



**Agenda for the Regular Meeting of Board of Commissioners**  
**Monday, February 12, 2018 - 7:00 pm**  
**Brentwood City Hall**

Call to Order by Mayor  
Roll Call  
Invocation by Vice Mayor Gorman  
Pledge of Allegiance to the Flag by Commissioner Little

**Approval or Correction of Minutes**

January 22, 2018

**Comments from Citizens** – *Individuals may comment on any item included in the Consent/Regular agenda or on any other matter regarding the City of Brentwood. All comments should be directed to the Board of Commissioners. Citizens who wish to request that an item be moved from the Consent Agenda to the Regular Agenda for discussion should make that known to the Board at this time.*

Report from City Manager  
Reports and comments by Commissioners and Mayor

*Note: All matters listed under the Consent Agenda are considered to be routine and will generally be enacted by one motion. Except for any items that are removed from the Consent Agenda, there will be no separate discussion of these items at this time.*

**Consent Agenda**

1. Resolution 2018-10 - A RESOLUTION AUTHORIZING AN AGREEMENT WITH CIVIL & ENVIRONMENTAL CONSULTANTS, INC. FOR IN-STREAM VISUAL ASSESSMENTS AND MONITORING, for adoption
2. Resolution 2018-11 - A RESOLUTION AUTHORIZING AN AGREEMENT WITH JARVIS SIGN COMPANY FOR INSTALLATION OF LANDSCAPE PAVERS AT RAVENSWOOD MANSION, for adoption
3. Resolution 2018-12 - A RESOLUTION TO APPROVE THE INSTALLATION OF TWO SPEED TABLES ON CHARITY DRIVE IN THE HIGHLAND PARK SUBDIVISION, for adoption

**Old Business**

1. Other old business

**New Business**

1. Ordinance 2018-03 - AN ORDINANCE AMENDING MUNICIPAL CODE REGARDING BILLING ADJUSTMENTS FOR WATER AND SEWER SERVICE, for consideration on first reading
2. Resolution 2018-09 - A RESOLUTION AUTHORIZING AN AGREEMENT WITH SESSIONS PAVING COMPANY FOR SIGNALIZATION AT THE INTERSECTION OF RAGSDALE ROAD AND SPLIT LOG ROAD, for adoption
3. Other new business

A handwritten signature in black ink, appearing to read "Kirk Bednar", with a long horizontal stroke extending to the right.

Kirk Bednar  
City Manager

Anyone requesting accommodations due to disabilities should contact Mike Worsham, A.D.A. Coordinator, at 371-0060, before the meeting.

## **Brentwood City Commission Agenda**

**Meeting Date:** 02/12/2018

Approval or correction of minutes from Regular Scheduled Commission meeting

**Submitted by:** Holly Earls, Administration

**Department:** Administration

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### **Information**

#### **Subject**

Approval or correction of minutes from the January 22, 2018 meeting

#### **Background**

#### **Staff Recommendation**

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### **Fiscal Impact**

### **Attachments**

Draft Minutes

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# DRAFT

## MINUTES OF REGULAR MEETING OF BOARD OF COMMISSIONERS

### BRENTWOOD, TENNESSEE

The Brentwood Board of Commissioners met in regular session on Monday, January 22, 2018 at 7:00 pm at Brentwood City Hall.

Present: Mayor Jill Burgin; Vice Mayor Mark Gorman; Commissioner Ken Travis; Commissioner Betsy Crossley; Commissioner Anne Dunn; Commissioner Regina Smithson; Commissioner Rhea Little

Staff Present: City Manager Kirk Bednar; Assistant City Manager Jay Evans; City Attorney Roger Horner; City Recorder Holly Earls

Commissioner Dunn led the Invocation. The Pledge of Allegiance was led by Vice Mayor Gorman.

Mayor Burgin administered the Oath of Office for new police officer Frank Moncayo.

#### **Approval or Correction of Minutes**

January 9, 2018

Moved by Commissioner Ken Travis for approval of the minutes as written, seconded by Commissioner Rhea Little

**Vote:** 7 - 0 Approved - Unanimously

#### **Comments from Citizens**

Kel McDowell, 6000 Ammonett Drive, Franklin, TN

David Brooks, 1129 Holly Tree Farms Road

Gerald Witcher, 9611 Lineberger Court

Paul Coleman, 1921 Shamrock Drive

#### **Consent Agenda**

Resolution 2018-05 - A RESOLUTION AUTHORIZING AN ALTERATION TO THE OSRD DEVELOPMENT PLAN FOR THE WITHERSPOON SUBDIVISION, for adoption

Resolution 2018-06 - A RESOLUTION AUTHORIZING ALTERATIONS TO THE OSRD DEVELOPMENT PLAN FOR THE TRADITIONS SUBDIVISION, for adoption



Resolution 2018-07 - A RESOLUTION WAIVING THE REQUIREMENT FOR CONNECTION TO SANITARY SEWER SYSTEM FOR PROPERTY LOCATED AT 9236 OLD SMYRNA ROAD, for adoption

Authorization of Expenditures from the John P. Holt Bequest for Renaming of the Library

Moved by Vice Mayor Mark Gorman for approval of the items on the Consent Agenda, seconded by Commissioner Betsy Crossley

**Vote:** 7 - 0 Approved - Unanimously

### **Old Business**

Ordinance 2018-01 - AN ORDINANCE AMENDING MUNICIPAL CODE REGARDING TRAFFIC AND VEHICLES, for consideration on second and final reading

Moved by Commissioner Regina Smithson for passage of Ordinance 2018-01, seconded by Commissioner Rhea Little

Moved by Vice Mayor Mark Gorman to amend Ordinance 2018-01 by substituting the revised version of the ordinance as prepared by staff, seconded by Commissioner Ken Travis

The amendment passed unanimously.

**Vote:** 7 - 0 Approved - Unanimously

Ordinance 2018-02 - AN ORDINANCE AMENDING MUNICIPAL CODE REGARDING CITY COURT, for consideration on second and final reading

Moved by Commissioner Rhea Little for passage of Ordinance 2018-02, seconded by Commissioner Anne Dunn

Moved by Commissioner Rhea Little to amend Ordinance 2018-02 by substituting the revised version of the ordinance as prepared by staff, seconded by Commissioner Betsy Crossley

The amendment passed unanimously.

**Vote:** 7 - 0 Approved - Unanimously

### **New Business**

Resolution 2018-08- A RESOLUTION AUTHORIZING THE ISSUANCE OF NOT TO EXCEED \$3,500,000 IN GENERAL OBLIGATION CAPITAL OUTLAY NOTES, for adoption

Moved by Commissioner Rhea Little for adoption, seconded by Mayor Jill Burgin

A roll call vote was conducted. Resolution 2018-08 passed unanimously.

**Vote:** 7 - 0 Approved - Unanimously

With no further business, the meeting adjourned at 7:55 pm.

APPROVED \_\_\_\_\_

A handwritten signature in black ink, appearing to read "Holly Earls", written over a horizontal line.

Holly Earls, City Recorder

## **Brentwood City Commission Agenda**

**Meeting Date:** 02/12/2018

Resolution 2018-10 - Authorizing an Agreement w/Civil & Environmental Consultants, Inc. for In-Stream Visual Assessments and Monitoring

**Submitted by:** Mike Harris, Engineering

**Department:** Engineering

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### **Information**

#### **Subject**

Resolution 2018-10 - Authorizing an Agreement w/Civil & Environmental Consultants for In-Stream Visual Assessments and Monitoring

#### **Background**

The Tennessee Department of Environment and Conservation (TDEC) publishes a list of streams in Tennessee that are considered impaired. The list is referred to as the 303d list. Streams can be considered impaired for many reasons, but in urbanized areas like Brentwood the impairment is primarily for siltation (sediment) and loss of aquatic habitat caused by development activities. Virtually all streams in urbanized areas are considered impaired.

Cities are required by TDEC to perform visual assessments of impaired streams in their communities to identify sources of impairment as well as to collect and test water samples from streams potentially impaired by activities within their jurisdictions. The primary purpose of these stream activities is to develop corrective actions to reduce or eliminate the impairment and to assess the effectiveness of the storm water program over time. Under Brentwood's storm water permit issued by TDEC, the City is required to assess all impaired streams over a five year permit cycle. A map with highlighted stream segments that will be assessed over the current permit cycle is included in the attached proposal. Also attached is an example stream observation that serves to illustrate the types of conditions noted during the assessment. The example is an actual condition noted during CEC's visual assessment of Beech Creek in 2011.

The attached storm water monitoring proposal was developed by Civil and Environmental Consultants (CEC) to insure we complete all visual assessments and sampling within the required timeframe. Our first round of assessments began in 2011, with additional stream segments assessed each year, and this year we are beginning our second round of stream assessments. As noted in Section 3.0 of the proposal, this fiscal year will include assessments and sampling of Beech, Holt and Spencer Creeks. The cost to perform the required assessment is \$23,000 and adequate funds are included in the Engineering Department's operating budget.

CEC has assisted Brentwood since the inception of the City's stream assessment program and is best suited to provide the required continuing services. The attached proposal includes additional details of the tasks to be performed.

Please direct any questions to Service Center Director Mike Harris.

### **Staff Recommendation**

Staff recommends approval of the proposed agreement with Civil & Environmental Consultant, Inc.

### **Previous Commission Action**

At the January 26, 2015 meeting the City Commission approved Resolution 2015-06 for monitoring performed in 2015. 2015 was the last year stream assessments were performed due to a delay in TDEC issuing a new storm water permit.

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### **Fiscal Impact**

**Amount :** \$23,000

**Source of Funds:** Engineering Operating Budget

**Account Number:** 110-43800-82645

#### **Fiscal Impact:**

Adequate funds are included in the Engineering Department's storm water budget for this work.

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### **Attachments**

Resolution 2018-10

Contract Terms

CEC Proposal

Example Stream Observation

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**RESOLUTION 2018-10**

**A RESOLUTION OF THE CITY OF BRENTWOOD, TENNESSEE TO AUTHORIZE THE  
MAYOR TO EXECUTE AN AGREEMENT BY AND BETWEEN THE CITY OF  
BRENTWOOD AND CIVIL & ENVIRONMENTAL CONSULTANTS, INC. FOR IN-  
STREAM VISUAL ASSESSMENTS AND MONITORING, A COPY OF SAID  
AGREEMENT BEING ATTACHED HERETO AND MADE A PART OF THIS  
RESOLUTION BY REFERENCE**

**BE IT RESOLVED BY THE CITY OF BRENTWOOD, TENNESSEE, AS FOLLOWS:**

**SECTION 1.** That the Mayor is hereby authorized to execute an agreement by and between the City of Brentwood and Civil & Environmental Consultants, Inc. for in-stream visual assessments and monitoring, a copy of said agreement being attached hereto and made a part of this resolution by reference.

**SECTION 2.** That this resolution shall take effect from and after its passage, the general welfare of the City of Brentwood, Williamson County, Tennessee requiring it.

\_\_\_\_\_  
MAYOR

Jill Burgin

ADOPTED: \_\_\_\_\_

*Approved as to form:*

\_\_\_\_\_  
RECORDER

Holly Earls

\_\_\_\_\_  
CITY ATTORNEY

Doug Berry

## **SCHEDULE OF TERMS AND CONDITIONS ENVIRONMENTAL SERVICES**

### **1.0 PROPOSAL ACCEPTANCE**

The following terms and conditions ("TERMS") shall apply to and are an integral part of the attached proposal between Civil & Environmental Consultants, Inc. (CEC) and the CLIENT named in the attached proposal ("CLIENT"). CLIENT's acceptance of the proposal includes acceptance of the TERMS and any terms and conditions proposed by the CLIENT will be deemed to materially alter the TERMS and are hereby objected to and rejected by CEC. Acceptance of this proposal, including acceptance of the TERMS, shall occur upon the notification of CEC by CLIENT, in writing or orally, to commence performance in accordance with the proposal and the TERMS.

CEC shall perform its services consistent with the professional skill and care ordinarily provided by professionals, such as CEC, practicing in the same or similar locality under the same or similar circumstances. There are no warranties provided whether express or implied.

### **2.0 SUBSURFACE**

The CLIENT recognizes that subsurface conditions may vary from those observed at locations where borings, surveys or explorations are made, and that site conditions may change with time. Data, interpretation, and recommendations by CEC will be based solely on information available to CEC. CEC is responsible for those data, interpretations, and recommendations, but will not be responsible for other parties' interpretations or use of the information developed.

### **3.0 SUBCONTRACTED SERVICES**

CEC will select reputable subcontractors for test borings and/or other explorations or services based on oral or written competitive prices. The contractor's invoices shall be billed in accordance with our proposal. Nothing in this paragraph shall require that services or equipment be obtained through competitive bidding or be available from more than one source.

### **4.0 SERVICES OF OTHERS**

On occasion, CEC engages the specialized services of individual consultants or other companies to participate in a project. When considered necessary, the cost of such services will be billed in accordance with our proposal.

### **5.0 SITE ACCESS AND SITE CONDITIONS**

CLIENT will grant or obtain free access to the site for all equipment and personnel for CEC to perform the work set forth in this AGREEMENT. The CLIENT will notify any and all possessors of the project site that CLIENT has granted CEC free access to the site. CEC will take reasonable precautions to limit damage to the site, but it is understood by CLIENT that, in the normal course of work, some damage may occur and the correction of such damage is not part of this AGREEMENT unless so specified in the PROPOSAL.

The CLIENT is responsible for the accuracy of locations for all subterranean structures and utilities. CEC will take reasonable precautions to avoid known subterranean structures, and the CLIENT waives any claim against CEC arising from damage done to subterranean structures and utilities not identified or accurately

located. CEC shall have no liability whatsoever with regard to subterranean structures or utilities that are not marked or that are mismarked.

## **6.0 SAMPLES**

All soil, rock and/or water samples shall be discarded 30 days after submission of our report, unless CLIENT advises us otherwise. Upon request, we will ship or deliver the samples or store them for CLIENT for an agreed upon storage charge. If such samples contain hazardous materials, oil, or asbestos, CLIENT will pay all costs associated with their storage, transport, and/or disposal.

## **7.0 BILLING AND PAYMENT**

7.1 General: Invoicing for labor will be performed in accordance with the provisions outlined in the proposal to which these Terms and Conditions are a part. Invoices shall generally be submitted every four weeks for services performed during the previous four weeks. Payment shall be due within 30 days of invoice date. Payment shall be made as follows:

1. Lockbox (regular mail):  
Civil & Environmental Consultants, Inc.  
P.O. Box 644246  
Pittsburgh, PA 15264-4246

2. Electronic Payments:  
Bank Wire Information:  
Bank: PNC Bank  
Pittsburgh, PA 15222

Account Name: Civil & Environmental Consultants, Inc.  
333 Baldwin Road  
Pittsburgh, PA 15205

PNC Bank Routing #043000096

Bank Telephone Number: 412-762-1836

Civil & Environmental Consultants, Inc. – Account #2272405

If CLIENT objects to all or any portion of any invoice, CLIENT will so notify CEC in writing within fourteen (14) calendar days of the invoice, identify the cause of disagreement, and pay within thirty (30) days that portion of the invoice, if any, not in dispute. The parties will immediately make every effort to settle the disputed portion of the invoice. In the absence of written notification described above, the balance as stated on the invoice will be paid.

Invoices are delinquent if payment has not been received within thirty (30) days from date of invoice. In the event CLIENT fails to pay CEC within thirty (30) days after invoices are rendered, CLIENT agrees that CEC will have the right to suspend this AGREEMENT, without incurring liability to CLIENT, after giving seven (7) days written notice to CLIENT.

7.2 Litigation Services: If litigation services are not part of the proposal to which these Terms and Conditions are attached and are requested by CLIENT, the scope and invoicing terms for the

requested litigation services will be identified in a separate proposal. The labor rate paid for senior CEC personnel (project manager, senior project manager, principal, or officer) for direct litigation support services shall generally be invoiced at a minimum rate of 1.5 times typical CEC rates, as specified in a separate proposal for those services.

## **8.0 REIMBURSABLE EXPENSES**

The following items of direct non-salary expenses shall be billed according to the terms of our proposal:

- 8.1 Transportation and living expenses incurred for assignments outside the area.
- 8.2 Automobile expenses for personal or company vehicles at the allowable IRS mileage rate, plus parking and toll charges. For company vehicles, a minimum of \$85/day will be charged for use, unless the daily mileage charge for the vehicle in question exceeds \$85/day, in which case the actual daily mileage charge applies. Rental vehicles will be charged according to our proposal.
- 8.3 Long distance telephone calls, telegrams, and cables.
- 8.4 Field survey equipment usage at \$10.00/hr.
- 8.5 Computer usage and word processing at \$5.00/hour, and CADD at \$15.00/hr. connect time.
- 8.6 Shipping charges for soil and rock samples, field equipment, etc.
- 8.7 Project photographs and reproduction of drawings and reports.
- 8.8 Laboratory services, test borings, and other subcontracted services.
- 8.9 Other items directly identifiable to the project.

Our proposal does not include gross receipts taxes, business or occupation taxes or assessments that the municipality where the project is located may assess upon CEC or its subcontractors. If such taxes are or become a liability of CEC, the CLIENT agrees to reimburse CEC at cost. This tax cost reimbursement will not be subject to mark-up.

## **9.0 DOCUMENTS**

Any letters, reports, or documents prepared by us for CLIENT, are the instruments of our engineering services. These services provided by us are solely for CLIENT's use for the project and site described in our proposal.

## **10.0 INSURANCE**

CEC maintains Workmen's Compensation Insurance as required by state law and General Liability Insurance for bodily injury and property damage with an aggregate limit of \$1,000,000 per occurrence. CEC will furnish certificates of such insurance upon request. In the event the CLIENT desires additional coverage of this type, CEC will, upon the CLIENT's written request, obtain additional insurance (if possible) at the CLIENT's expense. Our liability to the CLIENT for bodily injury or property damage arising out of work performed for the CLIENT for which legal liability may be found to rest upon us, other than for professional errors or omissions, shall be limited to our General Liability Insurance coverage.

## **11.0 EVOLVING TECHNOLOGIES**

The investigation, characterization, and remediation of hazardous wastes involve technologies which are rapidly evolving. Existing state-of-the-art technologies are often new and untried; future technologies may



supersede current techniques. In addition, standards for remediation, including statutes and regulations, change with time. CLIENT understands that CEC's recommendations must be based upon current technologies and standards and may differ from the recommendations that might be made at a later time.

## **12.0 ALLOCATION OF RISK**

- 12.1 Limitation of Remedies: Subject to all otherwise applicable statutes of limitations and repose, CLIENT agrees to limit CEC's liability to CLIENT, and to any other person or entity, for any claim arising from, or alleged to arise from any acts, errors or omissions in the performance of services under this AGREEMENT whether such claim sounds in negligence, breach of contract, strict liability, or other legal theory, except for willful misconduct or gross negligence and including any legal fees or costs awarded under this AGREEMENT, to an aggregate limit of the amount of fees paid to CEC under this AGREEMENT, or \$50,000, whichever is greater.
- 12.2 Waiver of Consequential Damages: CEC and CLIENT agree to waive any claim against each other for consequential damages.
- 12.3 Indemnification: CEC shall indemnify and hold harmless CLIENT from and against any and all claims, damages, or liability arising from the negligent performance of services under this AGREEMENT by CEC, including injuries to employees of CEC.
- 12.4 Continuing Agreement: The obligations of this section shall survive notwithstanding termination of this AGREEMENT. In the event that CLIENT requests that CEC provide additional services, CLIENT's obligations under this section shall apply to such additional services as if such additional service had to be performed as part of this AGREEMENT.

### **13.0 CHANGES**

- 13.1 Unforeseen Site Conditions: CLIENT reserves the right to make reasonable changes in the work to be performed after acceptance of this AGREEMENT. CLIENT understands that unforeseen site conditions may require changes in the Scope of Work to be performed.
- 13.2 Unauthorized Changes: If changes are made in CEC work products by CLIENT or persons other than CEC, and these changes affect our work, any and all liability against CEC arising out of such changes is waived and you assume full responsibility for such changes unless you have given us prior notice and have received from us written consent for such changes.
- 13.3 CLIENT Requested Changes: Upon receipt of a change requested by CLIENT, CEC will obtain price quotations from our subcontractors and shall provide CLIENT with a quotation of the cost of having the change performed, and any increase in contract time caused by the change. CLIENT shall authorize the requested change by amending the contract price and contract time.

### **14.0 CONSTRUCTION OBSERVATION AND CONSTRUCTION MANAGEMENT SERVICES**

If CEC is retained by the CLIENT to provide a site representative for the purpose of observing specific portions of the construction work as set forth in the PROPOSAL, then this section applies.

For the specified assignment, CEC will report observations and professional opinions to the CLIENT. No action of CEC or CEC's site representative can be construed as altering any agreement between the CLIENT and others. CEC will report any observed work to the CLIENT which, in CEC's professional opinion, does not conform with plans and specifications. CEC has no right to reject or stop work of any agent of the CLIENT. Such rights are reserved solely for the CLIENT. Furthermore, CEC's presence on the site does not in any way guarantee the completion or quality of the performance of the work of any party retained by the CLIENT to provide construction related services.

CEC will not be responsible for and will not have control or charge of specific means, methods, techniques, sequences or procedures of construction selected by any agent or agreement of the CLIENT, or safety precautions and programs incident thereto.

When CEC provides construction observation or management services on the job site during project construction, it is understood that, in accordance with generally accepted practices, the contractor shall be solely and completely responsible for working conditions on the job site, including safety of all persons and property during the performance of the work and compliance with OSHA regulations, and that these requirements will apply continuously and not be limited to normal working hours. Any monitoring of the contractor's performance conducted by our personnel will not include review of the adequacy of the contractor's safety measures in, on or near the construction site.

CEC disclaims any and all responsibility and liability for damages that result from implementation of CEC's plans, specifications, or recommendations when CEC is not retained to observe such implementation.

## **15.0 NOTIFICATION OF HAZARDS**

It is CLIENT's duty to notify us of any information CLIENT has with respect to the existence or suspected existence of Biological Pollutants, Hazardous Materials, oil, or asbestos in the environment, including but not limited to the air, soil, and water at the site. CLIENT will advise CEC immediately of any information which CLIENT received regarding the existence of any such Hazardous Materials or conditions at the site which might present a threat to human health and safety or the environment or impact CEC's work products. CEC shall rely on CLIENT's notification of known or suspected hazards in defining Anticipated Hazardous Materials present while performing the work.

CEC and CLIENT agree that the discovery of Unanticipated Hazardous Materials constitutes a changed condition mandating a renegotiation of the scope of work or termination of services. CEC and CLIENT also agree that the discovery of Unanticipated Hazardous Materials may make it necessary for CEC to take immediate measures to protect health and safety. CLIENT agrees to compensate CEC for any equipment decontamination or other costs incident to the discovery or presence of Unanticipated Hazardous Materials.

CEC agrees to notify CLIENT when suspected Unanticipated Hazardous Materials are encountered. CLIENT agrees to make any disclosures required by law to the appropriate governing agencies and third parties. CLIENT also agrees to hold CEC harmless for any and all consequences of disclosures made by CEC which are required by governing law. CEC agrees to inform CLIENT in advance of any disclosures that are required by governing law. In the event the project site is not owned by CLIENT, CLIENT agrees that, if disclosure to the property owner is required, CLIENT and not CEC shall have the responsibility for making such disclosure.

Notwithstanding any other provision of the AGREEMENT, CLIENT waives any claim against CEC for injury or loss resulting from CEC's discovery of Unanticipated Hazardous Materials. CLIENT is responsible for the disposal of all water, earth, sediment or other media, including samples taken by or on behalf of CEC, which contain Unanticipated Hazardous Materials. CLIENT shall be responsible for the cost of any required testing of Unanticipated Hazardous Materials.

## **16.0 DELAYS, SITE CONTROL, CONFIDENTIALITY AND DISCLOSURE**

CEC does not assume, by virtue of performing work on or near the site, the responsibility or liability for any aspect or condition of the site which may now or later exist to be discovered. In particular, we do not assume the responsibility to report to any governmental or regulatory agency the existence of any conditions of the site which may present a threat to human health, safety or the environment. CEC will not intentionally divulge information regarding the proposal, our services or the report, and which is not in the public domain, except to CLIENT or those whom CLIENT designates. Notwithstanding the foregoing, you understand that we will comply with judicial orders and applicable laws and regulations regarding the reporting to the appropriate public agencies of potential dangers to the public health, safety or the environment.

## **17.0 RCRA COMPLIANCE**

Nothing contained in this AGREEMENT shall be construed or interpreted as requiring CEC to assume the status of a generator, storer, treater, transporter, or disposal facility within the meaning of the Resource Conservation and Recovery Act of 1976, as amended, or within the meaning of any similar federal, state, or local regulation or law.

## **18.0 DELAYS**

Delays not the fault of CEC or contractors shall result in an extension of the schedule equivalent to the length of delay. If such delays result in additional costs to CEC, the total project cost shall be equitably adjusted by the amount of such additional costs.

## **19.0 DISPUTE RESOLUTION**

- 19.1 Any suit to enforce or interpret the AGREEMENT shall be brought in the courts of Williamson County, Tennessee

## **20.0 MISCELLANEOUS**

- 20.1 Controlling Law: The law of the State of Tennessee will govern the validity of these TERMS, their interpretation and performance, as well as the contract entered into between the parties to which these TERMS relate. If any part of this AGREEMENT shall be held illegal, unenforceable, void, or voidable by any court of competent jurisdiction, each of the remainder of the provisions shall nevertheless remain in full force and effect as a separate contract and shall in no way be affected, impaired, or invalidated.

- 20.2 Reserved

- 20.3 Severability/Integration/Modification: This AGREEMENT, including attachments incorporated herein by reference, represents the entire AGREEMENT and understanding between the parties, and any negotiations, proposals, or oral agreements are intended to be integrated herein and to be superseded by this AGREEMENT.

This AGREEMENT may not be modified or altered, except by an agreement in writing and signed by authorized representatives of both parties hereto, which specifically refers to this AGREEMENT.

