



City of Franklin

109 3rd Ave S
Franklin, TN 37064
(615)791-3217

Meeting Agenda Capital Investment Committee

Thursday, October 29, 2015

3:00 PM

Board Room

Call To Order

Approval of Minutes

1. [15-0888](#) Approval of Minutes from September 24, 2015.
2. [15-0981](#) Consideration of Resolution 2015-86; A Resolution Declaring Certain Right-of-Way Located Between Evans Street and Lewisburg Avenue as Surplus (10/29/15 CIC 4-0)

Attachments: [15-0981 Res 2015-86 Excess ROW Evans St.Law approved.pdf](#)
[Res 2015-86 Excess ROW Evans St Location Map](#)
3. [15-0902](#) Consideration of Amendment No. 3 (COF Contract No. 2012-0190) to the TDOT Local Program Agency Agreement, PIN 109424.00, for the 3rd Avenue North Trail/Greenway Project (Bicentennial Park Phase I) for a 1-year time extension (10/13/15 WS) (10/29/15 CIC 4-0)

Sponsors: Paul Holzen and Engineering
Attachments: [2012-0190_3rd_Ave_N_Trail_TDOT_Amendment_No_3.pdf](#)
4. [15-0987](#) Consideration of Supplement No. 1 to TDOT Contract No. 7914 (COF Contract No. 2012-0161) for the Water Line Easements Contract for the I-65 Widening/Goose Creek Interchange (10/29/15 CIC 4-0)

Sponsors: Engineering
Attachments: [15-0987 COF 2012-0161 Supplement 1 B TDOT contract 7914 Law approved.p](#)
[7914 backup documents.pdf](#)
5. [15-0988](#) Consideration of Change Order No. 1 to the Construction Contract (COF Contract No. 2014-0301) with J.S. Haren for the Fieldstone Farms Pump Station No. 1 Rehabilitation Project for a cost INCREASE of \$109,522.00 (10/29/15 CIC 4-0)

Sponsors: Engineering
Attachments: [Change Order No 1.docx](#)
[Change Order No 1 email from contractor.pdf](#)

6. [15-0991](#) Consideration of a Professional Services Agreement (COF Contract 2015-0322) with CDM Smith, Inc. for a Drainage System Evaluation of Jordan Branch for an amount not to exceed \$68,500 (10/29/15 CIC 4-0)

Attachments: [15-0991 COF 2015-0322 and attachment A Jordan Branch CDM PSA Law ar](#)
[COF 2015-0322 Jordan Branch Drainage Basin Map](#)

7. [15-0992](#) Consideration of a Professional Services Agreement (COF Contract 2015-0356) with Civil & Environmental Consultants, Inc. for a Feasibility Study for Stream Bank Stabilization at Liberty Hills and Royal Oaks Subdivisions for an amount not to exceed \$68,700 (10/29/15 CIC 4-0)

Attachments: [15-0992 COF 2015-0356 Ralston Creek at Liberty Hills Feasibility Study PSA.L](#)

8. [15-0989](#) Consideration of a Request to Deny Sanitary Sewer Availability for 1110 Gardner St (Map 89H, Parcel 00600) (10/29/15 CIC 4-0)

Attachments: [1110 Gardner St Availability Request](#)

9. [15-0990](#) Consideration of a Request for Sanitary Sewer Availability Approval for 1660 Mallory Lane (Map 53 Parcel 03001) (10/29/15 CIC 4-0)

Attachments: [1660 Mallory Lane Sewer Availability Request](#)

10. [15-0539](#) Discussion on Mack Hatcher Parkway Northbound at Liberty Pike, NO TURN ON RED SIGN

Sponsors: Engineering

Attachments: [NTOR 2015 CIC recommendation Exhibit 1.docx](#)

Legislative History

6/25/15	Capital Investment Committee	referred to the Capital Investment Committee
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11. [15-0880](#) Discussion to install a NO TURN ON RED for the northbound at Royal Oaks Boulevard right turn movement onto Murfreesboro Road (SR 96 East)

Sponsors: Paul Holzen

Attachments: [SR96 @ RO Crash Diagram.pdf](#)
[SRO NB @ Murf dottedline.pdf](#)
[SRO NB @ Murf NTOR.pdf](#)
[RoyalOaks_TurningVolumes_Chart.pdf](#)
[RoyalOaks_TurningVolumes_Map.pdf](#)

Legislative History

9/24/15	Capital Investment Committee	referred to the Capital Investment Committee
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12. [15-0984](#) Transportation Projects Status Report
Sponsors: Engineering
13. [15-0985](#) Water and Sewer Projects Status Report
Sponsors: Engineering
14. [15-0986](#) Stormwater Projects Status Report
Sponsors: Engineering
15. [15-0983](#) Discussion Regarding November, 2015 Capital Investments Meeting Date.

Other Business**Adjournment**

ANYONE REQUESTING ACCOMMODATIONS DUE TO DISABILITIES SHOULD CONTACT A.D.A. COORDINATOR, AT 791-3277 AT LEAST 10 DAYS PRIOR TO THE MEETING, IF POSSIBLE.

RESOLUTION 2015-86

TO BE ENTITLED: "A RESOLUTION DECLARING CERTAIN RIGHT-OF-WAY LOCATED BETWEEN EVANS STREET AND LEWISBURG AVENUE AS SURPLUS AND DISPOSING OF SAID PROPERTY."

WHEREAS, the Board of Mayor and Aldermen (BOMA) by approving this resolution, are determining that the existing right-of-way between Evans Street and Lewisburg Avenue as shown on Exhibit A is no longer necessary, suitable and desirable for the public welfare; and

WHEREAS, because this right-of-way is no longer needed, the City now desires to declare the Right-of-Way as surplus property in order to sell or dispose of the property to the adjoining property owners of Map 78F, Parcel Nos. 1, 2, 3, 4, 4.1, 5, 7, 8, 9 and 10.01; and

WHEREAS, the existing right-of-way between Evans Street and Lewisburg Avenue would be considered a non-buildable lot and staff has determined the value to be less than \$25,000; and

WHEREAS, in general the surplus property shall be disposed of equally (50/50) to property owners adjacent to both sides of the City right-of-way as shown in Exhibit A; and

WHEREAS, the City will realize additional tax benefits from this property being returned to the tax roll with such transfer of ownership of the property; and

WHEREAS, Municipal Code (Chapter 8; Sec. 5-802) allows for the BOMA to sell or dispose of right-of-way by negotiated contract or by other means that will adequately protect the public interest when the value does not exceed \$25,000.

NOW THEREFORE, BE IT RESOLVED by the Board of Mayor and Aldermen of the City of Franklin, Tennessee, that the Right-of-Way as shown in attached Exhibit A is hereby declared surplus property.

BE IT FURTHER RESOLVED by the Board of Mayor and Aldermen that the right-of-way so declared as surplus shall be disposed equally (50/50) to the property owners of Map 78F, Parcels Nos. 1, 2, 3, 4, 4.1, 5, 7, 8, 9 and 10.01 as negotiated by the City Engineer and approved by the City Administrator with the following conditions:

- 1) Require a Public Utility, Drainage and Access Easement on the property being vacated as determined by the City Engineer.
- 2) Require the property owners to complete a survey of the surplus right-of-way and pay all closing cost associated with the transfer of the property.

IT IS SO RESOLVED AND DONE on this 10th day of November 2015.

ATTEST:

CITY OF FRANKLIN, TENNESSEE

By: _____
ERIC S. STUCKEY
City Administrator

By: _____
DR. KEN MOORE
Mayor

Approved as to Form

By: _____
Shauna Billingsley, City Attorney



CAREN A. LIPSCOMB
TAX MAP 078F PARCEL 4.00
DEED BOOK 4973 PAGE 92
509 S. MARGIN STREET

WILLIAM ROBERT JR &
JACQUELYNE A. CANADAY
TAX MAP 078F PARCEL 4.01
DEED BOOK 1614 PAGE 877
507 S. MARGIN STREET

JAMES F. & BARBARA S. OGILVIE
TAX MAP 078F PARCEL 5.00
DEED BOOK 4621 PAGE 99
505 S. MARGIN STREET

TOTAL SQUARE FOOTAGE:
4,563.06 SF (0.105 AC)

PATRICIA M ROSS
TAX MAP 078F PARCEL 3.00
DEED BOOK 4678 PAGE 213
809 EVANS STREET

PETER SHEA
TAX MAP 078F PARCEL 2.00
DEED BOOK 6452 PAGE 200
813 EVANS STREET

JAMES E. & CHARLOTTE HOUSE
TAX MAP 078F PARCEL 1.00
DEED BOOK 374 PAGE 985
817 EVANS STREET

PAUL & CHLOE HANNAH
TAX MAP 078F PARCEL 10.01
DEED BOOK 5821 PAGE 631
819 EVANS STREET

DANIEL & SUSAN CREMIN
TAX MAP 078F PARCEL 7.00
DEED BOOK 1206 PAGE 553
102 LEWISBURG AVENUE

ROLLING HOLLOW PROP. LLC
TAX MAP 078F PARCEL 8.00
DEED BOOK 6284 PAGE 287
104 LEWISBURG AVENUE

NED H. & RACHEL E. JONES
TAX MAP 078F PARCEL 9.00
DEED BOOK 1185 PAGE 797
106 LEWISBURG AVENUE

TOTAL SQUARE FOOTAGE:
4,563.06 SF (0.105 AC)

EVANS STREET

N.T.S.

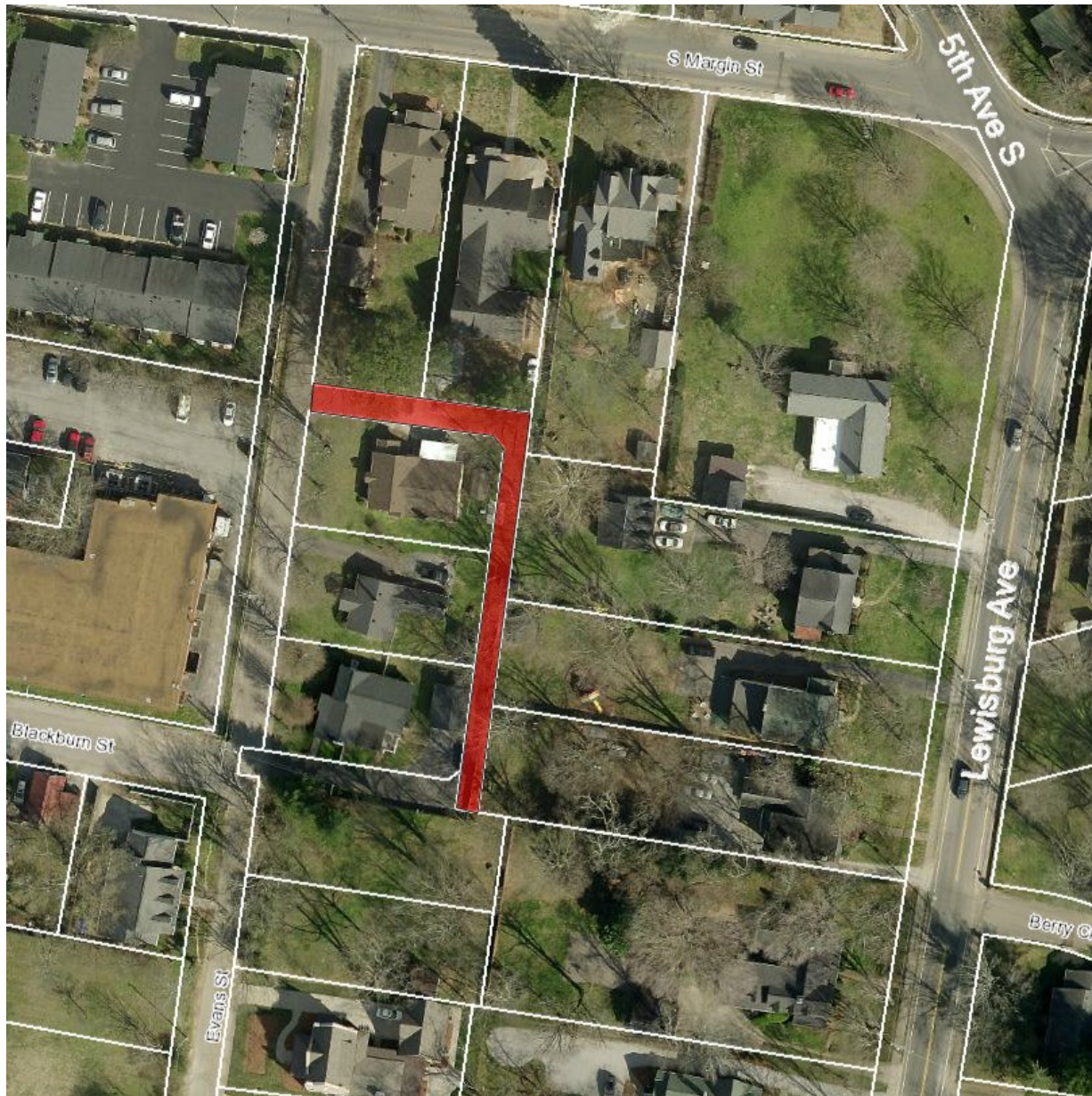
EXHIBIT A

TITLE



CITY OF FRANKLIN ENGINEERING
109 THIRD AVE SOUTH
FRANKLIN, TN 37064

Location Map



Location Map



Amendment Changing a Specific Paragraph(s)

