



# Town of Southern Shores

5375 N. Virginia Dare Trail, Southern Shores, NC 27949

Phone 252-261-2394 / Fax 252-255-0876

[www.southernshores-nc.go](http://www.southernshores-nc.go)

FEBRUARY 16, 2021  
COUNCIL WORKSHOP  
9:00 A.M.-PITTS CENTER

1. Opening
  - A. Call Meeting to Order
  - B. Pledge of Allegiance
  - C. Moment of Silence
  - D. Approval of Agenda
2. General Public Comment (Limit: 3 minutes per speaker)
3. Business Items
  - A. RFQ submittals for Professional Engineering Services- Pavement Condition Survey and Development of Capital Improvement Plan for Maintenance and Repair Treatment Recommendations. **TAB 1**
4. Council Comments
5. Adjourn



## **Agenda Item Summary Sheet**

**Date: February 16, 2021**

**Item #: 3A**

**Item Title:** RFQ submittals for Professional Engineering Services- Pavement Condition Survey and Development of Capital Improvement Plan for Maintenance and Repair Treatment Recommendations.

### **Item Summary:**

On December 15, 2020, Town staff posted a Request for Qualifications for Professional Engineering Services to conduct a Pavement Condition Survey with matching Capital Improvement Plan. Nine (9) firms submitted proposals.

The purpose, as stated in the RFQ, was to select the firm determined best able to provide the required Professional Engineering Services for the Town to engage a firm to supply a Pavement Condition Survey of the Town's 37.6 miles of streets with an associated Capital Improvement Plan. The Town's streets amount to its largest capital improvement expenditure on a yearly basis. Historically the Town has budgeted approximately \$675,000 on street improvements annually based partly on recommendations from its Streets Improvement (Capital Infrastructure Improvement) Committee and Capital Infrastructure Improvement Plan. The results of this study from predetermined data collection, will serve to better assist the Town in prioritizing street improvements based of a rational and consistent method of allocating limited resources.

The results are used to:

- Evaluate the current condition of the streets
- Determine the rates of deterioration
- Project future conditions
- Determine maintenance and rehabilitation needs
- Determine the costs of repair
- Determine the effects of deferred maintenance
- Schedule future pavement maintenance activities
- Track performance of various pavement designs and materials.

Those submitting proposals were asked to include the following information in their submittal:

- a) Biographical information on all professional staff who will provide services, including a list of customary sub-contractors and consultants the person or firm typically uses in providing the described services.
- b) A list of a minimum of three (3) projects performed in the last five (5) years by the person or firm, which indicate experience within the scope of this project. Note and explain any major legal or technical problems or challenges encountered on those projects.
- c) Provide detailed examples of experience of the specific designer(s), and Engineer-in-Charge of a firm, proposed for this work. Include all certifications and describe specific examples of local government projects that each designer may have worked on and their role in the project.
- d) Describe in detail the firm or person's current workload, including current projects, and current staffing availability.
- e) Describe in detail the firm's or person's experience in evaluating street construction, repair, and maintenance.
- f) A written statement acknowledging that the Town is the proprietor of all work product developed for or on behalf of the Town by the selected firm or person, regardless of location, type, and format of the work product - and acknowledging that all work product will be retained and submitted to the Town, or a specified agent or contract consultant of the Town at the Town's direction, upon request, regardless of whether the work product is considered a "trade secret".
- g) Provide a minimum of three (3) professional references from a local government, including name, organization, telephone number, email address (if available), and applicable project name(s).
- h) The selected consultant will work with the Town to identify optional additions based on budget availability and limitations. While it is believed that this scope includes all elements essential to complete a full assessment, proposing firms are advised to include any items that they believe may have been overlooked, and necessary for compliance with Federal, State, County and Town funding programs.
- i) Proposing firms may also note any required items that they believe may be excessive or unnecessary.
- j) Recommendations on maintenance strategies to maximize investment of available funds

The RFQs were evaluated and scored by a committee consisting of the Town Engineer, Public Works Director, Deputy Town Manager and Town Manager.

The Evaluation Criteria was established to be:

1. Company Experience and Qualifications – 20%
2. Professional Experience – 20%
  - Include a brief resume of key personnel that will perform work on this project.
3. Project Understanding and Approach – 40%
4. Quality Assurance / Quality Control – 20%

Based on the criteria, the following list of scores was compiled.

<b>SEPI</b>	100	96	100	98	98.5
<b>LA BELLA</b>	98	100	96	98	98
JM TEAGUE	80	96	80	84	85
TIMMONS	82	90	84	82	84.5
WETHERILL	76	98	76	80	82.5
SUMMITT	74	92	76	78	80
WOOTEN	78	77	78	80-	78
AMT	66	84	70	70	72.5
REI	62	72	72	70	69

References were contacted and verified. After the RFQ's were scored and ranked, the committee met to discuss the scores further and ensure that all were comfortable with the recommendation to move forward with SEPI. Overall, SEPI and Labella were best suited for this specific type of work as each of their statements contained many examples of projects that were specifically Pavement Condition Surveys. Both firms provided well organized SOQ's. SEPI appeared to have more tenured staff with previous knowledge of this specific type of experience. SEPI also utilizes a methodology that will not only rate the severity of distress data but also measures the extent to which the severity exists per road segment. SEPI utilizes the Long-Term Pavement Performance (LTPP) PCS Rating Method recommended by the Federal Highway Administration which aims to gather high quality data to better understand pavement performance and the variables affecting it. This data results in a more uniform road maintenance plan.

The initial determination of which firm is the best qualified must be done without regard to the fee or price. At this time, staff is requesting Council approval to move forward with negotiating a fair and reasonable price for the contract with the top-rated firm, SEPI. If staff is not able to negotiate a fair and reasonable contract price with the best qualified firm, then staff requests the authority to initiate negotiations with the next best qualified firm.

**Staff Recommendation:** Staff recommends that a scope of work and price be negotiated with SEPI to provide the requested services. This information will be presented to the Town Council for their approval before entering into a contract.

**Requested Action:** A motion to authorize the Town Manager to enter negotiations for a scope of work and cost to perform the Pavement Condition Study and Capital Improvement Plan.

**Attachments:** Submitted RFQs from SEPI and La Bella.

# COVER LETTER



1 Glenwood Avenue  
Suite 600  
Raleigh, NC 27603  
919.789.9977  
www.sepiinc.com

January 22, 2021

**David Bradley, Public Works Director**  
Town of Southern Shores  
5375 N. Virginia Dare Trail, Southern Shores, NC 27949

**Re: Request for Qualifications (RFQ) for Pavement Condition Survey and Development of Capital Improvement Plan for Maintenance and Repair Treatment Recommendations**

Dear Mr. Bradley + Selection Committee Members,

The Town of Southern Shores is seeking qualified firms to perform a Pavement Condition Survey and develop a Capital Improvement Plan for Maintenance and Repair Treatment Recommendations for each of the Town's streets. SEPI Engineering & Construction, Inc. (SEPI) offers the right fit for this important endeavor because of our capacity and proven track record of success on similar assignments for municipal clients across North Carolina.

Founded in 2001, SEPI is an award-winning **Woman-Owned Business** and is recognized by the State of North Carolina as a **Historically Underutilized Business (HUB)**.

SEPI has completed numerous Pavement Condition projects including the Cities of Wilson and Winston-Salem, the Towns of Indian Trail, Elizabethtown, Pembroke, and Franklinton, and Pavement Recommendation/Capital Improvement Projects for the Towns of Davidson, Landis, and Nags Head. We have also have completed non-system roads surveys, condition assessments, and statewide asset inventories for the NCDOT.

SEPI will commit capable, experienced, and knowledgeable professionals to this project and will work in close partnership with the Town. We are primed to deliver the requested services, to begin work once a Notice-to-Proceed is issued, and to maintain project schedules with the availability and depth of our operations staff. Further, SEPI has the capability to provide additional resources to meet future needs and the ability to respond quickly to these demands given the proximity of our staff.

I will serve as Principal-in-Charge for this contract, allocating staff to manage concurrent tasks if conditions warrant. I am pleased to introduce Chris Corriher, PE who will serve as our Project Manager.

Chris has over 32 years of experience working with NCDOT, managing maintenance operations and various construction contracts. He has extensive experience in pavement evaluation and maintenance, personnel management and organization, administration, budgets, customer relations, and project management. The Town will be well served by his commitment to this contract and experience with pavement condition survey development.

We ask for your strong consideration of our qualifications as you make your selection. Please do not hesitate to contact me by phone at 252.394.4052 or via email at [aroper@sepiinc.com](mailto:aroper@sepiinc.com) if you have any questions regarding our response.

Sincerely,

Anthony Roper, PE, CPM  
Associate | Asset Management + Maintenance Director



## SEPI

- **Woman-Owned Business/HUB**
- Secretary of State (#0591120)
- NC Board of Registration for Engineers/Land Surveyors (#C-2197)
- NC Board of Landscape Architects (#C-482)
- NC Board of General Contractors (#64643)

## POINT-OF-CONTACT

### Anthony Roper, PE, CPM

Principal-in-Charge/Associate, Asset Management & Maintenance Director  
1 Glenwood Avenue, Suite 600  
Raleigh, NC 27603  
p: 252.394.4052 | e: [aroper@sepiinc.com](mailto:aroper@sepiinc.com)

## ADDENDUM

We acknowledge receipt of Questions and Answers provided by Mr. Bradley via an email on January 15, 2021.

# STAFF BIOGRAPHICAL INFORMATION

## ORGANIZATIONAL CHART

The SEPI Team provides a staff of highly qualified professionals with sufficient available capacity required to provide timely and responsive service to the Town. In the event that our Team encounters personnel changes or any other changes of significance, the Town will be notified immediately.



## CURRENT WORKLOAD

NAME	CURRENT PROJECTS	AVAILABILITY
Anthony Roper	Fairfield Harbour Asphalt Evaluation, Town of Wake Forest Pavement Condition Assessment, Town of Elizabethtown Pavement Condition Survey & CIP, Town of Landis Pavement Condition Survey & CIP, Town of Edenton Stormwater Assessment, Phase II	50%
Jay Thompson	QA/QC for Fairfield Harbour Asphalt Evaluation, Town of Wake Forest Pavement Condition Assessment, Town of Elizabethtown Pavement Condition Survey & CIP, Town of Landis Pavement Condition Survey & CIP, Town of Edenton Stormwater Assessment, Phase II; SC Inland Port Pavement Design and QC	65%
Chris Corriher	Fairfield Harbour Asphalt Evaluation, Town of Wake Forest Pavement Condition Assessment, Town of Elizabethtown Pavement Condition Survey & CIP, Town of Landis Pavement Condition Survey & CIP, Pembroke Watershed Restoration	75%
Jimmy Lusk	Fairfield Harbour Asphalt Condition Survey	95%
Barney Johnson	Fairfield Harbour Asphalt Condition Survey	95%
C.E. "Neil" Lassiter	As CEI Director, Neil is responsible for contract administration and management of all transportation projects.	5%
John Wisdom	Fairfield Harbour Asphalt Evaluation, Town of Elizabethtown Pavement Condition Survey & CIP, Town of Landis Pavement Condition Survey, I-5987B Noise Workplan	75%
Jon Persson	City of Durham SW-78	60%

## RESUMES



### ANTHONY ROPER PE, CPM Principal-in-Charge + QA/QC

Anthony has over 30 years of experience in field construction and maintenance, project administration, project management, and leadership in the public sector. Prior to joining SEPI, he served in various roles within the NCDOT including Deputy Secretary, Division 1 Division Engineer, Division 4 Division Engineer, Division Maintenance Engineer, and County Maintenance Engineer.

Education: BS, Civil Engineering

Registration: Professional Engineer, NC (#21141); Certified Public Manager, NC

- **Town of Nags Head, Pavement Condition Survey.** Principal-in-Charge responsible for allocating staff, project budget, quality control, reviewing pavement treatment recommendations, reviewing Pavement Capital Improvement Plans and presenting the final CIP to the Town Council.
- **Town of Franklinton, Pavement Condition Survey and Construction Inspections.** Principal-in-Charge responsible for allocating staff, project budget, QC, reviewing pavement evaluation results + pavement treatment recommendations, reviewing Pavement Capital Improvement Plans, and presenting the final report to the Town staff.
- **City of Wilson, 2017 Pavement Condition Survey.** Project Manager responsible for coordinating and overseeing data collection.



### JAY THOMPSON PE QA/QC + Technical Expert

Jay has 19 years of experience in construction materials, pavement design, pavement management, and construction management on transportation infrastructure projects. Jay comes to SEPI after many successful years with SCDOT, serving most recently as State Pavement Design Engineer where he was responsible for statewide pavement design policy and generation of new location and rehabilitation pavement designs. Jay frequently provided technical support and consultation as a subject matter expert both inside and outside of the agency. He worked closely with Planning, District Engineers, Director of Maintenance and Road Data Services to aid in the writing of the SCDOT Transportation Asset Management Plan and to help with technical or construction and contractual decisions during the operations of pavement management and the state resurfacing/preventative maintenance programs.

Education: MS, Civil Engineering

Registration: Professional Engineer, SC (#27041)

Jay's experience in the field during construction and as a designer/program manager provides a unique perspective on pavement design and management that is rooted in a realistic and risk-based approach to performance.

- **SCDOT, Interstate System Preventative Maintenance.** Responsible for generating a plan for identifying/maintaining all good interstates in SC; investigating pavements for sources of risk and providing all pavement designs; developing the first formal preventative maintenance plan for the system; and remaining involved from design through construction providing support to field offices for questions on treatment application, review of change order requests, and value engineering proposals. *(Previous Experience)*
- **SCDOT, Interstate Pavement Management Program.** Responsible for coordination of \$150M in reoccurring interstate pavement program funding. *(Previous Experience)*
- **Town of Pembroke 2020, Pavement Condition Survey, Pembroke, NC.** QA/QC responsible for providing assistance with evaluating the current condition of local owned roadways and provide recommendations for maintenance. Evaluated the quality and accuracy of ratings and resulting treatment type selection. Provided insight on tailoring final recommendations and reporting to meet client needs.
- **City of Winston-Salem, On-Call Engineering Services, Concrete Rehab.** QA/QC responsible for providing assistance with evaluating the current condition of local owned roadways and provide recommendations for maintenance. Evaluated the quality and accuracy of ratings and resulting treatment type selection. Provided insight on tailoring final recommendations and reporting to meet client needs.





## CHRIS CORRIHER PE Project Manager

Education: BS, Civil Engineering

Registration: Professional Engineer, NC (#019324); Public Manager Program

Chris has over 32 years of experience in pavement maintenance operations and project management. Prior to joining SEPI, he served NCDOT as District Engineer in Division 9. Chris has managed resurfacing projects for both hot mix asphalt and AST treatments, bridge replacements, and intersection improvements along with various other construction projects. As Rowan County Maintenance Engineer, he was trained in ITRE methodology for pavement condition surveys.