- 20.4 Definition of Hazardous Materials: The term Hazardous Materials shall mean any toxic substances, chemicals, pollutants, or other materials, in whatever form or state, including, but not limited to smoke, vapors, soot, fumes, acids, alkalis, minerals, toxic chemicals, liquids, gases or any other material, irritant, contaminant or pollutant, that is known or suspected to adversely affect the health and safety of humans or of animal or plant organisms, or which are known or suspected to impair the environment in any way whatsoever and shall include, but not be limited to, those substances defined, designated, or listed in Section 4004 of the Solid Waste Disposal Act (42 USC Subsection 6903); Section 9601(14) of the Comprehensive Environmental Response, Compensation and

Liability Act (42 USC Subsection 9601(14); as listed or designated under Sections 1317 and 1321(b)(2)(a) of the Title 33 (33 USC Subsections 1317 and 1321(b)(2)(a)) or as defined, designated, or listed under any other federal, state, or local law, regulation, or ordinance concerning hazardous wastes, toxic substances, or pollution.

- 20.5 Definition of Biological Pollutants: The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and the by-products of any such biological organisms.
- 20.6 Waste Manifests: If during remedial construction activities waste manifests are required, CLIENT shall provide an authorized person to sign manifests or agrees to provide CEC with a written limited power of attorney to sign manifests.

## **21.0 DESIGN/BUILD SERVICES**

If CLIENT requests CEC-led design-build services, those design-build services will be performed in accordance with separate terms and conditions that specifically address design-build services.

## **22.0 BIOLOGICAL POLLUTANTS**

CEC's scope of services, unless specifically outlined in our written scope of services, does not include the investigation or detection of the presence of any Biological Pollutants in or around any structure. CLIENT agrees that CEC will have no liability for any claim regarding bodily injury or property damage alleged to arise from or be caused by the presence of or exposure to any Biological Pollutants, in or around any structure.

## **23.0 CONSENT TO ASSIGNMENT**

CLIENT and CEC, respectively, each binds itself and its successors and assigns to the other and its successors and assigns with respect to all covenants of these TERMS. Neither CLIENT nor CEC shall assign, sublet or transfer any rights under or interest in these TERMS without the prior written consent of the other party, including, but not limited to (a) any interest in the proceeds of these TERMS, or any proceeds of claims arising from or under these TERMS; (b) any claims, causes of action or rights against the other party arising from or under these TERMS; (c) the control of claims or causes of action against the other party arising from or under these TERMS; and (d) any proceeds from claims or causes of action as security, collateral, or the source of payment for any notes or liabilities to any third party. This section shall not, however, apply to any subrogation rights (if any) of any insurer of either party. This section shall survive the completion or termination of these TERMS for any reason and shall remain enforceable between parties.

## **24.0 TERMINATION**

This AGREEMENT may be terminated by either party seven (7) days after written notice in the event of any breach of any provision of this AGREEMENT or in the event of substantial failure of performance by the other party, or if the CLIENT suspends the work for more than three (3) months. In the event of termination, CEC will be paid for services performed prior to the date of termination plus reasonable

termination expenses, including the cost of completing analyses, records and report necessary to document job status at the time of termination.

#### **25.0 FILE RETENTION**

After this project is concluded, our file on the project will be closed. All documents and information within the project file will be retained by CEC, and may be sent offsite for storage. Unless you make other arrangements with us, CEC reserves the right to destroy all file information seven (7) years after the project is closed.

### **END OF TERMS AND CONDITIONS**

REVISED JANUARY 2018

Env.T&C

November 13, 2017

Mr. Mike Harris, P.E.  
Director of Engineering  
City of Brentwood  
P.O. Box 788  
Brentwood, TN 37024

Dear Mr. Harris:

Subject: Proposal for Professional Engineering Services  
Analytical & Non-analytical Stream Monitoring  
City of Brentwood, Williamson County, Tennessee  
CEC Project 174-840

## 1.0 INTRODUCTION & BACKGROUND

The Tennessee Department of Environment and Conservation (TDEC) requires coverage for stormwater discharges from certain small municipal separate storm sewer systems (MS4s) under the Phase II NPDES permit - TNS000000 (Permit). The City of Brentwood (City) obtained coverage under the current Permit on April 3, 2017. CEC performed analytical and non-analytical monitoring for the City under the previous MS4 Permit. The current Permit requires the City to monitor all streams identified by TDEC as waters with unavailable parameters for siltation, habitat alteration, nutrients, and/or pathogens within the five year permit cycle. CEC understands that the City desires to spread the required monitoring out over the five year period. Civil & Environmental Consultants, Inc. (CEC) is pleased to provide this proposal to assist in performing stream monitoring as required by the MS4 Permit.

## 2.0 SCOPE OF SERVICES

Below is a list of Waters with Unavailable Parameters and their respective monitoring requirements within the City of Brentwood (based on TDEC online viewer accessed September 2017).

**Table 1: Waters with Unavailable Parameters within the City of Brentwood**

| Waterbody Name | Waterbody I.D. #   | Cause(s)                                 | Source Name(s)   | Benthic | E. Coli | VSA |
|----------------|--------------------|--|--|---------|---------|-----|
| Holt Creek     | TN05130202007_1100 | <i>Escherichia coli</i>                  | Discharges from Municipal Separate Storm Sewer Systems (MS4) | X       | X       | X   |
|                |                    | Nitrate/Nitrite (Nitrite + Nitrate as N) | Discharges from Municipal Separate Storm Sewer Systems (MS4) |         |         |     |

|  |                    | Phosphorus (Total)                                      | Discharges from Municipal Separate Storm Sewer Systems (MS4) |         |         |     |
|--|--------------------|---|--|---------|---------|-----|
| Waterbody Name                           | Waterbody I.D. #   | Cause(s)  | Source Name(s)   | Benthic | E. Coli | VSA |
| Beech Creek                              | TN05130204021_0400 | Alteration in stream-side or littoral vegetative covers | Site Clearance (Land Development or Redevelopment)           | X       |         | X   |
|  |                    | Sedimentation/Siltation                                 | Site Clearance (Land Development or Redevelopment)           |         |         |     |
| Little Harpeth River                     | TN05130204021_2000 | Alteration in stream-side or littoral vegetative covers | Grazing in Riparian or Shoreline Zones                       | X       |         | X   |
|  |                    | Alteration in stream-side or littoral vegetative covers | Discharges from Municipal Separate Storm Sewer Systems (MS4) |         |         |     |
|  |                    | Sedimentation/Siltation                                 | Grazing in Riparian or Shoreline Zones                       |         |         |     |
|  |                    | Sedimentation/Siltation                                 | Discharges from Municipal Separate Storm Sewer Systems (MS4) |         |         |     |
| Owl Creek                                | TN05130202007_0900 | Alteration in stream-side or littoral vegetative covers | Discharges from Municipal Separate Storm Sewer Systems (MS4) | X       |         | X   |
|  |                    | Phosphorus (Total)                                      | Discharges from Municipal Separate Storm Sewer Systems (MS4) |         |         |     |
|  |                    | Sedimentation/Siltation                                 | Discharges from Municipal Separate Storm Sewer Systems (MS4) |         |         |     |
| Spencer Creek                            | TN05130204016_0200 | Alteration in stream-side or littoral vegetative covers | Discharges from Municipal Separate Storm Sewer Systems (MS4) | X       | X       | X   |
|  |                    | <i>Escherichia coli</i>                                 | Discharges from Municipal Separate Storm Sewer Systems (MS4) |         |         |     |
|  |                    | Sedimentation/Siltation                                 | Discharges from Municipal Separate Storm Sewer Systems (MS4) |         |         |     |
| Unnamed Trib to the Little Harpeth River | TN05130204021_0200 | Alteration in stream-side or littoral vegetative covers | Discharges from Municipal Separate Storm Sewer Systems (MS4) | X       |         | X   |
|  |                    | Sedimentation/Siltation                                 | Discharges from Municipal Separate Storm Sewer Systems (MS4) |         |         |     |
| Unnamed Trib to the Little Harpeth River | TN05130204021_0300 | Alteration in stream-side or littoral vegetative covers | Discharges from Municipal Separate Storm Sewer Systems (MS4) | X       |         | X   |
|  |                    | Sedimentation/Siltation                                 | Discharges from Municipal Separate Storm Sewer Systems (MS4) |         |         |     |



CEC proposes to perform the required monitoring over the five year permit cycle as described below. Note that Permit Year 1 ended in June of 2017 which predates this proposal. Therefore no work is proposed for Year 1, and CEC chose to start the tasks with Task 2.

## 2.1 Tasks 2 through 5 - Visual Stream Assessment Survey

The field data collection for Tasks 2 through 5 will require CEC personnel to access the listed streams at multiple locations to perform the monitoring. CEC will coordinate with the City on the dates for performing the monitoring. If CEC encounters conditions that do not permit field crews to assess a portion of a stream (i.e., “no trespassing” signs, property owner asking field crews to leave the property, livestock fencing across a creek, etc.), CEC will document the location and the nature of the conditions and leave the property. CEC will also report the occurrence to the City, preferably the same day as the occurrence, but no later than two (2) business days following the occurrence. CEC and the City will then determine what action(s) are needed and appropriate to complete the assessment.

CEC proposes to perform visual stream assessment surveys for the listed streams using the Maryland Department of Natural Resources’ *Stream Corridor Assessment Survey* (2001). The approximate length for each stream is noted in Table 2 below. For safety purposes, a team of two CEC field personnel will complete data sheets, collect photos, and GPS data for each visual survey location. The field data will then be compiled and summarized to develop a summary map showing the visual survey locations. CEC proposes to break down the visual stream assessments over the remaining four years of the monitoring period as shown in Table 2. Please see the attached *Figure 1 – Visual Stream Assessment Map by Permit Year* for more information.

**Deliverable:** Geodatabase containing the visual stream assessment information and photos.

## 2.2 Task 0006 - E. coli Sampling

*E. coli* sampling will follow the methods described in TDEC’s *Quality System Standard Operating Procedure for Chemical and Bacteriological Sampling of Surface Water*, Revised August 2011. CEC proposes to perform the required sampling for *E. coli* on the two streams listed as Not Supporting with *E. coli* as the cause: Holt Creek and Spencer Creek. Tentatively, CEC plans to perform all the *E. coli* sampling in Permit Year 2. CEC will also estimate flow, gather field parameters (pH, temperature, dissolved oxygen, and specific conductivity), and the latitude and longitude at each sample location.

The *E. coli* sampling will include collecting five samples within a 30-day period in order to determine a geometric mean. The samples will be collected at least 24 hours apart and between March and November. It is essential that all five sampling events yield *E. coli* results that are not above the detection limit of the test per the TDEC SOP. Therefore, CEC will take up to three samples at each sample location for the first sampling event in order to have the lab run three tests (no dilution, 1:10 dilution, and 1:100 dilution). CEC will use the results of this first sampling event to dictate the dilution for future sampling events. If resampling is required at any time due to problems using the wrong dilution, CEC will resample at a cost not-to-exceed \$500 per sample per location for which a resample is required.

**Deliverable:** *E. coli* sampling results, field parameter results, and flow measurements in tabular format.

### 2.3 Task 0007 - Benthic Macroinvertebrate Sampling

CEC will perform benthic macroinvertebrate sampling for the streams listed in Table 2 in Permit Year 3. CEC's approach to performing and completing the benthic macroinvertebrate surveys will follow TDEC's *Quality System Standard Operating Procedure for Macroinvertebrate Surveys, 2011*. The macroinvertebrate samples will be collected using the semi-quantitative single habitat (SQSH) method as described in the 2011 TDEC SOP. Depending on field conditions and available habitat, the field sampling procedure will be further defined with a semi-quantitative single habitat kick (SQKICK) or semi-quantitative single habitat bank (SQBANK) sampling procedure and for smaller streams a Modified SQKICK procedure will be used.

Field collection efforts at each station will include completion of the appropriate habitat assessment forms for Middle Tennessee streams. Routine water quality parameters will be recorded at each station and will include water temperature, dissolved oxygen, pH, conductivity, and stream flow. The macroinvertebrate samples will be preserved upon collection and transferred to the laboratory for processing and enumeration. The report of results will include the list of metrics as required by the TDEC SOP. A summary letter report and sampling results will be provided for the site that includes all field and lab data sheets.

**Deliverable:** Summary letter report and benthic macroinvertebrate sampling data sheets.

### 3.0 SCHEDULE

CEC proposes to complete the tasks outlined in the scope of services in the as outlined below:

**Table 2: Work Plan Overview**

| VISUAL STREAM ASSESSMENT           |                                  |                                  |                                  |                                  |
|------------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Stream Segment                     | Task 2                           | Task 3                           | Task 4                           | Task 5                           |
|                                    | Permit Year 2                    | Permit Year 3                    | Permit Year 4                    | Permit Year 5                    |
|                                    | <i>July 2017 –<br/>June 2018</i> | <i>July 2018 –<br/>June 2019</i> | <i>July 2019 –<br/>June 2020</i> | <i>July 2020 –<br/>June 2021</i> |
| Beech Creek                        | 3.9                              |                                  |                                  |                                  |
| Holt Creek                         | 1.5                              |                                  |                                  |                                  |
| Spencer Creek                      | 2.2                              |                                  |                                  |                                  |
| UNT to Little Harpeth River (0200) |                                  | 2.5                              |                                  |                                  |
| UNT to Little Harpeth River (0300) |                                  | 4.9                              |                                  |                                  |
| Little Harpeth River (2000)        |                                  |                                  | 11.7                             |                                  |
| Owl Creek                          |                                  |                                  |                                  | 11.5                             |
| Permit Year Total                  | 7.6                              | 7.4                              | 11.7                             | 11.5                             |
| Grand Total                        | 38.2                             |                                  |                                  |                                  |

| <b>BACTERIOLOGICAL (E. COLI) SAMPLING</b> |               |               |               |               |
|---|---------------|---------------|---------------|---------------|
| Stream Segment                            | <b>Task 6</b> | Permit Year 3 | Permit Year 4 | Permit Year 5 |
|   | Permit Year 2 |               |               |               |
| Holt Creek                                | X             |               |               |               |
| Spencer Creek                             | X             |               |               |               |

| <b>BIOLOGICAL (BENTHIC MACROINVERTIBRATE) SAMPLING</b> |               |               |               |               |
|--|---------------|---------------|---------------|---------------|
| Stream Segment   | Permit Year 2 | <b>Task 7</b> | Permit Year 4 | Permit Year 5 |
|  |               | Permit Year 3 |               |               |
| Beech Creek  |               | X             |               |               |
| Holt Creek   |               | X             |               |               |
| Spencer Creek  |               | X             |               |               |
| UNT to Little Harpeth River (0200)                     |               | X             |               |               |
| UNT to Little Harpeth River (0300)                     |               | X             |               |               |
| Little Harpeth River (2000)                            |               | X             |               |               |
| Owl Creek  |               | X             |               |               |

The proposed schedule in Table 2 is contingent upon receiving the City's notice to proceed.

#### **4.0 ESTIMATED COST**

**Table 3. Proposed Permit Year Monitoring Costs by Permit Year**

| <b>Permit Year</b>                | <b>Work Detail</b>  | <b>Estimated Cost (Total)</b> |
|-----------------------------------|---|-------------------------------|
| Year 2<br>(July 2017 – June 2018) | Visual stream assessment and E. coli sampling (Tasks 2 & 6)                   | \$23,000*                     |
| Year 3<br>(July 2018 – June 2019) | Visual stream assessment and benthic macroinvertebrate sampling (Tasks 3 & 7) | To be determined              |
| Year 4<br>(July 2019 – June 2020) | Visual stream assessment (Task 4)   | To be determined              |
| Year 5<br>(July 2020 – June 2021) | Visual stream assessment (Task 5)   | To be determined              |

\* 2017 rates will apply through June 30, 2018

The costs for Year 3 and following will be determined in future fiscal years. A revised cost table will be submitted each year for the City's consideration.

CEC will invoice the project on a time and materials basis in accordance with the rates indicated on the attached fee schedule. Should additional project work beyond the scope of this proposal be required, CEC

will obtain approval from the City prior to performing any work. Any additional work, once approved by the City, will be billed according to the most recent fee schedule.

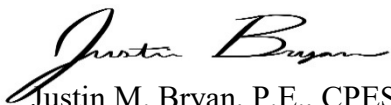
Our attached Standard Terms and Conditions that were previously adjusted for project 122-302 apply to the proposed work. Your oral or written authorization to proceed will form a binding contract and indicates your acceptance of our Terms and Conditions. Any changes to our Terms and Conditions must be agreed to in writing by both parties prior to your authorization to proceed.

## 5.0 CLOSING

CEC appreciates the opportunity to provide the City with this proposal for the stream monitoring. Please call us at 615-333-7797 should you should have any questions regarding this proposal.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.



Justin M. Bryan, P.E., CPESC  
Project Manager

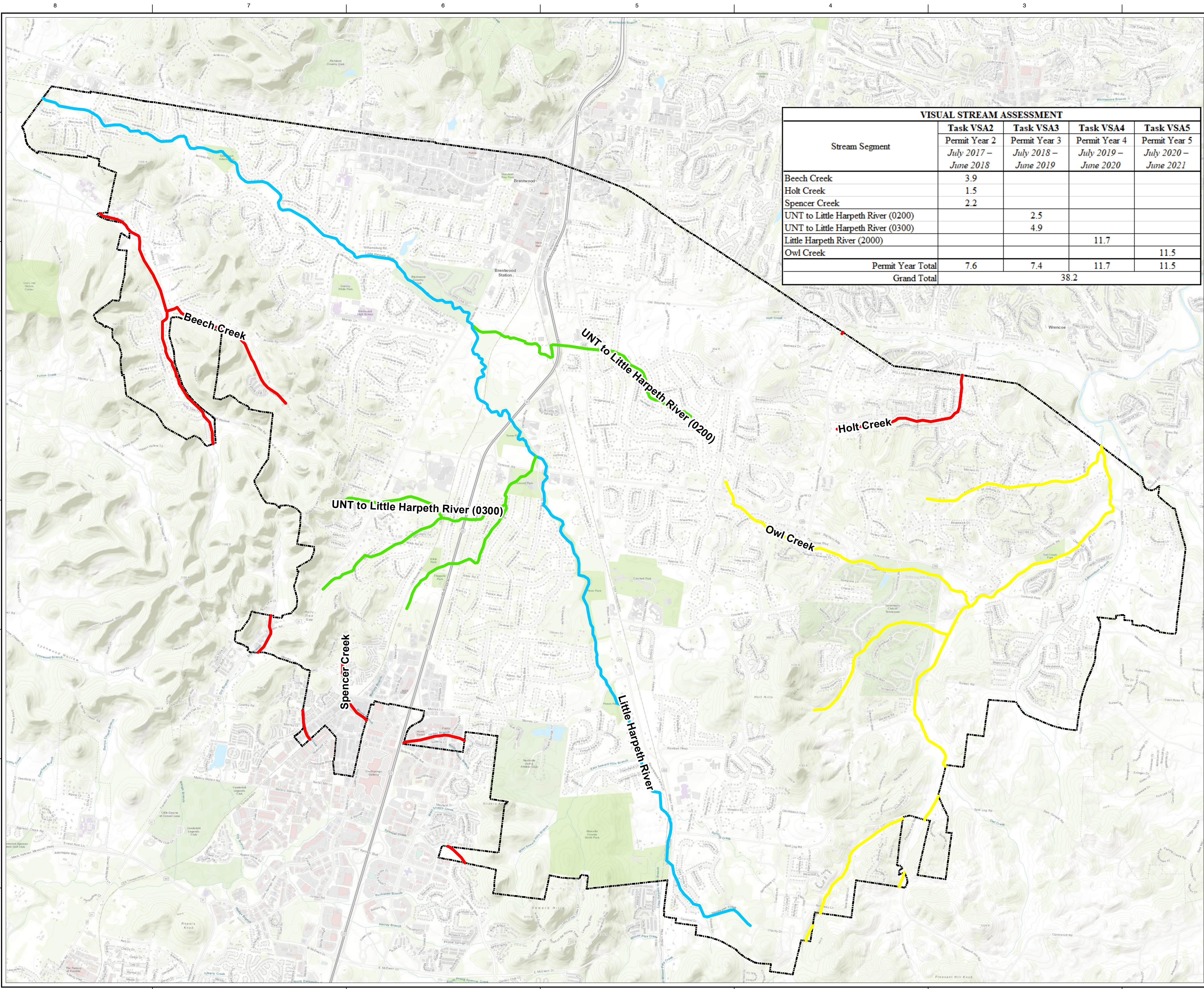


Steve E. Casey, P. E., CPESC  
Principal

Enclosures: Figure 1 – Visual Stream Assessment Map by Permit Year  
2017 Municipal Services Fee Schedule  
Terms and Conditions

Proposal approved by \_\_\_\_\_ Date \_\_\_\_\_





| VISUAL STREAM ASSESSMENT           |                       |                       |                       |                       |
|------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Stream Segment                     | Task VSA2             | Task VSA3             | Task VSA4             | Task VSA5             |
|                                    | Permit Year 2         | Permit Year 3         | Permit Year 4         | Permit Year 5         |
|                                    | July 2017 – June 2018 | July 2018 – June 2019 | July 2019 – June 2020 | July 2020 – June 2021 |
| Beech Creek                        | 3.9                   |                       |                       |                       |
| Holt Creek                         | 1.5                   |                       |                       |                       |
| Spencer Creek                      | 2.2                   |                       |                       |                       |
| UNT to Little Harpeth River (0200) |                       | 2.5                   |                       |                       |
| UNT to Little Harpeth River (0300) |                       | 4.9                   |                       |                       |
| Little Harpeth River (2000)        |                       |                       | 11.7                  |                       |
| Owl Creek                          |                       |                       |                       | 11.5                  |
| Permit Year Total                  | 7.6                   | 7.4                   | 11.7                  | 11.5                  |
| Grand Total                        | 38.2                  |                       |                       |                       |

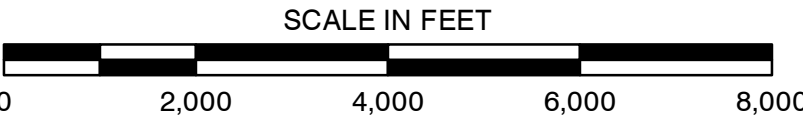
| REVISION RECORD  |      |             |
|------------------|------|-------------|
| NO               | DATE | DESCRIPTION |
|                  |      |             |
|                  |      |             |
|                  |      |             |
| SUBMITTAL RECORD |      |             |
| NO               | DATE | DESCRIPTION |
|                  |      |             |
|                  |      |             |
|                  |      |             |

LEGEND

- BRENTWOOD CITY LIMITS
- Visual Stream Assessment
- PERMIT YEAR 2
  - PERMIT YEAR 3
  - PERMIT YEAR 4
  - PERMIT YEAR 5

REFERENCE

ESRI WORLD TOPOGRAPHY / ARCGIS MAP SERVICE:  
HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD\_TOPOGRAPHY,  
ACCESSED 11/13/2017.



