Blvd Drainage Trunk, Phase 2** | | | 3,250 | | **$309** | **$445** | **$50** | **$804** |
| Carlton, Corrigan, Clark, DW's, "SOD"; overlay Mem. | F1, F2, P | | | | | | | |
| **W Sportsman & Dock** | | | 3,546 | | **$378** | **$172** | **$266** | **$816** |
| W Sportsman Dr | Poor | 46 | 2,997 | | $285 | $150 | $240 | |
| Dock Street | Poor | 26.6 | 549 | | $93 | $22 | $26 | |
| **Ocean Acres WM Replacement** | F3-Poor | 55± | 10,500 | | **$840** | **$50** | **$798** | **$1,688** |
| Replace All AC with PVC; overlay streets; drainage done urgently 2010-12. Pavement issue, Ocean Acres Dr from 2012 | | | | | | | | |

# KILL DEVIL HILLS -- Street and Drainage Improvements Recommendations

5/18/21

## 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 | Not applicable | | | Completed | |

| 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; overlay | 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. Sothel St (NC 12 to Raymond) | **Poor** | | **600** | Completed | 7,950 |

| 2007-08 Project | (2007 rating) | | 3,650 | 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) | | | Poor Streets Fixed This Season: 2,362 ft | Cumulative Length, Poor Streets Fixed |
|---|---|---|---|---|---|
| | | | 4,126 | | |
| **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) | | | Poor Streets Fixed This Season: 0 ft | Cumulative Length, Poor Streets Fixed |
|---|---|---|---|---|---|
| Phase 1A completed, stormwater only, on urgent basis | | | 3,655 | | |
| **Street** | **Street Condition** | | **Length** | **Comments** | |
| 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 | 3.18 miles |
| 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 | | | | Poor Streets Fixed This Season: 950 ft | Cumulative Length, Poor Streets Fixed |
|---|---|---|---|---|---|
| **SW AREA** (Ocean Acres) Stormwater, Phase 2 | **Street Condition** | | **Length** | **Comments** | |
| Ocean Acres Drive | Fair3 | 59.0 | 3,050 | 1.5" Overlay only | |
| Ocean Acres Drive | Poor | 49.0 | 800 | 2" Overlay only | 17,602 |
| 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 WM and remove 9 "jumpers" | | | 6,250 | | 3.36 miles |

| Spring FY 2011-12 Project | Condition | | Length | Remarks | Cumulative Length, Poor Streets Fixed |
|---|---|---|---|---|---|
| | | | | Poor Streets Fixed This Season: 1,252 ft | |
| 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** | | 3.6 miles |

| Fall FY 2012-13 Project | Condition | | Length | Remarks | Cumulative Length, Poor Streets Fixed |
|---|---|---|---|---|---|
| **Parkwood Area** (road reconstruction & drainage) | | | | Poor Streets Fixed This Season: 1,579 ft | |
| 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 | 3.9 miles |
| Telegraph Ct | Fair 3 | **52.4** | 400 | overlay | |
| | | | **4,951** | | |

| Spring FY 2012-13 Projects | Condition | | Length | Remarks | Cumulative Length, Poor Streets Fixed |
|---|---|---|---|---|---|
| **Bay Drive** Multi-Use Path, Phase 2 | | | | Poor Streets Fixed This Season: 0 ft | |
| Bay Drive (Avalon to Wilkinson) | Good | **86.2** | 2,555 | full reconst., first 2 blocks | |
| Bay Drive (Wilkinson to Nixonton) | Fair 2 | **41.7** | 415 | overlay | 20,583 |
| | | | | | 3.9 miles |
| Raymond Ave (Arch to Town Line) | Fair 3 | **54.0** | 600 | | |
| | | | **3,570** | | |

# KILL DEVIL HILLS -- Street and Drainage Improvements Recommendations

5/18/21

**Previous Years' Projects** (continued from previous page)

| FY 2013-14 Project: NW Area 2 | Condition | | Length | Remarks | 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 | Condition | | Length | Remarks | 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 | Condition | | Length | Remarks | 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 | Condition | | Length | Remarks | | 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 2017-18: Bay Drive Multi-Use Path, Phases 3 & 4 | Condition | | Length | Remarks | 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 | |