Amendment Number: 3

Agreement Number: 070118

Project Identification Number: 109424.00

Federal Project Number: STP-M-9305(28)

State Project Number: 94LPLM-F3-018

**FOR IMPLEMENTATION OF SURFACE TRANSPORTATION
PROGRAM ACTIVITY**

THIS AGREEMENT AMENDMENT is made and entered into this _____ day of _____, 20____ by and between the STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION, an agency of the State of Tennessee (hereinafter called the "Department") and the **CITY OF FRANKLIN** (hereinafter called the "Agency") for the purpose of providing an understanding between the parties of their respective obligations related to the management of the project described as:

Bicentennial Park - Phase I: Construction of a greenway to connect into the existing system that will provide connection to downtown Franklin.

1. The language of AGREEMENT # 070118 Amendment 2 dated January 15, 2015 Section B.2 a) is hereby deleted in its entirety.
2. The following is added as B.2. a) .
 - a) The Agency agrees to complete the herein assigned phases of the Project on or before December 31, 2016. If the Agency does not complete the herein described phases of the Project within this time period, this Agreement will expire on the last day of scheduled completion as provided in this paragraph unless an extension of the time period is requested by the Agency and granted in writing by the Department prior to the expiration of the Agreement. An extension of the term of this Agreement will be considered termination of the project. The cost of any work performed after the expiration date of the Agreement will not be reimbursed by the Department.

All provisions of the original contract not expressly amended hereby shall remain in full force and effect.

Amendment Changing a Specific Paragraph(s)

IN WITNESS WHEREOF, the parties have caused this instrument to be executed by their respective authorized officials on the date first above written.

CITY OF FRANKLIN

**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

By: _____ By: _____
Ken Moore **Date** **John C. Schroer** **Date**
Mayor **Commissioner**

**APPROVED AS TO
FORM AND LEGALITY**

**APPROVED AS TO
FORM AND LEGALITY**

By: _____ By: _____
Shauna Billingsley **Date** **John Reinbold** **Date**
Attorney **General Counsel**



SUPPLEMENT TO UTILITY RELOCATION CONTRACT

THIS SUPPLEMENT **#1** to Contract No. **7914** made and entered into by and between the **State of Tennessee** acting through its Department of Transportation, hereinafter called "TDOT", and **City of Franklin (Water)**, hereinafter called the "Utility".

WITNESSETH:

WHEREAS, TDOT and the Utility entered into Contract No. **7914**, dated the **10th day of December, 2012**, in which the parties agreed to certain matters concerning the relocation of utilities on PIN No. **106269.00, I-65, From North of SR-840 to North of SR-248 (Includes SR-248 – Goose Creek Interchange)**, located in **Williamson** County, Tennessee; and

WHEREAS, it is desired by the parties that the hereinafter mentioned changes be made in said original contract;

NOW, THEREFORE, for a valuable consideration it is agreed by and between the parties as follows:

To change the paragraph,

WHEREAS, TDOT plans to construct PIN Number **106269.00, I-65, From North of SR-840 to North of SR-248 (Includes SR-248 – Goose Creek Interchange)**, located in **Williamson County**, Tennessee (hereinafter called the "Project"), and for said Project to be constructed it will be necessary for the Utility to convey existing utility easements for the proposed highway right-of-way and acquire replacement easements for the relocation of their facilities in order that said Project may be constructed; and

To the following,

WHEREAS, TDOT plans to construct PIN Number **106269.01, I-65, From North of SR-840 to North of SR-248 (Includes SR-248 – Goose Creek Interchange)**, located in **Williamson County**, Tennessee (hereinafter called the "Project"), and for said Project to be constructed it will be necessary for the Utility to convey existing utility easements for the proposed highway right-of-way and acquire replacement easements for the relocation of their facilities in order that said Project may be constructed; and

To change the paragraph,

WHEREAS, the Utility has furnished TDOT with a relocation plans and an estimate showing the cost of acquiring said replacement easements, which estimate is in the amount of **\$11,090.00**; and;

To the following,

WHEREAS, the Utility has furnished TDOT with a relocation plans and an estimate showing the cost of acquiring said replacement easements, which estimate is in the amount of **\$55,242.30**; and,

It is understood that the above are the only changes made in said contract.

IN WITNESS WHEREOF, the parties have EXECUTED this agreement

UTILITY

City of Franklin (Water)

BY: _____

TITLE: _____

DATE: _____

APPROVED AS TO FORM:

By: _____
Shauna R. Billingsley
City Attorney

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BY: _____
John C. Schroer
Commissioner

DATE: _____

APPROVED AS TO FORM:

BY: _____
John H. Reinbold
General Counsel



SUPPLEMENTAL
CONTRACT

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
600 J.K. Polk Bldg.
NASHVILLE, TN 37243-0337

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

Contract transmitted Date: 3/3/2015

PATRICIA PROCTOR
CITY OF FRANKLIN
109 3RD AVE. SOUTH
FRANKLIN, TN 37064

Water Sewer

PROJECT#/S: 94002-2181-44 COUNTY/S: WILLIAMSON
FEDERAL#: IM/HPP-65-2(89) PIN #: 106269.01.
DESCRIPTION: I-65, FROM N. OF SR-840 TO N. OF SR-248 (INCLUDES SR-248 - GOOSE CREEK INTERCHANGE), 106269.01 AND 106269.02.

Please refer to the above captioned project number on all correspondence concerning utility relocation.

Dear Mr. PATRICIA PROCTOR,

Enclosed are two (2) originals of the contract between the State and your utility prepared to cover the adjustment of facilities belonging to your company on the above referenced project.

The Contracts must have all boxes checked and blank lines completed

The Contracts must be signed by **either**

- 1) **an officer of the company (President, Vice-President, or General Manager or**
- 2) **an individual that is specifically authorized by the board of directors to execute agreements and bind the company to those agreements. The individual must provide a letter of empowerment, signed by an officer of the company.**

This project is currently scheduled for letting.

After all copies of the contract have been executed on behalf of the utility, please return TWO (2) ORIGINALS to me for further handling. A signed copy will be sent to you with the authorization to begin work once the contract is executed by TDOT.

Sincerely,



Michael Horlacher
600 J.K. Polk Bldg.
Nashville, TN 37243-0337
Right-of-Way Office
Phone: (615) 741-6802
Fax: (615) 532-1548
Email:

Enclosure

cc: BRAD MONTGOMERY
Ronnie Porter, TDOT Programming Office
File

Utility Relocation Estimate
Summary of Project Cost
(Attach Utility Detailed Worksheets)

Supplement 1

Project No: 94002-2181-44

County: Williamson

Date: May 23, 2014

for consideration of reimbursement on this project.**

Contact Name (1): Mark Hilty
E-mail: mark.hilty@franklin.tn.gov Phone: 615-794-4554
Contact Name (2): Paul Holzen
E-mail: paul.holzen@franklin.tn.gov Phone: 615-791-3218
Utility Name: City of Franklin Water Management
Address: 124 Lumber Drive
City, State: Franklin, TN Zip: 37064

TDOT Use ONLY	
RG Approval and Date:	See Approval Below 1/8/14
Consult Appr. Date:	3/20/14
Amount Approved:	\$939,913.27
HQ Approval and Date:	11/13/14
CH86 Y/N	PIN# 106209.01
LET: 8/30/13	Contract #: 7913
Easement Contract #	7914

Percent On Private: 42% Private ROW - # Main Poles/Length facility:
Percent On Public: 58% Public ROW - # Main Poles/Length facility:
Total Percentage: 100% Total Number of poles/Length of facility: 0

Is Utility Chapter 86 Certified (Obtained from Certification Sheet)? ☒ Y

(If project does not qualify for Chapter 86 Reimbursement, then "Percent on Private" will be used to calculate total amount due to Utility)

☐ **NO COST / NO REIMBURSEMENT** (STOP HERE. REMAINDER OF FORM IS NOT REQUIRED)

UTILITY REQUESTS ☐ Chapter 86 Move Prior ☐ % Public / Private Utility Relocation
REIMBURSEMENT: ☒ Chapter 86 MOVE IN ☐ % Public / Private MOVE IN State Contract
(Please check ONE) ☐ Other ☐ Utility Replacement Easement Reimbursement

A. Labor

1) Construction Labor (In House) + (Contract) + (Overhead) (From Pg 6.1)	Ref Page:	\$ 853,578.00
2) Preconstruction Engineering (In House)+(Consultant)+(Overhead)(From Pg 6.1)	Ref Page:	\$ -42,407.25
3) Construction Engineering (In House) + (Consultant) + (Overhead) (From Pg 6.1)	Ref Page:	\$ -12,540.36
4) Other Expenses (Transportation, Lodging, Meals, Printing, etc.) (From Pg 6.1)	Ref Page:	\$ 664.00
5) Easement Acquisition Expenses (From Pg 6.1)	Ref Page:	\$ 55,242.30
6) Inspection (From Pg 6.1)	Ref Page:	\$ 13,272.00
(Includes Betterment)		
Total A		\$ -922,431.61

B. Materials & Supply

1) Subtotal Material to Install (From Pg 5.1)	Ref Page:	\$ -
2) Note only: Material provided to State Contractor (Pg 5.1)	Ref Page:	\$ -
Less: Salvage (Estimated Values only. Final bill will include actual salvage values.)		
1.1 Subtotal Material Recovered/Salvaged (From Pg 3.1)	Ref Page:	\$ -
1.2 Subtotal Non-Usable (junked) (From Pg 3.1)	Ref Page:	\$ -
Total Material Recovered/Salvaged/Junked		\$ -
(Includes Betterment)		
Net Material Cost		Total B \$ -

C. Site Cost

1) Clearing and Grubbing (From Pg 2.1)	Ref Page:	\$ -
2) Traffic Control (From Pg 2.1)	Ref Page:	\$ -
3) Erosion Control (From Pg 2.1)	Ref Page:	\$ -
(Traffic and Erosion Control are not required if utility chooses MOVE IN Contract)		
Total C		\$ -

D. Total Cost (Contract Amount)

(W/out Betterment) Total D = (A+B+C)-E **\$ 816,393.27** (Includes Betterment) **Total D=(A+B+C) \$ -922,431.61**

E. Betterment

1) Betterment - Labor Installation & Removal (From Page 3.1 & 5.1)	Ref Page:	\$ 123,520.00
2) Betterment - Materials (From Page 5.1)	Ref Page:	\$ -
Total Betterment		Total E \$ 123,520.00

F. Total Amount Due:

Estimate exceeds \$1.75M = N

Estimate capped 75% = Y

Utility Reimbursement **\$68,007.27**
Amount Utility Owes (CH86 exceeds \$1.75M)
Amount Utility Owes (CH86 exceeds 75%)

Chapter 86 Move	Chapter 86 Move	Non-Chapter 86	Non-Chapter 86
Prior	Prior	Move In	Move Prior
\$ -68,053.61	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -

Utility Deposit (if applicable):

\$ 123,520.00

* Inspection cost for Private is added after the percentage is applied.