- **Town of Landis 2020, Pavement Condition Survey/Capital Improvement Plan.** Project Manager responsible for supervising the data collection of Town Powell Bill roads including street pavement distress identification. Also responsible for developing the overall Town pavement condition report. Developed recommendations for street repairs, recommendations for cost-effective treatment options for repairs, and provided a three-year Capital Improvement Plan to maximize optimum use of existing funding for the Town.
- **Town of Pembroke 2020, Pavement Condition Survey/Capital Improvement Plan.** Project Manager responsible for supervision of data collection inside the Town including road/street pavement distress identification. Also responsible for developing overall pavement condition report of recommendations for repair of streets, recommending cost-effective treatment options for repairs, and providing a one-year Capital Improvement Plan to maximize utilization of existing funding for the Town.
- **Town of Wake Forest 2020, Pavement Condition Survey.** Project Manager responsible for supervision of data collection inside the Town including road/street pavement distress identification. Also responsible for developing a summary report of existing conditions and recommendations of treatment options for street repair.



## JIMMY LUSK Pavement Assessment/Field Investigation

Jimmy has over 45 years of maintenance experience with over 40 years with NCDOT retiring as the Road Maintenance Supervisor in Davidson County. With SEPI, Jimmy has performed data collection for pavement condition surveys utilizing both the ITRE Method and the LTPP Method as well as collected data for the NCDOT Pipe Assessment Project. He supervised over 20 people during the last 15 years of his NCDOT career and has firsthand knowledge with varying types of roadway issues having worked on subdivisions, secondary roads, US highways, and interstate highways.

- **Town of Pembroke, 2020 Pavement Condition Survey.** Pavement Assessor responsible for data collection inside the Town including road/street pavement distress identification. Also collected presence of curbing, sidewalks, and identified immediate maintenance issues.
- **Town of Wake Forest, 2020 Pavement Condition Survey.** Pavement Assessor responsible for data collection inside the Town including road/street pavement distress identification. Also collected presence of curb and striping.
- **Town of Franklinton, 2019 Pavement Condition Survey.** Pavement Assessor responsible for a pavement condition survey inside the Town including road/pavement condition and pavement types. Utilized ITRE Methodology while collecting data.
- **City of Wilson, 2017 Pavement Condition Survey.** Pavement Assessor responsible for data collection inside the Town including road/street pavement distress identification. Also collected presence of curb and striping.



## BARNEY JOHNSON PE Pavement Assessment/Field Investigation

Barney has over 35 years of experience including over 30 years with NCDOT retiring from Davidson County as Grade Crew Foreman. With SEPI he has performed data collection for pavement condition surveys utilizing both the ITRE Method and the LTPP Method as well as collected data for the NCDOT Pipe Assessment Project. During his tenure at NCDOT, he spent 15 years at traffic services in Forsyth County and 16 years at Davidson County Maintenance. He has firsthand knowledge with varying types of roadway maintenance issues having worked on subdivisions, secondary roads, US highways, and interstate highways.

- **Town of Pembroke, 2020 Pavement Condition Survey.** Pavement Assessor responsible for data collection inside the Town including road/street pavement distress identification. Also collected presence of curbing, sidewalks, and identified immediate maintenance issues.
- **Town of Wake Forest, 2020 Pavement Condition Survey.** Pavement Assessor responsible for data collection inside the Town including road/street pavement distress identification (fatigue cracking, transverse cracking, block cracking, surface distresses, etc. utilizing the LTPP Methodology.) Also collected presence of curb and striping.
- **Town of Franklinton, 2019 Pavement Condition Survey.** Pavement Assessor responsible for a pavement condition survey inside the Town including road/pavement condition and pavement types. Utilized ITRE Methodology while collecting data.
- **City of Wilson, 2017 Pavement Condition Survey.** Pavement Assessor responsible for data collection inside the Town including road/street pavement distress identification. Also collected presence of curb and striping.



## C.E. "NEIL" LASSITER, JR PE, CPM Technical Expert

Neil has 37 years of experience in the transportation, construction management, maintenance, and operations service industries. As CEI Director, he is responsible for contract administration and management of transportation projects. Prior to joining SEPI, Neil was employed by NCDOT where he served 30 years, 17 years as Division Engineer in Division 2. Neil was responsible for coordination of municipal projects such as roadway extensions, urban roadway widening improvements, signal system upgrades, streetscapes, roundabouts, intersection capacity improvements, and pedestrian/bicycle projects with Federal-Funding.

- **City of Greenville, Transportation Bond Program, On-Call CEI and Construction Materials Testing Services.** Program Manager responsible for overseeing pavement condition reviews, providing recommendations for proper pavement repair treatments, scheduling, construction management, contract administration, claims avoidance, and project closeout.
- **City of Greenville, 2019 Resurfacing.** Principal-in-Charge responsible for overseeing the construction contract with SEPI staff, scheduling, and technical oversight.
- **Town of Morrisville, 2020 CEI Resurfacing.** Principal-in-Charge responsible for overseeing the construction contract with SEPI staff, scheduling, and technical oversight.

Education: BS,  
Civil Engineering,  
Construction

**Registration:**  
Professional  
Engineer, NC  
(#14115); Certified  
Public Manager,  
NC; General  
Contractor, NC  
(#37236)



## JOHN WISDOM GISP GIS

**Education:** MS,  
Geography; BA,  
Geography

**Registration:**  
Certified GIS  
Professional  
(#00043869)

John is a GIS professional with 33 years of experience. He has extensive experience in the application of geospatial technologies to transportation planning, engineering, and environmental projects at the federal, state, and local levels. He is skilled in advanced vector and raster spatial analysis, development of geospatial workflows, geodatabase development, linear referencing systems, CAD/GIS data conversion, QA/QC procedures, development of Survey123, Collector, and ArcGIS Online dashboard applications.

- **Towns of Wake Forest, Pembroke, and Landis.** Senior GIS Analyst responsible for preparing mobile applications and data for field data collection. John also customized SEPI's LTPP tool to generate pavement ratings, maintenance recommendations, and cost estimates for each Town. Spreadsheets were developed containing summary tables and charts, and results were integrated with GIS to generate maps of critical paving needs.
- **City of Durham, 2018 Unpaved Roads Study.** Senior GIS Analyst responsible for developing a Survey123 application for use in collecting data for unpaved roads in the City, and for training the field crew in use of the application. John also developed a GIS application which uses the Survey123 data as input for prioritizing and estimating the costs of paving the roads.
- **City of Durham, West Club Boulevard Corridor Utility Rehabilitation, Traffic Control Services.** Senior GIS Analyst responsible for importing street data into SEPI's Pavement Condition Rating (PCR) tool, formatting tool outputs, and preparing tool for field data collection.
- **NCDOT, Division 5 GIS Dashboard.** Senior GIS Analyst responsible for development of Collector mobile data collection applications and ArcGIS Online operations dashboard and app development as part of Division 5's small pipe inventory.



## JON PERSSON MESH Safety Manager

**Education:** AAS,  
Civil Engineering  
Technology; AAS,  
Social Science

**Registration:**  
MESH, Manager  
Environmental  
Safety and Health,  
NC; General  
Contractor, NC  
(#41969)

Jon has over 27 years of experience in Construction Service Management activities. Much of his experience has been devoted to project management, coordination with clients, quality control, managing staff, and safety management. He has worked for NCDOT and municipal clients in design, traffic operations, and CEI.

Jon has completed several classes in Construction Management and has a lot of experience and understanding of cost, scope, time and quality management. He has a wide range of municipal projects such as intersection improvements, roadway widenings/ realignments, street extensions, greenways, sidewalks, and utility installations and relocations.

- **UNC Chapel Hill Parking Lot Resurfacing, Raleigh Road CEI.** Project Manager responsible for overseeing CEI services for full depth repair; pavement rehabilitation; stormwater drainage; and resurfacing on the Raleigh on the Raleigh Road Park-and-Ride Lot. Jon coordinated with contractor, University officials, and facilities maintenance throughout construction and delivered project on schedule and within budget.
- **NCDOT Division, 2 Contract Resurfacing & Preservation On-Call.** Project Manager responsible for contract administration and staffing for resurfacing contracts.
- **NCDOT, Division 4 CEI On-Call.** Project Manager responsible for supplying CEI personnel to NCDOT for resurfacing stimulus projects, training them on safety issues, and roadway/ bridge inspection responsibilities. Coordinated administrative duties with NCDOT Resident Engineers in three offices with field staff. Assisted in estimating, budgeting, and coordinating the number of CEI members needed along with maintaining the budget.

# PROJECT EXPERIENCE



## TOWN OF NAGS HEAD Capital Improvement Plan

SEPI provided professional engineering services to develop the Town's Capital Improvement Plan (CIP). A PCS had been performed in 2018 by others, but no CIP plan was developed. SEPI and Town Staff visited approximately 25% of the Town streets to evaluate/verify the 2018 PCS ratings. SEPI determined a reasonable life cycle for the streets with the Town's approval. SEPI then developed three different CIP options showing different treatment and expenditure options to meet the Town's goals for pavement conditions.

**CONTACT:** Andy Garman, Town of Nags Head, 252.449.2006  
Andy.garman@nagsheadnc.gov

**PERIOD OF CONTRACT:** 8/2019- 10/2019

**MAJOR LEGAL OR TECHNICAL PROBLEMS OR CHALLENGES:** None

TEAM MEMBERS	ROLE
Anthony Roper	Project Manager



## TOWN OF PEMBROKE Pavement Condition Survey

SEPI provided all labor, equipment, and engineering supervision necessary to conduct a PCS for all asphalt pavement street segments within the corporate limits of the Town. This consisted of all owned/maintained streets by the Town which was over 15 centerline miles.

SEPI also provided QA/QC through field inspection and follow-up throughout the project. The Long-Term Pavement Performance (LTPP) PCS Rating Method recommended by the Federal Highway Administration (FHWA) was used to collect the following distresses: structural (alligator) cracking, transverse cracking, block cracking, patching/potholes, surface defects (raveling), rutting/roughness, and reflecting cracking. All data was collected and compiled into a comprehensive summary report that provided a PCI Rating for each street segment and an overall PCI Rating for the whole street system.

SEPI provided an one year Capital Improvement Plan for the Town during a Town Council presentation.

**CONTACT:** Tyler Thomas, Town of Pembroke, 910.521.9758  
tyler@pembrokenc.com

**PERIOD OF CONTRACT:** 5/2020- 9/2020

**MAJOR LEGAL OR TECHNICAL PROBLEMS OR CHALLENGES:** None

TEAM MEMBERS	ROLE
Anthony Roper	Principal-in-Charge
Chris Corriher	Project Manager
Jimmy Lusk	Pavement Assessor
Barney Johnson	Pavement Assessor
Jay Thompson	QA/QC
John Wisdom	GIS



## TOWN OF LANDIS

### Pavement Condition Survey + Capital Improvement Plan

SEPI provided all labor, equipment, and engineering supervision necessary to conduct a PCS for all asphalt pavement street segments within the corporate limits of the Town. This consisted of all owned/maintained streets by the Town which was over 21+ centerline miles.

SEPI also provided QA/QC through field inspection and follow-up throughout the project. The Long-Term Pavement Performance (LTPP) PCS Rating Method recommended by the Federal Highway Administration (FHWA) was used to collect the following distresses: structural (alligator) cracking, transverse cracking, block cracking, patching/potholes, surface defects (raveling), rutting/roughness, and reflecting cracking. All data was collected and compiled into a comprehensive summary report that provided a PCI Rating for each street segment and an overall PCI Rating for the whole street system.

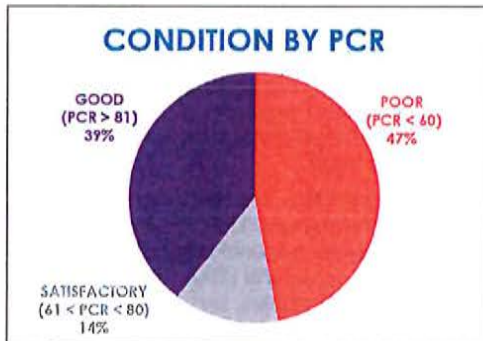
SEPI developed a three year Capital Improvement Plan for the Town Staff presented findings and result to the Town Council in January.

TEAM MEMBERS	ROLE
Anthony Roper	Principal-in-Charge
Chris Corriher	Project Manager
Jimmy Lusk	Pavement Assessor
Barney Johnson	Pavement Assessor
Jay Thompson	QA/QC
John Wisdom	GIS

**CONTACT:** Ron Miller, Town of Landis, 704.794.2013  
rmiller@townoflandis.com

**PERIOD OF CONTRACT:** 8/2020- 1/2021

**MAJOR LEGAL OR TECHNICAL PROBLEMS OR CHALLENGES:** None



## TOWN OF FRANKLINTON

### Pavement Condition Survey + Capital Improvement Plan

SEPI was selected by The Town of Franklinton to conduct a pavement condition survey (PCS) on the Town's street system and to develop a pavement management plan. A one-week schedule was set to ride the roads for collecting data and data input. The work was completed in less than three days. Ratings were given to each road (based on the data) from poor to good. Both rehabilitation and preventive maintenance options were proposed by SEPI. Maintenance strategies and priorities were discussed with the Town. SEPI developed three Capital Improvement Plan options for the Town streets utilizing different treatment options and overlays.

TEAM MEMBERS	ROLE
Anthony Roper	Project Manager
Jimmy Lusk	Pavement Assessor
Barney Johnson	Pavement Assessor
John Wisdom	GIS

**CONTACT:** Greg Bethea, Town of Franklinton, 919.494.2520,  
gbethea@franklintonnc.us

**PERIOD OF CONTRACT:** 8/2019- 10/2019

**MAJOR LEGAL OR TECHNICAL PROBLEMS OR CHALLENGES:** None



## TOWN OF ELIZABETHTOWN

### Pavement Condition Survey + Capital Improvement Plan

SEPI provided all labor, equipment, and engineering supervision necessary to conduct a PCS for all asphalt pavement street segments within the corporate limits of the Town. This consisted of all owned/maintained streets by the Town which was over 25 centerline miles.

SEPI also provided QA/QC through field inspection and follow-up throughout the project. The Long-Term Pavement Performance (LTPP) PCS Rating Method recommended by the Federal Highway Administration (FHWA) was used to collect the following distresses: structural (alligator) cracking, transverse cracking, block cracking, patching/potholes, surface defects (raveling), rutting/roughness, and reflecting cracking. All data was collected and compiled into a comprehensive summary report that provided a PCI Rating for each street segment and an overall PCI Rating for the whole street system.