Civil & Environmental Consultants, Inc.  
325 Seaboard Lane, Suite 170 Franklin, Tennessee 37067  
615-333-7797 800-763-2326  
www.ccecinc.com

CITY OF BRENTWOOD  
MS4 PERMIT COMPLIANCE  
WILLIAMSON COUNTY, TN

|           |            |             |             |              |         |
|-----------|------------|-------------|-------------|--------------|---------|
| DRAWN BY: | JMB        | CHECKED BY: | SEC         | APPROVED BY: | SEC*    |
| DATE:     | 11/13/2017 | SCALE:      | 1" = 2,000' | PROJECT NO:  | 174-840 |

VISUAL STREAM ASSESSMENT MAP  
BY PERMIT YEAR

FIGURE NO:  
**1**  
SHEET 1 OF 1



# Municipal Services Fee Schedule

January 1, 2017 through December 31, 2017

## PROFESSIONAL SERVICES

| Classification   | Rate/Hour |
|--|-----------|
| Senior Principal.....  | \$220     |
| Principal.....   | \$185     |
| Senior Project Manager .....   | \$170     |
| Project Manager III .....  | \$155     |
| Project Manager II .....   | \$145     |
| Project Manager I .....  | \$135     |
| Assistant Project Manager .....  | \$110     |
| Project Consultant / Geologist / Hydrogeologist / Biologist / Scientist .....  | \$100     |
| Staff Consultant / Geologist / Hydrogeologist / Environmental Specialist ..... | \$95      |
| CAD Designer.....  | \$95      |
| Draftsperson / CADD Operator.....  | \$65      |
| Senior Field Technician.....   | \$80      |
| Construction Observer / Environmental Technician.....                          | \$78      |
| Senior Land Surveyor .....   | \$140     |
| Project Land Surveyor / GPS Specialist.....                                    | \$100     |
| Survey Technician IV .....   | \$88      |
| Survey Technician III.....   | \$80      |
| Survey Technician II.....  | \$70      |
| Survey Technician I.....   | \$63      |
| Administrative Assistant.....  | \$65      |
| Administrative Manager .....   | \$73      |

## DIRECT EXPENSES

|  |               |
|--|---------------|
| Company or Personal Automobile Mileage ..... | \$0.575/mile* |
| Computer / CADD Usage .....                  | \$15/hour     |
| Other Travel Related Expenses .....          | Cost plus 10% |
| Printing and Reproduction .....              | Cost plus 10% |
| Telephone and Shipping.....                  | Cost plus 10% |
| Miscellaneous Services.....                  | Cost plus 10% |

## SUBCONTRACT SERVICES

Services @ Cost Plus 12%

\* Will be modified to current IRS Rate

## Erosion Site

**Key Identifiers:** unstable stream channel, banks higher than 3, 4 ft

Map: \_\_\_\_\_ Team: JB/CH Site: Beech Creek  
 Date: 1/18/12 Photo: 240 Survey: \_\_\_\_\_

**Type:** Downcutting, Headcutting, Widening, Unknown

*Downcutting: heightening of natural stream banks, exposed root zone*

*Headcutting: abrupt drop in stream bed*

**Cause:** Bend at steep slope, Pipe Outfall, Below Channelization, Below Road  
 Crossing, Livestock, Land Use Change Upstream, Other: \_\_\_\_\_

**Length:** 40 ft **Average exposed bank height:** 5 ft  
*(from water line to top of bank)*

**Present Land Use Left Side (looking downstream):** Crop Field, Pasture, Lawn,  
 Paved, Shrubs & Small Trees, Forest, Multiflora Rose, Other \_\_\_\_\_

**Present Land Use Right Side (looking downstream):** Crop Field, Pasture, Lawn,  
 Paved, Shrubs & Small Trees, Forest, Multiflora Rose, Other \_\_\_\_\_  
*(indicate dominant (>50%) land use within 50 ft of stream)*

**Threat to Infrastructure?:** Yes No Describe: \_\_\_\_\_  
*(any man made structure: roads, pipes, fence, etc. that could be effected within 10 years)*

|                  |               |          |             |          |              |
|------------------|---------------|----------|-------------|----------|--------------|
|                  | >1000 ft      |          | 1000-300 ft |          | < 300 ft     |
|                  |               |          | > 4ft banks |          |              |
| <b>Severity:</b> | <b>Severe</b> | <b>1</b> | <b>2</b>    | <b>3</b> | <b>4</b>     |
|                  |               |          |             |          | <b>5</b>     |
|                  |               |          |             |          | <b>Minor</b> |

Considerations: Length  
 Height of stream banks  
 erosion at bends and runs  
 exposed root zone

|                        |             |          |          |          |              |
|------------------------|-------------|----------|----------|----------|--------------|
|                        | Days        |          | Weeks    |          |              |
|                        | <200 ft     |          |          |          | >1000 ft     |
| <b>Correctability:</b> | <b>Best</b> | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b>     |
|                        |             |          |          |          | <b>5</b>     |
|                        |             |          |          |          | <b>Worst</b> |

Considerations: Length  
 Adjacent land use  
 Equipment/funding

|                |             |          |          |          |              |
|----------------|-------------|----------|----------|----------|--------------|
|                | vehicle     |          | foot     |          |              |
| <b>Access:</b> | <b>Best</b> | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b>     |
|                |             |          |          |          | <b>5</b>     |
|                |             |          |          |          | <b>Worst</b> |





01.18.2012 13:17



## Channel Alteration

**Key Identifiers:** straight channel, longer than 50 ft.

Map: \_\_\_\_\_ Team: JB/CH Site: Beech Creek  
 Date: 1/18/12 Photo: 243 Survey: \_\_\_\_\_

Type: ☒ Concrete, ☐ Gabion, ☒ Rip-rap, ☐ Earth Channel, Other: \_\_\_\_\_

Average Bottom Width: 10' Length: 150'

Does channel have perennial flow?: ☒ Yes ☐ No

Is sediment deposition occurring in the channel? ☒ Yes ☐ No  
*(look for sediment bars inside channel)*

Is Vegetation growing IN the channel? Yes ☒ No  
*(look for stable vegetation)*

Is it part of a road crossing? ☒ No ☐ Above ☐ Below ☐ Both  
 Channelized length above road crossing: \_\_\_\_\_ ft  
 Channelized length below road crossing: \_\_\_\_\_ ft

Severity:   
                     <1 in. deep  
                     >1000 ft  
                     >500 ft  
                     <100 ft  
**Severe**      **1**      **2**      **3**      **4**      ☒ **5**      **Minor**

*Considerations: Instream habitat*

*Depth of water (shallow is more severe)*

*Length of alteration*

Correctability:   
                     <100 ft  
                     natural vegetation  
                     concrete  
**Best**      ☒ **1**      **2**      **3**      **4**      **5**      **Worst**

*Considerations: Length*

*Natural vegetation*

*Adjacent land use*

*Equipment/funding*

Access:   
                     vehicle  
**Best**      ☒ **1**      **2**      **3**      **4**      **5**      **Worst**  
                     foot  
                     None





01.18.2012 13:25



## Inadequate Buffer

**Key Identifiers:** Considered inadequate if <50 ft wide

Map: \_\_\_\_\_ Team: JB/CH Site: Beech Creek  
 Date: 1/18/12 Photo: 242 Survey: \_\_\_\_\_

**Buffer inadequate on:** ☒ Left ☐ Right ☐ Both (looking downstream) ☐ Neither

**Is stream unshaded?:** ☐ Left ☐ Right ☒ Both (looking downstream) ☐ Neither  
*(based on canopy cover, regardless of leaves; look for trees along stream's bank)*

**Average buffer width left:** 0 ft **Average buffer width right:** 40 ft

**Length left:** 150 ft **Length right:** - ft  
*(Total length of buffer that is **not** 50 ft wide)*

**Present land use left side:** Crop field, Pasture, ☒ Lawn, Paved, Shrubs & Small Trees,  
 Forest, Multiflora Rose, Other: \_\_\_\_\_

**Present land use right side:** Crop field, Pasture, Lawn, Paved, ☒ Shrubs & Small Trees,  
 Forest, Multiflora Rose, Other: \_\_\_\_\_

**Has a buffer recently been established:** Yes ☒ No

**Evidence of livestock?:** Yes ☒ No Type: Cattle, horses, pigs, other: \_\_\_\_\_

**Severity:**

|  | >1000ft length |                   |                    | <50 ft wide                                  |          |                       |
|--|----------------|-------------------|--------------------|--|----------|-----------------------|
|  | no trees       | trees on one side | trees on both side |  |          |                       |
|  | <b>Severe</b>  | <b>1</b>          | <b>2</b>           | <input checked="" type="checkbox"/> <b>3</b> | <b>4</b> | <b>5</b> <b>Minor</b> |

*Considerations: Inadequate on both sides  
 Unshaded  
 Length of reach with inadequate buffer  
 Vegetation type (native/non-native)*

**Correctability:**

|  | small reach |                          |                 |  |          |                       |
|--|-------------|--------------------------|-----------------|--|----------|-----------------------|
|  | public      | public/private farm land | roads/buildings |  |          |                       |
|  | <b>Best</b> | <b>1</b>                 | <b>2</b>        | <input checked="" type="checkbox"/> <b>3</b> | <b>4</b> | <b>5</b> <b>Worst</b> |

*Considerations: Length & width of inadequate buffer  
 Adjacent land use  
 Public or private*

**Access:**

|  | vehicle     |          | foot   |          |          |                       |
|--|-------------|----------|--|----------|----------|-----------------------|
|  | <b>Best</b> | <b>1</b> | <input checked="" type="checkbox"/> <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> <b>Worst</b> |

**Wetland Potential:**

|  | open/unforested |          |          |          |                         |   |
|--|-----------------|----------|----------|----------|-------------------------|---|
|  | <2 ft banks     |          |          |          | narrow steep floodplain | > 5ft banks   |
|  | <b>Best</b>     | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b>                | <input checked="" type="checkbox"/> <b>5</b> <b>Worst</b> |

*(Good wetland potential = low slope, low bank height)*



## **Brentwood City Commission Agenda**

**Meeting Date:** 02/12/2018

Approval of an Agreement with Jarvis Sign Company for Installation of Pavers at Ravenswood Mansion

**Submitted by:** Deanna Lambert, Community Relations

**Department:** Community Relations

---

### **Information**

#### **Subject**

Agreement with Jarvis Sign Company for the installation of landscape pavers at Ravenswood Mansion.

#### **Background**

During FY 2016, the City of Brentwood spent \$19,657 on sod replacement in the rear yard of Ravenswood Mansion due to heavy foot traffic in times of wet weather. In FY 2017, approximately \$10,000 was spent on sod replacement. It was discussed during budget workshops that the repeated and costly replacement of sod, as well the diminished customer experience due to unsightly conditions, could be remedied by the installation of a paver patio and sidewalks. As a result, \$60,000 was approved in the FY 2018 Capital Projects Fund budget for paver installation.

An invitation to bid on the Smith Park Event Space paver project was posted on [www.brentwoodtn.gov](http://www.brentwoodtn.gov) and published in the Williamson Herald on January 10, 2018. Three companies submitted bids. Those companies were Jarvis Sign Company, LSI, and IKON Construction. Jarvis Sign Company, based in Madison, Tennessee, was the lowest bid for a total of \$54,200. This bid price includes all labor, equipment, materials to perform the construction installation outlined in our drawings, along with an “add alternate” for concrete bands and pavers for two sidewalks leading from the back porch. Project references from Jarvis Signs includes a Ravenwood High School where the company installed pavers, a concrete walk and wall. Jarvis also submitted a reference from the City of Knoxville which included pavers for wayfinding signs downtown.

The labor and installation from Jarvis Sign Company will be \$54,200. The city will purchase 3,600 square feet of Belguard Dublin Cobble Stone pavers directly from the manufacturer to save sales tax and avoid markup costs. The price for the direct-purchase materials will be \$9,990, bringing the total project price to \$64,190. Staff recommends authorizing \$5,000 contingency for unforeseen circumstances that may arise during construction, such that any delays may be avoided. Staff expects sufficient savings from other capital projects to cover the amount over \$60,000.



This is the second attempt at bidding the Smith Park event space paver project. Two bids were received in June 2017 and rejected due to being nearly 50% over budget. Following rejection of the first bids, a project team from Leadership Brentwood took on the task of finding potential sponsor(s) for the paver project. While that effort has been unsuccessful to date, the project team was able to identify potential contractors to provide more favorable pricing, which prompted staff to rebid the project with more favorable results.

If this agreement is approved, the work will begin in the next few weeks and be complete before the start of the spring wedding season at Ravenswood Mansion.

Please contact the Community Relations Director if you have any questions.

### **Staff Recommendation**

Staff recommends City Commission's approval of an agreement with Jarvis Sign Company for the installation of landscape pavers at Ravenswood Mansion.

---

### **Fiscal Impact**

**Amount :** \$69,190

**Source of Funds:** Capital Projects Fund

**Account Number:** 311-44400-3015

#### **Fiscal Impact:**

The total project cost, inclusive of a \$5,000 contingency, is \$69,190. Funding of \$60,000 was provided in the Capital Projects Fund, with the balance expected to come from savings on other projects.

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### **Attachments**

Resolution 2018-11

Contract

Bid Summary

Jarvis Sign bid

Construction Site Plan

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**RESOLUTION 2018-11**

**A RESOLUTION OF THE CITY OF BRENTWOOD, TENNESSEE TO AUTHORIZE THE  
MAYOR TO EXECUTE AN AGREEMENT BY AND BETWEEN THE CITY OF  
BRENTWOOD AND JARVIS SIGN COMPANY FOR INSTALLATION OF LANDSCAPE  
PAVERS AT RAVENSWOOD MANSION, A COPY OF SAID AGREEMENT BEING  
ATTACHED HERETO AND MADE A PART OF THIS RESOLUTION BY REFERENCE**

**BE IT RESOLVED BY THE CITY OF BRENTWOOD, TENNESSEE, AS FOLLOWS:**

**SECTION 1.** That the Mayor is hereby authorized to execute an agreement by and between the City of Brentwood and Jarvis Sign Company for installation of landscape pavers at Ravenswood Mansion, a copy of said agreement being attached hereto and made a part of this resolution by reference.

**SECTION 2.** That this resolution shall take effect from and after its passage, the general welfare of the City of Brentwood, Williamson County, Tennessee requiring it.

\_\_\_\_\_  
MAYOR

Jill Burgin

ADOPTED: \_\_\_\_\_

*Approved as to form:*

\_\_\_\_\_  
RECORDER

Holly Earls

\_\_\_\_\_  
CITY ATTORNEY

Doug Berry



## **CONTRACT FOR SMITH PARK EVENT SPACE PAVER INSTALLATION**

THIS CONTRACT is hereby entered into this 12TH day of February, 2018, between the City of Brentwood, Tennessee, a municipal corporation, hereinafter called the "City" and JARVIS SIGN COMPANY, MADISON, TN, hereinafter called the "Contractor".

### **1. SCOPE AND COST OF THIS CONTRACT**

The Contractor shall be responsible for landscape installation at the Smith Park Event Space. The work to be done consists of furnishing all labor, materials, supplies, tools, plant and equipment necessary to perform all work and services specified in the Project Manual for Landscape Installation for Smith Park Event Space (hereinafter called the "Project Manual") prepared by Heibert +Ball Land Design (H+B Project #16235) in strict accordance with the terms and provisions of this Contract. Please be advised that the City of Brentwood will purchase and provide 3,700 square feet of the Belgard Dublin Ardeness Gray Concrete Pavers.

Such work shall be performed at a cost of \$54,200 (the "Contract Price"), as set forth in the Bid Form submitted by Contractor.

### **2. CONTRACT DOCUMENTS**

Wherever in this Contract the term "Contract Documents" is used, it shall refer to this Contract, the Bid Form submitted by Contractor, all material contained in the Project Manual, and all specifications, schedules, plans and drawings included or referred to in the Project Manual.

### **3. CITY'S REPRESENTATIVE**

Wherever in this Contract the term "City's Representative" is used, it shall mean the person designated by the City to represent the City in overseeing the completion of the work to be done under this Contract.

### **4. CONTRACTOR'S UNDERSTANDING**

It is understood and agreed that the Contractor has, by his examination, satisfied itself as to the nature and location of the work, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the character of equipment and facilities needed preliminary to and during the prosecution of the work, the general and special conditions, and all other matters which can in any way affect the work under the Contract. No verbal agreement or conversation with any officer, representative, agent or employee of the City, either before or after the execution of this Contract, may affect or modify any of the terms or obligations herein contained.

### **5. INTENT OF PLANS AND SPECIFICATIONS**

All work that may be called for in the specifications shall be executed and furnished by the Contractor, and should any work or material be required which is not denoted in the specifications, the Contractor shall do such work and furnish such materials at the unit bid price where a unit bid is applicable, or where the work and material is not covered by a unit price, the Contractor shall be



required to do work as hereinafter specified under "Unclassified Work."

#### 6. PERMITS

Permits of a temporary nature necessary for the prosecution of the work shall be secured by the Contractor. Permits for permanent structures or permanent changes in existing facilities shall be secured by the City.

#### 7. PROTECTION

Whenever the conditions, laws, ordinances or regulations require, Contractor shall furnish and maintain, at its own expense and cost, guard fences, barriers, cones and such additional measures of protection as may be required to provide safe conditions at all times. The contractor is also responsible for moving, protecting, covering or otherwise protecting city equipment, facilities and/or furnishings in and around the areas where work will be performed by the contractor. This includes areas used for access to the work locations.

#### 8. CONSENT TO TRANSFER

Contractor shall not assign or transfer this Contract or any part thereof without consent of the City, given in writing. Such consent does not release or relieve Contractor from any of its obligations and liabilities under this Contract.

#### 9. RIGHTS OF VARIOUS INTERESTS

Wherever work being done by the City's forces or by other contractors is contiguous to work covered by this Contract, the respective rights of the various interests involved shall be established by the City's Representative to secure the completion of the various portions of the work in general harmony.

#### 10. SITE SUPERVISION

Contractor shall constantly supervise all the work contemplated by this Contract in person or by a duly authorized representative acceptable to the City.

#### 11. CORRECTIONS TO CONTRACT DOCUMENTS

Contractor shall review the contract documents and in the event that errors, omissions or inaccuracies are detected herein, shall immediately advise City's Representative. The City's Representative may provide corrected or supplemental information as may be needed to allow for completion of the work in accordance with the City's intentions.

#### 12. INSPECTIONS

All work done by Contractor shall be open to the inspection, acceptance and rejection of City's Representative at all times. Contractor shall provide reasonable and necessary opportunities for inspection of the work. Work shall not proceed until Contractor has made timely demand upon City's Representative for, and has received from such Representative, such instructions as may be necessary as the work progresses. The work shall be done in strict conformity with such instructions.

#### 13. DEFECTIVE WORK OR MATERIALS

The inspection of the work shall not relieve Contractor of any of its obligations to fulfill this Contract

as prescribed herein and elsewhere in the Contract Documents. Any defective work may be rejected and shall be made good, notwithstanding that such work has been previously overlooked by the City's Representative and accepted. If the work or any part thereof shall be found defective, Contractor shall forthwith make good such defect, without compensation, in a manner satisfactory to the City's Representative. If Contractor shall fail to remedy such defective work after reasonable notice, the City's Representative may cause such defective work to be remedied by the City or other persons, and the expense therefore shall be paid by Contractor or may, at the City's option, be deducted from any remaining amount due to Contractor.

#### 14. INDEMNITY

Contractor shall indemnify, protect and save harmless the City, its Representative, and their officers, agents and employees from all suits or claims of every type or description brought due to real or alleged loss, injuries or damages to persons or property received or sustained by any person or persons, in or on account of work done under this Contract or extensions of or additions thereto, whether caused by negligence or not, or by or on account of any improper materials used in completing the work, or by or on account of any accident or of any acts of omission of Contractor, its servants or agents; and Contractor further agrees that so much of the money due to it under this Contract as shall be considered necessary by the City, may be retained until all such suits or claims for damages aforesaid have been settled, and evidence to that effect has been furnished to the satisfaction of the City.

#### 15. RISK

Contractor shall take all responsibility for the work and shall bear all losses resulting to it on account of the amount and character of the work, or because the nature of the property in or upon which the work is done is different from what is assumed or what is expected, or on account of the weather, floods, or other causes until acceptance by the City's Representative.

#### 16. ORDER AND DISCIPLINE

Contractor shall at all times enforce strict discipline and good order among its employees, and any superintendent, foreman or other employee of the Contractor who shall appear to be incompetent, disorderly, or in any way disqualified or unfaithful to the work entrusted to it, or who the City's Representative may consider prejudicial to the prosecution of the work, shall be discharged immediately upon the request of the City's Representative and shall not again be employed on the work without the City's written consent.

#### 17. COMPLETION OF WORK

On completion of the work, or any part thereof, all packaging, surplus material and/or debris resulting from construction, demolition or removal, etc., are to be removed and the site of the work left in a neat and orderly condition subject to the approval of City's Representative. Contractor shall provide the City's Representative with proof of proper disposal of any hazardous wastes in compliance with applicable environmental laws and regulations. The work will not be accepted or the Contract considered complete until all work described in the Contract Documents has been finalized.

#### 18. AUTHORITY OF CITY'S REPRESENTATIVE

The City's Representative shall have the authority to reject or condemn all work, materials or installation methods which do not conform to this Contract; to direct application of forces to any portion of the work which, in his judgment, requires it; and to decide questions which arise between the parties relative to the execution of the work.

## 19. SUSPENSION OF WORK

At the City's Representative's discretion, he/she may require Contractor to suspend operations on the work due to severe weather conditions or other unforeseen conditions. Contractor shall on not less than ten days' notice again resume the work if ordered to do so by the City's Representative. Shall such a suspension be deemed necessary by the City, Contractor shall have no claim for damage due to such suspension.

## 20. EXPEDITING WORK

(a) Correcting imperfections: If the City's Representative shall at any time be of the opinion that Contractor is neglecting to remedy any imperfection in the work, or is not progressing with the work as fast as necessary to insure its completion within the time and as required by the Contract, or is otherwise violating any of the provisions of this Contract, said Representative shall have the power to notify Contractor to remedy such imperfections and/or proceed more rapidly with said work, or otherwise comply with the provisions of this Contract.

(b) Annulment: In such case the City may give Contractor 48 hours written notice, and at the end of that time, if the Contractor continues to neglect the work, the City may provide labor and materials and deduct the cost from any money due Contractor under this Contract; and may terminate the employment of Contractor under this Contract and take possession of the premises and of all materials, tools and appliances thereon, and employ such forces as may be necessary to finish the work. In such case the Contractor shall receive no further payment until the work shall be finished, when, if the unpaid balance that would be due under this Contract exceeds the cost to the City of finishing the work, such excess shall be paid to Contractor, but if such cost exceeds such unpaid balance, Contractor shall receive no further payment.

## 21. ACCEPTANCE

The work shall be inspected for acceptance by the City's Representative within five days upon notification by Contractor that the work is ready for such inspection.

## 22. PAYMENT TO CONTRACTOR

Contractor shall submit invoices on or before the tenth (10th) day of the month following the date of substantial completion. Upon verification by the City's Representative that the invoice accurately reflects the work completed to date, the City shall pay the invoice within thirty (30) days after receipt. Upon the completion of all work required hereunder and acceptance of the work by the City's Representative, Contractor shall submit its final invoice for the remaining balance of the cost. The final invoice shall also be accompanied by satisfactory evidence that all liens, claims and demands of Contractor's employees and other parties providing labor or material used in the work have been duly satisfied, and that the material furnished and the work done are fully released from all such liens, claims and demands. After authorization by the City's Representative, the City shall pay Contractor the remaining amount due under this Contract.

## 23. INSURANCE

Contractor shall comply with the laws of the State of Tennessee regarding employment and payment of employees, and shall maintain insurance satisfactory to the City to protect both itself and the City from claims under workers compensation acts and from any other demands for personal injury, deaths or property damage which may arise from operations under this Contract, whether such operations be by Contractor or any subcontractor or anyone directly or indirectly employed by either of them. Certificates of such insurance, naming the City as an additional

insured, shall be filed with the City Attorney and shall be subject to his approval for adequacy of protection. The minimum amounts of such insurance shall be as follows:

|                 |                             |
|-----------------|-----------------------------|
| Bodily Injury   | \$1,000,000 each occurrence |
| Property Damage | \$500,000 each occurrence   |

Contractor may purchase at its own expense such additional or other insurance protection as it may deem necessary. Maintenance of the required minimum insurance protection does not relieve the Contractor of responsibility for any losses not covered by the above required policies. Contractor acknowledges that the City is not liable for the safety, security or condition of the Contractor's equipment or materials.

#### 24. TIME ALLOWED FOR COMPLETION

Contractor shall be responsible to the City for the proper fulfillment of all terms this Contract. Contractor shall begin and complete all work associated with the project by April 1, 2018, provided that the time allowed for completion shall be extended by any time the work is suspended by the City's Representative pursuant to Section 19 herein for reasons which are not the fault of Contractor. The Contractor shall be assessed \$250.00 per day as liquidated damages for each day beyond the time allowed for completion that the work is incomplete, as determined by the City's Representative. Such liquidated damages may be deducted from the amount paid by the City to Contractor for its work.

#### 25. BOND REQUIREMENTS

Prior to commencing work under this Contract, Contractor agrees to furnish a Performance Bond and a Labor and Material Bond with good and sufficient surety or sureties acceptable to the City, conditioned upon Contractor's full completion of the Work and prompt payments to the persons supplying labor, material, or supplies to the Contractor or Subcontractors in the performance of the Work under this Contract and any amendment or extension thereof. The Bond may be in the form of a surety bond, or letter of credit, in a form acceptable to the City Manager, from a financial institution which maintains a local office within the City of Brentwood. If in the form of a surety bond, the Bond shall be provided by a surety or sureties with an "A-" or better rating according to A.M. Best Company.

#### 26. COMPLIANCE WITH THE LAW

Contractor shall comply with all federal, state, county and local laws, ordinances, statutes and regulations. This includes, but is not limited to, the provision of the Davis-Bacon Act, Copeland Act and the Buy American provisions of the American Recovery and Reinvestment Act of 2009.

#### 27. ANTIDISCRIMINATION

Contractor, in performing the work covered by this Contract, shall not discriminate against any person seeking employment with or by Contractor because of race, color, religion, national origin, age or sex.

#### 28. TERMINATION OF CONTRACT FOR CAUSE

If, though any cause, Contractor shall fail to fulfill in a timely and proper manner the obligations under the Contract Documents, or if Contractor shall violate any of the covenants, agreements, or stipulations of the Contract Documents, the City shall thereupon have the right to terminate this Contract by giving written notice to Contractor of such termination and specify the effective date thereof. In such event, all finished or

unfinished documents, data and reports prepared by the Contractor under this Contract shall, at the option of the City, become the City's property and Contractor shall be entitled to receive just and equitable compensation for any work satisfactorily completed hereunder.

29. GOVERNING LAW

Notwithstanding any other terms to the contrary in this Contract or in any documents made a part of this Contract, the parties agree that any dispute or default arising from this Contract shall be governed by the laws of the State of Tennessee, and each party agrees to submit to the jurisdiction and venue of the courts of Williamson County, Tennessee, or the federal district court of the Middle District of Tennessee.

IN WITNESS WHEREOF, the parties have executed this Contract, the effective date of which shall be the date signed by the City's Mayor below.

**OWNER:**

CITY OF BRENTWOOD, TENNESSEE

By: \_\_\_\_\_  
Jill Burgin, Mayor  
Pursuant to Resolution 2018-\_\_\_\_\_

Approved as to form and legality:

\_\_\_\_\_  
Brentwood City Attorney

**CONTRACTOR:**

\_\_\_\_\_  
(JARVIS SIGN COMPANY)

By: \_\_\_\_\_  
Title: \_\_\_\_\_



## BID OPENING CHECKLIST

# Smith Park Event Space Brentwood, TN

January 24, 2018  
10:00 AM

| COMPANY           | Base Bid    | Add Alternate | Total              | BID FORM | BID BOND | LICENSE INFO. |
|-------------------|-------------|---------------|--------------------|----------|----------|---------------|
| LSI               | \$48,000.00 | \$10,000.00   | <b>\$58,000.00</b> | ✓        | ✓        | ✓             |
| Jarvis Signs      | \$44,000.00 | \$10,200.00   | <b>\$54,200.00</b> | ✓        | ✓        | ✓             |
| IKON Construction | \$81,200.00 | \$4,650.00    | <b>\$85,850.00</b> | ✓        | ✓        | ✓             |
|                   |             |               | <b>\$0.00</b>      |          |          |               |
|                   |             |               | <b>\$0.00</b>      |          |          |               |
|                   |             |               | <b>\$0.00</b>      |          |          |               |

Present at Bid Opening:

Richard Parker, City of Brentwood

Deanna Lambert, City of Brentwood

Karen Harper, City of Brentwood

Skip Heibert. H+B Land Design

LSI Representative

**BID FORM**

CITY OF BRENTWOOD  
5211 MARYLAND FARMS  
P.O. BOX 788  
BRENTWOOD, TN 37024-0788

RE: SMITH PARK EVENT SPACE  
1825 Wilson Pike, Brentwood

Dear Ms. Lambert:

In compliance with your invitation to bid for the landscape installation for the Smith Park Event Space, having examined the Scope of Work and written specifications and being familiar with all conditions surrounding the maintenance of the project, including the availability of materials and labor, we hereby propose to furnish all labor, materials (except Dublin Cobble Stone Pavers) and supplies in accordance with the contract documents and specifications as prepared by Heibert+Ball within the time period stated in the INFORMATION FOR BIDDERS for the prices stated below.

We accept the right of the Owner to accept any proposal, to reject any or all proposals, and to waive any informalities in bidding.

BASE BID: The Base Bid includes all labor, equipment, and materials to perform the construction installation outlined in the drawings and specifications noted as "Base Bid".

forty-four thousand Dollars. (\$ 44,000 ).


ADD ALTERNATE: The Add Alternate includes all labor, equipment, and materials to perform the construction installation outlined in the drawings and specifications noted as "add alternate." (Including concrete bands and pavers for sidewalks)

ten thousand two hundred Dollars. (\$ 10,200 ).

