



Town of Pittsboro, North Carolina

Engineering Department

Memorandum

To: Mayor Voller and Town Board of Commissioners

From: Fred Royal, PE, Town Engineer 

Subject: Thompson Street and Park Drive Drainage Improvements

Date: September 23, 2013

Background

On June 4th, 2013 Town staff visited both areas listed above where drainage complaints have been submitted to the Town on several previous occasions. Staff also observed drainage problems in these areas during rain events to confirm the problem and develop preliminary drainage improvement strategies. The Town solicited local grading contractors to submit cost estimates for the required improvements. Two cost estimates were received; one from Earl Thomas Grading, Inc. and one from Foushee Grading, LLC.

Discussion

Thompson Street Recommended Improvements:

There exists drainage swales, culverts and a creek along and adjacent to the property located at 591 Thompson Street. Staff believes that the right-of-way swale could be modified for a more hydraulically efficient cross-section/dimension. The current swales have vertical side-slopes and they are relatively narrow with poor slope profiles. These swales may be modified to accommodate increased water flows. Further analysis of slope and width will take place for runoff improvements.

During the last major rain event, Tropical Storm Andrea, staff visited the site to observe flood flow patterns. Staff observed that the stream to the west flows under Thompson Street with some turbulence at the culvert entrance and right-of-way erosion at the entrance and the black plastic culvert that discharges into the creek from the street is not operating well. The right-of-way section of is area should be graded out to maximize the flow off of the street and into the creek.

In addition, the plastic pipe should be removed and a shallow rip-rap lined swale constructed in its place. Finally, the culvert that conveys the creek requires a headwall and wing-walls to improve the hydraulic efficiency at this entrance and to stop the erosion to the road bed. This headwall will be cast in-place reinforced concrete.

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Park and Hillcrest Drive Improvements:

This site is well known for the flooding damages to the residential area in general and to Town infrastructure and right-of-way. A particular residence located at 62 Hillcrest Drive gets overwhelmed due to poor drainage in the Town right-of-way. Excessive flooding of the property occurs often. The improvements include new channel cross-sections and a new culvert under Hillcrest Drive.

Recommendation

Staff recommends that the Town Board of Commissioners approve the use of Powell Bill funds to fund the improvements to both of these projects. The total estimated cost, including contingencies is \$27,500. This is based on a bid from Foushee Grading, LLC, which came in somewhat lower than the cost estimate from Earl Thomas Grading, Inc.

Attached is the Powell Bill Expenditure Guidance document describing purposes for which Powell Bill Funds can be used.

POWELL BILL EXPENDITURE GUIDANCE

The Powell Bill is codified in N.C.G.S. 136-41.1 through N.C.G.S. 136-41.4

N.C.G.S. 136-41.3 provides, in part: “the funds allocated to cities and towns under the provisions of G.S. 136-41.2 shall be expended by said cities and towns only for the purpose of maintaining, repairing, constructing, reconstructing or widening of any street or public thoroughfare including bridges, drainage, curb and gutter, and other necessary appurtenances within the corporate limits of the municipality or for meeting the municipality's proportionate share of assessments levied for such purposes, or for the planning, construction and maintenance of bikeways **located within the rights-of-way** of public streets and highways, or for the planning, construction, and maintenance of sidewalks along public streets and highways.”

I. **PURPOSES FOR WHICH POWELL BILL FUNDS CAN BE USED ARE:**

A. Improvements or new construction of local municipal Powell Bill streets, such as:

1. Stabilizing, grading.
2. Paving, retreatments, and seal coating.
3. Curb and gutter construction, including curb cuts for handicapped persons.
4. Construction of necessary storm drainage for protection of street **located within the street rights-of-way**.
5. Construction of bridges and culverts.
6. Grade crossing eliminations.
7. Necessary landscaping or seeding required for proper street maintenance.
8. Widening.
9. Purchase, rental, operation, and maintenance of equipment necessary for street construction.
10. Engineering, surveying, and other expenses incurred in qualifying for Powell Bill Funds provided such data is to be used as basic information for the construction and maintenance of streets.
11. Necessary legal expenses incurred in street improvement programs.
12. Acquisition of right-of-way.
13. Salaries for street labor, supervision of street labor, and engineering used **exclusively** in street construction. **(Maintain appropriate documentation to support expenditures.)**
14. Payments to contractors for any of the above.
15. Sidewalk construction.