| FY 2018-19: Whispering Pines | Condition | Ratinc | Length | Remarks | Cumulative Length, Poor Streets Fixed |
|---|---|---|---|---|---|
| Pine Gove Trail | Poor | 46.3 | 2,170 | | 42,721 |
| Quail Lane | Poor | 42.0 | 3,160 | | 8.09 miles |
| Goldie Street | Fair3 | 56.4 | 150 | | |
| Harrington Lane (Burns to Pine Grove) | Poor | 38.3 | 510 | | |
| Shay Street (Quail to Dean) | Poor | 41.0 | 320 | | |
| Pine Cone Court | Fair3 | 54.0 | 180 | | |
| Pine Needle Court | Poor | 42.3 | 180 | | |
| Heather Lane | Poor | 46.0 | 320 | | |
| | | | 6,990 | | |
| | | | 6,160 | 1.17 miles Poor | |

| FY 2019-20: Hayman / Town Hall / Sixth | Condition | Rating | Length | Remarks | Cumulative Length, Poor Streets Fixed |
|---|---|---|---|---|---|
| **Hayman Blvd & Plymouth Ave** | | | | | 48,531 |
| Hayman Cir W to Bay; drainage; overlay | Poor | 43.0 | 3,260 | | 9.19 miles |
| Plymouth Ave, overlay | Poor | 39.4 | 180 | | |
| **Sixth Avenue &Town Hall Drive** | | | 2,370 | | |
| Town Hall Dr, overlay; drain | Poor | 45.4 | 1,030 | | |
| Sixth Av (Airstrip to Baum), overlay & drain | Poor | 46.6 | 1,340 | overlay fabric | |
| | | | 5,810 | | |
| | | | 5,810 | 1.10 miles Poor | |

| FY 2020-21: Fall and Spring Bid Packages | Condition | Rating | Length | Remarks | Cumulative Length, Poor Streets Fixed |
|---|---|---|---|---|---|
| **First Flight Village 3 / Landings 3** | | | | | 55,561 |
| Cedar Dr, Captains La&Cir, Teakwood Ln | F3 - Poor | 48.0 | 3,460 | | 10.52 miles |
| **Helga, Briggs, 4th, Martin, Dean** | | | 3,570 | | |
| Briggs St | Poor | 47.8 | 1,030 | | |
| East Helga St | Poor | 53 | 1,340 | **narrow width after water project** | |
| East Fourth St | Fair1 | 74 | 200 | bad drainage @ intersection | |
| East Martin St | Poor | 50.1 | 900 | 22 w of Memorial | |
| East Dean St | Poor | 50.0 | 300 | 0.06 miles Poor | |

**KILL DEVIL HILLS** -- Street and Drainage Improvements Recommendations



7,030 1.33 miles Poor

# KILL DEVIL HILLS -- Street and Drainage Improvements Recommendations

5/18/21

## Drainage Only Areas Completed

(per Albemarle & Associates 2005 Multiyear Drainage Plan)

| Street or Area | Nature of Problem | Comments |
|---|---|---|
| 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 |
| 18-19, Quail La / Shay / Dean St | Residential property Flooding | Completed w/Whispering Pines Project, 2019 |

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)

| Street or Area | Nature of Problem | | Comments |
|---|---|---|---|
| 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. |

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

## POOR Streets Remaining

(after completion of 2019/20 projects; 2017 rating, **bold** dropped to **Poor** in 2017)

*In "Poor Streets Remaining," streets highlighted with the following colors of shading are recommended on the first page for the following Fiscal Year:*

FY 2022-2023 & beyond
FY 2021-2022

| | | | Type (C ollector or L ocal A ccess) |
|---|---|---|---|
| RANDOM ST (Concrete) | Poor | 512 | LA |
| W. SPORTSMAN DR | Poor | 2,997 | LA |
| DOCK ST (Concrete) | Poor | 549 | LA |
| **SEMINOLE ST** (W Third to Indian) | **Poor** | 930 | LA |
| **W. THIRD ST (US 158 to Creek)** | Poor | 1,194 | LA |
| **WRIGHTSVILLE BLVD** (Goddard to Carolyn) | **Poor** | 5,340 | LA |
| **MEMORIAL BLVD** (1228 S to Martin) | **Poor** | 1,540 | C |
| **BURNS DR** | **Poor** | 3,660 | LA |
| **POND ST** | **Poor** | 152 | LA |
| Poor (2017) Streets After **20-21 Project** | **3.20 miles** | 16,874 ft | |

AMERICAN Engineering

May 19, 2021

Mr. Steve Albright, Director of Public Services
Town of Kill Devil Hills
P. O. Box 1719
Kill Devil Hills, NC 27948