Jarvis Sign Company  
Company Name

310 Madison St.

Madison TN 37115

  
Signature

President  
Title

61701  
Tennessee Contractor's License #

615-865-6062  
Company Telephone #

1.29.18  
Date

### IRAN DIVESTMENT ACT REQUIREMENTS

Pursuant to *Tennessee Code Annotated* § 12-12-106 (as enacted by Chapter 817 of the Public Acts of 2016) the chief procurement officer for the State of Tennessee shall publish a list of persons determined to be engaging in investment activities in Iran. The list is posted on the website of the Tennessee General Services Department's Central Procurement Office\*. When competitive bidding is required, *Tennessee Code Annotated* § 12-12-111 requires every bid or proposal submitted to a local government for goods or services to include the following statement, subscribed or affirmed by the bidder as true under the penalty of perjury:

### CERTIFICATION

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to *T.C.A.* § 12-12-106.

  
\_\_\_\_\_  
Signature

1.22.18  
\_\_\_\_\_  
Date

Rebecca Jarvis  
\_\_\_\_\_  
Printed Name

President  
\_\_\_\_\_  
Title

Jarvis Sign Company  
\_\_\_\_\_  
Name of Firm/Company

\*[https://tn.gov/assets/entities/generalservices/cpo/attachments/List of persons pursuant to Tenn. Code Ann. 12-12-106. Iran Divestment Act-July.pdf](https://tn.gov/assets/entities/generalservices/cpo/attachments/List_of_persons_pursuant_to_Tenn._Code_Ann._12-12-106_Iran_Divestment_Act-July.pdf)



**DRUG-FREE WORKPLACE AFFIDAVIT**

STATE OF TENNESSEE

COUNTY OF Williamson

NOW COMES AFFIANT, who being duly sworn, deposes and says:

1. He/She is the principal officer for Jarvis Sign Company (the bidding entity”);
2. That the bidding entity has submitted a bid to the City of Brentwood for the construction of Smith Park Event Space;
3. That Affiant certifies that the bidding entity has in effect, at the time of submission of its bid to perform the construction referred to above, a drug-free workplace program that complies with Title 50, Chapter 9, *Tennessee Code Annotated*; and further, that the bidding entity’s drug and alcohol testing program is operated pursuant to requirements at least as stringent at those of the program operated by the City of Brentwood, as described in the construction specifications.
4. That this affidavit is made on personal knowledge.

Further Affiant saith not.

[Signature]  
AFFIANT

SUBSCRIBED AND SWORN TO before me this 22 day of January,  
2018

[Signature]  
NOTARY PUBLIC

My commission expires: March 3, 2020



## **CONTRACT FOR PAVER INSTALLATION**

THIS CONTRACT is hereby entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2018, by and between the City of Brentwood, Tennessee, a municipal corporation, hereinafter called the "City" and \_\_\_\_\_, hereinafter called the "Contractor".

### **1. SCOPE AND COST OF THIS CONTRACT**

The Contractor shall be responsible for landscape installation at the Smith Park Event Space. The work to be done consists of furnishing all labor, materials, supplies, tools, plant and equipment necessary to perform all work and services specified in the Project Manual for Landscape Installation for Smith Park Event Space (hereinafter called the "Project Manual") prepared by Heibert +Ball Land Design (H+B Project #16235) in strict accordance with the terms and provisions of this Contract. Please be advised that the City of Brentwood will purchase and provide 3,700 square feet of the Belgard Dublin Ardeness Gray Concrete Pavers. Please do not include this material cost in your contract price.

Such work shall be performed at a cost of \$ \_\_\_\_\_ (the "Contract Price"), as set forth in the Bid Form submitted by Contractor.

### **2. CONTRACT DOCUMENTS**

Wherever in this Contract the term "Contract Documents" is used, it shall refer to this Contract, the Bid Form submitted by Contractor, all material contained in the Project Manual, and all specifications, schedules, plans and drawings included or referred to in the Project Manual.

### **3. CITY'S REPRESENTATIVE**

Wherever in this Contract the term "City's Representative" is used, it shall mean the person designated by the City to represent the City in overseeing the completion of the work to be done under this Contract.

### **4. CONTRACTOR'S UNDERSTANDING**

It is understood and agreed that the Contractor has, by his examination, satisfied itself as to the nature and location of the work, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the character of equipment and facilities needed preliminary to and during the prosecution of the work, the general and special conditions, and all other matters which can in any way affect the work under the Contract. No verbal agreement or conversation with any officer, representative, agent or employee of the City, either before or after the execution of this Contract, may affect or modify any of the terms or obligations herein contained.

### **5. INTENT OF PLANS AND SPECIFICATIONS**

All work that may be called for in the specifications shall be executed and furnished by the Contractor, and should any work or material be required which is not denoted in the specifications, the Contractor shall do such work and furnish such materials at the unit bid price where a unit bid is applicable, or where the work and material is not covered by a unit price, the Contractor shall be required to do work as hereinafter specified under "Unclassified Work."

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Permits of a temporary nature necessary for the prosecution of the work shall be secured by the Contractor. Permits for permanent structures or permanent changes in existing facilities shall be secured by the City.

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## 8. CONSENT TO TRANSFER

Contractor shall not assign or transfer this Contract or any part thereof without consent of the City, given in writing. Such consent does not release or relieve Contractor from any of its obligations and liabilities under this Contract.

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Wherever work being done by the City's forces or by other contractors is contiguous to work covered by this Contract, the respective rights of the various interests involved shall be established by the City's Representative to secure the completion of the various portions of the work in general harmony.

## 10. SITE SUPERVISION

Contractor shall constantly supervise all the work contemplated by this Contract in person or by a duly authorized representative acceptable to the City.

## 11. CORRECTIONS TO CONTRACT DOCUMENTS

Contractor shall review the contract documents and in the event that errors, omissions or inaccuracies are detected herein, shall immediately advise City's Representative. The City's Representative may provide corrected or supplemental information as may be needed to allow for completion of the work in accordance with the City's intentions.

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All work done by Contractor shall be open to the inspection, acceptance and rejection of City's Representative at all times. Contractor shall provide reasonable and necessary opportunities for inspection of the work. Work shall not proceed until Contractor has made timely demand upon City's Representative for, and has received from such Representative, such instructions as may be necessary as the work progresses. The work shall be done in strict conformity with such instructions.

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Contractor shall submit invoices on or before the tenth (10th) day of the month following the date of substantial completion. Upon verification by the City's Representative that the invoice accurately reflects the work completed to date, the City shall pay the invoice within thirty (30) days after receipt. Upon the completion of all work required hereunder and acceptance of the work by the City's Representative, Contractor shall submit its final invoice for the remaining balance of the cost. The final invoice shall also be accompanied by satisfactory evidence that all liens, claims and demands of Contractor's employees and other parties providing labor or material used in the work have been duly satisfied, and that the material furnished and the work done are fully released from all such liens, claims and demands. After authorization by the City's Representative, the City shall pay Contractor the remaining amount due under this Contract.

## 23. INSURANCE

Contractor shall comply with the laws of the State of Tennessee regarding employment and payment of employees, and shall maintain insurance satisfactory to the City to protect both itself and the City from claims under workers compensation acts and from any other demands for personal injury, deaths or property damage which may arise from operations under this Contract, whether such operations be by Contractor or any subcontractor or anyone directly or indirectly employed by either of them. Certificates of such insurance, naming the City as an additional insured, shall be filed with the City Attorney and shall be subject to his approval for adequacy of protection. The minimum amounts of such insurance shall be as follows:

|                 |                             |
|-----------------|-----------------------------|
| Bodily Injury   | \$1,000,000 each occurrence |
| Property Damage | \$500,000 each occurrence   |

Contractor may purchase at its own expense such additional or other insurance protection as it may deem necessary. Maintenance of the required minimum insurance protection does not relieve the Contractor of responsibility for any losses not covered by the above required policies. Contractor acknowledges that the City is not liable for the safety, security or condition of the Contractor's equipment or materials.

#### **24. TIME ALLOWED FOR COMPLETION**

Contractor shall be responsible to the City for the proper fulfillment of all terms this Contract. Contractor shall begin and complete all work associated with the project by April 1, 2018, provided that the time allowed for completion shall be extended by any time the work is suspended by the City's Representative pursuant to Section 19 herein for reasons which are not the fault of Contractor. The Contractor shall be assessed \$250.00 per day as liquidated damages for each day beyond the time allowed for completion that the work is incomplete, as determined by the City's Representative. Such liquidated damages may be deducted from the amount paid by the City to Contractor for its work.

#### **25. BOND REQUIREMENTS**

Prior to commencing work under this Contract, Contractor agrees to furnish a Performance Bond and a Labor and Material Bond with good and sufficient surety or sureties acceptable to the City, conditioned upon Contractor's full completion of the Work and prompt payments to the persons supplying labor, material, or supplies to the Contractor or Subcontractors in the performance of the Work under this Contract and any amendment or extension thereof. The Bond may be in the form of a surety bond, or letter of credit, in a form acceptable to the City Manager, from a financial institution which maintains a local office within the City of Brentwood. If in the form of a surety bond, the Bond shall be provided by a surety or sureties with an "A-" or better rating according to A.M. Best Company.

#### **26. COMPLIANCE WITH THE LAW**

Contractor shall comply with all federal, state, county and local laws, ordinances, statutes and regulations. This includes, but is not limited to, the provision of the Davis-Bacon Act, Copeland Act and the Buy American provisions of the American Recovery and Reinvestment Act of 2009.

#### **27. ANTIDISCRIMINATION**

Contractor, in performing the work covered by this Contract, shall not discriminate against any person seeking employment with or by Contractor because of race, color, religion, national origin, age or sex.

#### **28. TERMINATION OF CONTRACT FOR CAUSE**

If, though any cause, Contractor shall fail to fulfill in a timely and proper manner the obligations under the Contract Documents, or if Contractor shall violate any of the covenants, agreements, or stipulations of the Contract Documents, the City shall thereupon have the right to terminate this Contract by giving written notice to Contractor of such termination and specify the effective date thereof. In such event, all finished or unfinished documents, data and reports prepared by the Contractor under this Contract shall, at the option of the City, become the City's property and Contractor shall be entitled to receive just and equitable compensation for any work satisfactorily completed hereunder.

#### **29. GOVERNING LAW**

Notwithstanding any other terms to the contrary in this Contract or in any documents made a part of this Contract, the parties agree that any dispute or default arising from this Contract shall be governed by the laws of the State of Tennessee, and each party agrees to submit to the jurisdiction and venue of the courts of Williamson County, Tennessee, or the federal district court of the Middle District of Tennessee.

IN WITNESS WHEREOF, the parties have executed this Contract, the effective date of which shall be the date signed by the City's Mayor below.

**OWNER:**

CITY OF BRENTWOOD, TENNESSEE

By: \_\_\_\_\_  
Jill Burgin, Mayor  
Pursuant to Resolution 2018-\_\_\_\_\_

Approved as to form and legality:

\_\_\_\_\_  
Brentwood City Attorney

**CONTRACTOR:**

\_\_\_\_\_  
(Name of Contractor)

By: \_\_\_\_\_  
Title: \_\_\_\_\_

January 23, 2018

Deanna Lambert  
City of Brentwood  
5211 Maryland Way  
Brentwood, TN 37027

Project References for Smith Park Event Space:

Ravenwood High School- 1724 Wilson Pike, Brentwood TN 37027  
Pavers, concrete walk, and wall

City of Knoxville- 1400 Loraine Street, Knoxville, TN 37921  
Pavers for wayfinding signs

















**R**  
Est. 2002

**RAVENWOOD HIGH SCHOOL**













STATE OF TENNESSEE  
DEPARTMENT OF  
COMMERCE AND INSURANCE



JARVIS AWARD, SIGN AND FLAG CO.

326268

ID NUMBER: 61701

LIC STATUS: ACTIVE

EXPIRATION DATE: November 30, 2018

BOARD FOR LICENSING CONTRACTORS  
CONTRACTOR

THIS IS TO CERTIFY THAT ALL REQUIREMENTS  
OF THE STATE OF TENNESSEE HAVE BEEN MET

Attn: REBECCA JARVIS  
JARVIS AWARD, SIGN AND FLAG CO.  
310 MADISON STREET  
MADISON, TN 37115

State of Tennessee

326268 10221935

BOARD FOR LICENSING CONTRACTORS

CONTRACTOR

JARVIS AWARD, SIGN AND FLAG CO.

*This is to certify that all requirements of the State of Tennessee have been met.*

ID NUMBER: 61701

LIC STATUS: ACTIVE

EXPIRATION DATE: November 30, 2018

AGLM \$1,400,000.00 ; BC-18 ; BC-19 ; BC-27 ; BC-7 ; CE ; HRA-E



IN-1313  
DEPARTMENT OF  
COMMERCE AND INSURANCE





# AIA Document A310™ – 2010

## Bid Bond

### CONTRACTOR:

(Name, legal status and address)

Jarvis Award Sign & Flag Co

310 Madison Street

Madison, TN 37115

### OWNER:

(Name, legal status and address)

City of Brentwood

1750 General George Patton Drive

Brentwood, TN 37027

BOND AMOUNT: 10% of Amount Bid

### SURETY:

(Name, legal status and principal place of business)

Merchants Bonding Company

PO Box 14498

Des Moines, IA 50306

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

### PROJECT:

(Name, location or address, and Project number, if any)

Pavers & Concrete Work @ Smith Park

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 24th day of January 2018

(Witness)

(Witness)

Jarvis Award Sign & Flag Co

(Principal)

(Title)

Merchants Bonding Company

(Surety)

(Title) Melissa Napier, Attorney-in-Fact

**CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.**

Init.

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**MERCHANTS**  
**BONDING COMPANY™**  
**POWER OF ATTORNEY**

Know All Persons By These Presents, that MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., both being corporations of the State of Iowa (herein collectively called the "Companies") do hereby make, constitute and appoint, individually, Adam Harris; Benjamin P Dycus; Brian L Sewell; Kenneth Albert; Melissa Napier; Steven M Baas

their true and lawful Attorney(s)-in-Fact, to sign its name as surety(ies) and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

This Power-of-Attorney is granted and is signed and sealed by facsimile under and by authority of the following By-Laws adopted by the Board of Directors of Merchants Bonding Company (Mutual) on April 23, 2011 and amended August 14, 2015 and adopted by the Board of Directors of Merchants National Bonding, Inc., on October 16, 2015.

"The President, Secretary, Treasurer, or any Assistant Treasurer or any Assistant Secretary or any Vice President shall have power and authority to appoint Attorneys-in-Fact, and to authorize them to execute on behalf of the Company, and attach the seal of the Company thereto, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof."

"The signature of any authorized officer and the seal of the Company may be affixed by facsimile or electronic transmission to any Power of Attorney or Certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the Company, and such signature and seal when so used shall have the same force and effect as though manually fixed."

In connection with obligations in favor of the Florida Department of Transportation only, it is agreed that the power and authority hereby given to the Attorney-in-Fact includes any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts required by the State of Florida Department of Transportation. It is fully understood that consenting to the State of Florida Department of Transportation making payment of the final estimate to the Contractor and/or its assignee, shall not relieve this surety company of any of its obligations under its bond.

In connection with obligations in favor of the Kentucky Department of Highways only, it is agreed that the power and authority hereby given to the Attorney-in-Fact cannot be modified or revoked unless prior written personal notice of such intent has been given to the Commissioner-Department of Highways of the Commonwealth of Kentucky at least thirty (30) days prior to the modification or revocation.

In Witness Whereof, the Companies have caused this instrument to be signed and sealed this 26th day of April, 2017.



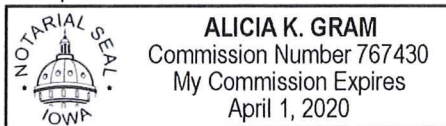
MERCHANTS BONDING COMPANY (MUTUAL)  
MERCHANTS NATIONAL BONDING, INC.

By

*Larry Taylor*  
President

STATE OF IOWA  
COUNTY OF DALLAS ss.

On this this 26th day of April, 2017, before me appeared Larry Taylor, to me personally known, who being by me duly sworn did say that he is President of MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC.; and that the seals affixed to the foregoing instrument are the Corporate Seals of the Companies; and that the said instrument was signed and sealed in behalf of the Companies by authority of their respective Boards of Directors.



*Alicia K. Gram*

Notary Public

(Expiration of notary's commission  
does not invalidate this instrument)

I, William Warner, Jr., Secretary of MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., do hereby certify that the above and foregoing is a true and correct copy of the POWER-OF-ATTORNEY executed by said Companies, which is still in full force and effect and has not been amended or revoked.

In Witness Whereof, I have hereunto set my hand and affixed the seal of the Companies on this 24th day of January, 2018



*William Warner Jr.*

Secretary





Brentwood, Tennessee



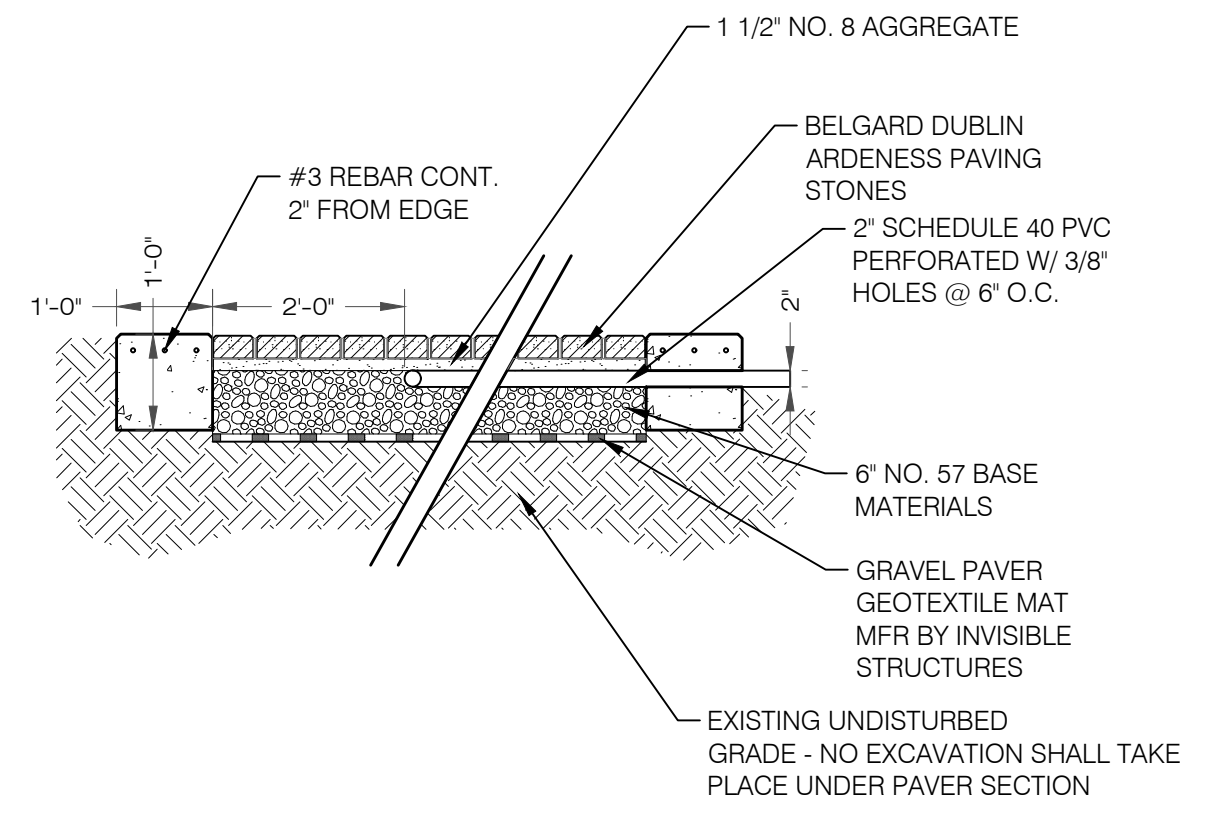
BY: cb

RELEASE DATE: 1/11/2017  
REV 1: 1/10/2018 - REBID

L1.1

# SITE PLAN

Page 62 of 115



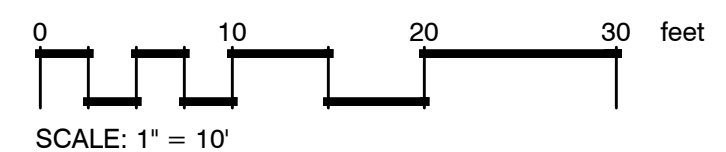
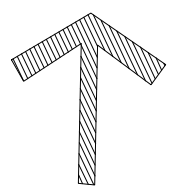
### 1 PAVER WITH AERATION DETAIL

$$1/2^8 = 1'-0^8$$

— NO EXCAVATION SHALL TAKE PLACE WITHIN THE DRIP LINE OF THE EXISTING TREES



**IF YOU DID TENNESSEE...  
CALL US FIRST!  
1-800-381-1111  
1-615-346-1967  
TENNESSEE ONE CALL  
IT'S THE LAW**



## **Brentwood City Commission Agenda**

**Meeting Date:** 02/12/2018

Approval for the Installation of Two Speed Tables on Charity Drive for Traffic Calming

**Submitted by:** Jamie Booker, Public Works

**Department:** Public Works

---

### **Information**

#### **Subject**

Approval for the installation of two speed tables on Charity Drive for traffic calming efforts.

#### **Background**

The City's policy for multi-way stop signs and traffic calming was adopted via Resolution 2009-15. This policy establishes criteria for traffic calming retrofits on residential collector streets, which are ineligible for consideration of speed humps. The criteria include conditions that warrant consideration of traffic calming measures. These are speed, volume and other criteria including street segment length and number of lanes.

Last year staff received a request from the Highland Park subdivision to initiate a speed study on Charity Drive. A review by an outside traffic engineer confirmed a speeding problem as defined in the traffic calming policy. Charity Drive is identified as a "residential collector street". The policy requires Tier 1, or non-construction related strategies be implemented first. By recommendation of the traffic engineer, signage changes were made and police enforcement efforts were increased as a Tier 1 effort. Note that Charity Drive in this location already includes striping to provide a designated bike lane and narrower driving lanes.

A second study was requested months later by the Highland Park subdivision because they felt the Tier 1 strategies were not effective. The second study confirmed the speeding problem still existed. As a result of the second study, the traffic engineer recommended the Tier 2 strategy of installing speed tables. As required in the policy, the Highland Park Homeowners Association petitioned homes on Charity Drive within 1,000 feet of the proposed speed table locations and 26 of 34 (76%) homeowners support the installation of speed tables. As required by the policy, a public meeting was held December 13, 2017. Based on the public support evidenced by the petition (attached) and public meeting, the neighborhood supports installation of two speed tables. An aerial map showing the specific location of the two speed tables on Charity Drive is attached.

The estimated cost to install the speed tables is \$10,000 each, see attached quote. The speed tables will be constructed with concrete and due to the cure time required, the road

will be closed to through traffic for 2-3 days for each speed table. A detour is available for one of the speed tables minimizing the impact. However, the other location will require residents to use one direction of travel to and from their home during the construction process and public safety agencies will be made aware of the detour situation. The speed tables will be constructed one at-a-time during the summer months when school is not in session to minimize the traffic disruption. The installation also includes signage and striping per the plan prepared by our traffic consultant. A copy of the plan is attached.

Any questions can be directed to Public Works Operations Superintendent Rich Richardson.

### **Staff Recommendation**

Staff recommends installation of 2 speed tables on Charity Drive.

### **Previous Commission Action**

The City Commission approved the Traffic Calming policy via Resolution 2009-115 adopted on December 14, 2009.

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### **Fiscal Impact**

**Amount :** \$20,000

**Source of Funds:** Public Works Operating Budget

**Account Number:** 110-43120-82640

#### **Fiscal Impact:**

The adopted policy provides that funding for Tier 1 and Tier 2 traffic calming features on residential collector streets is provided 100% by the City. Funds budgeted for street maintenance and repair are proposed for this project, and will either be completed with current year-end funds or programmed for inclusion in the FY 2019 operating budget.

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### **Attachments**

Resolution 2018-12

Location Map

Construction Detail

Quote

Petition

Multi Way Stop and Traffic Calming Policy

---

**RESOLUTION 2018-12**

**A RESOLUTION OF THE CITY OF BRENTWOOD, TENNESSEE TO APPROVE THE  
INSTALLATION OF TWO SPEED TABLES ON CHARITY DRIVE IN THE HIGHLAND  
PARK SUBDIVISION**

**WHEREAS**, the Highland Park subdivision requested the City of Brentwood to investigate the feasibility of installing certain traffic calming measures on Charity Drive, a residential collector street; and

**WHEREAS**, Tier 1 traffic calming measures were ineffective and the City of Brentwood has recommended installation of two speed tables on Charity Drive; and

**WHEREAS**, a petition in support was signed by at least 2/3 of the residents within 1,000 feet of the proposed location.

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY OF BRENTWOOD, TENNESSEE,  
AS FOLLOWS:**

**SECTION 1.** That the installation of speed tables on Charity Drive in the Highland Park subdivision is hereby approved.

**SECTION 2.** That this resolution shall take effect from and after its passage, the general welfare of the City of Brentwood, Williamson County, Tennessee requiring it.