B. Routine maintenance on local municipal Powell Bill streets, such as:

1. Dragging, machining, blading, or shaping.
2. Patching, sealing or crack filling.
3. Shoulder or curb and gutter maintenance and repair, including curb cuts for handicapped persons.
4. Ditching, repair or maintenance of storm drains, culverts, catch basins, inlets, bridges, fills, etc., **located within the street rights-of-way**, which are necessary and essential to street maintenance.
5. Dust control treatments, calcium chloride applications.
6. Snow removal or sand and debris removal resulting from natural causes. **(Not normal garbage or refuse collection.)**
7. Mowing along and within rights of way of municipal Powell Bill streets.
8. Labor, supervision, and engineering used **exclusively** in street maintenance. **(Maintain appropriate documentation to support expenditures.)**

9. Purchase, rental, operation and maintenance of equipment (including safety equipment) necessary and essential for street maintenance, and also including computers used **exclusively** for Powell Bill street maintenance. Must prorate use of any equipment used for purposes other than eligible Powell Bill purposes. **(Maintain appropriate documentation to support expenditures.)**
 10. Purchase of materials and supplies necessary for proper street maintenance and drainage.
 11. Payments to contractors for any of the above.
 12. Sidewalk maintenance.
- C. Traffic Control Purposes Such As:
1. Purchase and maintenance of traffic control devices.
 2. Purchase and maintenance of other traffic signs necessary for proper traffic control. **(Not street name signs)**
 3. Purchase and application of traffic paint.
 4. Construction and maintenance of computerized traffic signal system.
 5. Construction and maintenance of speed bumps.
- D. Special Street Assessments:
- Payment of municipality's proportionate share of a special street assessment levy and cost incurred for improving intersections in an assessment program.
- E. Bonds:
- Current payment of principal or interest due on bonds outstanding, issued **exclusively** for streets and sidewalks, provided bonds were issued after enactment of Powell Bill.
- F. Bikeways:
- For the planning, construction, and maintenance of bikeways **located within the rights-of-way** of public streets and highways.
- G. Sidewalks:
- For the planning, construction, and maintenance of sidewalks **located within the rights-of-way** along public streets and highways.
- H. Banking:
- For fees associated with a checking account **ONLY** for Powell Bill. Prorated fees associated with a General Fund checking account with Powell Bill funds is not eligible. **Banking fees are only Powell Bill eligible if the checking account is established only for Powell Bill funds.**
- I. Transportation Improvement Project (TIP):
- N.C.G.S. 136-41.4 (effective October 1, 2007) provides the municipality an option to use some or all of its Powell Bill allocation for any Transportation Improvement Project currently on the approved project list within the municipality's limits or within the area of any metropolitan planning organization or rural planning organization. The minimum amount of Powell Bill funds used must be an amount equal to that amount necessary to complete one full phase of the project.

N.C.G.S. 136-41.3 further provides "IT SHALL BE UNLAWFUL FOR ANY MUNICIPAL EMPLOYEE OR MEMBER OF ANY GOVERNING BODY TO AUTHORIZE, DIRECT, OR PERMIT THE EXPENDITURE OF ANY FUNDS ACCRUING TO ANY MUNICIPALITY BY VIRTUE OF G. S. 136-41.1 AND 136-41.2 FOR ANY PURPOSE NOT HEREIN AUTHORIZED. ANY MEMBER OF ANY GOVERNING BODY OR MUNICIPAL EMPLOYEE SHALL BE PERSONALLY LIABLE FOR ANY UNAUTHORIZED EXPENDITURES."

II. **PURPOSES FOR WHICH POWELL BILL FUNDS CANNOT BE USED ARE:**

1. Construction, maintenance or repair on State Primary Highways, State Secondary Roads, or Private Streets.
2. Street lighting.
3. Purchase or maintenance of parking meters.
4. Construction or maintenance of off-street parking areas or facilities.
5. Street name signs.
6. Leaf vacuums.
7. Street repairs necessitated by utility installation or repairs.
8. Installation, repair, removal of underground or overhead utility lines or fire hydrants.
9. Garbage or refuse collection or removal, including purchase, operation or maintenance of garbage trucks. **(Municipalities with combined street and sanitary departments should be careful with respect to separation of payrolls and purchases.)**
10. Salaries or other expenses for traffic policemen.
11. Police cars and motorcycles.
12. Construction or maintenance of streets outside corporate limits even though on municipally-owned property.
13. Thoroughfare Planning Studies or Pavement Management System Studies, and Bicycle Pedestrian Planning Grant.
14. Construction of equipment shed for housing street equipment.
15. Indirect costs such as budget administration, data processing, office equipment, etc.
16. Mowing along State system streets.
17. State system streets, **Small Urban Projects** (G. S. 136-66.3 (b) Revised 7/1/2000) even if the type of work is Powell Bill eligible.

NOTE TO ALL MUNICIPALITIES: If you are not sure whether an expenditure is Powell Bill eligible or not, please consult with your municipality's attorney; the North Carolina League of Municipalities' attorneys; your municipality's auditor; or the Powell Bill Program with the North Carolina Department of Transportation.