The Utility will reference the page number where designated on the form when other Detail Cost Worksheets are attached.

APPROVED
DATE 7/8/2014
BY *Wendy M. Hilty*
REG UTILITIES OFFICE



Chapter 86 Certification

accordance
with
Tennessee

PROJECT #/S: 94002-2181-44

COUNTY/S: Williamson

FEDERAL: IM-HPP-65-2(89)

PIN: 106269.01

1. The utility is seeking reimbursement under provisions of TCA 54-5-804 as amended by Public Acts 2003, Chapter number 86.
2. To the best of my knowledge the utility is in compliance with TCA § 54-5-804(a)(1) and this policy in that the utility has returned its relocation plan, schedule, and cost estimate to the Department within 120 days after receipt of the Department's project plans, or within such additional time as may be allowed in accordance with TCA § 54-5-854(b).
3. To the best of my knowledge the utility is in compliance with TCA 54-5-804(b) in that the utility has a valid permit to locate its utility facility on the public highway right-of-way.
4. The utility is eligible for reimbursement in accordance with the Limitation provisions of the TDOT Policy 340-07 in that it is:
☒ Municipally Owned ☐ Utility District ☐ Utility Cooperative
5. The utility is considered to be a specific utility category listed in accordance with the Limitation provisions of the TDOT Policy 340-07:
☒ Water
☐ Waste Water
☐ Gas ☐ Distribution ☐ Transmission
☐ Electric ☐ Distribution ☐ Transmission
☐ Communication ☐ CATV ☐ Phone ☐ Fiberoptic ☐ Broadband
☐ Street Lighting
☐ Other

Signature indicates this individual has the legal authority to sign contracts and agreements to obligate the utility.

Signed: Paul P. Holzen

Date: 3/20/12

Print Name: Paul P. Holzen

Title: Director of Engineering

Utility Name: City of Franklin - Water

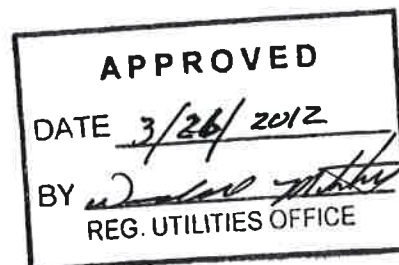
Address: 109 3rd Ave S

City, State, Zip: Franklin, TN 37064

Phone No: 615-290-2717

Fax No: _____

Email: paul.holzen@franklin-tn.gov



Request for Construction Change
Change Order No. 1

City of Franklin
Engineering Office
109 Third Avenue South
Franklin, TN 37064

Contract No. 2014-0301
Project Fieldstone Farms Pump Station No 1
Rehabilitation and Safety Improvements
Project

Whereas, we, J.S. Haren entered into an contract with the CITY OF FRANKLIN, on February 24, 2015, for the construction by said Contractor of the above designated contract; and Whereas, certain items of construction encountered are not covered by the original contract, we desire to submit the following additional items of construction to be performed by the Contractor and paid by the City at the prices scheduled therefore below:

Reason for Change Order:

1. Raise elevation of wetwell and valve vault walls and the electrical room slab one vertical foot to remove it from the 100 year floodplain elevation
2. Provide a contingency line item

Attachments (List documents supporting change):

1. Email from J.S. Haren showing the breakdown of costs for raising the wetwell and valve vault walls and the electrical room slab

Item No.	Description of Work	Unit	Estimate Quantity	Unit Price	Amount
F	Contingency	LS	1	\$100,000	\$100,000
TOTAL					\$100,000

CHANGE IN CONTRACT PRICE:
Original Contract Price
\$1,592,000.00
Net Increase (Decrease) from previous Change Orders
No. 0 to 1:
\$0
Contract Price prior to this Change Order:
\$1,592,000.00
Net increase of this Change Order:
\$109,522.00
Contract Price with all approved Change Orders:
\$1,701,522.00

CHANGE IN CONTRACT TIMES:
Original Contract Times:
Substantial Completion: July 28, 2016
Ready for final payment: August 27, 2016
Net change from previous Change Orders No. 0 to 1:
Substantial Completion: July 28, 2016
Ready for final payment: August 27, 2016
Contract Times prior to this Change Order:
Substantial Completion: July 28, 2016
Ready for final payment: August 27, 2016
Net increase (decrease) this Change Order:
Substantial Completion: July 28, 2016
Ready for final payment: August 27, 2016
Contract Times with all approved Change Orders:
Substantial Completion: July 28, 2016
Ready for final payment: August 27, 2016

Now, Therefore, We, J.S. Haren Contractors, hereby agree to this Supplemental Agreement consisting of the above mentioned items and prices, and agree that this Supplemental Agreement is hereby made a part of the original contract and will be performed by this Contractor in accordance with specifications thereof, and that the original contract remain in full force and effect, except in so far as specifically modified by this supplemental Agreement.

RECOMMENDED FOR APPROVAL BY:

By: _____ By: _____ By: _____
ENGINEER CITY PROJECT MANAGER DIRECTOR OF ENGINEERING

Date: _____ Date: _____ Date: _____

ACCEPTED

By: _____
CONTRACTOR (Authorized Signature)

Date: _____

APPROVED:

By: _____
OWNER (Authorized Signature)

Date: _____

Patricia McNeese

From: Mullins Kevin, P <KPMullins@GarverUSA.com>
Sent: Wednesday, October 14, 2015 3:38 PM
To: Patricia McNeese
Subject: FW: Franklin-Fieldstone Farms Pump Station No. 1
Attachments: Revisions for Fieldstone Farms PS.PDF

Patricia,

Here is the backup for the proposed change order number 1.

Sincerely,

Kevin Mullins
Garver
256-534-5512

From: J S Haren [mailto:jsharen1@aol.com]
Sent: Monday, February 09, 2015 2:17 PM
To: Mullins Kevin, P <KPMullins@GarverUSA.com>
Cc: spencer.s@jsharen.com
Subject: Franklin-Fieldstone Farms Pump Station No. 1

Kevin,

As requested, we reviewed the project scope to calculate the cost to raise the top elevation of the wetwell, valve vault, generator pad and the electrical room operating floor by one vertical foot. As the new manhole is so close to the electrical room entry pad, we have included raising this structure also. In raising the electrical room slab, it seems best to leave the foundation bearing at the elevation as shown and then add 1.33 feet to the floor elevation (staying with block work increments) and raise the walls 1.33 feet which provides the same ceiling height. Around the wetwell, valve vault and electrical building, we raised the grade 1 foot for approximately 2 feet around the structures and then sloped to the grades previously established on the project plans. Our calculations are as follows:

1) Raise the wetwell walls and valve vault walls

Concrete work	\$4,225.00
Resteel	975.00
Wetwell lining	1,452.00

2) Electrical Slab

Raise interior and exterior masonry along with insulation and other work items	\$2,215.00
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3) Site Fill	430.00
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4) Raise MH	225.00
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Total \$9,522.00

Please advise if you need anything else in this regards.

Sky

J S Haren
J S Haren Company
1175 Highway 11 North
Athens, TN 37371
423-745-5000
423-745-5252 FAX

**CITY OF FRANKLIN, TENNESSEE
PROFESSIONAL SERVICES AGREEMENT
COF Contract No 2015-0322**

THIS PROFESSIONAL SERVICES AGREEMENT ("Agreement") is by and between the City of Franklin, Tennessee, hereinafter referenced as City, and **CDM Smith, Inc.**, hereinafter referenced as Consultant, who mutually agree as follows:

DECLARATIONS. City desires to retain Consultant to provide engineering related technical and survey services in connection with City's project hereinafter referenced as Project. The Project is described as follows:

Jordan Branch Drainage System Evaluation

1. **SCOPE OF SERVICES.** Consultant shall provide engineering related technical and survey services for the Project in accordance with the Scope of Work. The Scope of Work as found in **Attachment A** shall be considered as an integral part hereof.
2. Consultant shall be paid on an hourly basis for work performed based on the fee schedule as contained in **Attachment A** in the Amount Not To Exceed SIXTY-EIGHT THOUSAND FIVE HUNDRED AND NO/100 DOLLARS (\$68,500.00)
3. In event of a conflict between this Agreement and the attached document(s), this Agreement shall supersede conflicting terms and conditions.

**The Board of Mayor and Aldermen Approved this Agreement on the
_____ Day of _____ 2015.**

BY: _____
Consultant's Signature
TITLE: _____
Date: _____

BY: _____
Dr. Ken Moore
Mayor
Date: _____

Approved as to form by:

Kristen L. Corn, Assistant City Attorney

TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES

ARTICLE 1. SERVICES. Consultant will:

- 1.1 Act for City in a professional manner, using that degree of care and skill ordinarily exercised by and consistent with standards of competent consultants using the standards in the industry:
- 1.2 Consider all reports to be confidential and distribute copies of the same only to those persons specifically designated by the City.
- 1.3 Perform all services under the general direction of a senior professional employee, licensed and/or registered in the State of Tennessee, when appropriate.
- 1.4 Retain pertinent records relating to the services performed for a period of seven (7) years following the completion of the work; during this period the records shall be available for review by City at all reasonable times.

ARTICLE 2. CITY'S RESPONSIBILITIES. City, or its authorized representative, will:

- 2.1 Provide Consultant with all information regarding the Project, which is available to, or reasonably obtainable by, the City.
- 2.2 Furnish right-of-entry onto the Project site for Consultant's necessary field studies and surveys. Consultant will endeavor to restore the site to its original condition and shall remain solely liable for all damages, costs and expenses, including reasonable attorneys' fees, for failure to make such restoration.
- 2.3 Designate, in writing, the sole Project representative to coordinate with and direct the Consultant, including all contact information.
- 2.4 Guarantee to Consultant that it has the legal capacity to enter into this contract and that sufficient monies are available to fund Consultant's compensation.

ARTICLE 3. GENERAL CONDITIONS.

- 3.1 Consultant, by the performance of services covered hereunder, does not in any way assume, abridge or abrogate any of those duties, responsibilities or authorities customarily vested in other professionals or agencies participating in the Project.
- 3.2 Consultant shall be responsible for the acts or omissions of any party involved in concurrent or subsequent phases of the PROJECT acting upon written instruction issued by the Consultant.
- 3.3 Neither City nor Consultant may assign or transfer its duties or interest in this Agreement without written consent of the other party. However, nothing in this Article shall prevent Consultant from engaging

independent consultants, associates, and subcontractors to assist in the performance of the Services at Consultant's cost.

3.4 **ALLOCATION OF RISK AND LIABILITY; GENERAL.** Considering the potential liabilities that may exist during the performance of the services of this Agreement, the relative benefits and risks of the Project, and the Consultant's fee for the services rendered, and in consideration of the promises contained in this Agreement, the City and the Consultant agree to allocate and limit such liabilities in accordance with this Article.

3.5 **INDEMNIFICATION.** Consultant agrees to indemnify and hold City harmless from and against legal liability for all judgments, losses, damages, and expenses to the extent such judgments, losses, damages, or expenses are caused by Consultant's negligent act, error or omission in the performance of the services of this Agreement. In the event judgments, losses, damages, or expenses are caused by the joint or concurrent negligence of Consultant and City, they shall be borne by each party in proportion to its own negligence.

3.5.1 **SURVIVAL.** The terms and conditions of this paragraph shall survive completion of this services agreement.

3.6 **LIMITATIONS OF RESPONSIBILITY.** Consultant shall not be responsible for (a) construction means, methods, techniques, sequences, procedures, or safety precautions and programs in connection with the Project unless specifically undertaken in Attachment A, **SCOPE OF SERVICES**; (b) the failure of any contractor, subcontractor, Consultant, or other Project participant, not under contract to Consultant, to fulfill contractual responsibilities to City or to comply with federal, state, or local laws, regulations, and codes; or (c) procuring permits, certificates, and licenses required for any construction unless such procurement responsibilities are specifically assigned to Consultant in Attachment A, **SCOPE OF SERVICES**.