By email to steve@kdhnc.com

**V20065 – 2021/22 Project: West Third Street (Option C; Extend WM, Drainage, Overlay to Bay)**

Dear Mr. Albright:

American Engineering Associates – Southeast, P. A., Inc (American) is pleased to offer this proposal for professional services in connection with this project pursuant to the recommendations of the Street Improvements and Special Projects Committee at its February 6, 2020 and October 29, 2020 meetings. This proposal is an update and replacement for our "Option C" proposal dated October 22, 2020, which at that time was not accepted. It is for the incremental, additional effort to Options A+ B, required to extend street improvements, supporting north side drainage work, and replacement of the 8" asbestos-cement water main drainage work westward from Creek St to Bay Drive. Our Design Phase work will consist of the following:

## West Third Street-Option C, Extend Street, Drainage & WM to Bay Drive

### Preliminary Engineering and Design Phases

| **Name of Street or Project Segment** (includes entire length of street unless otherwise noted) | **Description of Services** | **Length** |
|---|---|---|
| **(further additive to Option A + Option B)**<br><br>**West Third Street**, from Creek Street west to Bay Drive Intersection<br><br>Install 12" HDPE pipe along the north side to replace old CMP pipe.<br><br>Replace ex. 8" AC WM with 8" PVC WM; Add/renew FH's as req'd.<br><br>Maintain 24' wide pavement, providing 3" overlay in two lifts, with transitions at side streets and termini. Provide curb returns where they don't already exist. | Provide property and topographic surveying on 50' sections, with supplementary shots.<br><br>Analysis of topography may result in minor alterations to scope of improvements described at left.<br><br>Provide complete design. Primary design format will be 1" = 20', 24" x 36" plan and profile sheets, supplemented with overall sheet, cover sheet, detail sheet(s) as required to describe the work fully. All supporting computations included.<br><br>Secure State Stormwater and E&S permits if required.<br><br>Prepare contract documents (General Conditions, Technical Specifications, etc.) using most recent documents as bases. | **2,587'** |

For each of the component projects in the table on the preceding page, we will perform the services described for a lump sum fee as stated in **blue, boldface type** at the lower right-hand corner of the following tables:

| **West Third Street-Option C, Extend Street, Drainage & WM to Bay Drive**<br>**Preliminary Engineering and Design Phases** | | | |
|---|---|---|---|
| **Staff Classification** | **Hours** | **Rate per Hour** | **Extension** |
| Senior Consultant (W. P. Burkhimer, Jr.) | 80 | $190.00 | $15,200.00 |
| Engineer | 120 | $110.00 | $13,200.00 |
| CADD Operator | 160 | $ 85.00 | $13,600.00 |
| Field Representative (Technician) | 12 | $ 50.00 | $ 600.00 |
| Survey Party | 12 | $115.00 | $1,380.00 |
| Duplication Costs , Expenses and Permitting Fees | Lump Sum: | | $1,020.00 |
| Subtotal, Estimated Fees by Staff Hours | | | $45,000.00 |
| | | **Lump Sum Fee:** | **$45,000.00** |
| | | | |

Our preliminary estimate of total cost of this increment of the project is $787,000 ($143,000 in street funding plus $642,000 in water funding). Our fee is thus about 5.7% of the expected construction cost. This is a bit lower than typical, since the work would be performed as an extension of the Option A + Option B work (resulting in design economies of scale) and since most of the cost of the topo for the water and street work is already covered in Option B. These fees represent our best estimate of where our actual costs of design will come in. It should be noted that this price would be at least $10,000 higher, plus the effects of inflation, if this design is done separately, years down the road.

Our fee for the **Bidding Phase** work on the project shall be a lump sum of $7,000.00, based on our recent cost experience. If it is the pleasure of the Board of Commissioners to authorize the project to be bid when design is complete, this amount should be approved at this time. This includes preparation of contract documents, coordinating newspaper advertising, arranging and conducting pre-bid meeting(s), responding to Requests for Information, including preparation of addenda, conducting the bid opening, preparing and presenting the recommendation for award to the Board, and coordinating the execution of the contract agreement by the parties to the contract. **If this Option C work is bid together with Options A and B, there would be zero additional Bidding costs.** If the bidding is done later, a full $7,000 bidding fee, possibly increased a little due to inflation, would be required.

