



**City of Boiling Spring Lakes
Board of Commissioners Stormwater Workshop
May 29, 2019
City Hall – 10:00 a.m.**

PLEASE TURN OFF CELL PHONES

1. Call to Order ~ Mayor Craig Caster

The Board of Commissioners Workshop was called to order at 10:00 a.m.

2. Attendance ~

Mayor Craig Caster
Commissioner Mark Stewart
City Manager Jeff Repp

Commissioner Steve Barger
Commissioner Guy Auger
Commissioner Dana Witt
City Clerk Jane McMinn

Guest ~ Josh Dalton, P.E., Sungate Design Group ~ Stormwater Management Master Plan Update

3. Introduction ~ City Manager Jeff Repp

Mr. Repp explained the workshop today with Mr. Josh Dalton of Sungate Engineering is to summarize where we are with the Stormwater Management Master Plan. The Board of Commissioners in August 2018 accepted a proposal from Sungate Engineering to have additional engineering work done with respect to stormwater management. This would lead to a stormwater management ordinance, with additional site plans and how the City would handle water coming off individual lots. Mr. Dalton will explain the uniqueness of Boiling Spring Lakes, as opposed to other municipalities throughout the State.

Mr. Repp stated so many of the lots in Boiling Spring Lakes were pre-platted by Reeves Telecom prior to the City being formed before the 60's. This represents many challenges to the City because of stormwater ordinances we are under with the County, and the lack of regulation on the existing platted lots, which has led to so many of our problems. In addition to 40+ years of silt developing in ditches that were originally clean.

The purpose of today's workshop will be a summary presented by Mr. Dalton, where we are in the process, and what information we still need to obtain. Based on information from the Board where they would like to go with this plan, and what sections of the City the Board would like to address. We can discuss this after the presentation by Mr. Dalton.

4. Sungate Design Group ~ Josh Dalton, P.E.

Mr. Dalton reviewed the list of City goals, what previous studies provided and what we are looking for going forward.

Mr. Dalton reviewed some of the drainage projects Sungate has performed for BSL, such as Holly/Redwood and Trevino, Souchak, and Fifty Lakes.

The Sungate Stormwater Management Master Plan is hereby incorporated by reference and made a part of these minutes.

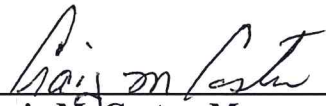
The Board was in full agreement the City has a stormwater problem. We need a plan to: *(a ~ move forward, and (b ~ how do we fix it.*

Mr. Dalton suggested breaking the City down into six (6) phases. When each phase is completed the City will receive a report and a plan for correction. We can break this down and study the worst area first and so on. Mr. Dalton cautioned, there may not be a solution for a phase. This has happened in other areas after a study, this could be a possibility.

Mr. Dalton will map the 6 phase sections and submit those for the Board to review and select the first phase and so forth.

Mr. Repp will add the additional work by Sungate Engineering to the July agenda for approval.

The Stormwater Management Master Plan Workshop was adjourned at 10:58 A.M.



Craig M. Caster, Mayor

ATTEST:



Jane McMinn, City Clerk



Date





Sungate Design Group, P. A.

CIVIL ENGINEERING - ENVIRONMENTAL

905 Jones Franklin Road – Raleigh, NC 27606 – Phone 919.859.2243 – www.sungatedesign.com

Date: May 29, 2019
Time: 10:00 a.m.
Location: City Hall
9 E. Boiling Spring Lakes Road
Boiling Spring Lakes, NC 28461

AGENDA

I. Stormwater Management Master Plan Discussion

a. Discuss typical progression of development in other municipalities.

- i. Development plans with dedicated drainage easements

b. Goals of SMPP

- i. Map existing drainage ditches and channels (for drainage areas greater than 5 acres)
- ii. Compile GIS Database
- iii. Protect critical drainageways with buffers
- iv. Sample Plot Plan with list of requirements

c. Discuss status of SMPP

- i. Challenges with available data
- ii. Phased field work
- iii. Anticipated schedule



SUNGATE DESIGN GROUP, P.A.

Stormwater Management Master Plan Update

Presented by
Josh Dalton, P.E.