ARTICLE 4. TERMINATION BY THE CITY. The City may terminate this Agreement in accordance with the following terms and conditions:

4.1 **Termination for Convenience.** The City may, when in the interests of the City, terminate performance under this Agreement with the Consultant, in whole or in part, for the convenience of the City. The City shall give written notice of such termination to the Consultant specifying when termination becomes effective. The Consultant shall incur no further obligations in connection with the work so terminated, other than warranties and guarantees for completed work and installed equipment, and the Consultant shall stop work when such termination becomes effective. The Consultant shall also terminate outstanding orders and subcontracts for the affected work. The Consultant shall settle the liabilities and claims arising out of the

termination of subcontracts and orders. The City may direct the Consultant to assign the Consultant's right, title and interest under termination orders or subcontracts to the City or its designee. The Consultant shall transfer title and deliver to the City such completed or partially completed work and materials, equipment, parts, fixtures, information and Contract rights as the Consultant has in its possession or control. When terminated for convenience, the Consultant shall be compensated as follows:

- (1) The Consultant shall submit a termination claim to the City specifying the amounts due because of the termination for convenience together with costs, pricing or other data required by the City. If the Consultant fails to file a termination claim within one (1) year from the effective date of termination, the City shall pay the Consultant the amount the City deems the Consultant is due.
- (2) The City and the Consultant may agree to the compensation, if any, due to the Consultant hereunder.
- (3) Absent agreement to the amount due to the Consultant, the City shall pay the Consultant the following amounts:
 - (a) Contract costs for labor, materials, equipment and other services accepted under this Agreement;
 - (b) Reasonable costs incurred in preparing to perform and in performing the terminated portion of the work, and in terminating the Consultant's performance, plus a fair and reasonable allowance for direct job site overhead and earned profit thereon (such profit shall not include anticipated profit or consequential damages); provided however, that if it reasonably appears that the Consultant would have not profited or would have sustained a loss if the entire Agreement would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss, if any;

The total sum to be paid the Consultant under this Section shall not exceed the total Agreement Price, as properly adjusted,

reduced by the amount of payments otherwise made, and shall in no event include duplication of payment.

- 4.2 Termination for Cause. If the Consultant does not perform the work, or any part thereof, in a timely manner, supply adequate labor, supervisory personnel or proper equipment or materials, or if it fails to timely discharge its obligations for labor, equipment and materials, or proceeds to disobey applicable law, or otherwise commits a violation of a material provision of this Agreement, then the City, in addition to any other rights it may have against the Consultant or others, may terminate the performance of the Consultant, in whole or in part at the City's sole option, and assume possession of the Project Plans and materials and may complete the work.

In such case, the Consultant shall not be paid further until the work is complete. After Completion has been achieved, if any portion of the Contract Price, as it may be modified hereunder, remains after the cost to the City of completing the work, including all costs and expenses of every nature incurred, has been deducted by the City, such remainder shall belong to the Consultant. Otherwise, the Consultant shall pay and make whole the City for such cost. This obligation for payment shall survive the termination of the Agreement.

In the event the employment of the Consultant is terminated by the City for cause pursuant to this Section and it is subsequently determined by a Court of competent jurisdiction that such termination was without cause, such termination shall thereupon be deemed a Termination for Convenience under this Section and the provisions of Section 4.1 shall apply.

- 4.3 Termination for Non-Appropriation. The City may also terminate this Agreement, in whole or in part, for non-appropriation of sufficient funds to complete or partially complete the Project, regardless of the source of such funds, and such termination shall be on the terms of Section 4.1.
- 4.4 The City's rights under this Section shall be in addition to those contained elsewhere herein or provided by law.

ARTICLE 5. SCOPE OF SERVICES. Consultant shall provide the Services as described in Attachment A, SCOPE OF SERVICES.

5.1 By mutual agreement, this contract and scope can be amended by the parties. The scope and fee for any additional tasks or services under such amendment shall be mutually negotiated and agreed to in writing prior to beginning such additional tasks or services.

5.2 ENVIRONMENTAL RESPONSIBILITY.

Where drilling/sampling services are involved, the samples obtained from the Project site are the property of the City. Should any of these samples be recognized by the Consultant to be contaminated, the City shall remove them from the Consultant's custody and transport them to a disposal site, all in accordance with applicable government statutes, ordinances, and regulations. For all other samples, the Consultant shall retain them for a sixty (60)-day period following the submission of the drilling/sampling report unless the City directs otherwise; thereafter, the Consultant shall discard the samples in accordance with all federal, state and local laws.

ARTICLE 6. SCHEDULE.

6.1 TIME OF THE ESSENCE. The parties agree that TIME IS OF THE ESSENCE with respect to the parties' performance of all provisions of the Agreement.

6.2 FORCE MAJEURE. Neither party will be liable to the other for any delay or failure to perform any of the services or obligations set forth in this Agreement due to causes beyond its reasonable control, and performance times will be considered extended for a period of time equivalent to the time lost because of such delay plus a reasonable period of time to allow the parties to recommence performance of their respective obligations hereunder. Should a circumstance of force majeure last more than ninety (90) days, either party may by written notice to the other terminate this Agreement. The term "force majeure" as used herein shall mean the following: acts of God; strikes, lockouts or other industrial disturbances; acts of public enemies; orders or restraints of any kind of the government of the United States or of the State or any of their departments, agencies or officials, or any civil or military authority; insurrections, riots, landslides, earthquakes, fires, storms, tornadoes, droughts, floods, explosions, breakage or accident to machinery, transmission pipes or canals; or any other cause or event not reasonably within the control of either party.

6.3 Should City request changes in the scope, extent, or character of the Project, the fee and the time of performance of Consultant's services as indicated in Attachment A shall be adjusted equitably.

ARTICLE 7. USE OF DOCUMENTS, DATA.

7.1 All Documents, including, but not limited to, reports, drawings, specifications, and computer software prepared by Consultant pursuant

to this Agreement are instruments of service in respect to the Project. Consultant shall retain an ownership and property interest therein (including the right of reuse at the discretion of the Consultant) whether or not the Project is completed.

7.1.1 **USE OF DATA SYSTEMS:** Ownership, property interests and proprietary rights in data systems used by Consultant do not extend to the data created by or supplied to Consultant by the City; all rights to that data (including derivative or hidden data such as metadata) shall vest solely in City at the moment of creation.

7.1.2 **DISCLOSURE OF DOCUMENTS/DATA.** City may be required to disclose documents or data under state or federal law. City shall notify Consultant if a request for data or documents has been made and shall give Consultant a reasonable opportunity under the circumstances to respond to the request by redacting proprietary or other confidential information. Consultant waives any right to confidentiality of any document, e-mail or file it fails to clearly mark on each page as confidential or proprietary. In exchange, Consultant agrees to indemnify, defend, and hold harmless City for any claims by third parties relating thereto or arising out of (i) the City's failure to disclose such documents or information required to be disclosed by law, or (ii) the City's release of documents as a result of City's reliance upon Consultant representation that materials supplied by Consultant (in full or redacted form) do not contain trade secrets or proprietary information, provided that the City impleads Consultant and Consultant assumes control over that claim.

7.2 City-furnished data that may be relied upon by Consultant is limited to the printed copies that are delivered to the Consultant pursuant to Article 2 of this Agreement. Any copyrighted electronic files furnished by City shall be used by Consultant only for the Project as described herein. City's posting or publication of such documents created by Consultant for City shall constitute fair use and shall not constitute an infringement of Consultant's copyright, if any.

7.3 Documents that may be relied upon by City are limited to the printed copies (also known as hard copies) that are signed or sealed by the Consultant. Files in electronic media format of text, data, graphics, or of other types that are furnished by Consultant to City are only for convenience of City, unless the delivery of the Project in electronic media format has been dictated in Attachment A, SCOPE OF SERVICES. Any conclusion or information obtained or derived from electronic files provided for convenience will be at the user's sole risk.

- 7.4 Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the party delivering the electronic files. Unless stated otherwise herein, Consultant shall not be responsible to maintain documents stored in electronic media format after acceptance by City.
- 7.5 When transferring documents in electronic media format, Consultant makes no representations as to long term compatibility, usability, or readability, of documents resulting from the use of software application packages, operating systems, or computer hardware differing from that as required of, and used by, Consultant at the beginning of this Project.
- 7.6 City may make and retain copies of Documents for information and reference in connection with use on the Project by the City, or his authorized representative. Such Documents are not intended or represented to be suitable for reuse by City or others on extensions of the Project or on any other project. Any such reuse or modifications without written verification or adaptation by Consultant, as appropriate for the specific purpose intended, will be at City's sole risk and without liability or legal exposure to the Consultant or to Consultant's Consultants.
- 7.7 If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- 7.8 Any verification or adaptation of the Documents for extensions of the Project or for any other project will entitle Consultant to further compensation at rates to be agreed upon by City and Consultant.

ARTICLE 8. INSURANCE.

- 8.1 During the performance of the Services under this Agreement, Consultant shall maintain the following minimum insurance:
- a) General Liability Insurance with a combined single limit of \$1,000,000 per occurrence and \$2,000,000 annual aggregate.
 - b) Automobile Liability Insurance with a combined single limit of \$1,000,000 for each person and \$1,000,000 for each accident.
 - c) Workers' Compensation Insurance Coverage A in accordance with statutory requirements and Coverage B, Employer's Liability Insurance, with a limit of \$500,000 for each occurrence.
 - d) Professional Liability Insurance with a limit of \$1,000,000 annual aggregate.
- 8.2 Consultant shall add the City an additional insured on all policies unless otherwise prohibited.

- 8.3 Consultant shall, upon execution of this Agreement, furnish City certificates of insurance, which shall include a provision that such insurance shall not be canceled without at least thirty days' written notice to City.
- 8.4 No insurance, of whatever kind or type is to be considered as in any way limiting other parties' responsibility for damages resulting from their activities in the execution of the Project. City agrees to include, or cause to be included, in the Project's construction contract, such requirements for insurance coverage and performance bonds by the Project's construction contractor as City deems adequate to indemnify City, Consultant, and other concerned parties against claims for damages and to insure compliance of work performance and materials with Project requirements.

ARTICLE 9. PAYMENT.

- 9.1 City will pay Consultant for services and expenses in accordance with the Fee Schedule proposal submitted for the Project as part of the Scope Of Services. Consultant's invoices will be presented at the completion of the work or monthly and will be payable upon receipt. Payment is due upon presentation of invoice and is past due thirty (30) days from invoice date. City shall give prompt written notice of any disputed amount and shall pay the remaining amount.
- 9.2 Consultant shall be paid in full for all services under this Agreement, including City-authorized overruns of the Project budget or unforeseen need for Consultant's services exceeding the original Scope Of Services.
- 9.3 **TRAVEL; EXPENSES**
The City shall reimburse reasonable expenses, including travel and meals, when specified in the Scope Of Services, but only in accordance with the City's Travel and Expense Policy and Procedures Manual. The maximum amount will be applied as of the date of travel and as listed in the per diem reimbursement rates on the "CONUS" website developed by the United States General Services Administration, located at www.gsa.gov [click on 'per diem rates' under the 'etools' category].

ARTICLE 10. MISCELLANEOUS PROVISIONS

- 10.1 **EQUAL EMPLOYMENT OPPORTUNITY.** In connection with this Agreement and the Project, the City and the Consultant shall not discriminate against any employee or applicant for employment because of race, color, sex, national origin, disability or marital status. The City and Consultant will take affirmative action to ensure that contractor used for the Project does not discriminate against any employee and employees are treated during employment without regard to their race, age, religion, color, gender, national origin, disability or marital status.

Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination, rates of pay or other forms of compensation; and selection for training, including apprenticeship.

10.1.1 The Consultant shall insert the foregoing provision in all contracts relating to this Project.

10.2 TITLE VI – CIVIL RIGHTS ACT OF 1964. The City and the Consultant shall comply with all the requirements imposed by Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d), 49 C.F.R., Part 21, and related statutes and regulations.

10.2.1 The Consultant shall insert the foregoing provision in all contracts relating to this Project.

10.3 NO THIRD PARTY RIGHTS CREATED. City and Consultant each binds itself and its successors, executors, administrators, permitted assigns, legal representatives and, in the case of a partnership, its partners, to the other party to this Agreement and to their successors, executors, administrators, permitted assigns, legal representatives and partners of such other party in respect to all provisions of this Agreement. The Services provided for in this Agreement are for the sole use and benefit of City and Consultant. Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than the City and the Consultant.