\_\_\_\_\_  
MAYOR

\_\_\_\_\_  
Jill Burgin

ADOPTED: \_\_\_\_\_

*Approved as to form:*

\_\_\_\_\_  
RECORDER

\_\_\_\_\_  
Holly Earls

\_\_\_\_\_  
CITY ATTORNEY

\_\_\_\_\_  
Doug Berry



CHARITY DR  
Proposed Speed Table Locations



Legend



Speed\_Table



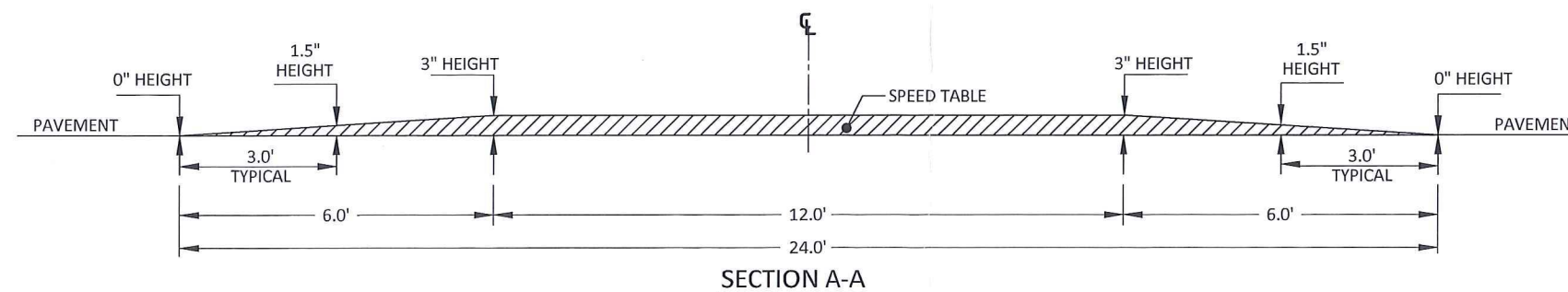
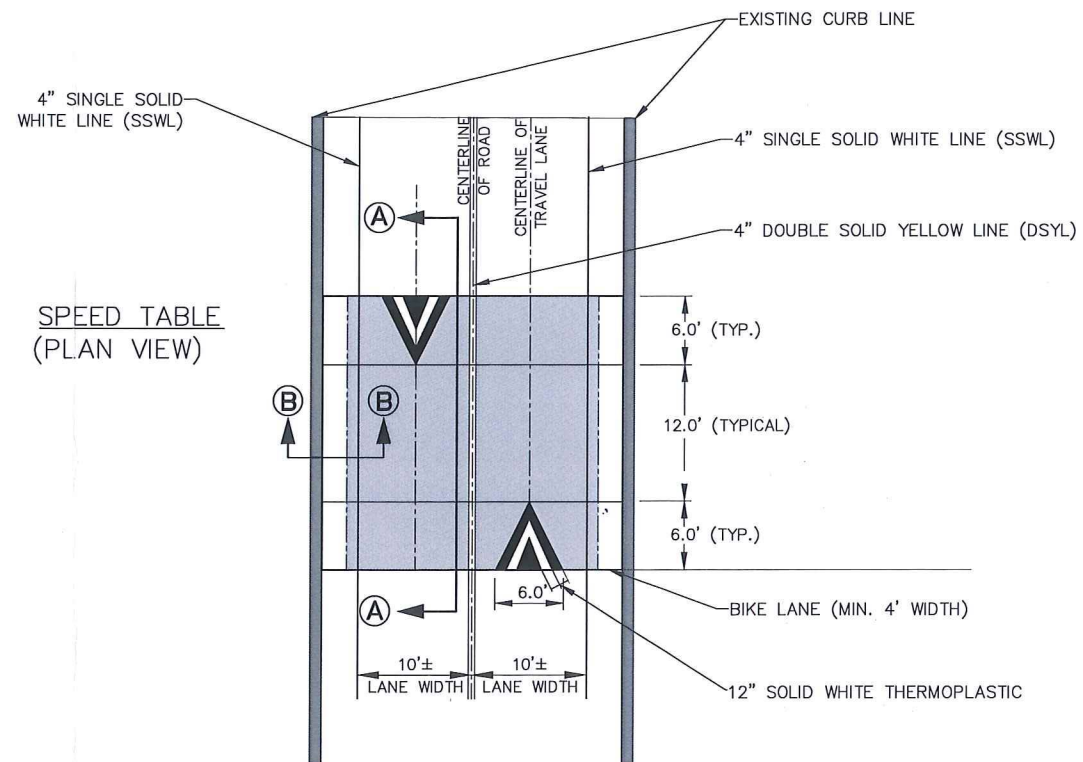
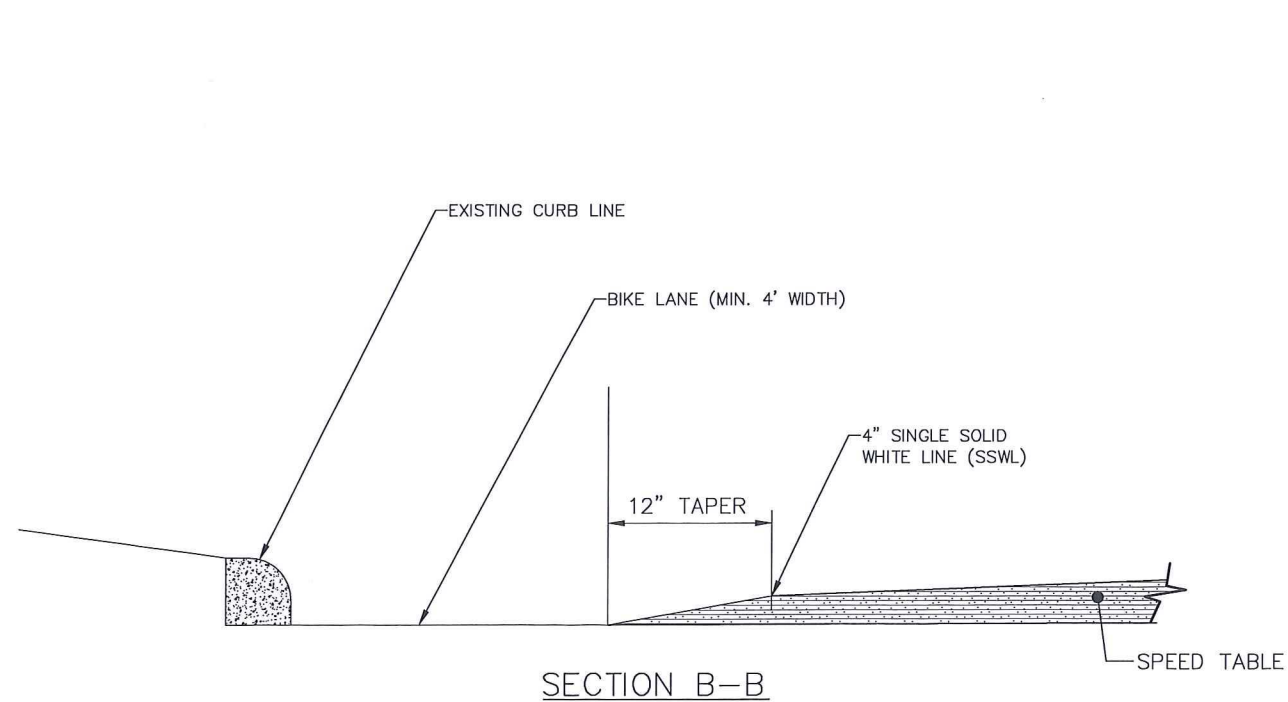
Parcels



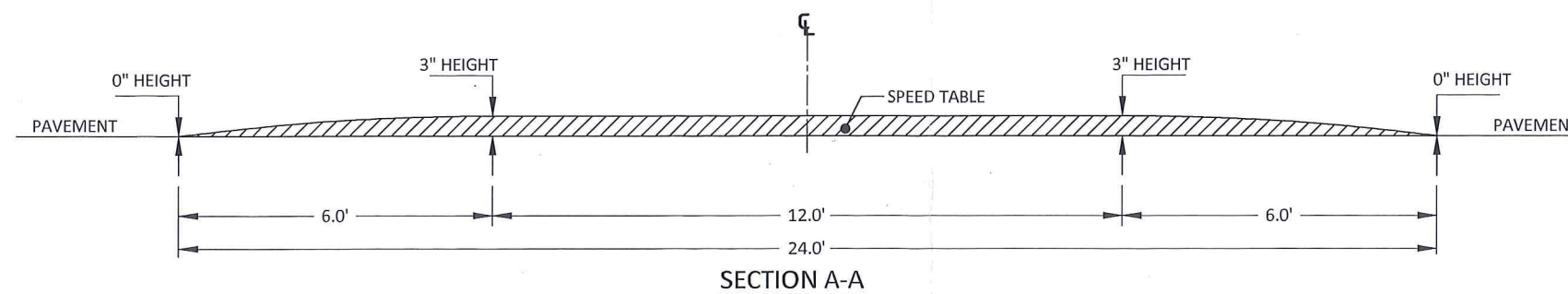
Edge of Pavement

DISCLAIMER  
This map/data was created by the City of Brentwood, TN, and was compiled from the most authentic information available. The City is not responsible for any errors or omissions contained herein.

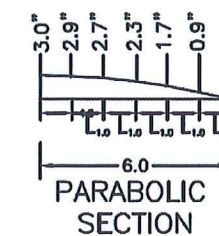




FLAT TOP SPEED TABLE



FLAT TOP SPEED TABLE  
(OPTIONAL PARABOLIC ENDS)



|                |            |
|----------------|------------|
| FILE NO.       | 76-7-0502  |
| DATE:          | 06/01/2017 |
| DESIGNED BY:   | RG         |
| DRAWN BY:      | MBY/FG     |
| CHECKED BY:    | RG         |
| REVISION BLOCK |            |
| DATE:          |            |
| DATE:          |            |
| DATE:          |            |

TRAFFIC CALMING PLANS

SPEED TABLE DETAIL

**RG PHILLIPS CONSULTING**  
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

RG PHILLIPS CONSULTING, LLC  
106 MISSION COURT, SUITE 301  
FRANKLIN, TN 37067

PRELIMINARY  
PLANS  
FOR REVIEW  
ONLY

TRAFFIC CALMING PLANS

CHARITY DRIVE

NOT TO SCALE

SHEET 2



1441 Elm Hill Pike  
Nashville Tennessee

Phone 615-627-2901  
Fax 615-627-2906

### ASPHALT PAVING PROPOSAL

DATE: 1/29/2017  
TO: RICH RICHARDSON  
FROM: MIKE MAYNARD  
JOB: BRENTWOOD STREETS  
LOCATION: BRENTWOOD

| Description   | Quantity | Unit | Unit Price  | Total       |
|---|----------|------|-------------|-------------|
| CONCRETE SPEED HUMPS<br>INCLUDES CUTTING KEY JOINTS IN PAVEMENT | 2.00     | EA   | \$10,000.00 | \$20,000.00 |

NO STRIPING OR TRAFFIC CONTROL INCLUDED

**TOTAL** \$20,000.00  
Price quote good for 30 days

**MIKE MAYNARD**



11/13/17

## CHARITY DRIVE TRAFFIC STUDY RESIDENTS

TOTAL 34 YES 24 NO 3

(2/3rds of 34 = 22)

| Name            | Address            | First Name(s)            | Email Address (Not sure about these)                                     | Vote Delivered |                       | Voted |
|-----------------|--------------------|--------------------------|--|----------------|-----------------------|-------|
|                 |                    |                          |  | Hand Delvrd    | Mailbox or Door Litch |       |
| 1. Marfone      | 1703 Charity       | Joseph A.                | joe.marfone@motorolasolutions.com  | X              |                       | YES   |
| 2. Jones        | 1705 Charity       | John and Kate            | jonesjpk1@bellsouth.net  | X              |                       | YES   |
| 3. Evans        | 1707 Charity       | Chris and Cyndi          | cleavans24@comcast.net   | X              |                       | YES   |
| 4. Cain, Jr.    | 9410 Highwood Hill | Tavey L. and Kathy       | cainfamfive@gmail.com  | X              |                       | YES   |
| 5. Lindsey      | 9411 Highwood Hill | John and Allison Laffer  |  | X              |                       | YES   |
| 6. Swain        | 1709 Charity       | Tom and Jeanne           | teswain@earthlink.net  | X              |                       | YES   |
| 7. Hotzfeld     | 1711 Charity       | Rich and Leslie          | rickhotzfeld@gmail.com   | X              |                       | YES   |
| 8. Catafygiotu  | 1712 Charity       | Niki                     | nikicatafygiotu@comcast.net  | X              |                       | YES   |
| 9. Haas         | 1713 Charity       | John and Kelli           | kelli.haas@comcast.net   | X              |                       | YES   |
| 10. Rigsby      | 1714 Charity       | Chris and Kristin        | crigsby7@comcast.net   | X              |                       | YES   |
| 11. Henley      | 1715 Charity       | Simon and Martha         | simonhenley@yahoo.com  | X              |                       | YES   |
| 12. Cloete      | 1716 Charity       | Marc                     | <a href="mailto:marcandtanja@comcast.net">marcandtanja@comcast.net</a>   | X              |                       | YES   |
| 13. Holman      | 1717 Charity       | Jesse Ryan               |  | X              |                       | YES   |
| 14. Urso        | 1718 Charity       | Samuel D. and Tracy      |  | X              |                       | YES   |
| 15. Carlton     | 1719 Charity       | John P. and Ashley       | patrick_carlton@hotmail.com  | X              |                       | YES   |
| 16. Gekas       | 1720 Charity       | James                    |  | X              | X                     |       |
| 17. Hardin      | 1721 Charity       | Tony S.                  | jsghardin@yahoo.com  | X              |                       | YES   |
| 18. Tate        | 1724 Charity       | Crede S.                 |  | X              |                       | YES   |
| 19. Newman      | 1726 Charity       | Kenneth S. and Molly     | <a href="mailto:snowman@bakerdonelson.com">snowman@bakerdonelson.com</a> | X              | X                     |       |
| 20. Carter, Jr. | 9438 Gentlewind    | John David               | <a href="mailto:johncarter345@gmail.com">johncarter345@gmail.com</a>     | X              |                       | NO    |
| 21. Stark       | 9439 Gentlewind    | Ryan and Kathrine        |  | X              |                       | YES   |
| 22. Droutman    | 9485 Highwood Hill | Larry                    |  | X              |                       | YES   |
| 23. Oxborough   | 9486 Highwood Hill | Mark and Meredith        |  | X              |                       | YES   |
| 24. Diaz        | 1733 Charity       | Nolian                   |  | X              |                       | YES   |
| 25. Chester     | 1734 Charity       | George W.                |  | X              |                       | YES   |
| 26. Hackett     | 1735 Charity       | Jim                      | Dance-n-dogs@comcast.net   | X              |                       | YES   |
| 27. Neel        | 1736 Charity       | Chris and Joyce          | 615-482-4428   | X              |                       | YES   |
| 28. Wolf        | 1741 Charity       | John L. and Shelly A.    |  | X              |                       | NO    |
| 29. Nuyens      | 1742 Charity       | Jozef and Candace        |  |                | Dr Hndle              |       |
| 30. Barone      | 1743 Charity       | Robert J.                |  | X              |                       | NO    |
| 31. Regan       | 1744 Charity       | George and Tammy         |  |                |                       |       |
| 32. Knox        | 1745 Charity       | Timothy J. and Marcia N. |  |                |                       |       |
| 33. Carlson     | 1747 Charity       | Melissa J.               |  |                |                       |       |
| 34. Doster      | 1748 Charity       | Jeffrey S. and Nina A.   |  |                |                       |       |

Grey - Laurels

## SPEED TABLE PETITION

Charity Drive Resident:

Brentwood Public Works Department (BPWD) has proposed two traffic calming initiatives (**Speed Tables**) for Charity Drive. In order for the BPWD to proceed, 2/3<sup>rds</sup> of the residents living along Charity Drive within 1,000 feet of the proposed **Speed Tables** must approve their use and locations.

By signing this petition you acknowledge that you have reviewed the proposed **Speed Tables'** locations and specifications. Also, by checking the appropriate box below, you provide your approval or disapproval for the use of the **Speed Tables** and their locations.


The specifications and location for the proposed **Speed Tables** are attached to the document forwarding this petition. The locations of the **Speed Tables** were determined by the BPWD and cannot be altered simply because they are not desirable.

Please return your signed petition to the mail box of Tom Swain (1709 Charity Drive) or email it to [teswain@earthlink.net](mailto:teswain@earthlink.net). The Highland Park Homeowners Association is aware of this initiative, but the costs and time spent working this initiative have been personally incurred.

Your prompt response would be greatly appreciated.

Thank you ..... Tom Swain  
Brigadier General (US Army Ret)

| ADDRESS          | DATE     | APPROVED | DISAPPROVE |
|------------------|----------|----------|------------|
| 1726 Charity Dr. | 12/11/17 | yes      |            |

|                 |  |
|-----------------|--|
| Hodgin          |  |
| PRINT LAST NAME | Signature  |

**ONE SIGNATURE PER HOUSEHOLD PLEASE**



**POLICY FOR MULTI-WAY STOP SIGN INSTALLATIONS AND TRAFFIC CALMING  
WITHIN THE CITY OF BRENTWOOD, TENNESSEE**

The purpose of this policy is to outline the procedures for determining when multi-way stop signs and traffic calming features may be installed within the City of Brentwood. The objective of this policy is to provide for safe and efficient traffic control at the City's intersections, to encourage traffic to travel on the City's major streets, to discourage through traffic from using residential subdivision streets, to avoid the excessive and arbitrary use of multi-way stop signs within residential areas, and to provide a structured approach to the treatment of residential collector streets which are perceived to have excessive negative impacts due to traffic speeds and/or volumes.

**PART I**

**WARRANTS FOR MULTI-WAY STOP SIGN INSTALLATION ON  
ARTERIAL AND OTHER DESIGNATED STREETS**

The Manual on Uniform Traffic Control Devices (MUTCD) sets forth guidelines for the installation of traffic control devices on streets and at intersections. In regard to multi-way stop signs, the MUTCD states that "any of the following conditions may warrant a multi-way stop sign installation":

1. Where traffic signals are warranted and urgently needed, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the signal installation.
2. An accident problem, as indicated by five or more reported accidents of a type susceptible of correction by multi-way stop installation in a 12-month period. Such accidents include right-and left- turn collisions as well as right angle collisions.
3. Minimum traffic volumes:
  - a) The total vehicular volume entering the intersection from all approaches must average at least 500 vehicles per hour for any 8 hours of an average day, and,
  - b) The combined vehicular and pedestrian volume from the minor street or highway must average at least 200 units per hour for the same 8 hours, with an average delay of at least 30 seconds per vehicle during the maximum hour, but,
  - c) When the 85-percentile approach speed of the major street traffic exceeds 40 miles per hour, the minimum vehicular volume warrant is 70 percent of the above requirements.

The above warrants for multi-way stop signs shall be applied to the following locations within the City of Brentwood:

- On State or Federal highways.

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- At intersections that include at least one street classified as an arterial by the City of Brentwood (see attachment A for a list of classified arterials within Brentwood).
- Any intersections within a commercial zoning district.
- On any section of arterial, collector, or local street that has been or is expected to be improved by State or Federal funds (excluding State street aid funds).

## **PART II**

### **WARRANTS FOR MULTI-WAY STOP SIGN INSTALLATION ON RESIDENTIAL STREETS**

Multi-way stop sign installation may be allowed if one of the following conditions is met:

1. The sight distance for a vehicle in a stopped position on a minor street approach (or approaches) of an intersection is less than 180 feet. The sight distance measurements shall be done in accordance with the procedures outlined in the latest edition of A Policy on Geometric Design of Highways and Streets.
2. A crash problem, as indicated by 3 or more reported accidents in a 12-month period that are susceptible to correction by a multi-way stop installation. Such accidents include right- and left-turn collisions as well as right-angle collisions. Rear-end, side-swipe, and run-off-the-road type accidents are not considered to be the type susceptible to correction by a multi-way stop installation.
3. Four-way stop sign installation may be considered at intersections of residential streets within the City of Brentwood if six (6) of the following conditions are met:
  - a) The total vehicular volume entering the intersection from all approaches averages 100 veh/hr (minimum) for at least any four hours during a typical weekday.
  - b) The vehicular volume entering the intersection from the minor street or streets for the same four hours averages at least 25 vehicles per hour.
  - c) Both streets have residential frontage and speed limits of 30 mph or less.
  - d) Neither street is listed as an arterial per policy.
  - e) Neither street exceeds 38 feet in width, excluding median width.
  - f) No existing stop sign or traffic signal is located on the more heavily traveled street within a distance of 1,200 feet. In cases where stop signs are currently located on the more heavily traveled street at the subject intersection, this distance restriction shall not apply and Condition 3(f) shall be considered satisfied.
  - g) The intersection has four legs with streets extending for a minimum of 800 feet, including connecting streets, from the intersection on at least three of the four sides.

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4. The standard multi-way stop warrants as specified by the MUTCD and described in Part I may be applied to intersections of residential streets within the City of Brentwood. Thus, multi-way stop sign installation may be considered at intersections of residential streets within the City of Brentwood if the standard warrants are met.

### **PART III**

#### **CONSIDERATION OF EXISTING MULTI-WAY STOP SIGNS WITHIN THE CITY OF BRENTWOOD**

Unless otherwise specifically removed by action of the City Board of Commissioners, the multi-way stop installations that are currently in operation within the City of Brentwood as of the date this revised policy is adopted shall remain in operation.

### **PART IV**

#### **WARRANTS FOR STOP SIGN INSTALLATION FOR NEW SUBDIVISIONS WITHIN THE CITY OF BRENTWOOD**

The City staff shall be responsible for determining the locations for all stop sign installations within a new subdivision prior to approval of the final plat of a subdivision. The developer shall be responsible for purchasing and installing the appropriate signs at the locations determined by the City staff.

### **PART V**

#### **TRAFFIC CALMING POLICY FOR RESIDENTIAL COLLECTOR STREETS**

The Policy is only applicable to identified residential collector streets inside the City Limits of Brentwood. The currently identified residential collector streets are as follow:

Arrowhead Drive  
Belle Rive Drive  
Bluff Road  
Carriage Hills Drive  
Charity Drive  
Concord Pass  
General George Patton Drive  
Gordon Petty Road  
Johnson Chapel Road West  
Jones Parkway

Knox Valley Drive  
Lipscomb Drive  
Manley Lane  
McGavock Road  
Pinkerton Road  
Stanfield Road  
Steeplechase Drive  
Sunset Rd. (North of Concord Rd.)  
Walnut Hills Drive

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Residential collector roads are those streets which connect a significant number of local streets or neighborhoods to another collector road or, more commonly, to an arterial road. These streets are also characterized predominately by residential land uses and usually have multiple residential driveways along their lengths. Additional residential collector streets may be identified by the City through the land development approval process under the City subdivision regulations.

The Policy is not applicable to arterial streets (either residential or commercial), to non-residential collector streets, nor is it applicable to any local street. Undesirable traffic conditions on arterials or non-residential collectors, when reported, shall be investigated by engineering study to determine causes and appropriate solutions. Traffic conditions on local streets shall be addressed through the existing speed hump policy effective since 1997 within the City of Brentwood. Also, the Policy is not applicable to any route identified as a primary emergency route. Where unusual circumstances exist, this policy can be made applicable to arterial or commercial collectors if deemed appropriate by the City Commission, based on results of an engineering study.

### **Procedures for Traffic Calming Retrofits on Existing Streets**

The consideration for traffic calming on a residential collector street shall be initiated by a written request to study a traffic speeding or safety problem from the homeowner's association (the petitioner) representing the affected neighborhood to the City of Brentwood's Public Works Department. If no homeowner's association exists for the neighborhood the request may come from a representative number of affected residents. The request shall outline the perceived problem(s) and the requested action. Upon receipt of a request the City will contact the petitioner, and if necessary meet with the petitioner, to ensure that the details of the request are understood.

#### **a) Traffic Calming Study Roadway Criteria**

Upon receipt of a valid request, the City will conduct a study of the street to determine the needs and potential traffic calming treatments. This study will first determine whether the street meets the established criteria for traffic calming implementation. These criteria are listed below:

**Speed** – Consideration of traffic calming activity will be given to residential collector streets which have an 85th percentile speed over at least 24 hours of typical weekday data collection that is 8 mph or more over the posted speed limit.

**Volume** – Only residential collectors having an average daily traffic (ADT) count of at least 500 vehicles per day will be considered for traffic calming.

**Other Criteria** – The street segment under study must be at least 800 feet in length. Logical termini for beginning and ending the calming treatment must be identifiable. The street must have no more than two traffic lanes (one in each direction).

#### **b) Tiered Implementation Approach**

The Policy requires that, upon finding that all of the roadway criteria are met, and that the issue of concern is found by data collection to be a traffic speeding or safety problem, an

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incremental approach and remedial methods as outlined in this section will be recommended, based on the results of the traffic calming study.

The incremental approach consists of two tiers of traffic calming strategies. Tier 1 consists of non-construction strategies. Tier 2 strategies are those which typically require construction and which change the roadway physically in some way. Details of Tier 2 strategies are included as an appendix to the Policy. Tier 1 and 2 strategies are as follows:

**Tier 1:**

- Signage (regulatory or warning)
- Centerline or edge line/shoulder striping (with or without bike facility)
- Police enforcement of speed limit (in addition to routine enforcement regularly performed by police department)
- Speed trailer
- Other strategies proposed by the petitioner or staff which present no physical changes to the roadway

**Tier 2:**

- Medians or median islands (typically must fit within right-of-way)
- Traffic circles or roundabouts (subject to sufficient right-of-way)
- Curb Extensions/bulb-outs
- Chicanes
- Speed tables/raised crosswalk
- Textured pavements
- Other strategies proposed by the petitioner or otherwise approved by staff (subject to approval by City Commission)

**(1) *Tier 1 Implementation***

The engineering study conducted by the City shall include a recommendation of one or more of the Tier 1 strategies. The study will also outline Tier 2 strategies that are appropriate for the location in case the Tier 1 strategies do not prove to be successful. The study will include analysis of traffic volumes, traffic speeds, accident history for the subject street segment, and other transportation related features such as the presence of sidewalks, and whether or not the subject street is used by children to walk to school. Once the study is complete, staff will meet with the petitioner to outline the recommendations of the study.

Implementation of Tier 1 strategies will be required first unless it is determined by the City that Tier 1 strategies are either not viable, would not be effective, or have already been implemented. Tier 1 strategies may be implemented by staff based on the recommendations of the traffic calming study and concurrence of the recommendations by the petitioner. If the Tier 1 strategies prove to be effective then no additional action is needed. After six months, if the Tier 1 strategy is perceived to be ineffective at mitigating the issue of concern, the petitioner may request consideration of a Tier 2 traffic calming strategy.

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## **(2) Tier 2 Implementation**

Upon receipt of a request for consideration of a Tier 2 traffic calming strategy, the City will conduct a second study to validate that the Tier 1 strategy has not been effective. If this study shows that the Tier 1 strategy has been ineffective at addressing the problems, then a Tier 2 strategy, if appropriate, will be recommended. Tier 2 strategies must be reviewed by the City's Traffic Engineer prior to being recommended to the petitioner.

If a Tier 2 strategy is recommended, the staff will meet with the petitioner to outline the recommendations of the traffic calming study. To initiate further action, the petitioner will be required to submit to the City a petition signed by at least 2/3 of the households within the affected area supporting the Tier 2 recommendations. The affected area is typically defined as all residences located within 1,000 feet of the street segment that is proposed for traffic calming, measured along the affected street. However, based upon the type of Tier 2 traffic calming device proposed, staff may designate a larger affected area.