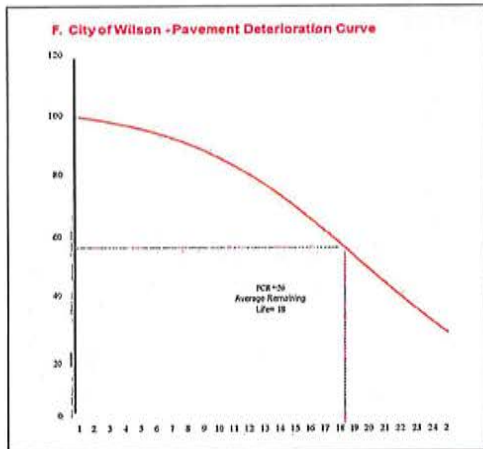
SEPI developed a three year Capital Improvement Plan and strategies for pavement maintenance to Town staff.

TEAM MEMBERS	ROLE
Anthony Roper	Principal-in-Charge
Chris Corriher	Project Manager
Jimmy Lusk	Pavement Assessor
Barney Johnson	Pavement Assessor
Jay Thompson	QA/QC
John Wisdom	GIS

**CONTACT:** Hue Bledsoe, Town of Elizabethtown, 910.862.2035  
hbledsoe@elizabethtownnc.org

**PERIOD OF CONTRACT:** 9/2020- 1/2021

**MAJOR LEGAL OR TECHNICAL PROBLEMS OR CHALLENGES:** None



## CITY OF WILSON

### Pavement Condition Survey

SEPI performed a PCS on the City's street system utilizing the latest Institute for Transportation Research and Education (ITRE)/NCDOT pavement condition rating (PCR) survey methodology. SEPI conducted a visual pavement condition survey of these streets. Over 2,000 street segments were evaluated and pavement conditions were recorded for each block. These segments correspond to the blocks received from the City's GIS system and were identical to the segments analyzed in the City's previous 2014 PCS. This information was also used to help prepare a unique pavement deterioration curve for the City.

The survey data was entered into SEPI's pavement analysis tool to calculate the PCR. The PCR was then graphed on the City's Deterioration Curves and the average remaining life was calculated for each segment. These curves are based on pavement characteristics and the average remaining life was calculated based on the pavement's use. Based on the City's parameters, a recommended maintenance treatment was offered along with an estimated cost for each section.

TEAM MEMBERS	ROLE
Anthony Roper	Principal-in-Charge
Chris Corriher	Project Manager
Jimmy Lusk	Pavement Assessor
Barney Johnson	Pavement Assessor
John Wisdom	GIS

**CONTACT:** Bill Bass, City of Wilson, 252.399.2467, bbass@wilson.org

**PERIOD OF CONTRACT:** 7/2017- 2/2018

**MAJOR LEGAL OR TECHNICAL PROBLEMS OR CHALLENGES:** None



## TOWN OF WAKE FOREST Pavement Condition Survey

SEPI provided all labor, equipment, and engineering supervision necessary to conduct a PCS for all asphalt pavement street segments within the corporate limits of the Town. This consisted of all owned/maintained streets by the Town which was over 100 centerline miles.

SEPI also provided QA/QC through field inspection and follow-up throughout the project. The Long-Term Pavement Performance (LTPP) PCS Rating Method recommended by the Federal Highway Administration (FHWA) was used to collect the following distresses: structural (alligator) cracking, transverse cracking, block cracking, patching/potholes, surface defects (raveling), rutting/roughness, and reflecting cracking. All data was collected and compiled into a comprehensive summary report that provided a PCI Rating for each street segment and an overall PCI Rating for the whole street system.

TEAM MEMBERS	ROLE
Anthony Roper	Principal-in-Charge
Chris Corriher	Project Manager
Jimmy Lusk	Pavement Assessor
Barney Johnson	Pavement Assessor
Jay Thompson	QA/QC
John Wisdom	GIS

**CONTACT:** Jonathan Jacobs, Town of Wake Forest, 919.435.9513  
jjacobs@wakeforestnc.gov

**PERIOD OF CONTRACT:** 5/2020- 12/2020

**MAJOR LEGAL OR TECHNICAL PROBLEMS OR CHALLENGES:** None

## EXPERIENCE + CERTIFICATIONS



NAME	ROLE
Anthony Roper	Principal-in-Charge + QA/QC
Jay Thompson	QA/QC + Technical Expert
Chris Corriher	Project Manager
Jimmy Lusk	Pavement Assessor
Barney Johnson	Pavement Assessor
C.E. "Neil" Lassiter	Technical Expert
John Wisdom	GIS
Jon Persson	Safety Manager

	EXPERIENCE						PROJECTS						
	Years of Experience	Project Management	Local Government Projects	Pavement Evaluation	Capital Improvement Plans	Construction Materials, Pavement Design	Town of Nags Head CIP	Town of Pembroke PCS	Town of Landis PCS & CIP	Town of Franklinton PCS & CIP	Town of Elizabethtown PCS & CIP	City of Wilson PCS	Town of Wake forest PCS
Anthony Roper	30	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Jay Thompson	19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Chris Corriher	32	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Jimmy Lusk	45		✓	✓			✓	✓	✓	✓	✓	✓	✓
Barney Johnson	35		✓	✓			✓	✓	✓	✓	✓	✓	✓
C.E. "Neil" Lassiter	37	✓	✓										
John Wisdom	33		✓				✓	✓	✓	✓	✓	✓	✓
Jon Persson	27	✓	✓										

# PROJECT UNDERSTANDING + APPROACH



**Understanding site challenges** / SEPI normally encounters rutting, patching, oxidation, and block cracking as well as other road distresses. **Benefit to Town:** SEPI offers experienced assessors and technical experts who recognize various distresses and recommend different pavement preservation solutions.

## PROJECT UNDERSTANDING

SEPI understands that the Town of Southern Shores seeks professional engineering services to perform a pavement condition survey and to develop a capital improvement plan for the 37.6-miles of town-maintained streets and Town facility parking lots. The project includes the evaluation of all Town maintained streets and parking lots, recommended maintenance, and estimated mitigation costs.

**Anthony Roper, PE, Principal-in-Charge**, has directed maintenance plans and budgets for the NCDOT for significant portions of his career. His work with pavement condition surveys, associated assets, and budgeting provides the necessary experience to successfully review, design, and manage maintenance plans for various budget scenarios. Since joining SEPI, Anthony has assisted multiple municipalities with their pavement condition survey needs and maintenance plans. **Being very familiar with the Southern Shores area, Anthony will be very proactive in working with the Town and its stakeholders to deliver a successful project.**

Additionally, our **Project Manager, Chris Corriher, PE**, brings over 32 years of experience to the project team. Chris is highly experienced in planning, managing, and supervising pavement assessment teams and pavement condition surveys, developing repair recommendations and maintenance plans, and building capital improvement plans for municipalities. He has a wealth of experience managing projects and working with municipal and county personnel.

We believe that SEPI offers a talented, experienced, and balanced project team that is an industry leader in overall asset management and maintenance. Realizing the importance of pavement management, SEPI is prepared to deliver a straightforward pavement condition assessment report. **We will work with the Town to develop effective pavement treatments that represent current industry standards and will extend the life of existing pavements in the most cost-effective manner possible.**

## PROJECT APPROACH

### NOTICE TO PROCEED + KICKOFF

SEPI will hold a project kickoff meeting with the Town within two weeks of receiving a Notice-to-Proceed (NTP). This will help ensure the Pavement Condition Survey (PCS), Capital Improvement Plan (CIP) development, and associated estimated cost meets the goals and expectations of the Town.

At this meeting, we will mutually agree upon standard project nomenclature, review the data collection plan (including distresses to be evaluated), discuss the final report format, and review our proposed project schedule/communications plan.

Another important function of the kickoff meeting is to determine the roadway segments for the pavement condition study. The evaluations can be conducted block-by-block or at other breakpoints established by the Town





**Experienced team with best-practices**  
The SEPI Team has performed numerous Pavement Condition Surveys using the ITRE and/or LTPP methodology.

based on logical termini points. SEPI can also organize segments to reduce variation in treatment options in residential areas. Our staff will work with Town staff to create appropriate pavement sections (lengths) to use in collecting and reporting the PCR, treatments, and associated costs.

Lastly, as part of this meeting, SEPI will also request the following information:

- The latest GIS files from the Town if available.
- An electronic version of the latest Powell Bill Map.
- Acceptable maintenance activities, surface treatments, and unit costs from recent Town contracts if available.

### **STREET INVENTORY FILE IMPORT**

SEPI will obtain the streets GIS file and other relevant GIS data from the Town to import into ArcMap. Our staff will create appropriate pavement sections (usually intersection-to-intersection) in the streets data for use in collecting/reporting the survey data.

Next, the data will be checked against the Powell Bill Map to help ensure the ownership information is shown correctly for each segment and that Town-owned segments are included.

Ownership questions will be brought to the attention of Town staff for clarification.

### **METHODOLOGY**

SEPI has performed numerous pavement condition surveys for municipal clients across the state and will apply our best practices to your project. For this project, SEPI recommends collecting distress data in accordance with FHWA-RD-03-031, Distress Identification Manual for the Long-Term Pavement Performance Project (June 2003).

The distress identification manual was developed to provide a consistent, uniform basis for collecting pavement distress data for transportation agencies including municipalities. The Federal Highway Administration (PUBLICATION NO. FHWA-HRT-13-092 Revised May 2014) reports that this methodology has been adopted by the American Association of State Highway and Transportation Officials (AASHTO) and is the most widely implemented data collection procedure since its inception in 1987.

By using this rating method, we will capture type, severity, and extent for each existing distress in the road surface for each road segment in the Town's roadway system necessary to determine the most cost-effective treatments.

The distresses collected (three severity levels for each) include alligator cracking (six levels of extent), transverse cracking (four levels of extent), block cracking (four levels of extent), reflective cracking (four levels of extent), defective patches and potholes (six levels of extent), surface defects- oxidation/raveling (four levels of extent), and rutting and roughness (four levels of extent).

SEPI has found that collecting the severity and extent for all distresses more accurately quantifies the level of deterioration necessary to determine the most appropriate treatment and a more accurate estimate of the repair costs. This also enables a municipality to utilize repair strategies that address a portion of the road segment as opposed to the entire area, when appropriate.

Parking lot evaluation will be performed using visual observation and experience-based recommendations. SEPI understands that parking lots experience different distresses than roads and should be treated differently.

## DATA COLLECTION

### **Safety | Safety is of paramount importance to SEPI.**

Our assessment team is trained in proper field safety procedures and steps for dealing with citizen questions. Our Team will carry a letter on Town letterhead containing a brief description of the project, the assessor's activities, and contacts at SEPI and the Town.

SEPI will conduct an internal training session for the field crew to review data collection procedures, project goals, and local information.

**Street Data Collection |** We will perform a PCS which is linked to the GIS centerline database of Town-owned or maintained asphalt street segments (around 37.6 centerline miles). SEPI will deploy a two-person field assessment team to conduct a "visual survey" of each road. We have found that a greater level of accuracy can be achieved with our ratings when an experienced two-person rating crew is utilized. Our primary rater drives the vehicle, which is the best position to view the distresses, and the other rater records the data as well as looks at the distresses. While each segment is observed, an open discussion occurs as to the condition of the segment providing the necessary checks and balances for obtaining the most accurate data.

During this task, we can also collect additional attributes such as existing pavement markings needing repair; identify street segments exhibiting multi-layers of asphalt exceeding an elevation of one inch above gutter; speed humps; street segments needing curb and gutter repair; curb ramp locations and identifying information; tree root damage; and utilities needing repair (i.e. patches, water valves, and/or manholes).

**Parking Lot Data Collection |** Each town parking lot facility will be surveyed noting the type of distresses present at each deficient area, the size of the deficient area, and the severity of each deficiency as low, moderate, or high. Our assessment team will review drainage features and elements as part of the parking lot evaluations. A plan to correct existing deficiencies and proactively maintain the pavement in good condition will be developed.

SEPI will work with the Town to develop the expected level of service and life cycle for the parking lot. A maintenance treatment plan will be developed for the expected service life of the parking facility.

**Hardware |** The hardware used for field data collection will consist of GPS-enabled tablet devices with cameras.

**Data Collection Applications |** Using the developed web map, SEPI will create a map-centric mobile app (Collector for ArcGIS) to facilitate the entry of pavement condition data in the field. Collector runs on a variety of GPS-enabled mobile devices.

The app will allow the field crew to select a specific street segment, populate the required field data via a pop-up form, and take photographs. The options for most attributes will be presented in drop-down menus, thus minimizing the potential for errors. To facilitate data collection, the paved segments will be color-coded on the Collector app

map display to easily distinguish segments while in the field. **Figure 1** below shows an example of a Collector app. Because the Collector app is cloud-based, data can be uploaded to ArcGIS Online in near real-time, allowing the Project Manager to easily monitor the field crew's progress and help enable quality control checks to be implemented more efficiently. The app also allows photographs to be taken and attached to street segments for documentation and conducting quality control.

**DATA QA/QC |** We also conduct a QA level assessment of the data to help ensure the ratings are accurate and consistent. We recommend a 15% sample set. The following types of checks will be performed:

**Completeness.** Check for completeness to verify that all required fields have been populated.

**Attributes.** Check attributes are free of typographical errors and for consistency in comments. While the use of domains and drop-down lists will minimize the chances of errors, fields will be checked to help ensure entries are error-free.

**Photographs.** Check that individual photographs are clear and contain the appropriate content.

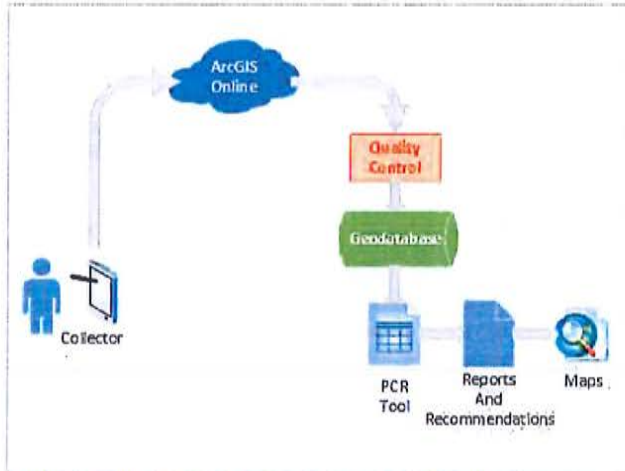
**Logic.** Check that attribute values are logical. (i.e. each pavement condition is appropriate for pavement type)

**Figure 1 / Sample Collector App**



The QC checks listed above will be performed using manual/visual methods, queries, and tools developed by SEPI. The checks will be conducted by technical experts and GIS staff.

**Figure 2** summarizes the typical workflow for a pavement condition survey.



**Figure 2 / Pavement Condition Survey Workflow**

## ANALYSIS

**Project Manager Chris Corriher, PE** and **Pavement Technical Expert Jay Thompson, PE** will lead and collaborate the SEPI Team’s review and analysis of the PCS data including the development of the maintenance treatment recommendations.