10.4 WARRANTIES/LIMITATION OF LIABILITY/WAIVER. The City reserves all rights afforded to local governments under law for all general and implied warranties. The City does not waive any rights it may have to all remedies provided by law and therefore any attempt by Consultant to limit its liability shall be void and unenforceable.

ARTICLE 11. EXTENT OF AGREEMENT:

11.1 APPLICABLE LAW/CHOICE OF FORUM AND VENUE. This Agreement is made under and will be construed in accordance with the laws of the State of Tennessee without giving effect to that state's choice of law rules. The parties' choice of forum and venue shall be exclusively in the courts of Williamson County, Tennessee. Any provision of this Agreement held to violate a law or regulation shall be deemed void, and all remaining provisions shall continue in force.

11.2 ENTIRE AGREEMENT. This Agreement, including these terms and conditions, represent the entire Agreement between City and Consultant for this Project and supersedes all prior negotiations, representations or agreements, written or oral. This Agreement may be amended only by written instrument signed by City and Consultant.

ARTICLE 12. DISPUTE RESOLUTION, BREACH.

- 12.1 If a dispute should arise relating to the performance of or payment for the services under this Agreement, the aggrieved party shall notify the other party of the dispute within a reasonable time after such dispute arises. During the pendency of any dispute, the parties shall continue diligently to fulfill their respective obligations hereunder. No arbitration or mediation shall be required as a condition precedent to filing any legal claim arising out of or relating to the Contract. No arbitration or mediation shall be binding.
- 12.2 BREACH. Upon deliberate breach of the Contract by either party, the non-breaching party shall be entitled to terminate the Contract with notice, with all of the remedies it would have in the event of termination, and may also have such other remedies as it may be entitled to in law or in equity.

ARTICLE 13. SURVIVAL.

The provisions contained in this Professional Services Agreement shall survive the completion of or any termination of the Contract, agreement or other document to which it may accompany or incorporate by reference or which subsequently may be modified, unless expressly excepted from this Article upon consent of both parties.

COF 2015-0322
Attachment A
Proposed Scope of Services for Drainage System Evaluation
Jordan Branch
Franklin, TN

This document is an Exhibit to the Agreement for Professional Services between the City of Franklin, Tennessee (City) and CDM Smith, Inc. (CDM Smith) dated _____ 2____.

Scope of Services:

CDM Smith will perform a drainage system evaluation for the Jordan Branch watershed, which is a tributary to Spencer Creek. The evaluation will include hydrologic and hydraulic modeling of the stormwater system adjacent to the Cool Springs Galleria mall along Mallory Lane between Moores Lane and the confluence of Jordan Branch with Spencer Creek. The study is being performed to identify potential improvements for frequent flooding along the corridor and to also identify potential water quality improvements if possible. CDM Smith will develop recommendations based on the work performed, all of which will be documented in a final report. The scope of work for the project is provided herein.

Task 1 Project Coordination and Meetings

CDM Smith has included a number of meetings with City staff to be used during the project. The purpose of the meetings with staff is for CDM Smith to collect information pertaining to the project as necessary and to provide project status updates for the City.

The following is a list of intended meetings:

- **Kickoff Meeting (1)** – intended to establish project lines of communication and to discuss the elements of the scope of work. As a deliverable from the meeting, CDM Smith will develop a project schedule defining specific milestones. The kickoff meeting will also include a windshield survey of Jordan Branch with appropriate staff to locate and identify issues of concern for the City;
- **Progress Meetings (1)** – one meeting to provide staff with project updates, to discuss project strategy, to provide interim project results, and to plan/review deliverables;

Task 2 Data/Information Assessment

Task 2.1 *Compilation and Review of Available Data*

CDM Smith will compile and review existing GIS and pertinent information to support the subsequent tasks in the development of the drainage system evaluation. Anticipated information to be reviewed and considered includes, but is not limited to:

- GIS base mapping data (e.g. aerials, parcels, land use, contours, LiDAR, etc.)
- Stormwater and other utility mapping
- Major site development plans (specifically, for the Cool Springs Galleria Mall)
- Local rainfall data
- Federal Emergency Management Agency (FEMA) floodplain information
- Historic flooding information (High water marks, storm water requests, flood damage claims information)
- Previous studies / reports (CDM study of Spencer Creek)

Task 3 Field Collection/Assessment

Based on the results of the data collection performed in the previous task, CDM Smith will collect field inventory and survey as described below to support the drainage system evaluation. The assumptions used to derive the scope of work are noted below:

Task 3.1 Field Inventory and Survey

CDM Smith will collect open channel and closed drainage system inventory features along the Jordan Branch corridor. Anticipated collection efforts include:

- Survey of all open-system roadway/bridge/dam crossings (upstream face, downstream face, structure, and top of road) along Jordan Branch adjacent to the mall. Survey of approximately 7 roadway/bridge/dam surveys is anticipated for this scope. *(NOTE: accurate as-built or site plan information for the Mall may reduce this number).*
- Survey of open channel cross sections (channel plus 20 feet +/- from top of bank on overbanks) along the Jordan Branch corridor extending from Moores Lane to the confluence with Spencer Creek. Approximately 12 cross section surveys are anticipated.
- Field survey of closed pipe systems (e.g. inverts, pipe sizes and materials, rim elevations, etc.) is not anticipated for this scope of work. It has been assumed that information regarding closed pipe systems can be derived from site development plans provided by the City.

Survey of roadway/bridge crossings will be conducted to survey-grade accuracy (tied to State Plane coordinates) by a licensed surveyor. Open channel cross section surveys will be performed using mapping-grade GPS units, at a minimum. Vertical measurements for mapping-grade cross sections will be referenced to available LiDAR or DEM data to obtain channel elevations.

Task 4 Hydrologic and Hydraulic Analysis

CDM Smith will develop a hydrologic and hydraulic model of the Jordan Branch watershed, using the original Spencer Creek SWMM model as a base. Modeling will be performed as per the following subtasks:

Task 4.1 Model Development, Updates and Execution

Based on the field data collection and site plans provided by the City, CDM Smith will develop an existing conditions model of the Jordan Branch watershed. CDM Smith will simulate five design storm events of appropriate duration: 2-, 5-, 10-, 25- and 100-year. These design storms are necessary to evaluate the conditions and potential improvement alternatives for predicted drainage issues, roadway flooding and/or structural flood protection. The design storm event models will be simulated for build-out land-use conditions.

Task 4.2 Model Validation

CDM Smith will conduct a model validation analysis for the existing conditions model using local rainfall data, regression equations, drainage complaints, and similar watershed information (note: no USGS gage in watershed) for one representative storm event.

Task 5 Drainage Improvements Alternatives Evaluation and Cost Development

CDM Smith will review the results of this modeling effort to identify potential drainage improvement projects. Drainage infrastructure that does not meet the City's desired performance standard (as discussed during the Kickoff Meeting) will be evaluated for improvements. For all projects identified, CDM Smith will develop a conceptual improvement alternative to satisfy the performance standard. In addition, CDM Smith will develop a conceptual opinion of probable cost. A more detailed description of this task is provided below:

Task 5.1 Problem Area Identification

CDM Smith will review the results of the modeling effort. Where the system does not meet the intended level of service, an appropriate level of service will be determined based on the other modeling runs. The results of the comparison will be included in tables and figures showing the location of the deficiencies, intended LOS,

and actual LOS.

Task 5.2 *Improvement Alternatives Evaluation*

For the problem areas identified in Task 5.1, CDM Smith will perform an evaluation of improvement alternatives to mitigate flooding impacts to roads and/or structures. The evaluation will include the consideration of stormwater infrastructure improvements, stormwater detention, changes to roadway elevations, floodplain alterations, etc. The target for each improvement alternative will be to achieve the intended LOS standard for both roadway and structural flooding. Based on feedback from the City, CDM Smith will select one alternative to evaluate for each infrastructure issue.

Task 5.3 *Development of Conceptual Opinions of Probable Cost*

CDM Smith will develop conceptual opinions of probable cost for each recommended improvement project. The costs will include assumptions for engineering, design, permitting, construction and contingency funds.

Task 6 *Drainage System Report*

CDM Smith will produce a Drainage System Report for the Jordan Branch corridor along Mallory Lane summarizing the work from Tasks 1 through 5. The Report will include the identification and summary of stormwater drainage issues presently existing along the corridor. Based on the alternatives evaluation performed in Task 5, CDM Smith will compile a list of drainage improvement and/or maintenance projects that may be implemented to resolve or alleviate the identified drainage issues.

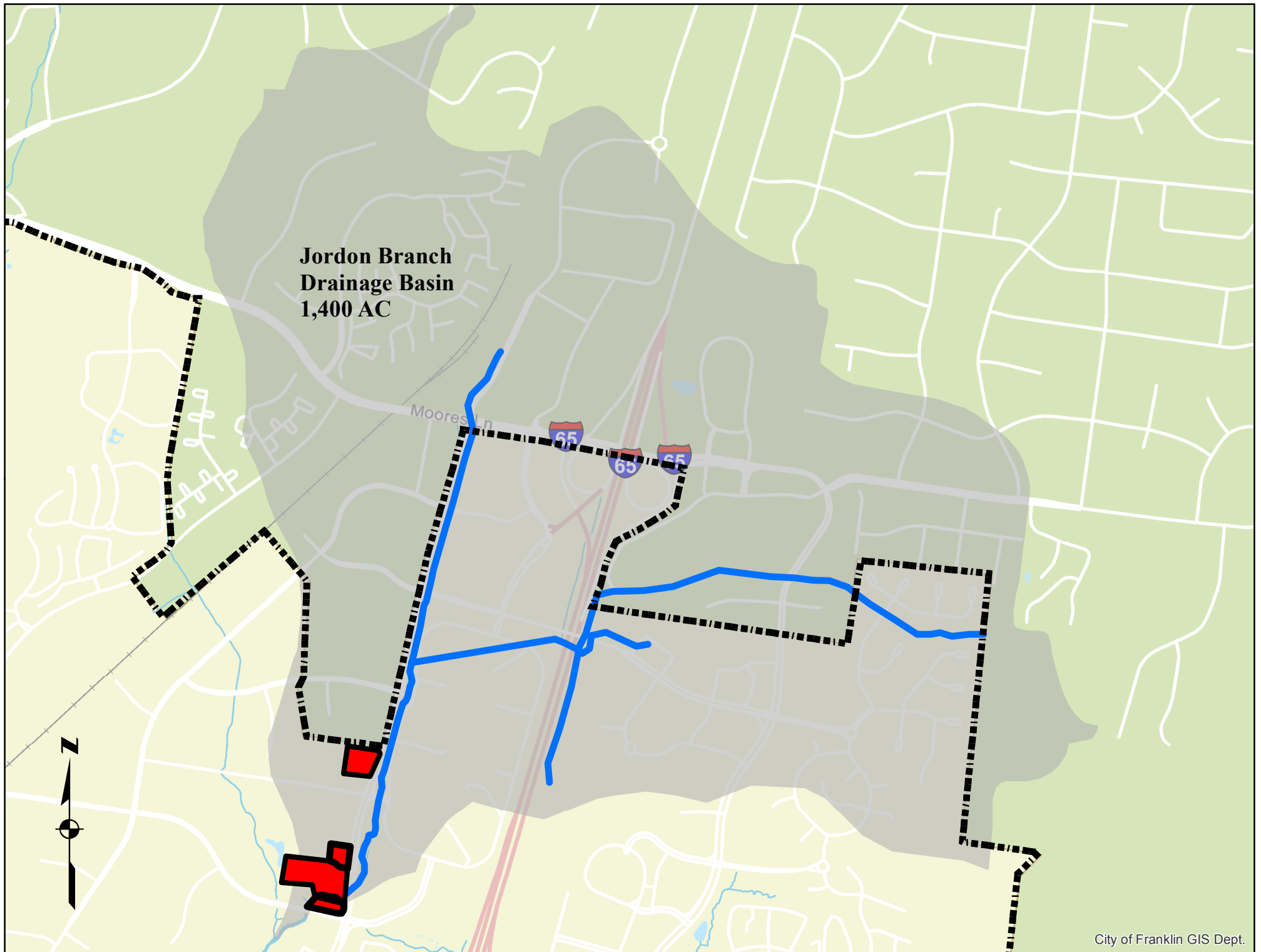
Recognizing that the City has limited funding for capital projects, CDM Smith will provide a project phasing plan for the proposed improvements. The protocol to develop the phasing plan will be developed collaboratively with the City, but will consider such factors as predicted level of service, public safety concerns, and implementation difficulty. The end result will be a phased and prioritized list of projects for use by the City in populating a CIP plan.