Once the petition signed by at least 2/3 of the households within the affected area is received by the City, a public meeting will be scheduled by staff. Based upon the public support as evidenced by the petition together with the input from the public meeting, staff will make a recommendation to the Board of Commissioners regarding implementation of a Tier 2 strategy.

## **(3) Prioritization of Tier 2 Strategies**

Because Tier 2 strategies will typically involve actual construction and City funds for implementation may be limited, a prioritization process for ranking projects is needed. In establishing priorities for neighborhood collector traffic calming projects, the following scoring system will be used.

| <b>Criteria</b>              | <b>Points</b> | <b>Basis</b>  |
|------------------------------|---------------|---|
| Speed                        | 0 – 40        | 5 pts. for every mph the 85 <sup>th</sup> percentile speed is more than 8 mph above the speed limit, up to a maximum of 40 pts. |
| Volume                       | 0 – 20        | ADT/250, up to a maximum of 20 pts.   |
| Accident History             | 0 – 20        | 5 pts. for each accident per year up to a maximum of 20 pts.  |
| School Route                 | 0 or 10       | 0 pts. if not on a route used by children to walk to school, 10 pts. if on a school walking route                               |
| Sidewalks                    | 0 or 10       | 0 pts. if continuous sidewalks exist, 10 pts. if no continuous sidewalk is in place   |
| <b>Total Points Possible</b> | <b>100</b>    |   |



**c) Funding**

It will be the responsibility of the City to fund the Tier 1 and Tier 2 strategies, subject to available funds as provided through the City's normal budgeting process. Use of private funding by residents or homeowner's association to leverage city funding to expedite implementation is permissible subject to approval by the City Commission.

**PART VI**

**TRAFFIC CALMING FOR NEW SUBDIVISIONS WITHIN THE CITY OF BRENTWOOD**

The City staff shall be responsible for determining appropriate traffic calming measures within a new subdivision in accordance with the adopted subdivision regulations, subject to approval by the Planning Commission through the normal planning approval process for new subdivisions. The developer shall be responsible for constructing or installing the appropriate traffic calming measures.

## **Brentwood City Commission Agenda**

**Meeting Date:** 02/12/2018

Ordinance 2018-03 Amending Sections 70-134 and 70-159 of the Municipal Code Regarding Billing Adjustments for Water and Sewer Service

**Submitted by:** Kirk Bednar, Administration

**Department:** Administration

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### **Information**

#### **Subject**

Ordinance 2018-03 Amending Sections 70-134 and 70-159 of the Municipal Code Regarding Billing Adjustments for Water and Sewer Service

#### **Background**

In response to customer concerns about the equity of the City's existing billing adjustment policies related to water leaks on the customer's side of the water meter, the City Commission recently undertook a review of the existing billing adjustment policies. As a result of that review, it was decided to modify the billing adjustment formula for water leaks to reduce the financial impact for major leaks that were unknown to the customer until identified through the water meter reading process.

The current methodology for calculating billing adjustments for both water and sewer service is provided for in Chapter 70 of the Municipal Code. When considering the necessary amendments to Chapter 70 related to water leak adjustments, staff identified a need to consider development of a more expansive billing adjustment policy to cover various administrative procedures, timelines, etc. related to utility billing adjustments. This policy would more clearly explain the procedures and document existing administrative practices.

In lieu of adding all of this additional language to the Municipal Code and making it more difficult to amend if needed in the future, staff is recommending the attached ordinance which amends Sections 70-134 and 70-159 of the Municipal Code to delete the specific billing adjustment methodology and policies and instead authorizes the Board of Commissioners to adopt via resolution a separate Billing Adjustment Policy for water and sewer services provided by the City.

Attached for your review is Ordinance 2018-03 and a redlined version of Sections 70-134 and 70-159 of the Municipal Code so you can identify the specific changes being proposed. Also attached is a draft version of the proposed new Billing Adjustment Policy.

If Ordinance 2018-03 is approved on first reading at the February 12, 2018 meeting, the

ordinance will be considered on second reading at the February 26 meeting. The agenda for the February 26, 2018 meeting will also include a resolution to formally adopt the new Billing Adjustment Policy.

If you have any questions, please contact the City Manager or Water Services Director Chris Milton.

**Staff Recommendation**

Staff recommends approval of Ordinance 2018-03.

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**Fiscal Impact**

**Amount :** N/A

**Source of Funds:**

**Account Number:**

**Fiscal Impact:**

Adoption of Ordinance 2018-03 will have no direct financial impact on the city but the future adoption of the billing adjustment policy would result in a reduction of revenue to the Water and Sewer Fund resulting from leak adjustments.

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**Attachments**

Ordinance 2018-03

Redline Version of Sections 70-134 and 70-159

Draft Leak Adjustment Policy

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## **ORDINANCE 2018-03**

### **AN ORDINANCE OF THE CITY OF BRENTWOOD, TENNESSEE PROVIDING THAT THE CODE OF ORDINANCES OF THE CITY OF BRENTWOOD BE AMENDED BY REVISING SECTIONS 70-134 AND 70-159, REGARDING BILLING ADJUSTMENTS FOR WATER AND SEWER SERVICE**

**WHEREAS**, current policies of the City of Brentwood allow for billing adjustments to the City's water and sewer service customers under certain conditions; and

**WHEREAS**, rates charged for sewer service to customers of the Brentwood Water Services Department are generally based on a four-month average of water consumption during winter months; and

**WHEREAS**, section 70-134 of the Code of Ordinances of the City of Brentwood provides for alternative methods for calculating sewer bills for customers whose consumption is affected by water leaks or other abnormalities, customers whose winter average does not reflect average water usage through the year, and new accounts; and

**WHEREAS**, section 70-159 of the Code of Ordinances of the City of Brentwood provides for billing adjustments for some water customers who have experienced excessive water usage; and

**WHEREAS**, revisions to current policies for water and sewer billing adjustments have been proposed to more accurately reflect current practices and to more fairly provide for adjustments for customers affected by excessive water usage; and

**WHEREAS**, it is further proposed that the details of the billing adjustment policies be established in a separate document to be adopted by resolution.

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY OF BRENTWOOD, TENNESSEE, AS FOLLOWS:**

**SECTION 1.** That section 70-134(d) of the Code of Ordinances of the City of Brentwood is hereby amended to read as follows:

(d) The water services director may approve exceptions to the computation of monthly sewer bills based on average winter water consumption, pursuant to a billing adjustment policy to be adopted by resolution of the board of commissioners. Such exceptions may be granted for:

- (1) Customers whose consumption is affected by water leaks or other abnormalities.
- (2) Customers whose winter average does not reflect average water usage through the year.
- (3) New accounts.



**SECTION 2.** That subsections (e) and (f) of section 70-134 of the Code of Ordinances of the City of Brentwood are hereby repealed.

**SECTION 3.** That section 70-159(f) of the Code of Ordinances of the City of Brentwood is hereby amended to read as follows:

(f) The water services director may approve adjustments for metered water billings when excessive water usage results from malfunctions of city water lines or equipment or from a leak in a customer's water lines or plumbing fixtures inside the structure. Such adjustments shall be applied pursuant to a billing adjustment policy to be adopted by resolution of the board of commissioners.

**SECTION 4.** In case of conflict between this ordinance or any part hereof, and the whole or part of any existing ordinance of the City, the provision that establishes the higher standard shall prevail.

**SECTION 8.** If any section, subsection, clause, provision or portion of this ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, such holding shall not affect any other section, subsection, clause, provision or portion of this ordinance.

**SECTION 9.** That this ordinance shall take effect from and after its final passage and publication thereof, or fifteen days after its first passage, whichever occurs later, the general welfare of the City of Brentwood, Williamson County, Tennessee, requiring it.

|                      |             |           |                      |           |
|----------------------|-------------|-----------|----------------------|-----------|
| PASSED:              | 1st reading | _____     | PLANNING COMMISSION  | _____ n/a |
|                      | 2nd reading | _____     | NOTICE OF PASSAGE    |           |
|                      |             |           | Notice published in: | _____     |
| PUBLIC HEARING       |             |           | Date of publication: | _____     |
| Notice published in: |             | _____ n/a |                      |           |
| Date of publication: |             | _____     |                      |           |
| Date of hearing:     |             | _____     | EFFECTIVE DATE       | _____     |

\_\_\_\_\_  
MAYOR Jill Burgin

\_\_\_\_\_  
RECORDER Holly Earls

*Approved as to form:*

\_\_\_\_\_  
CITY ATTORNEY DOUG BERRY

New text added highlighted in yellow

Deleted text show in red

**Sec. 70-134. - Sewer rates.**

- (a) The monthly sewer rate charged by the city shall consist of a base rate and, if applicable, a wastewater treatment cost surcharge. The combined base rate and surcharge shall be applied to each customer's average winter water consumption as billed in the months of December through March using the following rate schedule. For sewer customers who are not water customers of the city, the computation of average winter water consumption shall be based upon the four-month period that most closely corresponds to that used for other customers. The established combined rate per 1,000 gallons above the minimum bill shall be prorated for each 100 gallons consumed.
- (b) The base sewer rate shall be determined according to the following schedule:

**BASE SEWER RATE SCHEDULE**

|   | Inside City Limits<br>(effective for bills issued after 8/1/2016) | Inside City Limits<br>(effective for bills issued after 8/1/2017) | Inside City Limits<br>(effective for bills issued after 8/1/2018) | Inside City Limits<br>(effective for bills issued after 8/1/2019) | Inside City Limits<br>(effective for bills issued after 8/1/2020) | Outside City Limits                   |
|---|---|---|---|---|---|---------------------------------------|
| Class A and E accounts:                 |   |   |   |   |   |                                       |
| 2,000 gallons or less<br>(minimum bill) | \$14.97   | \$15.27   | \$15.58   | \$15.90   | \$16.22   | 5% above applicable inside city rates |
| Next 8,000 gallons, per 1,000 gallons   | 5.24  | 5.35  | 5.46  | 5.57  | 5.69  |                                       |
| Over 10,000 gallons, per 1,000 gallons  | 5.98  | 6.11  | 6.24  | 6.37  | 6.50  |                                       |
| Class B and C accounts:                 |   |   |   |   |   |                                       |
| Minimum bill, per unit or tenant        | \$18.70   | \$19.08   | \$19.47   | \$19.86   | \$20.26   | 5% above applicable inside city       |

|   |            |            |            |            |            |                                       |
|---|------------|------------|------------|------------|------------|---------------------------------------|
| space   |            |            |            |            |            | rates                                 |
| Usage exceeding 2,000 gallons per unit:             |            |            |            |            |            |                                       |
| Up to 10,000 gallons total usage, per 1,000 gallons | 6.55       | 6.69       | 6.83       | 6.97       | 7.11       |                                       |
| Over 10,000 gallons, per 1,000 gallons              | 7.48       | 7.63       | 7.79       | 7.95       | 8.11       |                                       |
| Class D accounts:                                   |            |            |            |            |            |                                       |
| Minimum bill, per square foot of building           | \$0.009357 | \$0.009544 | \$0.009735 | \$0.009930 | \$0.010129 | 5% above applicable inside city rates |
| Usage exceeding 2,000 gallons per unit:             |            |            |            |            |            |                                       |
| Up to 10,000 gallons total usage, per 1,000 gallons | 6.55       | 6.69       | 6.83       | 6.97       | 7.11       |                                       |
| Over 10,000 gallons, per 1,000                      | 7.48       | 7.63       | 7.79       | 7.95       | 8.11       |                                       |

- (c) A wastewater treatment cost surcharge shall be added to the base rate if the cost of sewage treatment billed to and paid by the city exceeds \$.83 per 1,000 gallons. The wastewater treatment cost surcharge shall equal the amount per 1,000 gallons by which the city's cost exceeds \$.83.
- (d) The water services director may approve exceptions to the computation of monthly sewer bills based on average winter water consumption, pursuant to a billing adjustment policy to be adopted by resolution of the board of commissioners. Such exceptions may be granted for:
  - (1) Customers whose consumption is affected by water leaks or other abnormalities.
  - (2) Customers whose winter average does not reflect average water usage through the year.
  - (3) New accounts.

~~The following exceptions may be applied to the computation of monthly sewer bills based on average winter water consumption:~~

- ~~(1) Allowances may be made for any months affected by water leaks or other abnormalities where water consumed has not been disposed through the sanitary sewer system. Consumption for any months so affected may be deleted or adjusted in determining the average winter water consumption, subject to the approval of the water and sewer director.~~
- ~~(2) Following the four-month period on which a customer's average winter water consumption is based, if the customer's water consumption for three consecutive months is less than the four-month winter average, the customer may request that the sewer billings be based on actual water consumption for each month. The use of actual water consumption rather than the four-month average shall be subject to the approval of the water and sewer director and, if approved, shall be retroactive to the first of the three consecutive months in which water consumption was less than the four-month average. Thereafter, except as provided below, the customer's sewer billing will be based on actual water consumption for each month until the end of the next four-month winter period used to compute average water consumption. In the event of a leak causing excessive water consumption, and only in that event, the customer may request that the four-month average consumption be used again for computing the sewer bill for the affected months. No other changes in the method for computation shall be allowed otherwise.~~
- ~~(e) For new accounts for which an average winter water consumption has not yet been established and billed in the months of December through March, the monthly sewer bill shall be based on the above rate schedule as applied to the lower of:
  - ~~(1) The actual water consumption for the current billing month; or~~
  - ~~(2) The average winter water consumption for the route in which the account is located as billed in the months of December through March.~~~~
- ~~(f) For new accounts that represent homes or other facilities that are under construction, such customers may request a credit for the period in which no sewer service was actually provided. Such credit may be granted toward normal sewer billings for a maximum of four months.~~

#### **Sec. 70-159. - Billing schedule, policies, etc.**

- (a) A new water or combined water/sewer customer shall be charged a nonrefundable connection/account setup fee of \$25.00 for class A and B accounts and \$50.00 for all other accounts. Landlords or property managers of rental property for whom accounts are maintained prior



to the leasing of such property shall pay the connection and setup fee upon the initial establishment of the account; if an account for such property is subsequently established in a tenant's name, the charge to reestablish the account in the same landlord's or property manager's name shall be \$10.00.

- (b) Water bills or combined water/sewer bills shall be mailed to customers monthly in one or more cycles of approximately 30 days each. The city manager shall establish a schedule of billing dates and due dates, provided that payment shall be due no earlier than two weeks from the billing date. Payments that are received or postmarked on the due date will be considered paid on such date. When the due date occurs on a Saturday, Sunday or federal holiday, payments received on the following business day shall be considered as paid on time. There will be a ten-percent penalty added for all late payments and a \$25.00 charge for the first check returned for insufficient funds and \$50.00 for each subsequent check returned for insufficient funds.
- (c) A notice of cut-off shall be sent to a customer if the account is not paid in full by the due date. If the account, including penalties, is not paid within one month of the due date, the customer's water service will be discontinued for nonpayment until payment in full of the past due water bill or combined water/sewer bill plus penalties is received. When service is reestablished, a service call charge will be added to the next bill for restoring water service as established in subsection (e) below.
- (d) The city may require a deposit up to two months of normal payments for water or combined water/sewer services for customers who have a record of late payment or nonpayment of utility services in the city or in other locations.
- (e) The cost for restoring water service shall be \$50.00 for service calls during regular working hours and \$100.00 for service calls after working hours and on weekends or holidays.
- (f) The water services director may approve adjustments for metered water billings when excessive water usage results from malfunctions of city water lines or equipment or from a leak in a customer's water lines or plumbing fixtures inside the structure. Such adjustments shall be applied pursuant to a billing adjustment policy to be adopted by resolution of the board of commissioners.

~~Adjustments for metered water sales shall be allowed only under the following circumstances:~~

- ~~(1) Where it can be proven that excessive water usage was the result of a malfunction of city lines or equipment, an adjustment will be allowed based on a three-month average of normal water usage.~~
- ~~(2) Where excessive water usage is caused by a leak in the customer's water lines, an adjustment will be allowed if the bill exceeds a three-month average billing for normal water usage by 50 percent or more. The excessive usage, to be determined by comparison to the three-month average of normal water usage, will be billed at 50 percent of the normal retail rates. Requests for the adjustment shall be supported by a notarized plumber's affidavit. No adjustment will be allowed until the leak has been repaired. Adjustments for customer water line leaks will be limited to one month's bill per incident and one time per calendar year. No water billing adjustments will be allowed for faucets, hoses, or other outlets left running, for filling swimming pools, or for other incidents of excessive usage intentionally or negligently caused or permitted by a customer.~~

**CITY OF BRENTWOOD, TENNESSEE  
WATER SERVICES DEPARTMENT**

**BILLING ADJUSTMENT POLICY**

It is accepted industry practice and the policy of the City of Brentwood that customers are responsible for maintaining that portion of the structure's plumbing owned by the customer, which begins at and includes the connection point on the customer's side of the water meter. The City will provide assistance in determining if a leak is present, if requested by the customer, and make a reasonable attempt to provide notification of a potential leak as allowed by available methods and technologies. Failure to notify the customer shall not relieve the customer of its obligation to promptly make needed repairs and make payment in accordance with the Billing Adjustment Policy.

Upon adoption by the Board of Commissioners, this Billing Adjustment Policy shall be retroactively applied to all adjustment requests processed for bills issued since July 1<sup>st</sup>, 2017 and apply to all adjustment requests thereafter.

**WATER SERVICE BILLING ADJUSTMENTS**

1. All water that passes through the customer's water meter shall be purchased by the customer at such rates as approved by the Board of Commissioners.
2. Normal water usage shall be defined as a customer's three-month average water usage for the same time period the previous calendar year, or for the most recent three month period if there is insufficient customer usage data for the prior twelve month period. Excessive water usage shall be defined as metered water usage that exceeds normal water usage by 50 percent or more .
3. Where excessive water usage is caused by a leak in the customer's water lines or plumbing fixtures inside the structure, the customer may request an adjustment. The metered water usage volume that exceeds normal water usage will be billed at 50 percent of the lowest volume-based rate tier, provided that the maximum bill for a billing period impacted by a verified leak shall not exceed two times the customer's normal water usage billing amount, including surcharges and applicable taxes.
4. Requests for the adjustment shall be made in writing on the City's leak adjustment request form and supported by a notarized plumber's affidavit. No adjustment will be allowed until proof is provided that the leak has been repaired. If the City is able to identify that a customer has a water usage pattern that may create excessive water usage, the City shall make a reasonable attempt to notify the customer. Upon notification by the City and if a leak is present, the customer must have the leak repaired within ten (10) business days in order to qualify for a leak adjustment per this Billing Adjustment Policy.
5. Adjustments for customer water line and plumbing fixture leaks will be limited to one month's bill per incident and one time per twelve month period. An adjustment for a second consecutive month's billing period shall be allowed if the duration of the leak spanned two billing cycles and the customer repaired the leak in a timely manner as provided above, if notified of the leak by the City. No water billing adjustments will be allowed for faucets, hoses, or other outlets left running, including unattended irrigation system usage, filling swimming pools or non-metered swimming pool

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evaporation, or for other incidents of excessive usage intentionally or negligently caused or permitted by a customer.

6. Where it can be proven that excessive water usage was a result of a malfunction of City infrastructure, including water meters and meter reading infrastructure, or the unreasonable or negligent operation of facilities inconsistent with standard industry maintenance and construction activities, an adjustment will be calculated based on the customers normal water usage..
7. Should a customer wish to test the accuracy and functionality of a water meter, the customer may request to have a performance test conducted on the meter. If testing results indicate the meter is performing within industry accuracy specifications, then customer shall pay a \$50 test fee for a standard 5/8 inch or 3/4 inch water meter. For larger meters, the customer shall pay all costs for third-party testing, including shipping charges and taxes. The test fee shall will be applied to the customer's water bill. If the meter test results conclude the meter has malfunctioned or does not meet industry accuracy specifications for excessive reading (under reading shall not permit an adjustment), then the City shall replace the meter and adjust the customer's account for those months affected, as accurately as can reasonably be determined.

**SANITARY SEWER SERVICE BILLING ADJUSTMENTS**

The City calculates a customer's sewer bill based on the customer's water usage during the winter months. The winter months include usage during the months of November through February. ~~which is billed in the months of December through March.~~ The average amount of water usage during the winter month period is then billed to the customer as sewer volume for the following 12 month period. A customer may request an adjustment to the sewer amount calculated, under the following provisions:

1. All requests for adjustments to a customer's calculated sewer bill shall be made within 90 days of the City's billing of the newly calculated sewer bill. This billing shall constitute notification of the newly calculated sewer bill. All calculated sewer amounts shall be applied until the end of the next four-month winter period used to compute the winter average consumption, unless otherwise adjusted as allowed in paragraph 3 below.
2. A customer may request an adjustment to the customer's sewer bill for any winter months affected by excessive water usage as defined in paragraph three (3) above or for other abnormalities where the customer can provide beyond a reasonable doubt that a quantity of water, preferably a metered volume, has been consumed but has not been disposed of through the sanitary sewer system. Consumption for any months so affected may be deleted or adjusted in determining the average winter water consumption, or the City may use the customer's previous winter average calculation if deemed the most reasonable method. All adjustments are subject to the approval of the Water Services Director or City Manager.
3. Following the four-month period on which a customers' average winter water consumption is based, if the customer's water consumption for three consecutive months is less than the four-month winter average, the customer may request that the sewer billing for the proceeding sewer billing period be based on the customer's actual water consumption for each month. The use of actual water consumption rather than the four-month average shall be subject to the approval of the Water Services Director and, if approved, shall be retroactive to the first of the three



**\*\*\* DRAFT \*\*\***

consecutive months in which water consumption was less than the four-month average. Thereafter, except as provided below, the customer's sewer billing will be based on actual water consumption for each month until the end of the next four-month winter period used to compute average water consumption. In the event of a leak causing excessive water consumption, and only in that event, the customer may request that the four-month average consumption be used again for computing the sewer bill for the affected months. No other changes in the method for computation shall be allowed otherwise. Requests for adjustments as defined in this paragraph shall be made within 180 days following the City's billing of the newly calculated sewer bill. This billing shall constitute notification of the newly calculated sewer bill. A customer also may request to be billed sewer based on actual water consumption if not occupying a home or business for an extended period. The customer must submit a written request with the City and include the period in which they wish to be billed sewer based on actual water usage.

4. For new accounts for which an average winter water consumption has not yet been established and billed in the months of December through March, the monthly sewer bill shall be based on the most recent and current rate schedule as applied to the lower of: the actual water consumption for the current billing month; or the average winter water consumption for the route in which the account is located as billed in the months of December through March.
5. For new accounts that represent homes or other facilities that are under construction, such customers may request a credit for the period in which no sewer service was actually provided. Such credit may be granted toward normal sewer billings for a maximum of four months.

## **Brentwood City Commission Agenda**

**Meeting Date:** 02/12/2018

Resolution 2018-09 - Agreement with Sessions Paving for Signalization of the Ragsdale/Split Log Road Intersection

**Submitted by:** Mike Harris, Engineering

**Department:** Engineering

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### **Information**

#### **Subject**

Resolution 2018-09- Agreement with Sessions Paving for Signalization of the Ragsdale/Split Log Road Intersection

#### **Background**

The three way T intersection of Ragsdale Road and Split Log Road experiences significant delay during peak times as development on the east side of Brentwood and in Nolensville continues at a strong pace. Additionally, Williamson County Schools recently initiated construction of an elementary school, to be followed by a middle school at some point in the future, on the "Foster" tract approximately 1 mile east of this intersection. Continued growth in this area is anticipated, and the delay at the intersection will continue to worsen. The fact that the intersection is a three-way stop is especially problematic at this location. An alternatives study of several options for improvements to reduce delay and increase the capacity at this location was conducted.

The results of the study indicate the best alternative is a two phased approach. First, phase I will signalize the intersection in its present configuration with Phase II coming later. Phase II would include widening to provide double westbound left turn lanes coupled with widening of Split Log to the west for 1,500-2,000 feet to accept the double westbound left turns. Also, Ragsdale Road will be widened for a short distance to provide a dedicated southbound left turn. Copies of documents generated during the alternatives study are attached for information as well as a schematic sketch of the proposed selected layout (after phase II).

The agreement currently under consideration includes construction of Phase I (contract attached). Phase I includes signalization, milling/paving, striping, signage and other associated work. The signal poles will be located such that relocation in Phase II will not be necessary. After completion of Phase I and the new school is open, performance of the intersection will be monitored to plan the timing of the future Phase II. Detailed design of Phase II will be accomplished later under a separate design agreement once it is determined the additional improvements are warranted.

Competitive bids were solicited for Phase I improvements and a mandatory pre-bid meeting held on January 5, 2018. Seven contractors attended the mandatory pre-bid meeting. Bids were publicly opened and read aloud on January 11, 2018, three bids were received. The apparent low bidder was Sessions Paving Company, see attached bid tabulation and recommendation from the engineer of record. We are recommending a contract be awarded to the low bidder, Session Paving Company, in the amount of \$406,978.65 which includes a \$25,000 contingency allowance that would only be authorized via change order approved by the City.

The goal is to have Phase I improvements completed by fall of 2018 when the new elementary school is scheduled to open. Funding for this project is programed as part of the FY 2018-2023 Capital Improvements Program.

Please direct any questions to the Engineering Director.

### **Staff Recommendation**

Staff recommends entering into a contract with Sessions Paving Company for this project.

### **Previous Commission Action**

The City Commission authorized an agreement with Sullivan Engineering, Inc. for the alternatives study of this intersection at the April 10, 2017 meeting via Resolution 2017-26.

The City Commission approved an agreement with Sullivan Engineering, Inc. for preliminary design of Phase I & II improvements, plus detailed design of Phase I improvements via Resolution 2017-62 at the August 28, 2017 meeting.

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### **Fiscal Impact**

**Amount :** \$406,978.65

**Source of Funds:** Capital Projects Fund

**Account Number:** 311-43100-1044

#### **Fiscal Impact:**

Funding for this project is included in the FY 2018 Capital Projects Fund budget. The contract amount of \$406,978.65 includes a \$25,000 contingency allowance and is within the budgeted amount.