Chris has over 32 years of experience in pavement maintenance operations and project management. Prior to joining SEPI, he served NCDOT as District Engineer in Salisbury, NC. Chris is highly experienced in planning, managing, and supervising highway maintenance and construction operations. Since joining SEPI in August 2019, Chris has overseen several pavement condition survey and capital plan development projects.

Jay has 19 years of experience in construction materials, pavement design, pavement management, and construction management on transportation infrastructure projects. He came to SEPI after many successful years with SCDOT, serving most recently as State Pavement Design Engineer where he was responsible for statewide pavement design policy and generation of new location and rehabilitation pavement designs. Jay frequently provided technical support and consultation as a subject matter expert both inside and outside of the agency. He has field experience in construction and design/program management which provides a unique perspective on pavement design and management that is rooted in a realistic and risk-based approach to performance.

Chris and Jay will provide the Town with excellent recommendations and be an invaluable resource to the Town staff through the life of the project.

## Pavement Condition Rating (PCR) Analysis Tool |

After field data has been checked for completeness, a PCR will be calculated for each segment evaluated. SEPI’s PCR analysis tool is a customizable tool that calculates ratings for pavement sections based on field data. **Figure 3** on the following page shows an example of how results can be presented.

A significant advantage of SEPI’s PCR tool is its adaptability. We can customize the tool to accommodate the specific needs of the survey and the Town. Potential customizations include altering categories, changing point assignments, and modifying logic, etc.

Because the PCR analysis tool uses the same pavement segments as the GIS data, outputs can be mapped in GIS. This ability is useful not only for visualization but for identifying patterns and evaluating needs by geographic regions. After field data has been checked for completeness, a PCR will be calculated for each segment evaluated.

Lastly, it is important to note that the PCR analysis is not a black box. As part of our QC standards, outputs are reviewed for anomalies and to help ensure reasonable values.

## RECOMMENDED MAINTENANCE + CAPITAL IMPROVEMENT PLAN

**SEPI believes in a total pavement management approach** that includes all the components of a total pavement management plan (preventative maintenance, pavement preservation, and pavement rehabilitation and reconstruction). Considered to be pavement management experts across the country, the SEPI Team has provided its clients with successful pavement management plans that addressed numerous pavement condition scenarios.

Our Team understands that the most effective pavement management approach includes the right treatment on the right road at the right time. What is “right” is highly dependent on numerous factors, some that are easily measured such as road class, distress type, and severity, versus budgetary requirements. Other factors can be more experience-based, such as contractor availability, local experience with materials, performance expectations, achieving an appropriate blend of treatment types for short term and long-term goals, and the creation of reoccurring maintenance demands. We understand that a pavement management program can never be one size fits all and our Team is committed to working with the Town to help tailor the decisions for treatment types into an effective program.

The Team will assess the potential use of all regionally available tools in this program but will only recommend the treatment types that are consistent with the overall goals of the Town. We have extensive experience in numerous treatment types such as full depth and surface patching, rejuvenators, microsurfacing, cold in-place recycling (CIR), hot in place (HIP) recycling, fog seals, cape seals, aggregate surface treatments, and full-depth reclamation (FDR), and traditional mill and fills.





**No learning curve**  
Our assessors have firsthand knowledge with varying types of roadway maintenance issues having worked on subdivisions, secondary roads, US highways, and interstate highways.

The SEPI Team stays continuously up to date on new and innovative asphalt maintenance techniques and recognizes that there are numerous ways to tweak and adjust the use of these treatment types and timings to achieve the goals and expectations of the Town for the performance of its pavement system.

SEPI staff will work with Town staff to develop a 10-20 year CIP that optimizes available budget, provides the greatest benefit to the street network, and considers other constraints as determined by the Town.

For the improvement plan, SEPI can provide a “multi-constraint analysis” for different funding levels over various time periods. This can include comparing alternative maintenance activities. SEPI will develop a detailed report based on the results of the analysis. At a minimum, the report will include an unconstrained analysis that demonstrates the total backlog of the Town’s roadway network, various charts and graphs based on the budget scenarios considered, a CIP for the selected funding level(s) which illustrates which projects to be constructed each year and a description of maintenance activities.

**Our recommended maintenance activities will strive to blend treatment applications from each of the plan components in a manner that improves the overall condition of the Town’s streets while maximizing available funding.**

### **PREPARE FINAL PAVEMENT CONDITION SURVEY REPORT**

The final pavement condition survey report will include the final pavement condition ratings from the field data collection. Tables and figures shown in the report will summarize the condition of the street system in a written technical report and will include repair needs for each street segment, and will include the recommended 10-20 year CIP for the Town.

Results and recommendations will be presented in a tabular form consistent with the Town’s requested format. The report will include a digital copy of the pavement condition report and the final pavement condition survey.

### **DELIVERABLES**

When the analysis is complete, SEPI will arrange a deliverables meeting with the Town to discuss the results of the PCS and the analysis. The deliverables will include:

- Hard copies containing the results of the pavement condition survey.
- A color-coded map identifying street conditions from excellent to failed based on the Town’s approved categorized breakdown.
- A geodatabase containing completed pavement condition inventory data, PCRs, recommended maintenance activities, the recommended CIP, and cost information. Data will be ready to incorporate into the Town’s GIS if applicable.
- Photographs taken during data collection.
- Digital files of hard copy documents.
- Technical report with tables, figures, and maps to summarize the condition of the Town street system with the recommended maintenance needs and the 10-20 year CIP.
- Documentation of GIS data (database schema, domains, and data dictionary for data collected in the field).

# QUALITY ASSURANCE/QUALITY CONTROL

## MANAGING SCHEDULES + TIME

Scheduling will be formally addressed at our initial kick-off meetings and will be re-evaluated against the proposed schedule during any progress meeting(s). Project Manager, Chris Corriher will review the project schedule weekly and provide updates to the Town. If delays are caused to the data collection by adverse weather, Chris will discuss the issue with the Town's Project Manager immediately. SEPI prides itself on delivering quality projects, on time, and within budget. **Our assessment team's experience and work ethic are unsurpassed.** Due to our expertise and efficiency, other firms have requested to partner with SEPI for asset management projects. Our assessors serve as the main data collection team as well as provide training to other firm's assessors. Once the data is collected, our Management Team along with our GIS staff will dedicate time to implementing the new data into the desired program and assisting with maintenance needs/recommendations.

Expectations of levels of service for a capital improvement plan and investments will be discussed as well as the desired shapefiles, strategies, and road treatment recommendations agreed upon. SEPI will then take the strategies and develop options for the capital improvement plan based on funding.

All deliverables will be turned over to the Town at a closeout meeting.

## MANAGING COST CONTROL

SEPI is prepared to develop a clear, concise scope of services based upon a meeting with the Town. Our goal in contract administration is to produce a proposal that is error-free, identifies areas for potential cost-savings, and follows the Town requests/guidelines. We are prepared to offer services as lump sum fees for specific, agreed-upon portions (meetings, data collection, plans, etc.) of the scope. Weekly updates from Chris not only serve to keep the Town informed of progress but allow SEPI to closely monitor and maintain the level of efficiency desired by both SEPI and the Town. This is important in order to maintain the project on schedule.

## LOCATION LOGISTICS

SEPI prides itself on being an industry leader in asset management across North Carolina and the southeast. We have performed projects of various scopes and scales across the state including developing a pavement capital improvement for the Town of Nags Head. We are also currently providing staffing on the NCDOT Rodanthe bridge replacement project. SEPI has staff resources geographically positioned across North Carolina that are accustomed to being deployed for similar projects to the Town of Southern Shores. Lastly and most importantly, Principal-in-Charge Anthony Roper lives and works from a home office in Columbia, North Carolina. He will be intimately involved in this effort due to his proximity and familiarity with Southern Shores and the surrounding areas.



# PROPRIETARY ACKNOWLEDGMENT

SEPI acknowledges that the Town is the proprietor of all work product developed for or on behalf of the Town, regardless of location, type, and format of the work product. SEPI also acknowledges that all work product will be retained and submitted to the Town, or a specified agent or contract consultant of the Town at the Town's direction, upon request, regardless of whether the work product is considered a "trade secret".

# REFERENCES

## TYLER THOMAS

**Title:** Town Manager  
**Client:** Town of Pembroke | 100 S. Union Chapel Road, Pembroke, NC 28372  
**Phone:** 910.521.9758  
**Email:** tyler@pembrokenc.com  
**Project:** Town of Pembroke Pavement Condition Survey, 2020

.....

## BILL BASS

**Title:** City Engineer  
**Client:** City of Wilson | 1800 Herring Avenue, Wilson, NC 27894  
**Phone:** 252.399.2467  
**Email:** bbass@wilsonnc.org  
**Project:** City of Wilson Pavement Condition Survey, 2017

.....

## ANDY GARMAN

**Title:** Deputy Town Manager  
**Client:** Town of Nags Head | 2200 Lark Avenue, Nags Head, NC 27959  
**Phone:** 252.449.2006  
**Email:** Andy.garman@nagsheadnc.gov  
**Project:** Town of Nags Head Capital Improvement Plan, 2018



## OPTIONAL ADDITIONS

SEPI has not identified any optional additions to include with our submittal.

## EXCESSIVE ITEMS

There are no items that SEPI believes to be excessive or unnecessary.

## RECOMMENDATIONS

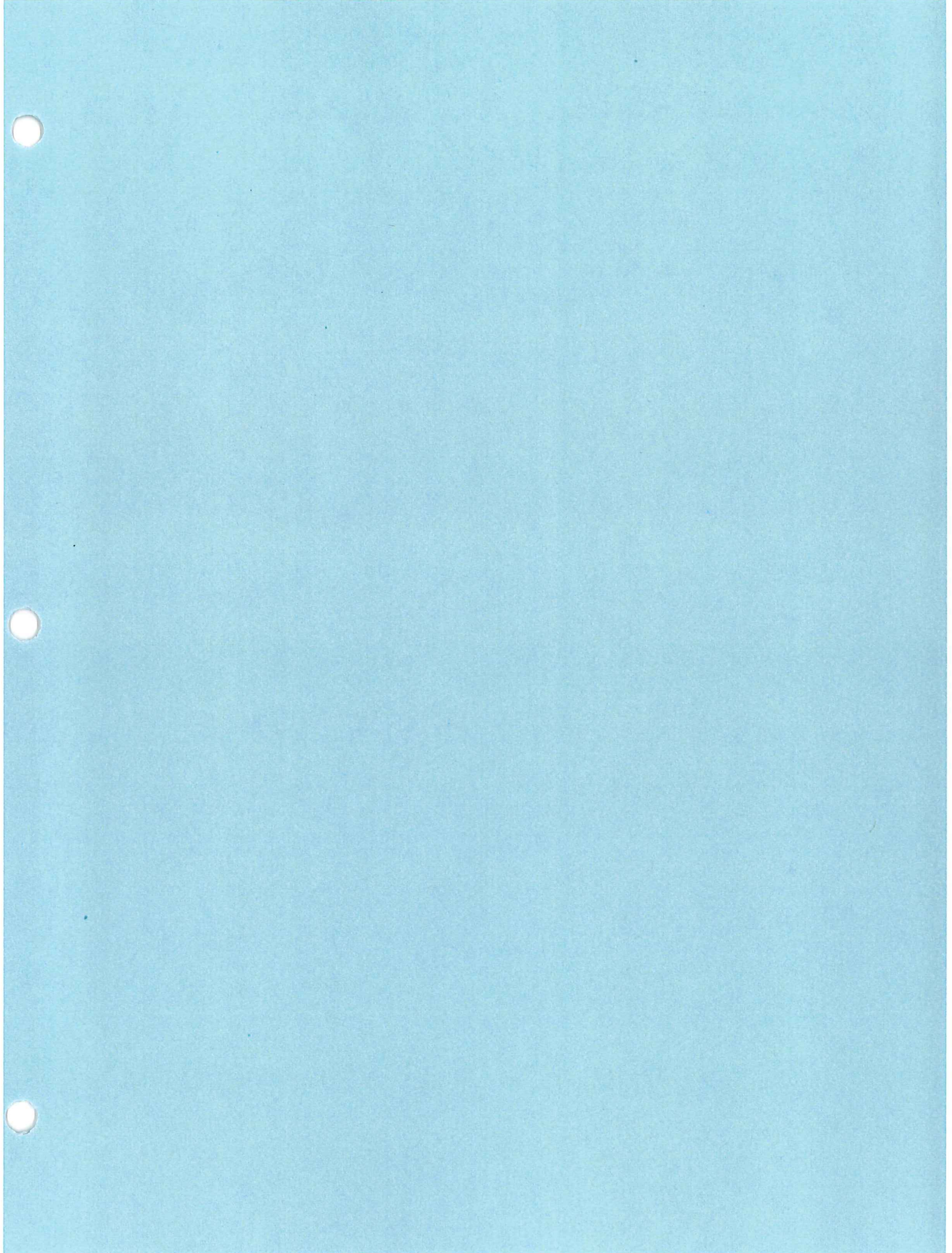
**SEPI believes in a total pavement management approach** that includes all the components of a total pavement management plan (preventative maintenance, pavement preservation, pavement rehabilitation and reconstruction).

**Our recommended maintenance activities will strive to blend treatment applications from each of the plan components in a manner that improves the overall condition of the Town's streets while maximizing available funding.**

Our experienced pavement professionals will work with the Town to determine which maintenance activities to consider for the pavement management plan.