CDM Smith will prepare up to three (3) copies of the draft report for review and comment by City staff. The draft will also be presented as an electronic file in Adobe Acrobat PDF format. CDM Smith will incorporate one round of comments made by the City on the draft report into a final report. CDM Smith will provide the City with three (3) bound, printed copies and one electronic copy (in Adobe Acrobat PDF format) of the final report. The report appendix will include relevant field and modeling data.

Fee for Scope of Services:

For the Scope of Services under Tasks 1 through 6 of this Exhibit, the City of Franklin agrees to pay CDM Smith on a billing rate basis up to a maximum, not-to-exceed upper limit of (\$68,500). This budget includes an allowance of \$10,000 for field survey based on assumed need. CDM Smith will invoice the City on a monthly basis based on work completed.

Should changes or extra services be needed, which will cause a cost overrun; CDM Smith will consult with the City for adjustments prior to conducting the work.



**CITY OF FRANKLIN, TENNESSEE
PROFESSIONAL SERVICES AGREEMENT
COF Contract No 2015-0356**

THIS PROFESSIONAL SERVICES AGREEMENT ("Agreement") is by and between the City of Franklin, Tennessee, hereinafter referenced as City, and **Civil & Environmental Consultants, Inc.**, hereinafter referenced as Consultant, who mutually agree as follows:

DECLARATIONS. City desires to retain Consultant to provide engineering related technical and survey services in connection with City's project hereinafter referenced as Project. The Project is described as follows:

Feasibility Study for Ralston Creek at Liberty Hills

1. **SCOPE OF SERVICES.** Consultant shall provide engineering related technical and survey services for the Project in accordance with the Scope of Work. The Scope of Work as found in **Attachment A** shall be considered as an integral part hereof.
2. Consultant shall be paid on an hourly basis for work performed based on the fee schedule as contained in **Attachment A** in the Amount Not To Exceed SIXTY-EIGHT THOUSAND SEVEN HUNDRED AND NO/100 DOLLARS (\$68,700.00)
3. In event of a conflict between this Agreement and the attached document(s), this Agreement shall supersede conflicting terms and conditions.

**The Board of Mayor and Aldermen Approved this Agreement on the
_____ Day of _____ 2015.**

BY: _____
Consultant's Signature
TITLE: _____
Date: _____

BY: _____
Dr. Ken Moore
Mayor
Date: _____

Approved as to form by:

Shauna R. Billingsley, City Attorney

TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES

ARTICLE 1. SERVICES. Consultant will:

- 1.1 Act for City in a professional manner, using that degree of care and skill ordinarily exercised by and consistent with standards of competent consultants using the standards in the industry;
- 1.2 Consider all reports to be confidential and distribute copies of the same only to those persons specifically designated by the City.
- 1.3 Perform all services under the general direction of a senior professional employee, licensed and/or registered in the State of Tennessee, when appropriate.
- 1.4 Retain pertinent records relating to the services performed for a period of seven (7) years following the completion of the work; during this period the records shall be available for review by City at all reasonable times.

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- 2.1 Provide Consultant with all information regarding the Project, which is available to, or reasonably obtainable by, the City.
- 2.2 Furnish right-of-entry onto the Project site for Consultant's necessary field studies and surveys. Consultant will endeavor to restore the site to its original condition and shall remain solely liable for all damages, costs and expenses, including reasonable attorneys' fees, for failure to make such restoration.
- 2.3 Designate, in writing, the sole Project representative to coordinate with and direct the Consultant, including all contact information.
- 2.4 Guarantee to Consultant that it has the legal capacity to enter into this contract and that sufficient monies are available to fund Consultant's compensation.

ARTICLE 3. GENERAL CONDITIONS.

- 3.1 Consultant, by the performance of services covered hereunder, does not in any way assume, abridge or abrogate any of those duties, responsibilities or authorities customarily vested in other professionals or agencies participating in the Project.
- 3.2 Consultant shall be responsible for the acts or omissions of any party involved in concurrent or subsequent phases of the PROJECT acting upon written instruction issued by the Consultant.
- 3.3 Neither City nor Consultant may assign or transfer its duties or interest in this Agreement without written consent of the other party. However, nothing in this Article shall prevent Consultant from engaging

independent consultants, associates, and subcontractors to assist in the performance of the Services at Consultant's cost.

3.4 **ALLOCATION OF RISK AND LIABILITY; GENERAL.** Considering the potential liabilities that may exist during the performance of the services of this Agreement, the relative benefits and risks of the Project, and the Consultant's fee for the services rendered, and in consideration of the promises contained in this Agreement, the City and the Consultant agree to allocate and limit such liabilities in accordance with this Article.

3.5 **INDEMNIFICATION.** Consultant agrees to indemnify and hold City harmless from and against legal liability for all judgments, losses, damages, and expenses to the extent such judgments, losses, damages, or expenses are caused by Consultant's negligent act, error or omission in the performance of the services of this Agreement. In the event judgments, losses, damages, or expenses are caused by the joint or concurrent negligence of Consultant and City, they shall be borne by each party in proportion to its own negligence.

3.5.1 **SURVIVAL.** The terms and conditions of this paragraph shall survive completion of this services agreement.

3.6 **LIMITATIONS OF RESPONSIBILITY.** Consultant shall not be responsible for (a) construction means, methods, techniques, sequences, procedures, or safety precautions and programs in connection with the Project unless specifically undertaken in Attachment A, **SCOPE OF SERVICES**; (b) the failure of any contractor, subcontractor, Consultant, or other Project participant, not under contract to Consultant, to fulfill contractual responsibilities to City or to comply with federal, state, or local laws, regulations, and codes; or (c) procuring permits, certificates, and licenses required for any construction unless such procurement responsibilities are specifically assigned to Consultant in Attachment A, **SCOPE OF SERVICES**.

ARTICLE 4. TERMINATION BY THE CITY. The City may terminate this Agreement in accordance with the following terms and conditions:

4.1 **Termination for Convenience.** The City may, when in the interests of the City, terminate performance under this Agreement with the Consultant, in whole or in part, for the convenience of the City. The City shall give written notice of such termination to the Consultant specifying when termination becomes effective. The Consultant shall incur no further obligations in connection with the work so terminated, other than warranties and guarantees for completed work and installed equipment, and the Consultant shall stop work when such termination becomes effective. The Consultant shall also terminate outstanding orders and subcontracts for the affected work. The

Consultant shall settle the liabilities and claims arising out of the termination of subcontracts and orders. The City may direct the Consultant to assign the Consultant's right, title and interest under termination orders or subcontracts to the City or its designee. The Consultant shall transfer title and deliver to the City such completed or partially completed work and materials, equipment, parts, fixtures, information and Contract rights as the Consultant has in its possession or control. When terminated for convenience, the Consultant shall be compensated as follows:

- (1) The Consultant shall submit a termination claim to the City specifying the amounts due because of the termination for convenience together with costs, pricing or other data required by the City. If the Consultant fails to file a termination claim within one (1) year from the effective date of termination, the City shall pay the Consultant the amount the City deems the Consultant is due.
- (2) The City and the Consultant may agree to the compensation, if any, due to the Consultant hereunder.
- (3) Absent agreement to the amount due to the Consultant, the City shall pay the Consultant the following amounts:
 - (a) Contract costs for labor, materials, equipment and other services accepted under this Agreement;
 - (b) Reasonable costs incurred in preparing to perform and in performing the terminated portion of the work, and in terminating the Consultant's performance, plus a fair and reasonable allowance for direct job site overhead and earned profit thereon (such profit shall not include anticipated profit or consequential damages); provided however, that if it reasonably appears that the Consultant would have not profited or would have sustained a loss if the entire Agreement would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss, if any;

The total sum to be paid the Consultant under this Section shall not exceed the total Agreement Price, as properly adjusted, reduced by the amount of payments otherwise made, and shall in no event include duplication of payment.

- 4.2 Termination for Cause. If the Consultant does not perform the work, or any part thereof, in a timely manner, supply adequate labor, supervisory personnel or proper equipment or materials, or if it fails to timely discharge its obligations for labor, equipment and materials, or proceeds to disobey applicable law, or otherwise commits a violation of a material provision of this Agreement, then the City, in addition to any other rights it may have against the Consultant or others, may terminate the performance of the Consultant, in whole or in part at the City's sole option, and assume possession of the Project Plans and materials and may complete the work.

In such case, the Consultant shall not be paid further until the work is complete. After Completion has been achieved, if any portion of the Contract Price, as it may be modified hereunder, remains after the cost to the City of completing the work, including all costs and expenses of every nature incurred, has been deducted by the City, such remainder shall belong to the Consultant. Otherwise, the Consultant shall pay and make whole the City for such cost. This obligation for payment shall survive the termination of the Agreement.

In the event the employment of the Consultant is terminated by the City for cause pursuant to this Section and it is subsequently determined by a Court of competent jurisdiction that such termination was without cause, such termination shall thereupon be deemed a Termination for Convenience under this Section and the provisions of Section 4.1 shall apply.

- 4.3 Termination for Non-Appropriation. The City may also terminate this Agreement, in whole or in part, for non-appropriation of sufficient funds to complete or partially complete the Project, regardless of the source of such funds, and such termination shall be on the terms of Section 4.1.
- 4.4 The City's rights under this Section shall be in addition to those contained elsewhere herein or provided by law.

ARTICLE 5. SCOPE OF SERVICES. Consultant shall provide the Services as described in Attachment A, SCOPE OF SERVICES.

5.1 By mutual agreement, this contract and scope can be amended by the parties. The scope and fee for any additional tasks or services under such amendment shall be mutually negotiated and agreed to in writing prior to beginning such additional tasks or services.

5.2 ENVIRONMENTAL RESPONSIBILITY.

Where drilling/sampling services are involved, the samples obtained from the Project site are the property of the City. Should any of these samples be recognized by the Consultant to be contaminated, the City shall remove them from the Consultant's custody and transport them to a disposal site, all in accordance with applicable government statutes, ordinances, and regulations. For all other samples, the Consultant shall retain them for a sixty (60)-day period following the submission of the drilling/sampling report unless the City directs otherwise; thereafter, the Consultant shall discard the samples in accordance with all federal, state and local laws.

ARTICLE 6. SCHEDULE.

6.1 **TIME OF THE ESSENCE.** The parties agree that TIME IS OF THE ESSENCE with respect to the parties' performance of all provisions of the Agreement.

6.2 **FORCE MAJEURE.** Neither party will be liable to the other for any delay or failure to perform any of the services or obligations set forth in this Agreement due to causes beyond its reasonable control, and performance times will be considered extended for a period of time equivalent to the time lost because of such delay plus a reasonable period of time to allow the parties to recommence performance of their respective obligations hereunder. Should a circumstance of force majeure last more than ninety (90) days, either party may by written notice to the other terminate this Agreement. The term "force majeure" as used herein shall mean the following: acts of God; strikes, lockouts or other industrial disturbances; acts of public enemies; orders or restraints of any kind of the government of the United States or of the State or any of their departments, agencies or officials, or any civil or military authority; insurrections, riots, landslides, earthquakes, fires, storms, tornadoes, droughts, floods, explosions, breakage or accident to machinery, transmission pipes or canals; or any other cause or event not reasonably within the control of either party.

6.3 Should City request changes in the scope, extent, or character of the Project, the fee and the time of performance of Consultant's services as indicated in Attachment A shall be adjusted equitably.

ARTICLE 7. USE OF DOCUMENTS, DATA.

7.1 All Documents, including, but not limited to, reports, drawings, specifications, and computer software prepared by Consultant pursuant to this Agreement are instruments of service in respect to the Project. Consultant shall retain an ownership and property interest therein (including the right of reuse at the discretion of the Consultant) whether or not the Project is completed.