Upon completion of our work on these several projects, the Town of Kill Devil Hills will own and have the right to copy and re-use such drawings on future projects without separate compensation to AE, its subconsultant, or anyone else; provided, however, that the engineer designing and sealing any such plans for a future project would have to assume responsibility for the complete design of that future project, including any design elements re-used from this

project, and—further—the Town agrees that neither we nor our subconsultant would have any professional responsibility for the design resulting from any such re-use. Accordingly, in any such future copying and re-use by others, the seals, signatures and title blocks of AE and/or its subconsultant must be removed. However, such removal shall not in any way negate AE's responsibility for the design of the original project.

For the **Construction Phase** work, we will quote specific fees for the project after our design work has been completed, bids received, and the Board of Commissioners has decided what construction work will be awarded. For advance estimating purposes, this will be less than 5% of the total project cost, or around $36,000.00. This is in addition to the Option A + Option B work, which would be constructed simultaneously.

## Additional Services

Any work not covered within the scope outlined above shall be performed at our hourly rates noted below (through June 30, 2022). Our hourly rates for the term of this proposal, which will be the basis for calculating lump sum fees and the basis of billing hourly work, are set forth below:

| Staff Categories | Hourly Rates |
|---|---|
| Principal Professional /Engineer | $180.00 |
| Senior Consultant (W. P. Burkhimer, Jr.) | $190.00 |
| Senior Professional Engineer or Surveyor | $150.00 |
| Project Engineer or Surveyor | $110.00 |
| Engineering or Surveying Technician | $ 85.00 |
| 4 Person Survey Party | $150.00 |
| 3 Person Survey Party | $135.00 |
| 2 Person Survey Party/Party Chief w/Robotic Instrument | $115.00 |
| CADD Operator | $ 85.00 |
| Other Project Representative | $ 50.00 |
| Clerical | $ 50.00 |

## Reimbursable Expenses

Reimbursable expenses are those which are associated with professional services performed on a time and materials basis and include out-of-pocket expenditures advanced in the interest of the project. Almost all printing and copying are done in-house and are invoiced at the unit rates specified, except they are included in lump-sum project fees. The reimbursable expenses we anticipate will be incurred on this project are:

| | |
|---|---|
| Copies of maps, plats, deeds, plans, data, etc. | cost +10% |
| Long distance/Conference phone calls | cost +10% |
| Overnight delivery (UPS, FedEx) | cost +10% |
| Mileage | $0.575 / mile |
| Prints/Copies on: | |
| Bond | $0.20/square foot |
| Vellum | $1.50/square foot |
| Mylar | $3.00/square foot |
| Color Prints on Bond | |
| Letter | $1.00/copy |
| Legal | $2.00/copy |

| | |
|---|---|
| 12" x 24" | $3.00/copy |
| Large Scale | $1.50/square foot |
| Specialty Printing/Plotting/Mounting | cost +10% |
| Printing/copying/mounting by others | cost +10% |
| Color Prints on Bond | |
| Letter | $1.00/copy |
| Legal | $2.00/copy |
| 12" x 24" | $3.00/copy |
| Large Scale | $1.50/square foot |
| Specialty Printing/Plotting/Mounting | cost +10% |
| Printing/copying/mounting by others | cost +10% |

**Permit Fees**

Fees for State Stormwater and Erosion/Sedimentation Control permits, as required, are included in the foregoing lump sum fee.

**CLOSING**

Thank you for your time and consideration in reviewing this proposal. Please note that our standard Terms and Conditions, included with our February 13, 2020 General Services proposal are an integral part of this proposal. American Engineering looks forward to working with you on this project. Please feel free to contact me with any questions or comments you may have.

Sincerely,

American Engineering Associates – Southeast, PA, Inc.

Walton P. Burkhimer, Jr., P.E.
Senior Consultant

V:\2020\V20065 - KDH 21-22 Project - W Third St\Proposals\2021-22 Streets Project - W Third St Option C - May 18 2021.Docx

**ACCEPTANCE**

IN WITNESS WHEREOF, the parties have executed this Agreement by their authorized representatives to be effective as of the day and year first mentioned above.

| American Engineering Associates – Southeast, PA, Inc. | Town of Kill Devil Hills, NC |
|---|---|
| **By:** _____ | **By:** _____ |
| **Name:** _____ | **Name:** _____ |
| **Title:** _____ | **Title:** _____ |
| **Date:** _____ | **Date:** _____ |

**STANDARD TERMS AND CONDITIONS**

...shall be as set forth in our February, 2020 General Services proposal to you.