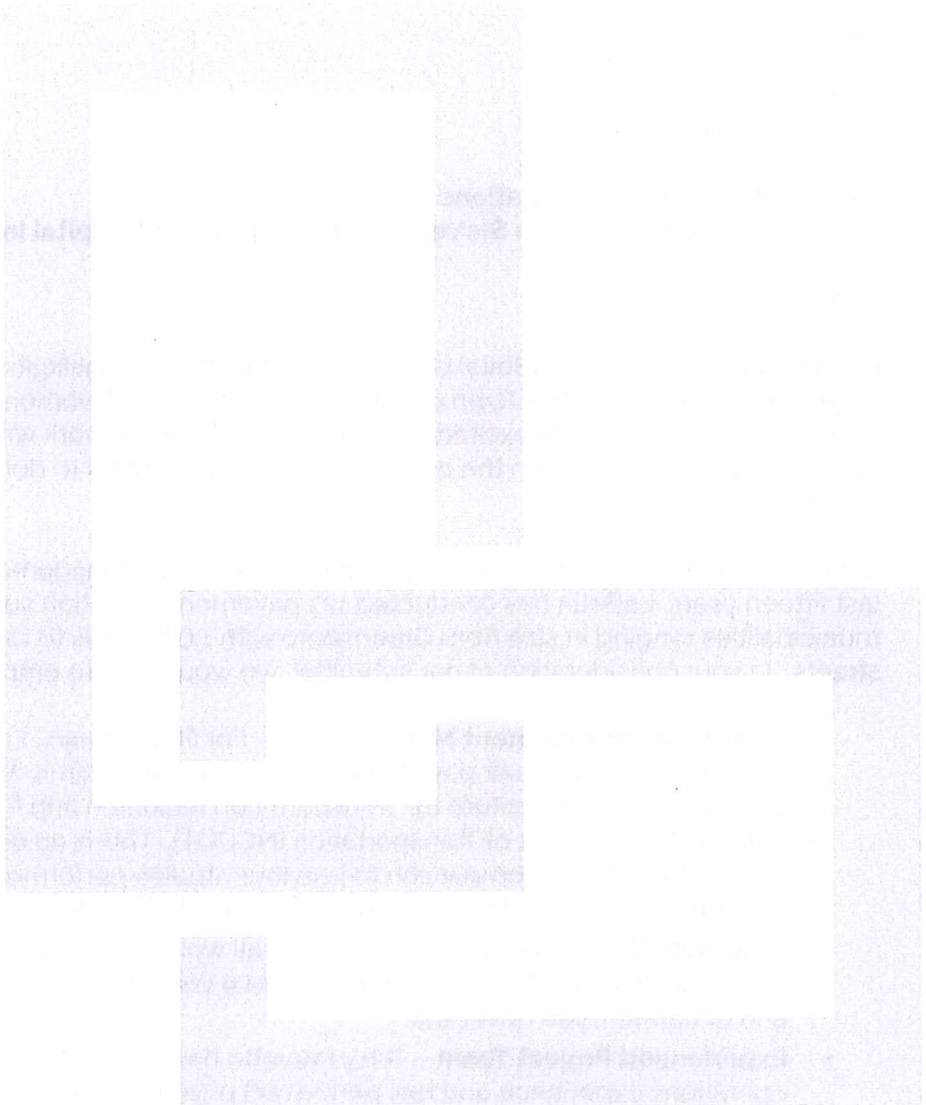
**Prepared For:**



Ms. Sheila Kane  
Town Clerk  
Town of Southern Shores  
5375 N. Virginia Dare Trail  
Southern Shores, NC 27949  
(252) 261-2394

**Submitted by:**

LaBella Associates  
400 S. Tryon Street  
Suite 1300  
Charlotte, NC 28285  
(704) 941-2139



**Pavement Condition Survey and Development of  
Capital Improvement Plan**

**TOWN OF SOUTHERN SHORES**



January 22, 2021

Ms. Sheila Kane  
Town Clerk  
Town of Southern Shores  
5375 N. Virginia Dare Trail  
Southern Shores, NC 27949

**Re: Request for Qualifications  
Pavement Condition Survey and Development of Capital Improvement Plan**

Dear Ms. Kane:

LaBella Associates, P.C. (LaBella) is pleased to submit our qualifications for providing professional engineering services to the Town of Southern Shores for a Pavement Condition Survey and Capital Improvement Plan. We are excited about the opportunity to work with the Town and are confident that you will be pleased with the quality of our work, attention to detail, and responsiveness to your needs.

LaBella has extensive experience in providing pavement management services. During the last fifteen years, LaBella has conducted 123 pavement condition surveys for 56 North Carolina municipalities ranging in size from Greensboro with 1,075 miles to Cramerton with 16 miles of streets. In your consideration of our submittal, we would like to emphasize the following:

- **Experience in Pavement Management** – For fifteen years, LaBella has been assisting municipalities with their pavement maintenance programs. We use the rating system developed by the Institute for Transportation Research and Education (ITRE) and the North Carolina Department of Transportation (NCDOT). This is an established, well tested rating system that allows comparison to previous studies performed for your Town as well as benchmarking against other municipalities in North Carolina.
- **Pavement Data** – All data collected and all work products, digital and hard copy, will be the property of the Town. We do not believe you should ever pay a fee to access **your data**, and at LaBella, you never will.
- **Experienced Project Team** – Terry Prevette has over 36 years of municipal street operations experience and has performed pavement rating for the last 18 years. Bob Wilson has over 32 years of engineering experience including street design and construction, pavement management, and pavement design.
- **Experience on Similar Projects** – As indicated above, LaBella has been privileged to provide similar services to municipalities throughout North Carolina. Some of these have been very large surveys such as Charlotte and Greensboro while we have provided the same level of detail for smaller surveys in Cramerton and Jamestown.
- **Track Record for Getting Projects Done** – LaBella has an impeccable track record for completing projects on time and within budget. We encourage you to contact any of our references to verify our commitment to client success.

400 S. Tryon Street, Suite 1300 | Charlotte, NC 28273 | p 704-941-2139

[www.labellapc.com](http://www.labellapc.com)



- **Methodology** – LaBella's pavement condition survey is an objective evaluation of the amount and severity of eight types of pavement distresses. The inventory and analysis methods to be used for this project have been used for NCDOT and agencies throughout North Carolina and have proven to be valuable aids to street maintenance programs. Additionally, LaBella's survey method along with our project deliverables is the most cost effective approach to assessing the Town's roadway assets.
- **Consistency** – Most importantly, LaBella will use the same Pavement Condition Rating (PCR) methodology that has been used for the previous pavement condition survey for the Town of Southern Shores. Thus, the data and ratings from our survey can be directly compared to your previous surveys on an apples to apples basis. Many other engineering firms providing this service use a different methodology and thus there would be no way to accurately compare it to previous surveys. Instead, it would be an apples to oranges comparison.
- **Pavement Management Software** – We pride ourselves on our commitment to provide quality engineering and exemplary client service. As an example, LaBella developed an application in Microsoft Access, USI Total Pavement Access (USI-TPA<sup>®</sup>) which allows the agency to easily query the pavement management database and generate reports. This user-friendly tool gives the public agency a valuable resource for use in program management, work management, budgeting, and responding to questions from citizens. This program can be updated with maintenance activities performed by the Town allowing for new, updated street conditions. We offer this software for the exclusive use of our clients at no additional charge.
- **Commitment to Client Service** – LaBella's philosophy is that client service is as important as quality engineering. This is demonstrated by our record of repeat business and the reputation we have earned with our clients.

We thank you for this opportunity and for your consideration of our firm for this project. Please let us know if you have any questions or need additional information.

Sincerely,

**LaBella Associates, P.C.**

Robert E. Wilson, PE  
Project Manager

# TABLE OF CONTENTS

## Company Experience & Qualifications

Statement of Qualifications	5
Company Experience	6
Relevant Projects	7-10
Professional References	11
Legal Judgements	11

## Professional Experience

Team Introduction	12
Key Personnel	13-16
Workload	17
Staff Availability	17

## Project Understanding & Approach

18-22

## Quality Assurance/Quality Control

Project Management	23-24
Location Logistics	24-25

## Why LaBella

25

# STATEMENT OF QUALIFICATIONS

The LaBella office located in Charlotte will provide the services for the Pavement Condition Survey. As background, LaBella Associates, P.C., a Professional Corporation registered and licensed in the State of North Carolina, was formed in 1978 by professional engineer Salvatore A LaBella. From the very beginning, our goal was to build strong relationships with our clients that drive successful results. We provide services that take a project from start to finish – from an initial study to determine a project's feasibility to construction administration and start up, and everything in between.

On August 1, 2017, US Infrastructure of Carolina, Inc. (USI) joined LaBella Associates. Services for this contract will be provided by the former USI personnel located in Charlotte and Burlington, NC.

## LaBella Today

At LaBella Associates, our job is to create – structures, plans, ideas, results.

But here's what really drives us: creating partnership between our team and our clients. So much so that we become one team, unified in the unrelenting pursuit of exceptional on each and every project. Reliability. Accountability. Collaboration. Respect. Not skills we went to school for, but innate in LaBella team members.

The pursuit of partnership is embedded in our culture—has been since our inception in 1978. And it affects client outcomes in profound ways. It means we are built to expertly execute projects from start to finish. That we have the talent and resources to take on any challenge. That projects are completed on

time, on budget, and beyond expectations. And that we win awards – not just for our talent, but also for our ethics, employee culture, and growth.

Today, our wheelhouse is broad, with four key service offerings: Buildings, Energy, Infrastructure, and Environmental. Our staff of over 1,200 team members is spread across more than 20 office locations. We are headquartered in Rochester, NY—but our impact is seen, felt, and experienced around the world.



# COMPANY EXPERIENCE

LaBella has assisted over 56 North Carolina municipalities during the past fifteen years by performing 123 pavement condition surveys (PCS) for their street systems. We work with each client to develop a work plan that meets their individual needs. The PCS is performed using the rating system developed by the Institute for Transportation Research and Education (ITRE) and NCDOT back in 1983. We have used this methodology for all of our PCS contracts. We use GIS applications and laptop computers to collect roadway data by means of a windshield survey. Data collected includes:

- Distress Types
  - Alligator Cracking
  - Block Cracking
  - Reflective Cracking
  - Rutting
  - Raveling
  - Bleeding
  - Ride Quality
  - Patching

- Percentage of Sidewalk per Side
- Percentage of Curb and Gutter per Side
- Asphalt Height above Gutter

Using the distress data, LaBella generates a Pavement Condition Rating (PCR) for each street segment. Using the agencies own unit maintenance costs, LaBella provides a suggested repair program with estimated costs by maintenance activity.

Additional attributes can be collected in the field to meet each client's needs. Many municipalities have a PCS performed on a regular basis (every two to three years) to identify potential new problems and to verify the effectiveness of their pavement management program.

LaBella's Total Pavement Access (USI-TPA<sup>®</sup>) is a user friendly application that enables the user to sort the municipal database attributes without having GIS

or database experience. The application uses the rating system developed by NCDOT and ITRE in 1983. GIS and database files are provided along with a report containing maintenance and funding recommendations, maintenance priorities, municipal pavement condition rating (PCR) comparisons, survey methodologies and supporting data. Street attributes, distresses, PCR, recommended maintenance activities and costs are provided for each street segment.

Pavements are in a constant state of deterioration. For that reason, it is necessary to establish a pavement maintenance plan. As the plan is carried out, LaBella can provide updated PCR information based on "What If" scenarios. For example, if you were to crack seal or repave certain roads, what would your PCR be then? How many miles of roads does Southern Shores need to repave each year to maintain the typical 15 year cycle and how much would that cost per year? These are all answers LaBella can provide as desired by the Town.



LaBella has assisted over 56 North Carolina Municipalities with 123 Pavement Condition Surveys!

# RELEVANT PROJECTS

## Pavement Condition Surveys

### City of Burlington Pavement Condition Surveys



Survey Date(s): 2004, 2007, 2009, 2012, 2015, 2019

Reference: Mr. Blair Thompson  
Street Superintendent  
336-222-5066  
lbthompson@  
ci.burlington.nc.us

235 East Summit Avenue,  
Burlington, North Carolina 27215

Description: LaBella has provided the City of Burlington's last six pavement condition surveys. Approximately 235 miles of City maintained streets were surveyed for the eight standard pavement distresses. During these surveys the following additional attributes were also collected: block number, number of lanes, segment length and width, type of pavement, location of sidewalk and curb and gutter existence per street segment side, asphalt height above gutter, pavement marking presence, type, and condition, speed humps/tables, and streets with low shoulders.

### City of Hendersonville Pavement Condition Survey



Survey Date(s):  
May 2013

Reference: Mr. Tom  
Wooten           Public Works  
Director  
828-697-3084  
twooten@  
cityofhendersonville.org

145 Fifth Avenue East,  
Hendersonville, North Carolina  
28792



LaBella surveyed approximately 66 miles of City maintained roadway for the eight standard pavement distresses. Additional attributes collected included block number, number of lanes, segment length and width, type of pavement, location of sidewalk, curb and gutter existence per street segment side, and asphalt height above gutter.

### Village of Southern Pines Pavement Condition Surveys



Survey Date(s): 2004, 2008, 2012, 2015, 2019

Reference: Mr. Cory Albers  
Assistant Public Works Director  
910-692-1983  
calbers@southernpines.net

140 Memorial Park Court,  
Southern Pines, North Carolina  
28387

Description: LaBella has provided Southern Pines last five Pavement Condition Surveys. This survey encompassed 83 miles of Village maintained streets. This survey recorded eight standard pavement distresses. During these surveys the following additional attributes were also collected: block number, number



of lanes, segment length and width, type of pavement, location of sidewalk and curb and gutter existence per street segment side, and asphalt height above gutter.

### City of Mount Holly Pavement Condition Surveys



Survey Date(s): 2011,  
2016

Reference: Mr. Jonathan Wilson  
City Planner  
704-951-3014  
jonathan.wilson@mtholly.us

Post Office Box 406, Mount Holly,  
North Carolina 28120

Description: LaBella has provided the City of Mount Holly's 2011 and 2016 Pavement Condition Surveys. Approximately 67 miles of City maintained streets were surveyed for the eight standard pavement distresses. During these surveys the following additional attributes were also





# RELEVANT PROJECTS

## Pavement Condition Surveys



collected: block number, number of lanes, segment length and width, type of pavement, location of sidewalk and curb and gutter existence per street segment side, and asphalt height above gutter.

### Town of Chapel Hill Pavement Condition Surveys



Survey Date(s):  
2012, 2014, 2016,  
2018, 2020

Reference: Mr. Greg Ling  
Streets Supervisor  
919-969-5165  
gling@townofchapelhill.org

6850 Millhouse Road, Chapel Hill,  
North Carolina 27516

Description: LaBella provided five pavement condition surveys for Chapel Hill. These surveys encompassed approximately 167 miles of Town maintained streets. Additional attributes collected included block number, number of lanes, segment length and width, type of pavement, location of sidewalk and curb and gutter existence per street segment side, number of utility cuts, and asphalt

height above gutter.

For Chapel Hill, LaBella provides 5-year projections. The projections are based on planned expenditures and expected pavement deterioration over time. The Town's funding for pavement maintenance and resurfacing has remained flat, while the overall PCR has dropped. The goal of the projections is to help the Town identify the appropriate funding level to maintain or improve their overall PCR.

### Town of Lewisville Pavement Condition Survey

Survey Date(s):  
2003, 2007, 2010, 2017, 2020

Reference: Mr. Ryan Moser  
Public Works Director  
336-945-1020  
publicworks@lewisvillenc.net

6510 Shallowford Road,  
Lewisville, North Carolina 27023

Description: LaBella has provided the Town of Lewisville's last five pavement condition surveys.

Approximately 56 miles of Town maintained roadway were surveyed for the eight standard pavement distresses. Additional attributes collected included block number, number of lanes, segment length and width, type of pavement, location of sidewalk, curb and gutter existence per street segment side, and asphalt height above gutter.