7.1.1 **USE OF DATA SYSTEMS:** Ownership, property interests and proprietary rights in data systems used by Consultant do not extend to the data created by or supplied to Consultant by the City; all rights to that data (including derivative or hidden data such as metadata) shall vest solely in City at the moment of creation.

7.1.2 **DISCLOSURE OF DOCUMENTS/DATA.** City may be required to disclose documents or data under state or federal law. City shall notify Consultant if a request for data or documents has been made and shall give Consultant a reasonable opportunity under the circumstances to respond to the request by redacting proprietary or other confidential information. Consultant waives any right to confidentiality of any document, e-mail or file it fails to clearly mark on each page as confidential or proprietary. In exchange, Consultant agrees to indemnify, defend, and hold harmless City for any claims by third parties relating thereto or arising out of (i) the City's failure to disclose such documents or information required to be disclosed by law, or (ii) the City's release of documents as a result of City's reliance upon Consultant representation that materials supplied by Consultant (in full or redacted form) do not contain trade secrets or proprietary information, provided that the City impleads Consultant and Consultant assumes control over that claim.

7.2 City-furnished data that may be relied upon by Consultant is limited to the printed copies that are delivered to the Consultant pursuant to Article 2 of this Agreement. Any copyrighted electronic files furnished by City shall be used by Consultant only for the Project as described herein. City's posting or publication of such documents created by Consultant for City shall constitute fair use and shall not constitute an infringement of Consultant's copyright, if any.

7.3 Documents that may be relied upon by City are limited to the printed copies (also known as hard copies) that are signed or sealed by the Consultant. Files in electronic media format of text, data, graphics, or of other types that are furnished by Consultant to City are only for

- convenience of City, unless the delivery of the Project in electronic media format has been dictated in Attachment A, SCOPE OF SERVICES. Any conclusion or information obtained or derived from electronic files provided for convenience will be at the user's sole risk.
- 7.4 Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the party delivering the electronic files. Unless stated otherwise herein, Consultant shall not be responsible to maintain documents stored in electronic media format after acceptance by City.
- 7.5 When transferring documents in electronic media format, Consultant makes no representations as to long term compatibility, usability, or readability, of documents resulting from the use of software application packages, operating systems, or computer hardware differing from that as required of, and used by, Consultant at the beginning of this Project.
- 7.6 City may make and retain copies of Documents for information and reference in connection with use on the Project by the City, or his authorized representative. Such Documents are not intended or represented to be suitable for reuse by City or others on extensions of the Project or on any other project. Any such reuse or modifications without written verification or adaptation by Consultant, as appropriate for the specific purpose intended, will be at City's sole risk and without liability or legal exposure to the Consultant or to Consultant's Consultants.
- 7.7 If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- 7.8 Any verification or adaptation of the Documents for extensions of the Project or for any other project will entitle Consultant to further compensation at rates to be agreed upon by City and Consultant.

ARTICLE 8. INSURANCE.

- 8.1 During the performance of the Services under this Agreement, Consultant shall maintain the following minimum insurance:
- a) General Liability Insurance with a combined single limit of \$1,000,000 per occurrence and \$2,000,000 annual aggregate.
 - b) Automobile Liability Insurance with a combined single limit of \$1,000,000 for each person and \$1,000,000 for each accident.
 - c) Workers' Compensation Insurance Coverage A in accordance with statutory requirements and Coverage B, Employer's Liability Insurance, with a limit of \$500,000 for each occurrence.

- d) Professional Liability Insurance with a limit of \$1,000,000 annual aggregate.
- 8.2 Consultant shall add the City an additional insured on all policies unless otherwise prohibited.
- 8.3 Consultant shall, upon execution of this Agreement, furnish City certificates of insurance, which shall include a provision that such insurance shall not be canceled without at least thirty days' written notice to City.
- 8.4 No insurance, of whatever kind or type is to be considered as in any way limiting other parties' responsibility for damages resulting from their activities in the execution of the Project. City agrees to include, or cause to be included, in the Project's construction contract, such requirements for insurance coverage and performance bonds by the Project's construction contractor as City deems adequate to indemnify City, Consultant, and other concerned parties against claims for damages and to insure compliance of work performance and materials with Project requirements.

ARTICLE 9. PAYMENT.

- 9.1 City will pay Consultant for services and expenses in accordance with the Fee Schedule proposal submitted for the Project as part of the Scope Of Services. Consultant's invoices will be presented at the completion of the work or monthly and will be payable upon receipt. Payment is due upon presentation of invoice and is past due thirty (30) days from invoice date. City shall give prompt written notice of any disputed amount and shall pay the remaining amount.
- 9.2 Consultant shall be paid in full for all services under this Agreement, including City-authorized overruns of the Project budget or unforeseen need for Consultant's services exceeding the original Scope Of Services.
- 9.3 **TRAVEL; EXPENSES**
The City shall reimburse reasonable expenses, including travel and meals, when specified in the Scope Of Services, but only in accordance with the City's Travel and Expense Policy and Procedures Manual. The maximum amount will be applied as of the date of travel and as listed in the per diem reimbursement rates on the "CONUS" website developed by the United States General Services Administration, located at www.gsa.gov [click on 'per diem rates' under the 'etools' category].

ARTICLE 10. MISCELLANEOUS PROVISIONS

- 10.1 **EQUAL EMPLOYMENT OPPORTUNITY.** In connection with this Agreement and the Project, the City and the Consultant shall not discriminate against any employee or applicant for employment because

of race, color, sex, national origin, disability or marital status. The City and Consultant will take affirmative action to ensure that contractor used for the Project does not discriminate against any employee and employees are treated during employment without regard to their race, age, religion, color, gender, national origin, disability or marital status. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination, rates of pay or other forms of compensation; and selection for training, including apprenticeship.

10.1.1 The Consultant shall insert the foregoing provision in all contracts relating to this Project.

- 10.2 TITLE VI – CIVIL RIGHTS ACT OF 1964. The City and the Consultant shall comply with all the requirements imposed by Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d), 49 C.F.R., Part 21, and related statutes and regulations.

10.2.1 The Consultant shall insert the foregoing provision in all contracts relating to this Project.

- 10.3 NO THIRD PARTY RIGHTS CREATED. City and Consultant each binds itself and its successors, executors, administrators, permitted assigns, legal representatives and, in the case of a partnership, its partners, to the other party to this Agreement and to their successors, executors, administrators, permitted assigns, legal representatives and partners of such other party in respect to all provisions of this Agreement. The Services provided for in this Agreement are for the sole use and benefit of City and Consultant. Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than the City and the Consultant.

- 10.4 WARRANTIES/LIMITATION OF LIABILITY/WAIVER. The City reserves all rights afforded to local governments under law for all general and implied warranties. The City does not waive any rights it may have to all remedies provided by law and therefore any attempt by Consultant to limit its liability shall be void and unenforceable.

ARTICLE 11. EXTENT OF AGREEMENT:

- 11.1 APPLICABLE LAW/CHOICE OF FORUM AND VENUE. This Agreement is made under and will be construed in accordance with the laws of the State of Tennessee without giving effect to that state's choice of law rules. The parties' choice of forum and venue shall be exclusively in the courts of Williamson County, Tennessee. Any provision of this Agreement held to violate a law or regulation shall be deemed void, and all remaining provisions shall continue in force.

- 11.2 **ENTIRE AGREEMENT.** This Agreement, including these terms and conditions, represent the entire Agreement between City and Consultant for this Project and supersedes all prior negotiations, representations or agreements, written or oral. This Agreement may be amended only by written instrument signed by City and Consultant.

ARTICLE 12. DISPUTE RESOLUTION, BREACH.

- 12.1 If a dispute should arise relating to the performance of or payment for the services under this Agreement, the aggrieved party shall notify the other party of the dispute within a reasonable time after such dispute arises. During the pendency of any dispute, the parties shall continue diligently to fulfill their respective obligations hereunder. No arbitration or mediation shall be required as a condition precedent to filing any legal claim arising out of or relating to the Contract. No arbitration or mediation shall be binding.
- 12.2 **BREACH.** Upon deliberate breach of the Contract by either party, the non-breaching party shall be entitled to terminate the Contract with notice, with all of the remedies it would have in the event of termination, and may also have such other remedies as it may be entitled to in law or in equity.

ARTICLE 13. SURVIVAL.

The provisions contained in this Professional Services Agreement shall survive the completion of or any termination of the Contract, agreement or other document to which it may accompany or incorporate by reference or which subsequently may be modified, unless expressly excepted from this Article upon consent of both parties.



October 9, 2015

Mr. Jeff Willoughby
Stormwater Coordinator
City of Franklin
109 3rd Avenue South
Franklin, TN 37064
Delivered via email: jeff.willoughby@franklintn.gov

Dear Mr. Willoughby:

Subject: Revised Proposal for Professional Engineering Services
Feasibility Study for Ralston Creek at Liberty Hills
City of Franklin, Williamson County, Tennessee
CEC Project 153-050

Civil & Environmental Consultants, Inc. (CEC) is pleased to submit this **REVISED** proposal to the City of Franklin (City). The previously submitted scope of work proposed performing survey work that would be beneficial for the feasibility phase, while picking up additional information that would be required for the future design phase. The City has indicated that it would prefer to only perform the survey work at this time that is necessary for the feasibility phase and perform the additional work at the time that design is approved and begun.

1.0 BACKGROUND

CEC understands that the City has received a number of recent complaints from residents in the Royal Oaks Subdivision regarding flooding due to stormwater from Ralston Creek overtopping the stream banks. There are also certain areas along Ralston Creek that are experiencing bank failure, some of which the City has attempted to temporarily address until a permanent solution can be determined and installed. The stream originates between Huffines Ridge Drive and I-65 near Centennial High School and flows in a southwesterly direction before entering into the Liberty Hills Subdivision Retention Pond. It also receives flow from an eastern channel along Liberty Pike which is listed as the headwater area for Ralston Creek. After leaving the retention pond through its outlet structure, the stream flows through the Royal Oaks Subdivision, where the previously mentioned flooding and bank failures have occurred.

Access to the stream in the Royal Oaks Subdivision is limited. Preliminary investigations also indicate that creating additional area for storage along the stream to reduce flooding may be difficult.

2.0 PURPOSE

The purpose of this project is to prepare a feasibility study to determine potential ways to address flooding in the Royal Oaks Subdivision along Ralston Creek and to mitigate the eroding stream channel. Several stakeholders will need to be involved in the process of determining a solution including, but not limited to: the City of Franklin, the Royal Oaks subdivision Home Owner's Association, the Liberty Hills subdivision Home Owner's Association, the stream's adjacent property owners, TDEC, and the Corps of Engineers. It may be necessary to include the Cheswicke Farms subdivision Home Owner's Association and the Royal Oaks Apartments as stakeholders, depending on impacts that may be proposed when looking at the overall drainage basin.

3.0 SCOPE OF SERVICES

CEC proposes the following scope of services:

3.1 Project Survey

- Topographic survey of the project area (depicted in Figure 1 centered around Ralston Creek from Victoria Court upstream to Liberty Hills pond) are included as part of this scope. The primary focus of the survey will be to accurately represent the current alignment of Ralston Creek and the properties that lie directly adjacent to the stream through cross sections of the stream surveyed approximately every 75 feet. Back yard topographical information, fences, other residential structures, utilities and back of house corners that fall in the cross sections will be collected to ascertain the impact of bank grading. CEC assumes the City will provide utility information that CEC will use to anticipate where to verify utility locations at cross-sections. The scope of survey work will not include the delineation of property corners and assumes that sufficient boundary information for the feasibility study is provided when combined with the plat and City GIS data. The finished floor elevations of homes immediately adjacent to the Liberty Hills pond will also be surveyed.

- A spot check of topographic information provided to CEC by the City for Liberty Hills pond will be performed including collecting as-built elevations of the outlet structure. Should the verification survey of the pond reveal discrepancies, CEC will discuss this with the City and provide a proposal for additional survey in this area, as necessary.



Figure 1. Site Map

- CEC will perform a topographic field survey of the project area using Tennessee state plane coordinates, NAD 83, NAVD 88, zone 4100/5301 for incorporation into the Franklin GIS database. CEC understands that GIS data of this area from the Franklin database will be made available for use on this project. The purpose of this initial survey is to gather information for developing a current and comprehensive drawing of the existing stream channel and immediate surrounding area. This drawing will be used in developing and graphically depicting the proposed restoration design. This topographic survey is a prerequisite for all of the following tasks.