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### **Attachments**

Resolution 2018-09

Contract

Bid Tabulation & Engineer Recommendation

Alternatives Analysis Data

Alternatives Discussion Points





**RESOLUTION 2018-09**

**A RESOLUTION OF THE CITY OF BRENTWOOD, TENNESSEE TO AUTHORIZE THE  
MAYOR TO EXECUTE AN AGREEMENT BY AND BETWEEN THE CITY OF  
BRENTWOOD AND SESSIONS PAVING COMPANY FOR SIGNALIZATION OF THE  
INTERSECTION OF RAGSDALE ROAD AND SPLIT LOG ROAD, A COPY OF SAID  
AGREEMENT BEING ATTACHED HERETO AND MADE A PART OF THIS  
RESOLUTION BY REFERENCE**

**BE IT RESOLVED BY THE CITY OF BRENTWOOD, TENNESSEE, AS FOLLOWS:**

**SECTION 1.** That the Mayor is hereby authorized to execute an agreement by and between the City of Brentwood, Tennessee and Sessions Paving Company for signalization of the intersection of Ragsdale Road and Split Log Road, a copy of said agreement being attached hereto and made a part of this resolution by reference.

**SECTION 2.** That this resolution shall take effect from and after its passage, the general welfare of the City of Brentwood, Williamson County, Tennessee requiring it.

\_\_\_\_\_  
MAYOR

\_\_\_\_\_  
Jill Burgin

ADOPTED: \_\_\_\_\_

*Approved as to form:*

\_\_\_\_\_  
RECORDER

\_\_\_\_\_  
Holly Earls

\_\_\_\_\_  
CITY ATTORNEY

\_\_\_\_\_  
Doug Berry

STANDARD FORM OF AGREEMENT  
BETWEEN OWNER AND CONTRACTOR  
ON THE BASIS OF A STIPULATED PRICE

*Prepared by*

**ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE**

And

**SULLIVAN ENGINEERING, INC.**

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE  
*a practice division of the*  
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

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AMERICAN CONSULTING ENGINEERS COUNCIL

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AMERICAN SOCIETY OF CIVIL ENGINEERS

This Standard Form of Agreement has been prepared for use with the Standard General Conditions of the Construction Contract (No. 1910-8, 1996 Edition). Their provisions are interrelated, and a change in one may necessitate a change in the other. The suggested language for instructions of bidders contained in the Guide to the Preparation of Instructions to Bidders (No. 1910-12, 1996 Edition) is also carefully interrelated with the language of this Agreement. Comments concerning their usage are contained in the EJCDC User's Guide (No. 1910-50). See also Guide to the Preparation of Supplementary Conditions (No. 1910-17, 1996 Edition).

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National Society of Professional Engineers  
1420 King Street, Alexandria, VA 22314-2715

American Consulting Engineers Council  
1015 15th Street, N.W., Washington, DC 20005

American Society of Civil Engineers  
345 East 47th Street, New York, NY 10017



**EJCDC  
STANDARD FORM OF AGREEMENT  
BETWEEN OWNER AND CONTRACTOR  
ON THE BASIS OF A STIPULATED PRICE**

**THIS AGREEMENT** is by and between **The City of Brentwood** (hereinafter called OWNER) and **Sessions Paving Company** (hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

**ARTICLE 1 - WORK**

1.01 CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

- (1) The complete grading, drainage and pavement of Ragsdale Road and Split Log Road to the limits shown on the construction documents.
- (2) The complete construction of all private or public ingress/egress entrances to the limits shown on the construction documents.
- (3) All permanent roadway signage and thermoplastic pavement specialty markings and thermoplastic pavement lane line markings, to the limits shown on the construction documents.
- (4) The complete installation of all construction traffic and temporary erosion control measures as indicated on the construction documents.
- (5) The complete construction of all permanent signalization items as indicated on the construction documents.
- (6) The relocation of the existing emergency siren warning system as indicated on the construction documents.
- (7) The installation of 4,500+/- LF of fiber communication cable.
- (8) The installations of all topsoil, sod, asphalt resurfacing, asphalt milling, and all incidentals necessary for completion of this project.
- (9) Cost of this work shall be based on a Unit Price Bid.

**ARTICLE 2 - THE PROJECT**

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

**Date:** January 11, 2018

**Description (Name and Location):**

Intersection Improvements, Ragsdale and Split Log Road  
Project Length: 260+/- L.F.  
SEI Project #17-004

**ARTICLE 3 - ENGINEER**

3.01 The Project has been designed by Mr. Richard Sullivan, PE, Sullivan Engineering, Inc.

who is hereinafter called ENGINEER and who is to act as OWNER's representative, assume all duties and responsibilities, and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

## ARTICLE 4 - CONTRACT TIMES

### 4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

### 4.02 *Dates for Substantial Completion and Final Payment*

A. Bidder agrees that the Work will be substantially complete on or before Two Weeks after the signal pole manufacturer's delivery date as noted on the suppliers purchase order. Within two (2) weeks after issuance of a "Notice to Proceed," the contractor shall order the signal pole with mast arms and deliver a copy of the suppliers dated purchase order confirmation, which shall include the manufacturers scheduled delivery date of the pole and mast arms. The project shall be completed and ready for final payment in accordance with paragraph 14.07.B of the General Conditions on or before four (4) weeks of the signal pole/mast arm manufacturers scheduled delivery date.

### 4.03 *Liquidated Damages*

- A. CONTRACTOR and OWNER recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty), CONTRACTOR shall pay OWNER \$500.00 for each day that expires after the time specified in paragraph 4.02 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER \$500.00 for each day that expires after the time specified in paragraph 4.02 for completion and readiness for final payment until the Work is completed and ready for final payment.
- B. The contractor understands that any penalty, fine, enforcement or other type of monetary judgment levied on any and all firms, agencies or individuals while under contract with the City of Brentwood is the responsibility of the contractor and will not be paid or reimbursed by the City of Brentwood.

## ARTICLE 5 - CONTRACT PRICE

5.01 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to paragraphs 5.01.A, 5.01.B, and 5.01.C below:

- A. For all Work other than Unit Price Work, a Lump Sum of:

Not Applicable (\$ \_\_\_\_\_)  
(use words) (figure)

All specific cash allowances are included in the above price and have been computed in accordance with paragraph 11.02 of the General Conditions.

B. For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of that item as indicated in this paragraph 5.01.B:

### **UNIT PRICE WORK**

| ESTIMATED ROADWAY QUANTITIES |           |   |      |                   |             |             |
|------------------------------|-----------|---|------|-------------------|-------------|-------------|
| FOOTNOTES                    | ITEM NO.  | ITEM DESCRIPTION  | UNIT | TOTAL<br>EST QTY. | UNIT PRICE  | TOTAL PRICE |
|                              |           |   |      |                   |             |             |
|                              | 105-01    | CONSTRUCTION STAKES LINES AND GRADES  | L.S. | 1.00              | \$8,000.00  | \$8,000.00  |
|                              |           |   |      |                   |             |             |
|                              | 202-01    | REMOVAL OF STRUCTURES AND OBSTRUCTIONS IN ACCORDANCE WITH SECTION 202-01 OF THE STANDARD SPECIFICATIONS, INCLUSIVE BUT NOT LIMITED TO ITEMS SUCH AS SIGNS, CURBS (CONCRETE/ASPHALT), MAILBOXES AND ALL OTHER ITEMS WITHIN THE GRADING LIMITS OR AS NOTED ON THE CONSTRUCTION BID DOCUMENTS) | L.S. | 1.00              | \$10,500.00 | \$10,500.00 |
|                              |           |   |      |                   |             |             |
| (5)                          | 203-06    | WATER   | M.G. | 2.00              | \$100.00    | \$200.00    |
| (1)                          | 203-07    | FURNISHING & SPREADING TOPSOIL (6", COORDINATE WITH BRENTWOOD SPECIAL PROVISION CB-109)   | C.Y. | 36.11             | \$55.00     | \$1,986.05  |
|                              |           |   |      |                   |             |             |
|                              | 204-08.01 | BACKFILL MATERIAL (FLOWABLE FILL, IF REQUIRED FOR CROSSING OF PUBLIC ROADS UPON APPROVAL BY THE ENGINEER)   | C.Y. | 41.56             | \$210.00    | \$8,727.60  |
|                              | 206-01    | FINAL DRESSING (TO BE FOR FINAL SITE CLEAN-UP PRIOR TO FINAL ACCEPTANCE AND CLOSURE OF THE PROJECT)   | STA. | 3.77              | \$1,100.00  | \$4,147.00  |
|                              |           |   |      |                   |             |             |
| (2), (11), (13)              | 209-08.03 | TEMPORARY SILT FENCE WITHOUT BACKING, (AFTER THE INITIAL INSTALLATION ALL COST ASSOCIATED WITH REPAIR, MAINTENANCE AND REPLACEMENT DURING THE LIFE OF THIS CONTRACT SHALL BE AT THE CONTRACTORS EXPENSE.)   | L.F. | 200.00            | \$7.00      | \$1,400.00  |
|                              |           |   |      |                   |             |             |



|                  |           |   |      |          |          |             |
|------------------|-----------|---|------|----------|----------|-------------|
| (3) , (11), (13) | 209-40.44 | CATCH BASIN FILTER ASSEMBLY (TYPE 4), (AFTER THE INITIAL INSTALLATION ALL COST ASSOCIATED WITH REPAIR, MAINTENANCE AND REPLACEMENT DURING THE LIFE OF THIS CONTRACT SHALL BE AT THE CONTRACTORS EXPENSE.)                                     | EACH | 2.00     | \$325.00 | \$650.00    |
| (5)              | 303-01    | MINERAL AGGREGATE TYPE A BASE GRADING "D"   | TON  | 17.00    | \$50.00  | \$850.00    |
| (3)              | 303-10.01 | MINERAL AGGREGATE, (SIZE 57, TO BE USED FOR TRENCH BACKFILL IF ON SITE MATERIAL IS DEEMED NOT SUITABLE BY THE CITY INSPECTOR)   | TON  | 60.28    | \$50.00  | \$3,014.00  |
| (3)              | 307-01.08 | ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2   | TON  | 20.00    | \$145.00 | \$2,900.00  |
|                  | 403-01    | BITUMINOUS MATERIAL FOR TACK COAT (TC)  | TON  | 2.00     | \$100.00 | \$200.00    |
| (5)              | 407-20.05 | SAW CUTTING ASPHALT PAVEMENT, (TO BE USED AS DIRECTED BY THE ENGINEER FOR CONNECTIONS AT EXISTING ASPHALT SURFACES. IF THE CONTRACTOR ELECTS TO SAW CUT FOR OTHER PURPOSES, PAYMENT SHALL BE DISALLOWED UNLESS PRE-APPROVED BY THE ENGINEER.) | L.F. | 12.00    | \$15.00  | \$180.00    |
|                  | 411-02.11 | ACS MIX(PG70-22) GRADING "E "   | TON  | 217.00   | \$165.00 | \$35,805.00 |
|                  | 415-01.02 | COLD PLANING BITUMINOUS PAVEMENT, (DEPTH 2" +/-, TO BE USED AS DIRECTED BY THE ENGINEER . UNIT PRICE INCLUDES ALL WORK NECESSARY TO PREPARE THE AREA FOR PAVING.)   | S.Y. | 1,788.00 | \$6.25   | \$11,175.00 |
| (4)              | 702-03    | CONCRETE COMBINED CURB & GUTTER   | C.Y. | 50.00    | \$450.00 | \$22,500.00 |
| (14)             | 708-01.01 | MONUMENTS ( RIGHT-OF-WAY, COORDINATE WITH DETAIL #2)  | EACH | 5.00     | \$525.00 | \$2,625.00  |

|          |           |  |          |        |            |            |
|----------|-----------|--|----------|--------|------------|------------|
|          | 712-01    | TRAFFIC CONTROL (UNIT PRICE BID INCLUDES INSTALLATION OF ALL TEMPORARY PAVEMENT MARKINGS (LANE AND SPECIALTY) TO PERMANENT STANDARDS, REMOVAL OF ALL CONFLICTING PAVEMENT MARKINGS (LANE AND SPECIALTY) ON ALL EXISTING AND TEMPORARY PAVEMENT THROUGHOUT THE PROJECT, INCLUSIVE OF TEMPORARY LANE AND SPECIALTY MARKINGS ON THE FINAL ASPHALT TOPPING.) | L.S.     | 1.00   | \$8,500.00 | \$8,500.00 |
|          |           |  |          |        |            |            |
| (6)      | 712-04.01 | FLEXIBLE DRUMS (CHANNELIZING), (ESTIMATED QUANTITY IS BASED ON PHASE WHICH REQUIRES HIGHEST QUANTITY. UNIT PRICE BID INCLUDES COST OF MAINTENANCE AND ADJUSTMENTS NECESSARY AS THE CONSTRUCTION PHASES EVOLVE THROUGHOUT THE DURATION OF THE PROJECT.)   | EACH     | 35.00  | \$36.00    | \$1,260.00 |
| (6)      | 712-04.10 | TEMPORARY FLEXIBLE TUBULAR DELINEATOR (36" to 42" HEIGHT), (ESTIMATED QUANTITY IS BASED ON PHASE WHICH REQUIRES HIGHEST QUANTITY. UNIT PRICE BID INCLUDES COST OF MAINTENANCE AND ADJUSTMENTS NECESSARY AS THE CONSTRUCTION PHASES EVOLVE THROUGHOUT THE CONSTRUCTION PROJECT.)  | EACH     | 35.00  | \$48.00    | \$1,680.00 |
|          | 712-06    | SIGNS (CONSTRUCTION), (ESTIMATED QUANTITY IS BASED ON PHASE WHICH REQUIRES HIGHEST QUANTITY. UNIT PRICE BID INCLUDES COST OF MAINTENANCE AND ADJUSTMENTS NECESSARY AS THE CONSTRUCTION PHASES EVOLVE THROUGHOUT THE CONSTRUCTION PROJECT.)   | S.F.     | 282.00 | \$9.00     | \$2,538.00 |
| (12)     | 712-08.01 | UNIFORMED POLICE OFFICER   | HOURL    | 40.00  | \$40.00    | \$1,600.00 |
|          |           |  |          |        |            |            |
|          | 713-14.22 | STREET NAME SIGN (SUSPENDED 0.100IN THICK)   | S.F.     | 48.00  | \$42.00    | \$2,016.00 |
|          |           |  |          |        |            |            |
| (7), (8) | 713-16.20 | SIGNS (SIGNAL AHEAD, W3-3, 30"x 30", INCLUDES "U"-POST)  | EACH     | 1.00   | \$235.00   | \$235.00   |
| (7), (8) | 713-16.21 | SIGNS (LEFT TURN ON YIELD, R10-12, 30"x 36", INCLUDES "U"-POST)  | EACH     | 2.00   | \$260.00   | \$520.00   |
|          |           |  |          |        |            |            |
|          | 716-13.01 | SPRAY THERMO PAVEMENT MARKING (60 MIL), (4" LINE - SSWL, SSSL, DSSL, SBYL & SBWL)  | LIN. MI. | 0.41   | \$5,000.00 | \$2,050.00 |
|          | 716-02.05 | PLASTIC PAVEMENT MARKING (STOP LINE)   | L.F.     | 65.00  | \$20.00    | \$1,300.00 |
|          | 716-02.06 | PLASTIC PAVEMENT MARKING TURN LANE ARROW (LEFT OR RIGHT)   | EACH     | 3.00   | \$200.00   | \$600.00   |
|          | 716-04.05 | PLASTIC PAVEMENT MARKING (STRAIGHT ARROW)  | EACH     | 1.00   | \$200.00   | \$200.00   |
| (4)      | 716-08.02 | REMOVAL OF PAVEMENT MARKING (8" BARRIER LINE)  | L.F.     | 300.00 | \$2.00     | \$600.00   |

|                                     |           |  |          |        |             |                     |
|-------------------------------------|-----------|--|----------|--------|-------------|---------------------|
| (9), (10)                           | 716-13.01 | SPRAY THERMO PAVEMENT MARKING (60 MIL), (4" LINE - SSWL, SSSL, DSSL, SBYL & SBWL)  | LIN. MI. | 0.40   | \$5,000.00  | \$2,000.00          |
| (10)                                | 716-13.05 | SPRAY THERMO PAVEMENT MARKING (60 MIL), (6" DOTTED LINE)   | L.F.     | 40.00  | \$2.00      | \$80.00             |
|                                     |           |  |          |        |             |                     |
|                                     | 717-01    | MOBILIZATION   | L.S.     | 1.00   | \$14,700.00 | \$14,700.00         |
|                                     |           |  |          |        |             |                     |
| (2), (11), (13)                     | 740-11.03 | TEMPORARY SEDIMENT TUBE 18 INCH (TO BE USED FOR EROSION CONTROL OF "V-DITCH", AFTER THE INITIAL INSTALLATION ALL COST ASSOCIATED WITH REPAIR, MAINTENANCE AND REPLACEMENT DURING THE LIFE OF THIS CONTRACT SHALL BE AT THE CONTRACTORS EXPENSE.) | L.F.     | 200.00 | \$16.00     | \$3,200.00          |
|                                     |           |  |          |        |             |                     |
|                                     | 801-03    | WATER (SEEDING & SODDING)  | M.G.     | 2.00   | \$25.00     | \$50.00             |
|                                     |           |  |          |        |             |                     |
|                                     | 803-01    | SODDING (NEW FESCUE SOD, INSTALLATION SHALL BE INSTALLED ON TOPSOIL. TOPSOIL SHALL HAVE A MINIMUM DEPTH OF 6-INCHES)   | S.Y.     | 217.00 | \$8.00      | \$1,736.00          |
| <b>SUB-TOTAL ROADWAY QUANTITIES</b> |           |  |          |        |             | <b>\$159,724.65</b> |

**ROADWAY FOOTNOTES:**

1. TO BE USED AS DIRECTED BY THE ENGINEER FOR SUPPLEMENTAL BACKFILL OF SIGNAL POLES, CONTROL BOX OR OTHER AREAS AS DIRECTED BY THE ENGINEER.
2. ITEMS MAY BE INTERCHANGED AS APPROPRIATE BASED ON CONSTRUCTION ACTIVITIES AND APPROVAL FROM THE ENGINEER.
3. TO BE USED AND LOCATED AS DIRECTED BY THE ENGINEER
4. TO BE USED AS NEEDED FOR MISCELLANEOUS REPAIRS WITH PRIOR APPROVAL BY THE ENGINEER.
5. TO BE USED FOR RECONSTRUCTION OF THE WATER TANK ACCESS DRIVE
6. CONTRACTOR SHALL HAVE THE OPTION TO USE EITHER ITEM BUT SHALL NOT INTER-MINGLE THE TWO.
7. ITEM SHALL INCLUDE REQUIRED MOUNTING BRACKETS FOR OVERHEAD SIGNS AND STEEL SUPPORT POST FOR GROUND MOUNTED SIGN. A RETROREFLECTIVE YELLOW STRIP SHALL BE INSTALLED WITH THE POST SUPPORT OF THE W3-3 SIGN PER MUTCD GUIDELINES.
8. SIGNS SHALL BE FIELD STAKED PRIOR TO INSTALLATION. A FIELD INSPECTION SHALL BE MADE BY THE ENGINEER AND ACCEPTED
9. ITEM FOR RETRACING OF EXISTING PAVEMENT MARKING LANE LINES BEYOND LIMITS OF PAVING OPERATIONS. EXISTING LANE MARKINGS SHALL BE RETRACED A LENGTH OF APPROXIMATELY 30FT BEYOND END OF NEW PAVEMENT, OR AS DIRECTED BY ENGINEER.
10. ITEM FOR INSTALLATION OF NEW PERMANENT LANE LINE MARKINGS WITHIN LIMITS OF MILL AND OVERLAY OPERATIONS AS SHOWN IN PLANS.
11. AFTER THE INITIAL INSTALLATION ALL COST ASSOCIATED WITH REPAIR, MAINTENANCE AND REPLACEMENT DURING THE LIFE OF THIS CONTRACT SHALL BE AT THE CONTRACTORS EXPENSE.)
12. UNIFORMED OFFICER TO BE USED AS DIRECTED BY CITY OF BRENTWOOD OFFICIALS TO SUPPLEMENT TRAFFIC CONTROL ACTIVITIES.



13. REMOVAL AND DISPOSAL OF SEDIMENT WILL NOT BE MEASURED OR PAID SEPARATELY. ITEM SHALL INCLUDE COST OF REMOVAL AND MANAGEMENT SEDIMENT CONTROL.

14. ALUMINUM DISK TO BE FURNISHED BY THE CITY OF BRENTWOOD

| ESTIMATED SIGNAL QUANTITIES |           |   |      |                |             |             |
|-----------------------------|-----------|---|------|----------------|-------------|-------------|
| FOOTNOTES                   | ITEM NO.  | ITEM DESCRIPTION  | UNIT | TOTAL EST QTY. | UNIT PRICE  | TOTAL PRICE |
| (1), (2)                    | 708-02.04 | (EXISTING HAZARD WARNING SYSTEM POLE) MOVE AND RESET    | EACH | 1.00           | \$5,000.00  | \$5,000.00  |
| (11)                        | 725-02.41 | FIBER OPTIC TERMINATION SPLICE UNIT                     | EACH | 5.00           | \$1,300.00  | \$6,500.00  |
| (7)                         | 725-03.01 | CLOSED CIRCUIT TELEVISION (CCTV) EQUIPMENT              | EACH | 1.00           | \$11,100.00 | \$11,100.00 |
|                             | 725-03.08 | VIDEO ENCODER   | EACH | 1.00           | \$3,930.00  | \$3,930.00  |
| (8)                         | 725-03.09 | ETHERNET SWITCH   | EACH | 1.00           | \$3,100.00  | \$3,100.00  |
|                             | 725-05.06 | FUSION SPLICE   | EACH | 12.00          | \$70.00     | \$840.00    |
|                             | 725-05.07 | FIBER OPTIC TRANSCEIVER (SM)                            | EACH | 1.00           | \$4,600.00  | \$4,600.00  |
| (10)                        | 725-23.21 | FIBER OPTIC DROP CABLE (12 F)                           | L.F. | 65.00          | \$3.25      | \$211.25    |
| (21)                        | 725-23.32 | FIBER OPTIC SPLICE MODIFICATION                         | EACH | 1.00           | \$1,770.00  | \$1,770.00  |
| (12)                        | 730-02.07 | SIGNAL HEAD ASSEMBLY (130)                              | EACH | 1.00           | \$825.00    | \$825.00    |
|                             | 730-02.09 | SIGNAL HEAD ASSEMBLY (130 WITH BACKPLATE)               | EACH | 5.00           | \$825.00    | \$4,125.00  |
|                             | 730-02.17 | SIGNAL HEAD ASSEMBLY (150 A2H WITH BACKPLATE)           | EACH | 1.00           | \$1,360.00  | \$1,360.00  |
| (21)                        | 730-03.12 | AERIAL SPLICE ENCLOSURE                                 | EACH | 1.00           | \$810.00    | \$810.00    |
| (22)                        | 730-03.21 | INSTALL PULL BOX (TYPE B)                               | EACH | 8.00           | \$540.00    | \$4,320.00  |
| (22)                        | 730-03.23 | INSTALL PULL BOX (FIBER OPTIC-TYPE A)                   | EACH | 4.00           | \$1,300.00  | \$5,200.00  |
| (13)                        | 730-05.01 | ELECTRICAL SERVICE CONNECTION                           | EACH | 1.00           | \$1,620.00  | \$1,620.00  |
|                             | 730-05.02 | SERVICE CABLE (2 CONDUCTOR, # 8 AWG)                    | L.F. | 75.00          | \$3.25      | \$243.75    |
|                             | 730-08.01 | SIGNAL CABLE - 3 CONDUCTOR                              | L.F. | 345.00         | \$1.35      | \$465.75    |
|                             | 730-08.02 | SIGNAL CABLE - 5 CONDUCTOR                              | L.F. | 345.00         | \$1.65      | \$569.25    |
|                             | 730-08.03 | SIGNAL CABLE - 7 CONDUCTOR                              | L.F. | 1,000.00       | \$1.90      | \$1,900.00  |
|                             | 730-08.10 | SIGNAL CABLE - (VIDEO DETECTION)                        | L.F. | 545.00         | \$3.25      | \$1,771.25  |
|                             | 730-08.11 | SIGNAL CABLE - (PREEMPTION)                             | L.F. | 515.00         | \$3.25      | \$1,673.75  |
| (21)                        | 730-08.40 | INTERCONNECT CABLE FIBER OPTIC (48FSMFO, OUTSIDE PLANT) | L.F. | 4,500.00       | \$3.25      | \$14,625.00 |
| (21)                        | 730-10.02 | MESSENGER CABLE - 1/4" DIAMETER                         | L.F. | 4,500.00       | \$2.15      | \$9,675.00  |
| (14)                        | 730-11.01 | STEEL CONDUIT RISER ASSEMBLY                            | EACH | 1.00           | \$540.00    | \$540.00    |
| (15)                        | 730-11.10 | RISER ASSEMBLY (2" SCH 80 PVC)                          | EACH | 2.00           | \$380.00    | \$760.00    |

|                                    |           |  |      |        |             |                     |
|------------------------------------|-----------|--|------|--------|-------------|---------------------|
|                                    | 730-12.02 | CONDUIT 2" DIAMETER (PVC)  | L.F. | 160.00 | \$8.65      | \$1,384.00          |
|                                    | 730-12.03 | CONDUIT 3" DIAMETER (PVC)  | L.F. | 15.00  | \$13.00     | \$195.00            |
| (16)                               | 730-12.13 | CONDUIT 2" DIAMETER (JACK AND BORE)  | L.F. | 905.00 | \$28.00     | \$25,340.00         |
|                                    | 730-12.16 | CONDUIT (1.5" RGS)   | L.F. | 60.00  | \$19.50     | \$1,170.00          |
| (17)                               | 730-13.02 | VEHICLE DETECTOR (VIDEO)   | EACH | 1.00   | \$21,335.00 | \$21,335.00         |
| (18)                               | 730-13.07 | VEHICLE DETECTOR (SIREN ACTIVATED PRIORITY CONTROL)  | EACH | 1.00   | \$6,935.00  | \$6,935.00          |
| (19)                               | 730-15.32 | CABINET (EIGHT PHASE BASE MOUNTED)   | EACH | 1.00   | \$14,740.00 | \$14,740.00         |
| (19)                               | 730-16.02 | EIGHT PHASE ACTUATED CONTROLLER  | EACH | 1.00   | \$4,625.00  | \$4,625.00          |
| (20)                               | 730-23.80 | CANTILEVER SIGNAL SUPPORT (1 ARM @ 40')  | EACH | 1.00   | \$14,320.00 | \$14,320.00         |
| (20)                               | 730-23.88 | CANTILEVER SIGNAL SUPPORT (1 ARM @ 45')  | EACH | 1.00   | \$14,970.00 | \$14,970.00         |
| (20)                               | 730-23.96 | CANTILEVER SIGNAL SUPPORT (1 ARM@ 50')   | EACH | 1.00   | \$15,425.00 | \$15,425.00         |
| (9)                                | 730-35.06 | BATTERY BACK-UP AND POWER CONDITIONER  | EACH | 1.00   | \$6,720.00  | \$6,720.00          |
|                                    |           |  |      |        |             |                     |
| (4), (5), (6)                      | 773-90.09 | MILBANK METERING PEDESTAL WITH SWITCHED LOAD CENTER, #CP3B1110A22SL1 (TO BE POWDER COATED BLACK) | EACH | 1.00   | \$2,700.00  | \$2,700.00          |
|                                    |           |  |      |        | \$1,620.00  |                     |
| (21), (22)                         | 793-07.23 | FIBER OPTIC MAINTENANCE LOOP   | EACH | 3.00   | \$1,620.00  | \$4,860.00          |
| <b>SUB-TOTAL SIGNAL QUANTITIES</b> |           |  |      |        |             | <b>\$222,254.00</b> |

**SIGNAL FOOTNOTES:**

1. ITEM LIMITED TO AND PROVIDED FOR CONTRACTOR'S COORDINATION WITH CITY OF BRENTWOOD AND THIRD-PARTY VENDOR AS PART OF RELOCATION OF HAZARD WARNING SYSTEM. SEE SPECIAL NOTES AND COORDINATE WITH THE ENGINEER.
2. THIS WORK IS TO BE PERFORMED BY COMMTECH IN ACCORDANCE WITH THE QUOTATION, DATED 10/5/17 AS PROVIDED IN THE BID DOCUMENTS.
3. NOT USED
4. COORDINATE WITH MTEMC UNDERGROUND INSTALLATION GUIDE, DATED JANUARY 31, 2014.
5. COORDINATE WITH MTEMC ELECTRICAL SERVICE GUIDELINES, DATED MAY 23, 2013.
6. COORDINATE WITH MTEMC APPROVED METER BASES, DATED NOVEMBER 26, 2012.
7. ITEM INCLUDES ALL MATERIALS AND LABOR FOR CCTV CAMERA INSTALLATION, INCLUDING BUT NOT LIMITED TO THE DOME CAMERA, MOUNTING HARDWARE, VIDEO CABLING, PROCESSOR, POWER SUPPLY, ETC. CAMERA TO BE MOUNTED ON TRAFFIC SIGNAL SUPPORT POLE IN SW CORNER AS SHOWN IN PLANS. COORDINATE WITH CITY OFFICIALS PRIOR TO CONSTRUCTION. SEE SPECIAL NOTES. CAMERA SYSTEM TO BE AXIS Q6055-E PTZ DOME NETWORK CAMERA AND COMPATIBLE WITH EXISTING CITY CONTROL SOFTWARE.
8. ITEM TO BE CISCO IE-4000-8TAG-E AND BE COMPATIBLE WITH COMMUNICATION EQUIPMENT. POWER SUPPLY TO BE MODEL NUMBER PWR-IE65-PC-AC.
9. ITEM FOR NEW UPS SYSTEM PER CITY SPECIFICATIONS. SYSTEM TO BE TECH POWER MODEL DBL1400MX. ITEM SHALL INCLUDE REQUIRED BASE MOUNTED CABINET AND CONCRETE PORCH PAD. SEE SPECIAL NOTES.