### City of High Point Pavement Condition Surveys



Survey Date(s):  
2004, 2007, 2011, 2014

Reference: Mr. Ken Sult  
Street Superintendent  
336-883-3455  
ken.sult@highpointnc.gov

Post Office Box 230, High Point,  
North Carolina 27261

Description: LaBella has provided four pavement condition surveys for the City of High Point. These surveys included data collection



# RELEVANT PROJECTS

## Pavement Condition Surveys

for the eight standard pavement distresses on 443 miles of City maintained roadway. During these surveys the following additional attributes were also collected: block number, length, width, number of lanes, type of pavement, location of sidewalk and curb and gutter existence per street segment side, asphalt height above gutter, pavement marking presence, type and condition, one way traffic delineation, and prior crack sealing presence.

### City of Gastonia Pavement Condition Surveys



Survey Date(s): 2009, 2014

Reference: Mr. Gary Saine, PE  
City Engineer  
704-866-6020  
garys@cityofgastonia.com

Post Office Box 1748, Gastonia,  
North Carolina 28053

Description: LaBella has provided the last two pavement condition surveys for the City of Gastonia. Approximately 340 miles of City maintained roads were surveyed for the eight standard pavement distresses listed previously. Additional attributes collected included block number, number of lanes, segment length and width, type of pavement, location of sidewalk and curb and gutter existence per street segment side, asphalt height above gutter, speed humps, and pavement marking information.

### City of Greensboro Pavement Condition Surveys



Survey Date(s):  
2005, 2008, 2010, 2012

Reference: Mr. Mike Mabe, PE  
Manager, Streets & Storm Water  
Maintenance  
336-373-4987  
mike.mabe@greensboro-nc.gov

401 Patton Avenue, Greensboro,  
North Carolina 27406

Description: LaBella has provided four pavement condition surveys for the City of Greensboro. These surveys encompassed approximately 1,075 miles of City maintained streets for the eight standard pavement distresses. Additional attributes collected during these surveys were block number, number of lanes, segment length and width, type of pavement, location of sidewalk and curb and gutter existence per street segment side, asphalt height above gutter, streets paved into the gutter, one way streets, median divided streets, previous crack sealing, pavement settlement at manholes, pavement slippage, streets requiring milling at intersections, and severe oxidation.

### City of Belmont Pavement Condition Surveys



Survey Date(s):  
2008, 2013, 2018

Reference: Mr. Jerry Hatton  
City Engineer  
704-825-0507  
jhatton@cityofbelmont.org

Post Office Box 43, Belmont,  
North Carolina 28012

Description: LaBella surveyed approximately 51 miles of City maintained roadway for the eight standard pavement distresses. Additional attributes collected included block number, number of lanes, segment length and width, type of pavement, location of sidewalk, curb and gutter existence per street segment side, and asphalt height above gutter.

### Town of Carrboro Pavement Condition Surveys



Survey Date(s): 2005, 2008, 2011,  
2014, 2019

Reference: Mr. Daniel Snipes  
Public Works Superintendent  
919-918-7432  
dsnipes@townofcarrboro.org

100 Public Works Drive, Carrboro,  
North Carolina 27510

Description: LaBella has provided the Town of Carrboro's last five pavement condition surveys. Approximately 44 miles of Town maintained streets were surveyed for the eight standard pavement distresses. During these surveys the following additional attributes were also collected: block number, number of lanes, segment length and width, type of pavement, location of sidewalk and curb and gutter existence per street segment side, asphalt height above gutter, pavement marking presence, type, and condition, speed humps/tables,

# RELEVANT PROJECTS

## Pavement Condition Surveys

and number of wheelchair ramps needed.

For the Town of Carrboro, LaBella prepared their 2020 Resurfacing Contract. The contract included patching, sealing, and resurfacing for streets within the Town. As part of this effort, LaBella developed several options to fit the resurfacing budget, with maps and cost estimates. We worked with Town staff to refine the list and develop additional options before the street list in the contract was finalized.

### Town of Morrisville Pavement Condition Surveys



Survey Date(s):  
2009, 2010, 2012

Reference: Mr. Blake Mills  
Public Works Director  
919-463-7071  
bmills@ci.morrisville.nc.us

414 Aviation Parkway, Morrisville,  
North Carolina 27560

Description: LaBella provided pavement condition surveys for Morrisville in 2009, 2010, and 2012. These surveys encompassed approximately 39 miles of Town maintained streets. Additional attributes collected included block number, number of lanes, segment length and width, type of pavement, location of sidewalk and curb and gutter existence per street segment side, and asphalt height above gutter.

### Town of Oak Island Pavement Condition Survey



Survey Date(s): May  
2018

Reference: Gene Kudgus  
Stormwater Administrator  
910-201-8008  
stormwater@ci.oak-island.nc.us

4601 East Oak Island Drive  
Oak Island, NC 28465

Description: LaBella surveyed approximately 97 miles of the Town's streets for the eight standard pavement distresses. Many of the streets had utility patches that were settling. These patches were from a previous sewer project with poor compaction. We identified the number of utility patches per segment and provided budget numbers for their repairs.

### City of New Bern Pavement Condition Survey



Survey Date(s): 2013, 2018

Reference: Matthew Montanye  
Director of Public Works  
252-639-7501  
montanyem@newbern-nc.org

P.O. Box 1129  
New Bern, NC 28563

Description: LaBella provided the last two pavement condition surveys for New Bern in 2013 and 2018. The city maintains 183 miles of streets that were included in the survey. In addition

to collecting data for the eight standard pavement distresses, we also updated the database to account for planned and recent street resurfacing by the city.

### City of Havelock Pavement Condition Survey & Resurfacing Contract



Survey Date(s): 2012

Resurfacing Contract: 2017

Reference: Mr. Mark Sayger, PE  
Public Services Director  
252-463-7108  
msayger@havelocknc.us

Post Office Box 368  
Havelock, North Carolina 28532

Description: LaBella provided pavement condition surveys for Havelock in 2011. The survey encompassed approximately 46 miles of City maintained streets. Additional attributes collected included block number, number of lanes, segment length and width, type of pavement, location of sidewalk and curb and gutter existence per street segment side, and asphalt height above gutter.

LaBella was retained by the City to prepare a resurfacing contract for Havelock in 2017. LaBella worked with City staff to prepare the bid documents, attend the pre-bid meeting, address bidder questions, and attend the pre-construction conference.

# PROFESSIONAL REFERENCES

## Town of Carrboro

Reference: Mr. Daniel Snipes  
Public Works Superintendent  
919-918-7432  
dsnipes@townofcarrboro.org

## Village of Southern Pines

Reference: Mr. Cory Albers  
Assistant Public Works Director  
910-692-1983  
calbers@southernpines.net

## Town of Chapel Hill

Reference: Mr. Greg Ling  
Streets Supervisor  
919-969-5165  
gling@townofchapelhill.org



# LEGAL JUDGEMENTS

LaBella does not have any legal judgements associated with project performance or professional liability against our firm within the last 5 years

# TEAM INTRODUCTION

LaBella has a well-trained and experienced pavement management team. Our Senior Field Technician, Terry Prevette will act as the primary data collector. Mr. Prevette has over 30 years of experience in municipal street operations including 18 years of pavement rating experience. Bob Wilson Project Manager, has over 32 years of civil engineering and project management experience. In the past fifteen years, LaBella has performed 123 pavement condition surveys, six (6) sidewalk condition surveys, and assisted five (5) North Carolina municipalities in improving their in-house pavement management programs. The Southern Shores project will be served by LaBella personnel in our Charlotte office to better meet your needs.

Bob Wilson, PE is the Civil Group Manager and will serve as Project Manager. Bob is a registered Professional Engineer in North Carolina. He has over 32 years of experience designing and managing transportation, sidewalk, neighborhood improvement, and water resources projects. During his tenure with the City of Charlotte Engineering Department, Mr. Wilson was responsible for the final inspection and acceptance of all newly constructed streets within the City. He has extensive experience in pavement management and has been involved in our pavement condition surveys since the very beginning, 15 years ago. He has helped multiple cities develop or improve their pavement management programs.

Terry Prevette will serve as our primary data collector for the project. Prior to joining LaBella, Mr. Prevette worked for the City of Winston-Salem for more than 34 years. During his tenure, he was as a Quality Assurance / Quality Control Inspector where he annually rated the City's 1,100 mile street system utilizing the NC Institute for Transportation Research and Education (ITRE) methodology. Since joining LaBella, Mr. Prevette has assisted the Town of Davidson in assessing the condition of the Bradford Subdivision streets prior to Town acceptance. Mr. Prevette is also an NC ITRE / LTAP Road Scholar. He was also the primary data collector on our recent Pavement Condition Surveys for the Town of Waynesville, the City of Burlington, the Town of Southern Pines, the Town of Mooresville, the City of Mount Holly, the Town of Clayton, the Town of Elon, the City of Laurinburg, the Town of Chapel Hill, the Town of Lewisville, the Town of Jamestown, the Town of Cornelius, the City of New Bern, the Town of Oak Island, and the Town of Lake Lure.

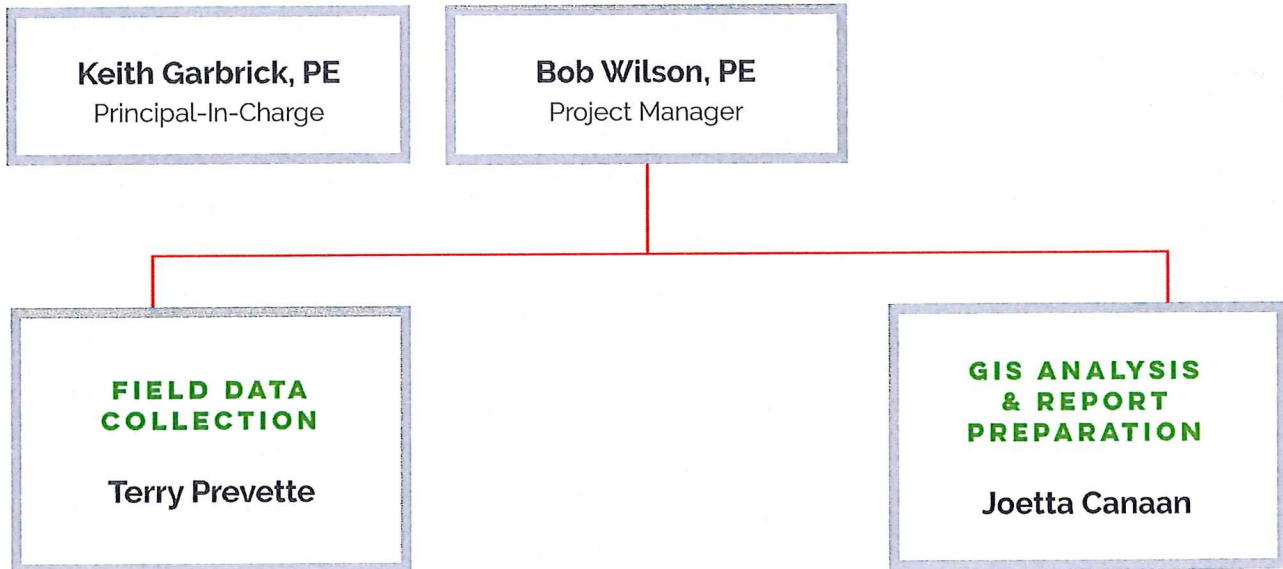
Joetta Canaan oversees all of our Geographic Information Systems (GIS) services and applications. She will be responsible for developing our GIS based field data collection application by utilizing the current street centerline file of the Town of Southern Shores as our base map. She will compare and resolve any discrepancies between the street centerline file and the Town's Powell Bill Map. She will also be responsible for the quality control review of

We have performed **123** pavement condition surveys for a variety of municipal clients for over **15** years using the ITRE/ NCDOT rating system.

the field data during the post processing task. After checking and resolving any discrepancies, she will run the field data through our pavement management software. Once the field data has been collected and post processed, she will create the final GIS files to be provided to the Town of Southern Shores. These files will contain all of our field data along with our pavement ratings, suggested maintenance activities, and their associated costs. She has provided these services for our last twenty (20) pavement condition surveys.

# KEY PERSONNEL

We build a project team by thoughtfully engaging professionals that have demonstrated reliability, accountability and collaboration.





## ROBERT E. WILSON, PE

### Senior Civil Engineer / Project Manager

Bob is a licensed professional engineer in North Carolina with 32 years of experience designing and managing transportation, sidewalk, neighborhood improvement, and water resources projects. This experience includes performing a variety of engineering services for storm water management projects, roadway and intersection improvement projects, sidewalk program administration, and thoroughfares during his employment with the City of Charlotte Engineering Department.

**PE**  
Professional Engineer  
NC

**EDUCATION**  
North Carolina State University,  
Raleigh: B.S. Civil Engineering

**ORGANIZATIONS**  
American Public Works  
Association

**LOCATION**  
Charlotte, NC

#### **Pavement Condition Surveys Various Cities, NC**

Project Manager for Pavement Condition Surveys conducted for the following NC municipalities: New Bern, Oak Island, Belmont, Chapel Hill, Carrboro, Southern Pines, Reidsville, Mebane, Lewisville, Mooresville, Pittsboro, Pineville, Brevard, Burlington, Haw River, Waynesville, Davidson, and Lake Lure. Pavement condition surveys included generating PCR numbers for each street segment based on visual observation of eight surface pavement defects, recommending maintenance activities for correcting pavement deficiencies along with the estimated costs for each maintenance activity using pavement management software. LaBella also developed a pavement management report format (USI-Total Pavement Access) using Microsoft Access to allow the agency to generate its own customized reports to facilitate work management and maintenance activity budgeting.

#### **Street Resurfacing & CIP Development: Various Cities, NC**

Project Manager for assisting cities with identifying long-term capital needs, developing resurfacing contracts, and performing 5-year projections of pavement ratings based on different funding scenarios. Examples are listed below:

- Reidsville: after completing the PCS in 2020, LaBella provided

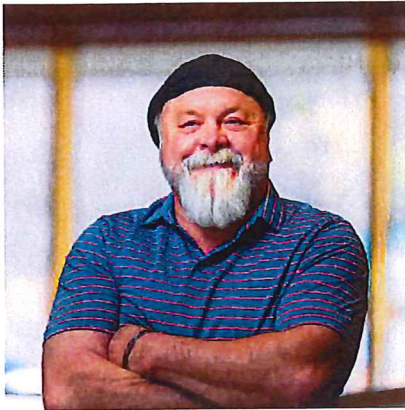
5-year recommendations for street repairs and resurfacing based on several different funding scenarios.

- Chapel Hill: as part of the PCS report in 2016, 2018, and 2020, LaBella provided 5-year projections of the impact on the Town's overall Pavement Condition Rating (PCR) based on the planned funding.
- Carrboro: using the PCS data in 2019, LaBella prepared the resurfacing contract for the Town. The contract included patching, resurfacing, and replacing non-compliant ADA ramps within the resurfacing limits.