Town Goals

- ✓ Individual existing platted lots are the biggest concern. Require lot owners to obtain a Grading Permit with review of a Lot Grading Plan prior to commencing construction.
- Delineate existing drainage patterns and major outfalls that will be regulated to ensure that there will be no disruption of normal flood elevations throughout its entire reach.
(INCLUDED IN CURRENT SCOPE OF WORK - \$30,000 BUDGET)
- Denote areas where existing flooding problems are now occurring and develop preliminary plans and probable cost of construction for resolution of problem.
- City does not want to take over administering the entire Stormwater Program and has no problems with deferring major development review to Brunswick County under the current agreement.
- Ensure that regulations for design and construction of improvements to individual lots or resolution of existing flooding problems do not conflict with existing Brunswick County NPDES requirements.
- Provide recommendations for ditch and slope stabilization requirements.
- ✓ Provide recommendations for items to include in Stormwater Ordinance.



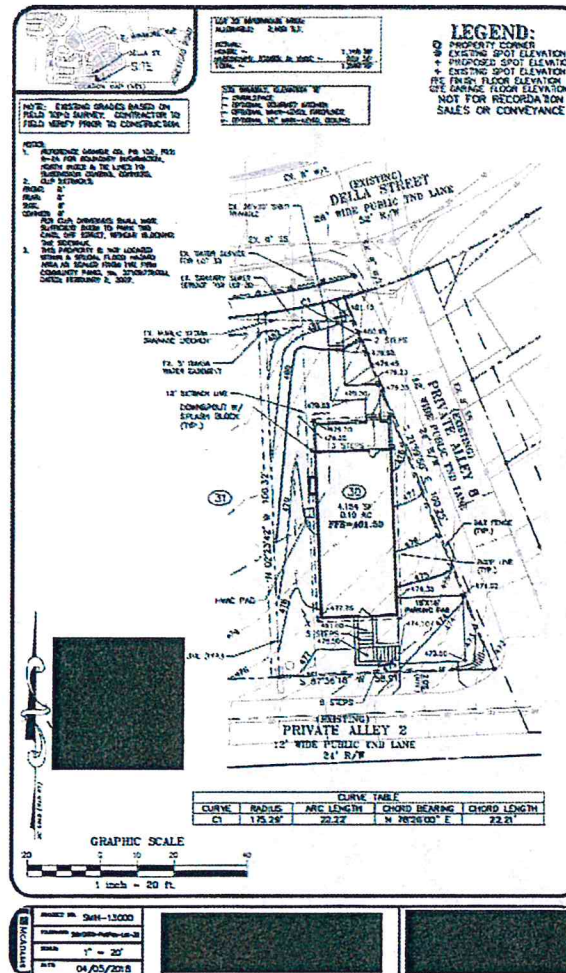
Trevino, Souchak, and Fifty Lakes Drainage Study

- Sungate competed field surveys and preliminary plans with several alternatives for mitigating existing flooding issues on private property.



Typical Plot Plan Requirements

- Lot boundaries and easements
- Existing contours
- Proposed contours
- Drainage Swales, ditches, pipes
- Gutter downspout locations
- Vicinity map
- Finished floor elevation (FFE)
- Supporting calculations
- Erosion control devices
- Engineer's Certification statement: No adverse impacts to adjacent property owners.