10. F.O. DROP CABLE TO BE SINGLE MODE FIBER CABLE (SM). PROVIDE REQUIRED SLACK COIL WITHIN PULL BOXES AS SHOWN IN PLANS.
11. ITEM FOR TERMINATION AND TRANSITION OF F.O. DROP CABLE WITHIN SIGNAL CABINET.
12. ITEM FOR SUPPLEMENTAL NEAR-SIDE TRAFFIC SIGNAL HEAD MOUNTED ON TRAFFIC SIGNAL POLE.
13. SEE SPECIAL NOTES. COORDINATE WITH UTILITY OWNER TO DETERMINE COSTS FOR POWER SERVICE AND TO FACILITATE INSTALLATION.
14. ITEM FOR POWER SERVICE CONNECTIONS (SIGNAL CABINET, HAZARD WARNING SYSTEM).
15. ITEM FOR 12F SMFO DROP CABLE AND F.O. TRUNK CABLE (FUTURE).
16. ITEM TO BE SCHEDULE 80 PVC.
17. ITEM TO INCLUDE ALL MATERIALS AND LABOR TO PROVIDE VIDEO DETECTION EQUIPMENT FOR ALL APPROACHES AS SHOWN ON PLANS. ITEM TO BE ECONOLITE AUTOSCOPE VISION HD. ITEM INCLUDES DOME CAMERAS (3), MOUNTING BRACKETS, POWER SUPPLY, VIDEO PROCESSOR AND MISCELLANEOUS CABINET CABLING. CABLES CONNECTING CAMERAS TO CABINET PAID UNDER SEPARATE ITEM.
18. ITEM FOR MATERIALS AND LABOR TO PROVIDE EMERGENCY PREEMPTION EQUIPMENT SYSTEM FOR COMPLETE INTERSECTION. ITEM SHALL BE SONEM SONEM TYPE AND COMPATIBLE WITH ASSOCIATED TRAFFIC SIGNAL EQUIPMENT. SEE SPECIAL NOTES. ITEM INCLUDES 3 DETECTORS, PHASE SELECTOR, PROCESSOR UNIT AND POWER SUPPLY CHASIS. CABLES CONNECTING DETECTORS TO CABINET EQUIPMENT PAID UNDER SEPARATE ITEM.
19. ITEMS TO BE PER CITY SPECIFICATIONS. CONTROLLER SHALL BE ECONOLITE ASC3/COBALT MODEL. SEE SPECIAL NOTES.
20. SEE SPECIAL NOTES. ITEM INCLUDES REQUIRED FOUNDATION PER MANUFACTURER DESIGN AND TDOT STANDARD DRAWINGS AND SPECIFICATIONS.
21. TO BE USED FOR COMMUNICATION WITH THE PLEASANT HILL ROAD SIGNAL SYSTEM.
22. COORDINATE WITH ENGINEER PRIOR TO INSTALLATION TO DETERMINE PLACEMENT NEAR THE PLEASANT HILL ROAD INTERSECTION.

|                                 |                     |
|---------------------------------|---------------------|
| <b>ESTIMATED PROJECT TOTALS</b> | <b>TOTAL PRICE</b>  |
| SUB-TOTAL ROADWAY QUANTITIES    | \$159,724.65        |
| SUB-TOTAL SIGNAL QUANTITIES     | \$222,254.00        |
| <b>SUB-TOTAL PROJECT</b>        | <b>\$381,978.65</b> |
| CONTINGENCY ALLOWANCE           | <b>\$25,000.00</b>  |
| <b>ESTIMATED PROJECT TOTAL</b>  | <b>\$406,978.65</b> |

**Total of All Unit Prices:**

|  |   |
|--|---|
| <b>FOUR HUNDRED SIXTHOUSNAD NINEHUNDRED SEVENTYEIGHTAND 65/100</b><br><b>(WORDS)</b> | <b>\$406,978.65</b><br><b>(DOLLARS)</b> |
|--|---|

All specific cash allowances are included in the above price and have been computed in accordance with paragraph 11.02 of the General Conditions.

As provided in paragraph 11.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by ENGINEER as provided in paragraph 9.08 of the General Conditions. Unit prices have been computed as provided in paragraph 11.03 of the General Conditions.

C. For all Work, at the prices stated in CONTRACTOR's Bid, attached hereto as an exhibit.

**Not Applicable**



## **ARTICLE 6 - PAYMENT PROCEDURES**

### **6.01 Submittal and Processing of Payments**

A. CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

### **6.02 Progress Payments; Retainage**

A. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment on or about the 25<sup>th</sup> day of each month during performance of the Work as provided in paragraphs 6.02.A.1 and 6.02.A.2 below. All such payments will be measured by the schedule of values established in paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements:

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as ENGINEER may determine or OWNER may withhold, in accordance with paragraph 14.02 of the General Conditions:

a. 95% of Work completed (with the balance being retainage). If the Work has been 95% completed as determined by ENGINEER, and if the character and progress of the Work have been satisfactory to OWNER and ENGINEER, OWNER, on recommendation of ENGINEER, may determine that as long as the character and progress of the Work remain satisfactory to them, there will be no retainage on account of Work subsequently completed, in which case the remaining progress payments prior to Substantial Completion will be in an amount equal to 100% of the Work completed less the aggregate of payments previously made; and

b. 0% of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

2. Upon Substantial Completion, OWNER shall pay an amount sufficient to increase total payments to CONTRACTOR to 100% of the Work completed, less such amounts as ENGINEER shall determine in accordance with paragraph 14.02.B.5 of the General Conditions and less 100% of ENGINEER's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

### **6.03 Final Payment**

A. Upon final completion and acceptance of the Work in accordance with paragraph 14.07 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said paragraph 14.07.

## **ARTICLE 7 - INTEREST**

7.01 All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the current rate of the bank in which the funds are deposited.

## **ARTICLE 8 - CONTRACTOR'S REPRESENTATIONS**

8.01 In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

A. CONTRACTOR has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

B. CONTRACTOR has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. CONTRACTOR is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

D. CONTRACTOR has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions and (2) reports and drawings of a Hazardous Environmental Condition, if any, at the Site which has been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.

E. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, including applying the specific means, methods, techniques, sequences, and procedures of construction, if any, expressly required by the Contract Documents to be employed by CONTRACTOR, and safety precautions and programs incident thereto.

F. CONTRACTOR does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

G. CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.

H. CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

I. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that CONTRACTOR has discovered in the Contract Documents, and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

## **ARTICLE 9 - CONTRACT DOCUMENTS**

### **9.01 *Contents***

A. The Contract Documents consist of the following:

1. This Agreement (pages -1- to -15-, inclusive).
2. Performance Bond (pages -1- to -2-, inclusive).
3. Payment Bond (pages -1- to -2-, inclusive).
4. Bid Bonds
  - a. Penal Sum Form (pages -1- to -4-, inclusive);
5. Drug Free – Workplace (pages -1- to -3-, inclusive).

6. General Conditions (pages -1- to -43-, inclusive).
7. Supplementary Conditions (pages -1- to -5-, inclusive).
8. Specifications as listed in the table of contents of the Project Manual.
9. Drawings consisting of a cover sheet and plan sheets numbered 1, 1A, 1B, 1C, 2, 2A, 2B – 2G, 3, 3A, 4, 4A, 5, 5A, 6, 6A, S1 TO S5 inclusive, with each sheet bearing the following general title: Intersection Improvements, Ragsdale Road and Split Log Road.
10. Addenda (numbers -1- to -20-, inclusive).
11. Exhibits to this Agreement (enumerated as follows):
  - a. Notice to Proceed (pages -1- to -1-, inclusive);
  - b. CONTRACTOR's Bid (pages -1- to -45-, inclusive);
    1. Documentation submitted by CONTRACTOR prior to Notice of Award;
  - d. Certificate of Insurance.
12. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
  - a. Written Amendments;
  - b. Work Change Directives;
  - c. Change Order(s).

B. The documents listed in paragraph 14.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 14.

D. The Contract Documents may only be amended, modified, or supplemented as provided in paragraph 3.05 of the General Conditions.

## **ARTICLE 10 - ACCOUNTING RECORDS**

10.01 CONTRACTOR shall check all materials, equipment, and labor entering into the Work and shall keep such full and detailed accounts as may be necessary for proper financial management under this Agreement, and the accounting methods shall be satisfactory to OWNER. OWNER shall be afforded access to all CONTRACTOR's records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and CONTRACTOR's fee. CONTRACTOR shall preserve all such documents for a period of three years after the final payment by OWNER.

## **ARTICLE 11 - MISCELLANEOUS**



#### 11.01 *Terms*

- A. Terms used in this Agreement will have the meanings indicated in the General Conditions.

#### 11.02 *Assignment of Contract*

A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

#### 11.03 *Successors and Assigns*

A. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

#### 11.04 *Severability*

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in duplicate. One counterpart each has been delivered to OWNER and CONTRACTOR. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or on their behalf.

This Agreement will be effective on \_\_\_\_\_, 20\_\_ (which is the Effective Date of the Agreement).

OWNER:

\_\_\_\_\_

By: \_\_\_\_\_

[CORPORATE SEAL]

Attest \_\_\_\_\_

Address for giving notices:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(If OWNER is a corporation, attach evidence of authority to sign. If OWNER is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of OWNER-CONTRACTOR Agreement.)

Designated Representative:

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_

Facsimile: \_\_\_\_\_

CONTRACTOR:

\_\_\_\_\_

By: \_\_\_\_\_

[CORPORATE SEAL]

Attest \_\_\_\_\_

Address for giving notices:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

License No. \_\_\_\_\_  
(Where applicable)

Agent for service of process: \_\_\_\_\_

\_\_\_\_\_

(If CONTRACTOR is a corporation or a partnership, attach evidence of authority to sign.)

Designated Representative:

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_

Facsimile: \_\_\_\_\_



**SULLIVAN ENGINEERING, INC.**

317 MAIN STREET, SUITE 201  
FRANKLIN, TN. 37064  
(615) 642-5822

January 19, 2018

Mr. Mike Harris, City of Brentwood  
City of Brentwood  
P.O. Box 788  
Brentwood, TN 37024-0788

**Contract:** General Construction

**Project:** Intersection Improvements – Ragsdale and Split Log Road

OWNER's Contract No. N/A

ENGINEER's Contract No. 17-004

Dear Jeff,

On Thursday January 11, 2018 at 2:00 P.M., bids were received at Brentwood City Hall and read allowed for the construction of Intersection Improvements at Ragsdale Road/Split Log Road. Prior to opening the bids nine (9) contractors had obtained construction documents for bidding this work. Three (3) contractors returned their bid package, all of which have been reviewed for errors, omissions or irregularities in accordance with the contract documents. Bids received are as follows:

| NAME                         | BONDING COMPANY                          | BID          |
|------------------------------|--|--------------|
| Civil Constructors, Inc.     |  | No Bid       |
| Wright Paving                |  | No Bid       |
| Jarrett Builders, Inc.       | Westfield Insurance Company              | \$464,683.20 |
| Jones Bros. Contractors, LLC |  | No Bid       |
| S & W Contracting            |  | No Bid       |
| Stansell Electric            | Fidelity and Deposit Company of Maryland | \$422,707.11 |
| Sessions Paving Co.          | Berkley Insurance Company                | \$406,978.65 |

Sessions Paving Co. is low bidder having met all bidding requirements. Mr. Robert Hutcheson, Sessions Paving Co. will be overseeing construction of the Intersection Improvements at Ragsdale Road/Split Log Road. I have contacted Robert about performance of this contract concerning the current workload of Sessions Paving Co. Mr. Hutcheson, has assured me that Sessions Paving Co. will make available the necessary work force, and equipment to meet the schedule set forth in the construction documents. Having reviewed Sessions Paving Co. bid package it appears to meet all of the requirements stated in the





"Instruction to Bidders"; therefore, SEI considers their bid as acceptable for this project. Therefore, SEI recommend' s the project be awarded to Sessions Paving Co. A copy of the Bid Tabulation and Construction Contract are attached for your review.

Upon approval by the City Commissioners and Mayor, our staff will issue a package to Sessions Paving Co. This packet will include the contract, performance bond, and insurance requirements, which need to be signed and executed. Execution of the aforementioned packet typically takes between three to five working days. After we receive acceptable paper work, the "Notice to Proceed" can be issued.

As always, it has been a pleasure to service the City of Brentwood, and please call if you have any questions.

Sincerely,

**Sullivan Engineering Incorporated**

*Paul Collins*

Paul Collins

Enclosures

CC:

Mr. Mr. Kirk Bednar, Brentwood City Manager

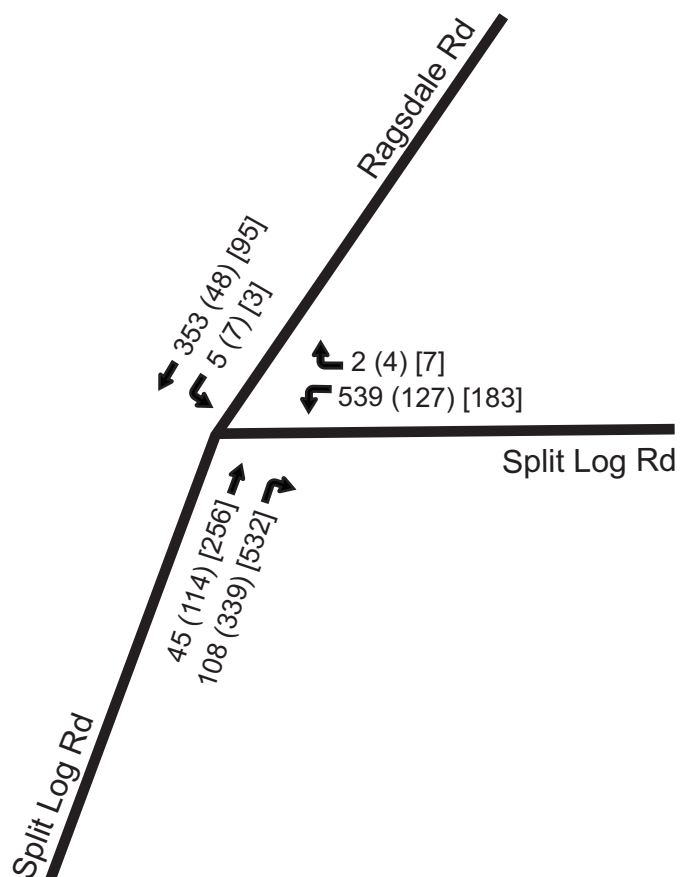
Mr. Karen Harper, Brentwood City Treasurer

Mr. Jeff Donegan, City of Brentwood

Mr. Robert Hutcheson, Sessions Paving Company

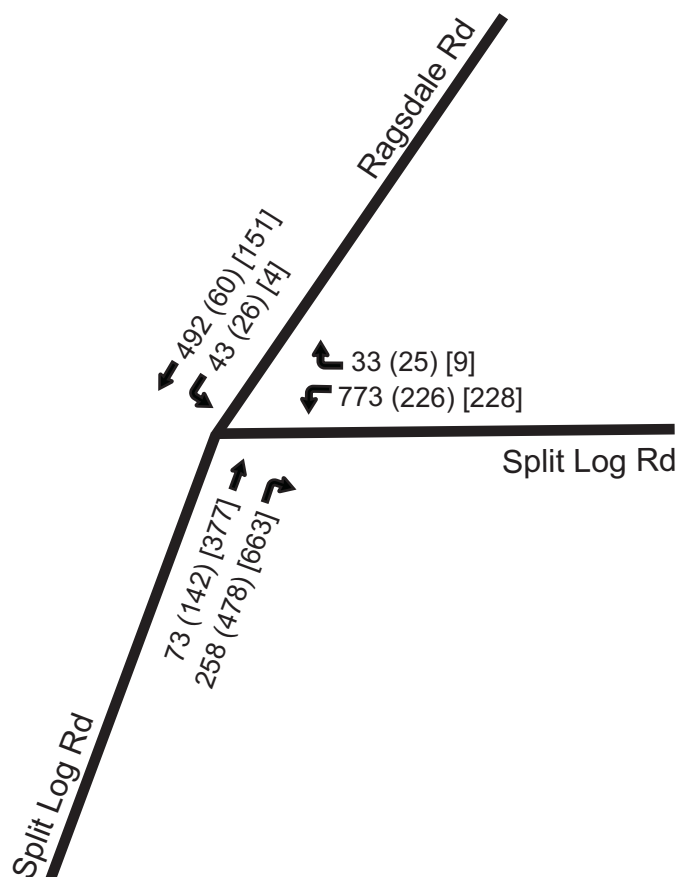


NOT TO SCALE



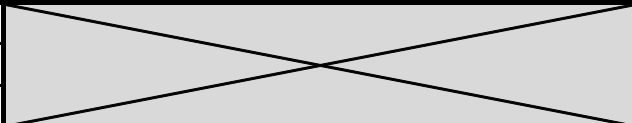


NOT TO SCALE





**INTERSECTION LEVEL OF SERVICE ANALYSIS**  
**Conceptual Analysis - Split Log Road at Ragsdale Road**

| Traffic Control Scenario                         |       | Existing (2017)  |            |                  |            |    |            | Horizon Year (2022) <sup>2</sup> |                            |                  |            |         |                         |                    |                               |
|--|-------|--|------------|------------------|------------|----|------------|----------------------------------|----------------------------|------------------|------------|---------|-------------------------|--------------------|-------------------------------|
|  |       | Peak Period <sup>1</sup>   |            |                  |            |    |            |                                  |                            |                  |            |         |                         |                    |                               |
|  |       | AM   |            | School Dismissal |            | PM |            | AM                               |                            | School Dismissal |            | PM      |                         |                    |                               |
| All-Way Stop                                     | EB    | B  | F<br>(65s) | B                | B<br>(10s) | C  | C<br>(17s) | C                                | F (224s)                   | C                | C<br>(16s) | F (52s) | E<br>(42s)              | Signalized 2022 AM |                               |
|  | SB    | D (26s)  |            | A                |            | B  |            | F (113s)                         |                            | B                |            | B       |                         |                    |                               |
|  | WB    | F (106s)   |            | B                |            | B  |            | F (380s)                         |                            | C                |            | C       |                         |                    |                               |
| Split Log Freeflow Curve - Ragsdale One-Way Stop | EBL   | A  | -          | A                | -          | A  | -          | B                                | -                          | A                | C (15s)    | A       | -                       | B                  | C<br>(34s)<br>Q>400',<br>200' |
|  | SB    | D (31s)  |            | B                |            | B  |            | F (237s)                         |                            | C (15s)          |            | B       |                         | D (37s)            |                               |
|  | EB/WB | -  |            | -                |            | -  |            | -                                |                            | -                |            | -       |                         | D (38s)            |                               |
| Roundabout                                       | EB    | A  | B<br>(13s) | A                | A<br>(8s)  | C  | C<br>(15s) | A                                | F<br>(68s)                 | B                | B<br>(10s) | F (59s) | E <sup>4</sup><br>(45s) | Dual Lt 2022 AM    |                               |
|  | SB    | C (20s)  |            | A                |            | A  |            | F (169s)                         |                            | A                |            | A       |                         |                    |                               |
|  | WB    | B  |            | A                |            | A  |            | D (27s)                          |                            | A                |            | A       |                         |                    |                               |
| Signalized <sup>3</sup>                          | EB    |  |            |                  |            |    |            | A                                | D<br>(45s)<br>Q>450', 240' | A                | A<br>(5s)  | A       | B<br>(10s)              | A                  | B<br>(18s)<br>Q>140',<br>170' |
|  | SB    |  |            |                  |            |    |            | D (41s)                          |                            | B                |            | B       |                         | C (23s)            |                               |
|  | WB    |  |            |                  |            |    |            | E (65s)                          |                            | A                |            | B       |                         | C (22s)            |                               |

<sup>1</sup> AM 7:30-8:30am; School Dismissal 2:30-3:30pm; PM 4:45-5:45pm. Existing School Dismissal shown for comparative purposes.

<sup>2</sup> The Horizon Year scenario includes additional traffic demand from proposed WCS School, proposed Ragsdale & Reserve at Raintree subdivisions and 4.5% background annual growth rate.

<sup>3</sup> Intersection does not meet warrants under 2017 conditions. Maintains existing general alignment. Additional turn lanes required by 2022.

## Analysis Discussion

### Split Log Road at Ragsdale Rd

#### General Methodology

- Develop Traffic Volume Models
  - Multiple sources of traffic volume data:
    - Recent TMCs
    - Background/Ambient Growth Rate (4.5% per year)
    - Ragsdale Subdivision
    - Reserve at Raintree
    - WCS – Middle School Arrival/Dismissal
  - Existing (2017) & Horizon (2022)
- Develop Improvement Scenarios
  - All-Way Stop (AWSC)
  - Split Log Rd Free-Flow\* (Curve; Ragsdale Side Street Stop)
  - Roundabout
  - Signalized\* (WB Split Log Rd Side Street)
  - Scenarios marked with an (\*) have additional modified option
- Perform LOS Analysis
  - Three (3) peak periods considered (AM, School Dismissal, PM)
  - Side-by-side comparison of scenarios
  - Distinguish differences by peak periods
  - Compare fluctuations of estimated vehicle queue lengths
- For Information, developed Forecasted Signal Warrant Analysis for applicable scenarios
- Decide and Pursue Preferred Alternative

#### Talking Points from Operational Analysis

- Traffic model including WCS Middle School provides most conservative assessment
- General observations/trends from analysis results:
  - AM peak is critical analysis period. Why not PM?
  - All-Way Stop is “failing” today. But signal warrants are not met under 2017 conditions.
  - Roundabout scenario shown to provide relief. But by 2022, forecast to operate with excessive delay in AM peak (LOS F – Split Log Rd approach). LOS E in PM peak (EB right-turn bypass lane?).
  - Free-flow curve and Signalized existing geometrics shown to be most desirable.
  - Free-flow curve scenario predicted to operate LOS F under one-way stop control in 2022 AM. Notice significant improvement in PM peak operation, compared to All-Way Stop condition.

- If Free-flow curve scenario pursued, analysis shows need for signalization. This would include auxiliary turn lanes: EB left-turn lane (required), WB right-turn lane (highly recommended), SB left-turn lane (recommended). This represents the preferred modified version of the Free-flow Curve scenario.
- 2022 Signalized scenario (existing geometrics) forecast to provide overall better LOS results compared to non-signalized Free-flow scenario. But, need to look at “fine print”: WB Split Log Rd delay much higher under this scenario (is this acceptable?). Also, vehicle queuing is predicted to be excessive (WB Split Log Rd >450ft, SB Ragsdale >240ft).
- Analysis considered a modified version of the Signalized scenario: Dual WB left-turn lanes on Split Log Rd. Analysis suggests this scenario results in better LOS operation (18s avg delay) compared to modified Free-flow curve (signalized) scenario. However, is the model predicting lane use utilization properly? And, are we comfortable with having free-flow traffic move between Split Log Rd/Ragsdale Rd under signalized operation? (we will discuss)
- Analysis predicts Free-Flow Curve and Modified Signalized scenarios would likely meet MUTCD traffic signal warrants.
- Ultimately, the Signalized Free-flow (curve) scenario and Modified Signalized scenarios are shown to be alternatives with most desirable results. The selected preferred scenario should be decided based on team discussion and input from preliminary design considerations (property impacts, cost, construction considerations, long-term viability).