#### **Private Development Review and Approval, Charlotte, NC**

Manager with the City Engineering Department responsible for the review, plan approval, and construction inspection of all subdivision and commercial site development within the City of Charlotte. Work involved enforcement of the City's erosion and sedimentation control requirements, storm water detention requirements, and design and construction standards for roads and storm drainage systems. Over 40 subdivisions, 75 grading permits, 250 building permit sites, and 50 storm water detention sites were reviewed and inspected on an annual basis during a four-year period. Duties also included final inspection and acceptance of all subdivision streets.





## TERRY R. PREVETTE

### Senior Pavement Specialist

Terry has more than 36 years of experience in municipal street operations. His experience includes all phases of street operations, but his primary focus was pavement management and preservation. While with the City of Winston-Salem, he was a Crew Leader twice managing utility cuts and distress repair. In 1999, he was promoted to QA/QC Inspector where one of his main responsibilities was to assess the condition of 1,100 miles of City maintained streets.

#### CREDENTIALS

NC ITRE/LTAP Road Scholar Graduate

#### ORGANIZATIONS

American Public Works Association

#### LOCATION

Burlington, NC

#### Pavement Condition Surveys Various Cities and Towns, North Carolina

Field Technician for Pavement Condition Surveys conducted for municipalities throughout North Carolina. Terry is a true road warrior, traveling across the state to perform his duties. He has performed pavement assessments for 30 cities and towns across NC.

#### Bradford Subdivision Pavement Condition Survey Town of Davidson, NC

The Bradford Subdivision in Davidson is a fairly new single-family subdivision. The subdivision has finally reached 85% buildout where the Town will accept the street system for ownership and maintenance. Terry performed a visual inspection of the existing asphalt streets by walking each of the streets and making notations on the pavement distresses present and their severity. In addition to the pavement distresses, he noted that the majority of the streets were experiencing problems due to subgrade failure. His recommendation to the Town was that the streets would basically need to be reconstructed possibly by full depth reclamation (FDR) prior to Town acceptance of the street system. Otherwise, the Town

would be accepting inadequate streets that would require above normal maintenance in the years ahead.

#### Quality Assurance / Quality Control Inspector City of Winston-Salem, NC

Responsibilities included performing a pavement condition survey of the 1,100 miles of municipally owned and maintained streets in Winston-Salem. The survey was conducted on a 2 year rotation with one half of the streets evaluated in one year and the other half the following year. He also was responsible for maintaining data updates into the Pavement Tracking System including additions of new subdivisions and annexations. Based on his field analysis and experiential knowledge, he assisted in developing which streets should be placed on the City's annual street resurfacing contract. Additionally, he provided inspection services during the street resurfacing projects including the adjustment of structures, milling operations, the application of BST, and the paving operation itself. He acted as a liaison to Winston-Salem citizens in public relations matters involving the City's street operations.







## JOETTA M. CANAAN

### Senior Civil Designer / GIS Specialist

Joetta has 27 years of experience as an Engineering and GIS Technician. She has experience with AutoCAD, Microstation and ArcGIS. Her responsibilities include GIS applications, developing and maintaining company CAD Standards, implementing client CAD Standards, and plan production.

#### EDUCATION

East Carolina University: BA  
Housing & Management

Horry-Georgetown Technical  
College: AAS Computer  
Technology

#### CERTIFICATIONS

GIS Certificate, UNC-Charlotte  
Continuing Education

#### LOCATION

Charlotte, NC

#### Pavement Condition Surveys Various Cities and Towns, North Carolina

GIS Technician for Pavement  
Condition Surveys conducted for  
the following NC municipalities:

- Mount Holly
- Clayton
- Elon
- Laurinburg
- Chapel Hill
- Lewisville
- Jamestown
- New Bern
- Oak Island
- Lake Lure
- Belmont
- Pineville
- Pittsboro
- Mooresville
- Reidsville
- Waynesville
- Burlington
- Haw River
- Brevard
- Mebane
- Southern Pines

Responsible for developing our GIS based field data collection applications by utilizing the city or town's current street centerline file as our base map. She compares and resolves any discrepancies between the street centerline file and the city or town's Powell Bill Map. Once the field data has been collected and post processed, she creates the final GIS files to be provided to the city or town. These files contain all of our field data along with our pavement ratings, suggested maintenance activities, and their associated costs.

#### Sidewalk Condition Survey Mooresville, NC

GIS Technician responsible for developing our GIS based field data collection application by utilizing the Town of Mooresville's current street centerline file as our base map. She digitized all existing sidewalks and curb ramps from existing aerial images such as Google Maps and the Iredell County Tax Maps. Once the field data had been collected and post processed, she created the final GIS files to be provided to the Town of Mooresville. These files contained all of our field data along with our sidewalk ratings, suggested maintenance activities, and their associated costs.

#### Stormwater Inventory Cumberland County and City of Fayetteville, NC

GIS Technician that performed quality control review of the field data collected during the stormwater inventory of an approximately 125 square mile urbanized area as part of NPDES Stormwater Discharge Permit compliance. Field data was reviewed and checked for corrections and omissions. Compiled listings of maintenance and repair concerns which were forwarded to Stormwater Services for follow-up. Final deliverable was GIS coverage of the existing stormwater system inclusive of the Waters of the State.

# STAFF AVAILABILITY

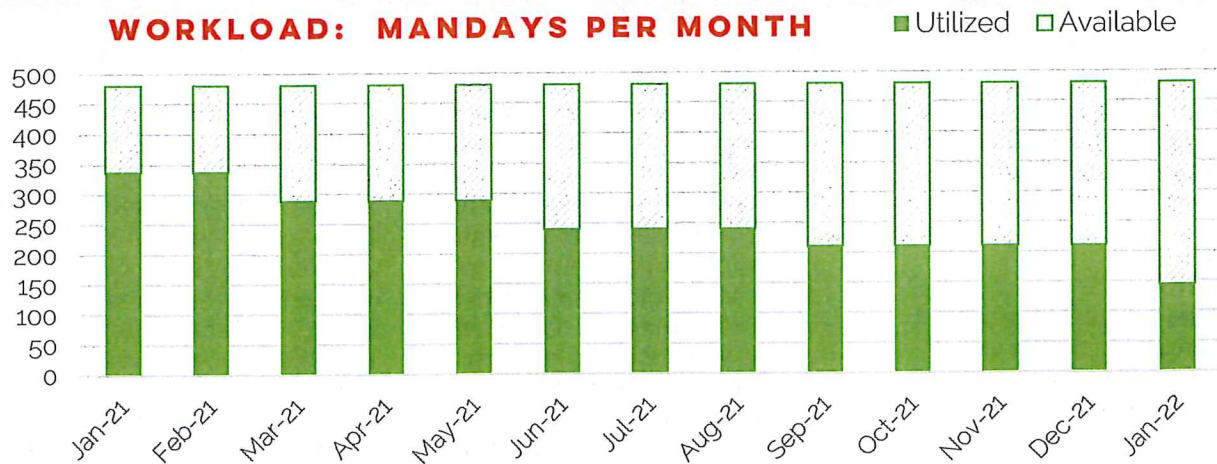
Our staff is available to begin work on the Pavement Condition Survey immediately.

In addition to our proposed project team, LaBella has excess capacity to provide backup resources if needed. The workload capacity chart below shows the available resources over the next twelve (12) months.



# WORKLOAD

The chart below reflects the current and future workload for the civil engineering staff in LaBella's Charlotte office. As shown in the graph, our Charlotte office has the excess capacity to support the project team and meet project deadlines.



# PROJECT UNDERSTANDING & APPROACH

Southern Shores requires a consultant with sufficient understanding of the principles of pavement management and experience in providing pavement condition surveys (PCS) to function as a technical resource and advisor to the Town. LaBella's team has the demonstrated experience and knowledge to serve the Town in this critical service area. The field data collection will be performed by Terry Prevette our Senior Field Technician.

Bob Wilson will serve as Project Manager and ensure that all schedule, quality, and budget requirements are met. He will also review all intermediate and final work products. Mr. Wilson will present the findings to the Town Board, as he has extensive experience with Board presentations.

gathering data on pavement surface distresses and basic street inventory information by our Senior Field Technician.

## Data Collection

The next task, and the most labor intensive, is the field assessment of each street segment within the Town limits. During this task, our technician will ride each segment of all Town maintained streets. The segment breaks are determined by the Town in its GIS street centerline database, but are typically from intersection to intersection. We will evaluate each segment and record the severity level of each of eight different asphalt pavement distresses. The distresses observed are alligator cracking (with severity and percentage of each street segment), block cracking, reflective cracking,

- Percentage complete and location (right or left) of existing sidewalk
- Percentage complete and location (right or left) of existing curb and gutter
- Amount of asphalt buildup in the gutter line
- Existing pavement markings needing repair
- Speed humps / speed tables

Field data is generally collected in a vehicle with high visibility. LaBella supplies a blinking light for the top of the vehicle and a magnetic sign saying "frequent stops" to ensure safety during collection. In addition, our technician wears a reflective vest when exiting the vehicle to collect road widths.

## High quality performance is the result of quality project management.

Our data collection and rating methodology follows the ITRE/ NCDOT rating system. A brief description of our PCS project approach for Southern Shores follows:

### Set Up

LaBella will begin the project by confirming the project scope and obtaining relevant GIS files, Powell Bill Maps, street lists, etc. from the Town. Using this information, a GIS linked field rating application will be developed. This rating application, normally running in ArcPad, will be installed on a laptop computer for use in

raveling, rutting, patching, bleeding, and ride quality. During this task, we also verify any street inventory information that may be lacking or incorrect. Examples of this information are block number, street designations, street class, begin and end descriptions, street width, lane width, pavement type, curb type, lanes, etc. In addition, we will look for items needing Town attention such as poor drainage or misspelled street names. These will be noted in the comments field of the database.

During this survey, we will also record other attributes such as:

### Data Input and Analysis

In this task, LaBella will evaluate the field data to verify that all data fields have entries and that any questionable or suspect inventory items (e.g. ownership) are clarified. GIS shape files that include as rated attributes are checked for accuracy and completion. The field rating database is then entered into our Access based pavement management software to generate pavement condition ratings, recommended maintenance activities, and estimated maintenance costs per segment.

# PROJECT UNDERSTANDING & APPROACH

This pavement software was developed by LaBella based on parameters established by the North Carolina Department of Transportation (NCDOT) and the ITRE. This software helps to minimize data entry errors and increases the accuracy of the Pavement Condition Survey findings.

## Report Preparation

Activities in this task include preparing a rough draft of our written report including charts, tables, graphs, etc. Accuracy of recommendations and cost estimates are confirmed. The final version of the rating database is imported into LaBella's Total Pavement Access (USI-TPA®) application and the various reports from this application are checked against the output from our pavement management software to verify consistency of our findings and recommendations.

After several iterations of quality checks and proof reading, final versions of the written report are printed and bound. Digital copies of all datasets, shape files, reports, charts, and tables, along with the USI-TPA® application are produced to be included with other project deliverables. The results of the software are reviewed and independently checked to verify the results. Street listings are provided alphabetically and ranked by PCR for each street segment.

## Delivery of Report

LaBella will meet with the appropriate Town representatives and deliver the final project reports and digital files. We review our findings and recommendations, answering

any questions the Town may have. As a part of this session, we will demonstrate the USI-TPA®, a MS Access based application, and discuss potential uses of this product by the Town. LaBella also seeks feedback from the Town as to possible improvements to our survey procedures and/or deliverables.

As part of our work, we collect, compile, and analyze data about your street system. This data forms the basis for our analysis, recommendations, and report. However, this data is and always shall be your data. All data collected and all work products, digital and hard copy, are provided to the Town. **This is your data.** You should never pay an access or maintenance fee for your data, and you never will with LaBella.

## Pavement Management Software

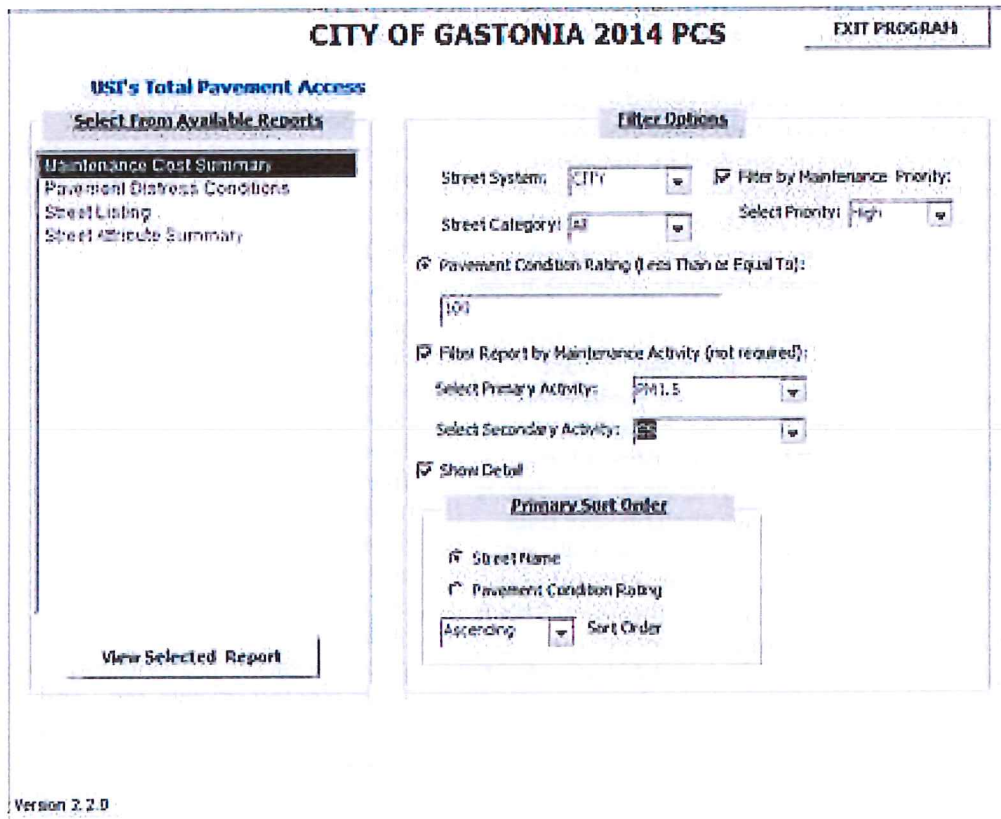
LaBella developed its own pavement management software to meet the needs of our municipal clients. Our software is simply called Total Pavement Access or USI-TPA® for short. The software is based on pavement parameters established by NCDOT and ITRE. This software helps to minimize data entry errors and increases the accuracy of the Pavement Condition Survey findings. The field rating database is entered into this Microsoft Access based pavement management software to generate pavement condition ratings, recommended maintenance activities, and estimated maintenance costs per segment. After the data is processed and compiled, the software creates and exports a final pavement database file

with the field data as well as the ratings, activities, and costs.