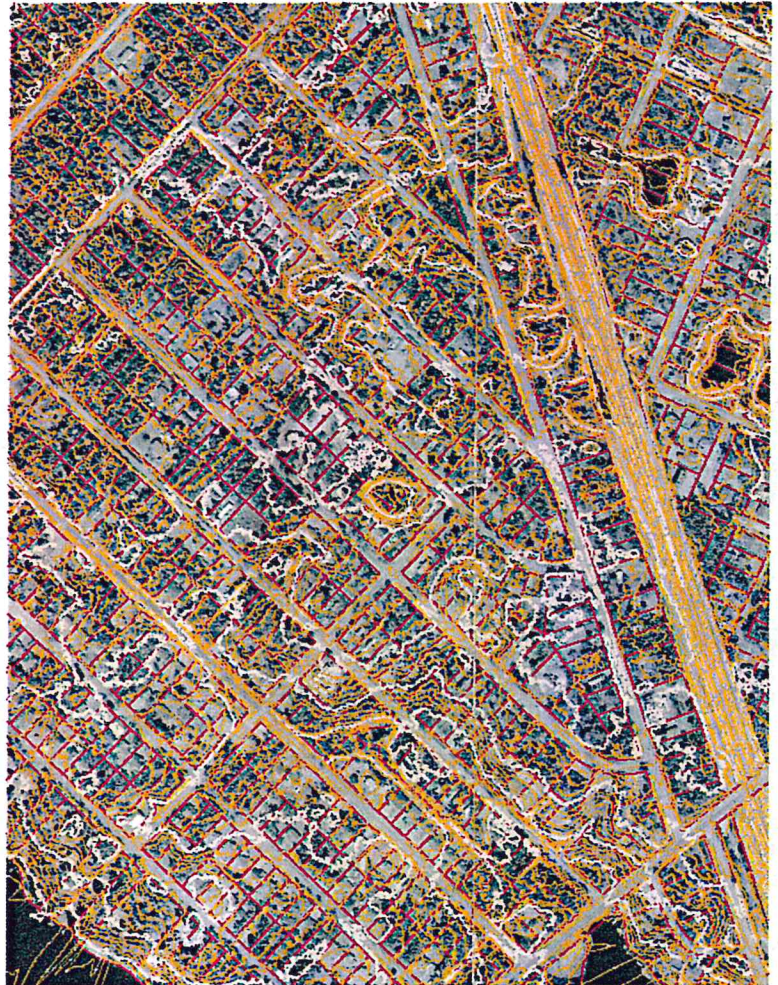
Goals of SMMP

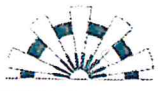
- Map existing drainage ditches and channels (for drainage areas greater than 5 acres)
- Compile GIS Database
- Protect critical drainageways with buffers



Challenges with QL2 LiDAR Data

- Data is adequate for large defined stream channels.
- Data in BSL area is not adequate to determine flow patterns or directions for smaller channels and roadway ditches.
- OR there are no existing ditches or channels.





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August 18, 2018

Jeffrey Repp, City Manager
City of Boiling Spring Lakes
9 E. Boiling Spring Lakes Road
Boiling Spring Lakes, NC 28461

Re: Stormwater Management Master Plan and Stormwater Ordinance Assistance

Dear Mr. Repp:

Sungate Design Group, PA (Sungate) is pleased to have the opportunity to present this proposal to provide professional services to complete a Stormwater Management Master Plan and assist the City with developing a Stormwater Ordinance. Below is a summary of the City's desires expressed during our phone call on August 13, 2018:

- Individual existing platted lots are the biggest concern. The City would like to require lot owners to obtain a Grading Permit with review of a Lot Grading Plan prior to commencing construction.
- Delineate existing drainage patterns and major outfalls that will be regulated to ensure that there will be no disruption of normal flood elevations throughout its entire reach.
- Denote areas where existing flooding problems are now occurring and develop preliminary plans and probable cost of construction for resolution of problem.
- City does not want to take over administering the entire Stormwater Program and has no problems with deferring major development review to Brunswick County under the current agreement.
- Ensure that regulations for design and construction of improvements to individual lots or resolution of existing flooding problems do not conflict with existing Brunswick County NPDES requirements.
- Provide recommendations for ditch and slope stabilization requirements.
- Provide recommendations for items to include in Stormwater Ordinance.

For the Towns of Carrboro and Holly Springs, Sungate was initially contacted to provide expert hydrologic and hydraulic analysis and recommendations to mitigate the effects of flooding caused by poorly planned development activities that were conducted prior to local stormwater regulations and/or were not properly planned and engineered to prevent flooding. Many of these flooding problems were occurring on residential lots that were not along major streams much the same as those occurring in your City. Sungate provided recommendations that relieved the flooding problems and have continued to provide stormwater services to those municipalities for the past 20 and 15 years respectively. Sungate is confident that we can provide the City of Boiling Spring Lakes with reliable resolution of surface water runoff problems by applying similar methods and recommendations based on experience gained through years of "hands on" experience combined with a thorough knowledge of the latest technological hydraulic models.

The first step in addressing the City's concerns is to develop a Stormwater Management Master Plan (SMP). The SMP would consist of delineating and mapping the existing drainage patterns and ditch locations for the City limits using a combination of available contour and aerial photograph data. This data would be compiled into a database map using ArcGIS software. The ArcGIS database will then be provided to Brunswick County.