This database or Excel file is provided to our client for their internal use at project completion. The database file is also imported into our USI-TPA® program for easy reporting.

LaBella believes the Town will greatly benefit from the USI-TPA® application which will be supplied as a part of our project deliverables. This MS Access based application allows the Town to have a user friendly means of querying the rating database in a variety of ways and generate reports which can be used for work management, budget preparation and documentation, presentations to Town elected officials, etc. The user can quickly and easily view or print rating and inventory data for individual street segments or various categories of segments (e.g. all low volume streets with PCRs ≤ 62). One has quite a bit of flexibility in the selection criteria used for the queries. For example using USI-TPA®, Southern Shores can access on a desktop or laptop the additional attributes (asphalt buildup in the gutter, sidewalk presence, etc.) that are collected during field data collection. Several screen prints of some of the TPA reports from the 2014 City of Gastonia survey follow for your information.

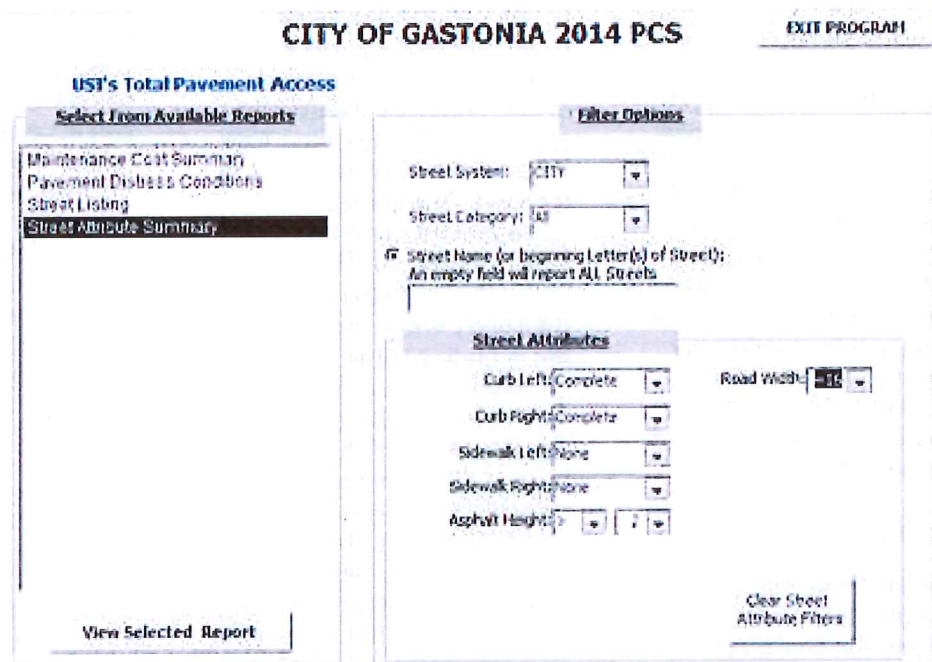
# PROJECT UNDERSTANDING & APPROACH



Example 1

Screen shot of search criteria for the Maintenance Cost Summary Report. Pull down menus allow user to filter by a wide variety (e.g. high or low volume streets, variable PCR ranges, ownership, maintenance activity, sorting order, etc.). Additionally, user can select a macro level summary report or detailed report with street listings meeting the search criteria.

Example 2



Screen shot of search criteria for the Street Attribute Summary Report. User can search the database for streets meeting combinations of criteria (e.g. City streets having curbs full length on both sides with no sidewalks and streets 16 feet wide).



# PROJECT UNDERSTANDING & APPROACH

## Capital Improvement Plan Approach

After completing the PCS, LaBella will develop a Capital Improvement Plan (CIP) for street maintenance and repairs for the Town. As part of this process, LaBella will present several options for street repairs and resurfacing based on the PCS findings and available funding. To refine the CIP, the following questions must be answered:

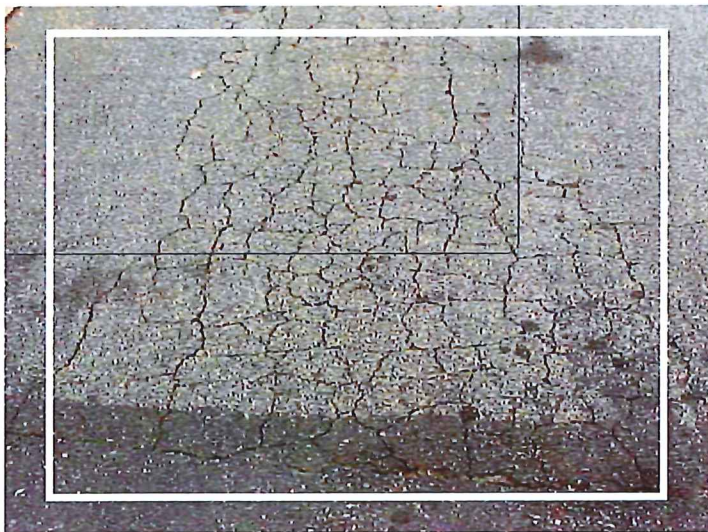
- What is the funding source? Powell Bill funds only or other source?

- What are the Town's goals? Improve the overall PCR, maintain the PCR, etc.?
- Can funds be leveraged from other State or Federal programs (CMAQ, etc.)?

The CIP needs to balance the pavement repair needs and costs. An approach to fix the "worst first" will spend all the funds and repair very few streets. A better approach will balance less costly repairs with more significant repairs. For example, streets with moderate block cracking can be addressed with crack sealing, a low cost repair. Block cracking is

caused by shrinkage of asphalt pavement over time and is not a structural defect. If left unchecked, water will penetrate the cracks and lead to more expensive repairs.

At LaBella, we have helped other communities develop and refine their pavement management program. The PCS provides the base data to make informed decisions, but it is only part of the CIP development process. By working in partnership with the Town, LaBella can help achieve a cost effective CIP to address immediate needs and long range goals.



"The USI pavement condition survey persuaded our city council to put a street bond referendum on the ballot and the voters approved \$9.3 million to upgrade our street system."

Blair Thompson – Street Superintendent, City of Burlington, North Carolina

# QUALITY ASSURANCE/QUALITY CONTROL

## Project Management

LaBella has extensive experience in performing and managing Pavement Condition Surveys (PCS) and developing Capital Improvement Plans (CIP). From our experience, we have found that flexibility and responsiveness are critical. Our proposed project management scheme has been developed, refined and sustained to ensure our ability to adapt to specific project needs, including simultaneous projects. This includes having a sufficient resource depth to replace key team members wherever necessary in order to lead or execute every project task effectively.

Our project management procedures for this approach are listed below:

- Assign an experienced Project Manager to provide overall direction to the project team. The Project Manager will develop a work plan and proposal; provide guidance and support to the team; and provide quality assurance reviews. Our proposed Project Manager, Bob Wilson, has extensive experience in the successful completion of PCS reports and CIPs.
- Assign highly skilled team members whose experience and capacity matches the needs of the particular task assignment. Terry Prevette has provided pavement assessments for over 30 PCS while with LaBella in addition to his experience while employed by the City of Winston-Salem. Joetta Canaan has provided GIS database development and

analysis for over 20 PCS reports.

- Assign an experienced Principal to provide overall guidance and quality assurance to the project. The Principal will periodically review work under the contract to monitor quality, status, and client satisfaction. The Principal will also ensure that corporate resources are fully available to the project team. Keith Garbrick is LaBella's Southeast Regional Vice President and has the authority to assign, replace, or add additional staff as needed to meet the needs of the client.

We believe the Project Management approach described above is well-suited to the needs of this project, and we have implemented this approach successfully on previous projects for municipalities throughout North Carolina. Your level of comfort with the company performance and responsiveness is critical so we encourage you to contact any of our project or client references to gain others' impression of our commitment to client service.

## Quality Control

LaBella's corporate culture is built upon the philosophy of Quality at the Source. This means that each employee takes responsibility for checking their work thoroughly and verifying it with the Scope of Work before passing it onto the next step in the process. This minimizes re-work and relieves the burden of issue resolution at a later stage in the project when the impact may be greater.

LaBella's quality control procedures are outlined in our Quality Assurance/Quality Control Procedures Manual. Our program has been developed to assist our employees in carrying out project work in a planned and controlled manner. It includes procedures for scheduling, coordinating, and assigning work; for recording, retention, and retrieval of records of both design and construction activities; for identifying and resolving matters affecting the work; and for reviewing compliance with the requirements of the program. The following key QA/QC elements are required for all projects:

1. Each project team member is responsible for the quality of his/her work at the source, and will review their work product before submittal to the Project Manager.
2. As part of his duties, the Project Manager will be responsible for reviewing all intermediate and final work products (engineering calculations, plans, reports, etc.) produced by the project team.
3. The Project Manager will review deliverables prior to submittal to ensure consistency and quality of the work products.
4. The Principal-in-Charge will monitor the project to ensure that adequate resources are available to the Project Manager for the duration of the project. The Principal-in-Charge will also review all work products (reports, plans, etc.) associated with a project milestone prior to



# QUALITY ASSURANCE/QUALITY CONTROL

submission to the Owner. The purpose of this review will be to ensure the completeness, accuracy, and clarity of all project milestone submittals.

5. Errors and Omissions
  - LaBella's staff works diligently to prevent any errors and omissions in our work products. We emphasize to each employee the importance of accountability for each person's work product. Every letter, plan, and document is reviewed by a senior staff member who was not directly involved in the work product prior to releasing the item. However, we recognize that errors and omissions do occur. LaBella takes responsibility for our work and works closely with our clients to resolve issues that occur. We emphasize continuing communication with all project team members and have been successful in minimizing problems related to errors and omissions.

We believe our previous work on municipal projects demonstrates our commitment to the client. We also encourage you to contact any of our clients listed in the project descriptions to gain their perspective on the priority we place upon project quality.

## Processes for Performance

The above approach describes the general process for project management and quality control. However, each project is unique

with its own scope, budget, and schedule. Therefore, LaBella implements processes to ensure performance requirements and the delivery of work products are met. Processes include the following:

1. Work Breakdown Structure: To manage individual projects, we first work with project stakeholders to develop a detailed work breakdown structure (WBS) that lists all the tasks and associated subtasks.
2. Detailed Work Plan: Once the WBS is developed, a detailed work plan is prepared. The work plan lists all the tasks and subtasks, relationships of tasks, and task duration. Using critical path methods (CPM), a schedule is developed that defines the critical path. The schedule is closely monitored to ensure that task schedules, especially for critical path tasks, are met to avoid impacts to the overall project schedule.
3. Backup Personnel: The LaBella Project Team has backup personnel and resources designated to every project team member indicated on our organizational chart in our proposal. We recognize that the schedule for this project is critical; therefore, we have processes for replacement of team members in the event of unforeseen occurrences. Our Charlotte office has 24 employees, and we are able to provide backup personnel at every position within our Charlotte office.

4. Technical Resources: LaBella's Project Team has the resources available to perform the services described in the Request for Qualifications. We maintain the latest computer technology available for our engineers and technicians in all of our offices. Our goal of blending new technologies with timeless values is exemplified in our investment in personnel and resources which we make available to our clients.

The above process will help to ensure that project expectations are met, and that the client's goals are achieved.

## Location Logistics

You may wonder why a Charlotte firm is pursuing a project on the Outer Banks. As we hope we have demonstrated through our proposal, we are true "road warriors". We go where the project is, whether in the NC mountains or coast. The field work for the Pavement Condition Survey (PCS) should take about three (3) days based on the street mileage. For any PCS that is more than an hour's drive away, our pavement rater, Terry Prevette, stays at a hotel, and Southern Shores would be no different. The analysis and report development are all done in our office, so logistics is not an issue. When complete, our project manager, Bob Wilson, usually delivers the PCS report and presents the results. During COVID, we have adapted to where these meetings can be done virtually, even for Town Council meetings. With virtual meetings, participants can be anywhere.

# QUALITY ASSURANCE/QUALITY CONTROL

Our preference is to meet with Town staff, its consultant, and/or Town Council in person as part of developing the CIP recommendations. However, due to COVID and cost concerns, LaBella is able to produce, present, and discuss our recommendations virtually. For Carrboro, Reidsville, and Chapel Hill, we developed repair options, 5-year plans, and 5-year

projections remotely. Our work was presented and discussed through phone calls or virtual meetings. This process allowed us to refine and finalize the work products.

One aspect of pavement repairs that requires a local presence is construction inspection. We understand that the Town uses a local consultant, Anlauf

Engineering, to serve as the Town Engineering Consultant. If Mr. Anlauf can provide inspection of the work, this would be ideal. For LaBella to provide inspection services, we would probably look to the network of retired municipal and NCDOT inspectors to find someone local or regional to fill this need. LaBella has five (5) inspectors in NC, but they all live and work in the Piedmont region.

## WHY LABELLA?

- Experience in pavement management. LaBella has performed multiple pavement condition surveys for North Carolina cities and towns. Terry Prevette has over sixteen years of pavement rating with the City of Winston-Salem and LaBella. Bob Wilson has extensive experience with street construction and maintenance needs, as well as pavement design.
- LaBella has performed 123 pavement condition surveys for 56 municipalities in North Carolina.
- Most importantly, LaBella will use the same Pavement Condition Rating (PCR) methodology that was used on the previous pavement condition survey for the Town of Southern Shores. Thus, the data and ratings from our survey can be directly compared to your previous surveys on an apples to apples basis. Many other engineering firms providing this service

use a different methodology and thus there would be no way to accurately compare it to previous surveys. Instead, it would be an apples to oranges comparison.

- Total Pavement Access (USI-TPA<sup>®</sup>) application. This innovative and copyrighted tool, developed exclusively by LaBella, gives our clients a user-friendly desktop application allowing them to query the rating database. This tool effectively automates the ITRE/NCDOT rating system and helps ensure the integrity of the data collected. The flexibility in query criteria allows the owner almost limitless freedom in generating reports which can be used for work management, budget preparation, council presentations, etc. We offer this application freely for use by our clients.
- Emphasis on serving public agencies. In North Carolina, LaBella works primarily for public sector clients.

Many of our employees have worked for municipal governments. We believe these factors give LaBella a unique sensitivity to the pressures of municipal projects.

- Satisfied clients. We encourage you to contact any or all of our client references listed in the Similar Projects section of this statement of qualifications. We are proud of our track record, and we believe our clients will confirm our commitment to quality, schedule, and budget.
- All data collected and all work products, digital and hard copy, are and always will be the property of the Town. We believe you should never pay a fee to access [your data](#).