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SDG RATE SCHEDULE EFFECTIVE JUNE 1, 2018

Hourly Billing Rates:

| | |
|-------------------------------|-------------|
| Principal in Charge | \$156.00/hr |
| Senior Engineer (PE) | \$130.00/hr |
| Engineer (PE) | \$120.00/hr |
| Surveyor (PLS) | \$120.00/hr |
| Senior Engineering Technician | \$100.00/hr |
| CADD Technician | \$85.00/hr |
| Administrative | \$80.00/hr |

Reimbursable Expenses:

| | |
|----------------------------|---------|
| Printing, Copying, Postage | At Cost |
|----------------------------|---------|

I. BILLING AND PAYMENT TERMS

PAYMENT DUE. Invoices shall be submitted by the Consultant monthly and are due upon presentation and shall be considered past due if not paid within thirty (30) calendar days of the due date.

SUSPENSION OF SERVICES. If the Client fails to make payments when due or otherwise is in breach of this Agreement, the Consultant may suspend performance of services upon seven (7) calendar days' notice to the Client. The Consultant shall have no liability whatsoever to the Client for any costs or damages as a result of such suspension caused by any breach of this Agreement by the Client. Upon payment in full by the Client, the Consultant shall resume services under this Agreement, and the time schedule and compensation shall be equitably adjusted to compensate for the period of suspension plus any other reasonable time and expense necessary for the Consultant to resume performance.

TERMINATION OF SERVICES. If the Client fails to make payment to the Consultant in accordance with the payment terms herein, this shall constitute a material breach of this Agreement and shall be cause for termination of this Agreement by the Consultant.

SET-OFFS, BACKCHARGES, DISCOUNTS. Payment of invoices shall not be subject to any discounts or set-offs by the Client unless agreed to in writing by the Consultant. Payment to the Consultant for services rendered and expenses incurred shall be due and payable regardless of any subsequent suspension or termination of this Agreement by either party.

II. CERTIFICATIONS, GUARANTEES AND WARRANTIES

The Consultant shall not be required to sign any documents, no matter by whom requested, that would result in the Consultant's having to certify, guarantee or warrant the existence of conditions whose existence the Consultant cannot ascertain. The Client also agrees not to make resolution of any dispute with the Consultant or payment of any amount due to the Consultant in any way contingent upon the Consultant's signing any such certification.

III. CONSEQUENTIAL DAMAGES

Notwithstanding any other provision of this Agreement, and to the fullest extent permitted by law, neither the Client nor the Consultant, their respective officers, directors, partners, employees, contractors or subconsultants shall be liable to the other or shall make any claim for any incidental, indirect or consequential damages arising out of or connected in any way to the Project or to this Agreement. This mutual waiver of consequential damages shall include, but is not limited to, loss of use, loss of profit, loss of business, loss of income, loss of reputation and any other consequential damages that either party may have incurred from any cause of action including negligence, strict liability, breach of contract and breach of strict or implied warranty. Both the Client and the Consultant shall require similar waivers of



Accordingly, the Client should prepare and plan for clarifications and modifications, which may impact both the cost and schedule of the Project.

VIII. TERMINATION

In the event of termination of this Agreement by either party, the Client shall within fifteen (15) calendar days of termination pay the Consultant for all services rendered and all reimbursable costs incurred by the Consultant up to the date of termination, in accordance with the payment provisions of this Agreement.

The Client may terminate this Agreement for the Client's convenience and without cause upon giving the Consultant not less than seven (7) calendar days' written notice.

Either party may terminate this Agreement for cause upon giving the other party not less than seven (7) calendar days written notice for any of the following reasons:

- Substantial failure by the other party to perform in accordance with the terms of this Agreement and through no fault of the terminating party;
- Assignment of this Agreement or transfer of the Project by either party to any other entity without the prior written consent of the other party;
- Suspension of the Project or the Consultant's services by the Client for more than ninety (90) calendar days, consecutive or in the aggregate;
- Material changes in the conditions under which this Agreement was entered into, the Scope of Services or the nature of the Project, and the failure of the parties to reach agreement on the compensation and schedule adjustments necessitated by such changes.

IX. THIRD-PARTY BENEFICIARIES

Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against either the Client or the Consultant. The Consultant's services under this Agreement are being performed solely for the Client's benefit, and no other party or entity shall have any claim against the Consultant because of this Agreement or the performance or nonperformance of services hereunder. The Client and Consultant agree to require a similar provision in all contracts with contractors, subcontractors, subconsultants, vendors and other entities involved in this Project to carry out the intent of this provision.