3.2 Drainage Basin Study

- CEC will delineate the contributing drainage basin for Ralston Creek downstream of the Liberty Hills retention pond where the flooding has been reported.
- CEC will perform hydrologic (likely using HEC-HMS) and hydraulic (likely using HEC-RAS) calculations to assess the contributing drainage area and water surface profile (including velocity and shear stress) in the channel during the 2- through 500-Year, 24-hour design storms. The hydraulic model of the project reach (~4,800 feet) will be used

to determine the water surface profile of the stream under the various options discussed below. The reach is planned to extend from near Victoria Court to the Cheswicke Farms project in Ralston Creek. CEC plans to use previously collected field survey information for Cheswicke Farms.

- CEC will analyze the Liberty Hills retention pond and develop options to reduce the peak flow from the pond. Options will include:
 - Creating additional detention volume in the Liberty Hills open space lot where the retention pond is located without modifying the existing outlet structure.
 - Creating additional detention by draining the retention pond and designing a natural channel within the Liberty Hills open space lot.
 - Creating additional detention by draining the retention pond and designing a natural channel within the Liberty Hills open space lot and decreasing the size of the existing cross-drain under Liberty Hills Drive.

3.3 Pond Response to Rainfall Events

- CEC recommends monitoring of the pond to gauge the pond's response to rain events. In this way, the hydrological model (likely HEC-HMS) can be calibrated with field data versus preparing a more comprehensive hydrological model in which field survey would be required in the contributing watershed. CEC proposes to install pressure transducers equipped with data loggers in the pond and each of the two outlet pipes and a rain gauge bucket and associated data logger. The monthly cost of equipment rental, downloading, and maintaining these devices is included in the estimated costs below. The initial cost includes six months of data monitoring and device rental and maintenance. CEC recommends that the monitoring begin as soon as possible and continue through the feasibility study and possibly design phase to collect as much data as possible. For example, having a full 12 months of data would be advantageous to quantify seasonal variations; however, a sufficient spectrum of rainfall depths may be obtained within six months of monitoring and the monitoring may not need to continue.
- CEC will update the hydrology model as data is obtained. CEC will regularly communicate with the City regarding the process of updating the model to mutually agree on the appropriate time to end data collection. The goal will be to obtain a spectrum of rainfall events in order to more fully understand the pond's response to a variety of storm events.

3.4 Project Map/H&H/Collaboration Meeting with City/Presentation Development

- CEC proposes to develop a working map of the site based on the survey performed and the GIS information obtained from the City and a proposed typical cross section(s) for improvements to be made. This map and cross section(s) will be used to aid in communicating with the stakeholders during the feasibility study process.
- CEC will meet with the City staff to collaborate about the known issues and potential solutions. A summary of the discussions during this meeting will be prepared and sent to the City.
- CEC will develop a presentation (e.g. PowerPoint) defining the problems with the stream (using several photos) and incorporating information gathered from the City. The presentation will also include a preliminary list of project constraints. The purpose of this presentation will be to communicate the issues to the stakeholders.

3.5 Stakeholder Meetings

CEC will perform the following tasks:

- CEC will organize a meeting (possibly two if TDEC and Corps are not available at the same time) at the site with the regulatory agencies (i.e. TDEC, Corps) to review the existing condition of the stream and the constraints. One of the goals of this meeting will be to convey to the regulatory agencies the impaired state of the stream and the permitting approach to various mitigation options. CEC will prepare meeting minutes and distribute to the participants. CEC will update the presentation developed in Task 3.4 as appropriate based upon the outcomes of this meeting.
- CEC will present the presentation prepared in Task 3.4 at a public meeting organized by the City and will be available to answer questions and discuss potential mitigation solutions. CEC will summarize the public comments and send the comments to the City to document the meeting.

Meetings in support of Tasks 3.4 & 3.5

Meeting Description	Purpose of Meeting	Deliverable
Collaboration with City staff	Prepare for meeting with regulators and stakeholders	Meeting minutes
Meeting (possibly two) on site with regulatory agencies (i.e. TDEC, Corps)	Discuss project constraints and permitting options	Meeting minutes and follow up collection of agency responses
Public meeting	Communicate project goals and constraints and elicit comments	Meeting minutes and assistance in responding to public comments

3.6 Feasibility Study Report and Recommendations

The purpose of this task will be to document and consider information gathered during the feasibility study process and develop recommendations for the next steps toward resolving the erosion problems with the stream. Planning level design and construction costs may be included; however, the cost of permitting may be a significant but unknown cost at this time. The permitting cost may be better understood after meeting with the permitting agencies, or they may not be known until an application is submitted.

4.0 SCHEDULE

CEC can begin work within two weeks of receiving your authorization to proceed.

5.0 COST

Our not-to-exceed costs are based on the scope of services described above and will be billed on a Time & Materials (T&M) basis and include reimbursable expenses. If CEC encounters conditions that require additional services and costs beyond what is presented in the proposal, CEC will provide a written revised scope of services and revised costs for the City of Franklin's approval prior to proceeding. The estimated cost to perform the scope of services outlined in this letter is provided below:

Task	Not-to-Exceed Cost
3.1 Project Survey	\$21,400
3.2 Drainage Basin Study	\$13,500
3.3 Pond Response to Rainfall Events	\$11,600*
3.4 Project Map/H&H/Collaboration Meeting with City/Presentation Development	\$9,200
3.5 Stakeholder Meetings	\$7,000
3.6 Feasibility Study Report and Recommendations	\$6,000
Total	\$68,700

*Includes the initial set up cost and six months of data monitoring and analysis and maintenance of the devices. If the City requests the data monitoring to continue beyond the initial six month monitoring period, ongoing costs will be on a time and materials basis not to exceed \$1,250/month. CEC recommends 12 months of data gathering to obtain seasonal variations, but a sufficient spectrum of rainfall depths over a six month period may provide an acceptable representation of events.

Invoicing of professional services will be in accordance with the attached fee schedule. CEC will maintain the 2015 rates through the end of the 2016 calendar year. Reimbursable expenses, including subcontracted services, are included in our estimated costs and will be invoiced according to the attached fee schedule.

Our Schedule of Terms and Conditions, which apply to the proposed work, is attached. Any changes to our Terms and Conditions must be agreed to in writing by both parties prior to your authorization to proceed. Your oral or written authorization to proceed will form a binding contract and indicates your acceptance of our Terms and Conditions.

6.0 CLOSING

CEC appreciates the opportunity to submit this proposal to you. We believe the scope of services outlined will address the City of Franklin's needs in a cost effective manner. If you have any questions or comments, please call me at (615) 979-4382.

Very truly yours,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.



Eric J. Gardner, P.E., CPESC
Project Manager



Jeff Duke, PWS, CPESC
Vice President

Cc: Paul Holzen, Director of Engineering paul.holzen@franklintn.gov

Enclosures

Fee Schedule

January 1, 2015 through December 31, 2015

PROFESSIONAL SERVICES

Classification	Rate/Hour
Vice President.....	\$220
Principal	\$205
Senior Project Manager	\$180
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.....	\$90
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	\$83
Survey Technician III	\$78
Survey Technician II	\$70
Survey Technician I	\$63
Administrative Assistant	\$65
Administrative Manager	\$73

DIRECT EXPENSES

Direct expenses are included in the cost estimates.

Company or Personal Automobile Mileage	\$0.56 /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

1110 Gardner St – Map





Please fill in the following information & return this form with the site plan per directions below. Incomplete forms will result in the request being returned until all of the information is included. Refer to the attached memo for fees and additional information.

Type of Availability Requested:	CHECK ALL THAT APPLY: ☐ Water ☐ Sewer	
Project Name (If Applicable)		
Subdivision, Section, Lot		
Map & Parcel(s) #		
Property Address		
City Project # (If Applicable)		
Applicant's Name & Company		
Applicant's Address		
Applicant's Email & Phone #		
Anticipated Water Meter Size(s) (see chart on pg. 3).		
Sewage Flow Calculations: <i>Use the City of Franklin projected flow examples sheet –pg.4</i> <i>use additional sheets as necessary</i>		
Anticipated sewage flows. Information Required for Sewer Service		
FOR OFFICE USE ONLY:	SFUE:	Sewage Flow Calculations Reviewed & Approved By:

MUST SUBMIT A LOCATION MAP (FOR EX: GOOGLE MAP)

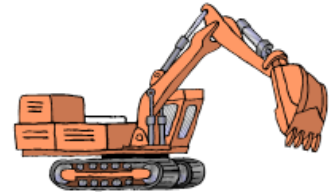
Email Application to: EngineeringMBX@franklinton.gov

For additional information or questions please call: 615-791-3218

Date Submitted:

MEMO

TO: Applicant
FROM: Engineering Department
DATE: March 19, 2015
RE: **Request for Water and/or Sewer Availability & Associated Costs**



When considering development of a tract of land, one of the first steps a developer (or their design professional) should complete is the application for water and sewer availability. **Planned Unit Developments MUST have approved availability to be approved.**

The following items **SHALL** be included with a water and/or sewer availability request:

- Completed Application (ALL sections must be filled in)
- Project location map
- Sewage Calculations (*For Development projects only; Individual Single Family Homes are not required to submit these calculations*).

Email Application to: **EngineeringMBX@franklintn.gov**

For additional information or questions please call: 615-791-3218

Additionally, when water and/or sewer plans are submitted for review the final hydraulic analysis of the line/s shall be included with the submittal. Use the City of Franklin standards for flow calculations.

There is a 30 day maximum turnaround time for the requests. Unless your requests requires Board of Mayor & Aldermen (BOMA) approval then will be notified of the date of the BOMA meeting at which your request will be brought up.

The availability is granted based on the following time periods:

Construction plans are to be prepared and submitted within one year from the granting of availability.

Construction of the water and sanitary sewer improvements shall begin within one and one-half (1 ½) years from the granting of availability.

Tap Related Fees* *Does not include \$25 New Account Set up Fee*

Fee Description:	Applicable Utility	Fee Amount:	Calculate Your Fees:
System Development Fee (SDF)	Water & Sewer	See Charts Below (based on meter size)	
Access Fee	Water & Sewer	See Charts Below (based on meter size)	
Effluent Disposal Fee (EDF)	Sewer	See Charts Below (based on meter size)	
Tap Fee	Water & Sewer	See Charts Below (based on meter size)	
Irrigation Fee	Water & Reclaim Water	See Charts Below (based on meter size)	
Fire Sprinkler Fee	Water (fire)	\$500 per diameter inch of connection line	

Utility Permit Related Fees: PAID WITH PERMIT, NOT WITH AVAILABILITY REQUEST:

Only applicable if extending the water, sewer or reclaim water main lines.

Fee Description	Applicable Utility	Fee Amount	Calculate Your Fees:
Utility Permit Fee	Water, Sewer & Reclaim Water	\$100	
Plan Review Fee	Water, Sewer & Reclaim Water	\$300 Water; \$300 Sewer & \$300 reclaim Water	
Inspection fees:		Fee Rate & Amount	Calculate Your Fees:
Water Main Line		\$1.25/LF Water (minimum \$ 1,000)	
Sewer Gravity Main Line		\$2.00/LF (minimum \$1,000)	
Sewer Force Main Line		\$1.50/LF (minimum \$1,000)	
Reclaim Water		\$1.25/LF (minimum \$1,000)	

*** All Fees shall be paid prior to the issuance of a Building Permit or Utility Inspection, whichever occurs first. ***

Checks are made payable to the City of Franklin. Please indicate what the payment is for on the check.

The fees are paid at the Utility Billing Department, Suite 141, City Hall Mall.

Effective March 1, 2008, the fees and installation costs are as follows:

WATER							
Meter Size	SFUE	GPM	SDF	Access Fees	Irrigation Meter ¹	Tap already made ²	City to make tap ³
¾"	1	12.5	\$903	\$1,186	\$3,150	\$315	\$756
1"	13	50	\$3,612	\$4,746	\$4,725	\$374	\$897
1 ½"	30	120	\$8,619	\$11,390	\$6,300	\$656	\$1,444
2"	40	160	\$11,558	\$15,187	\$7,875	\$1,362	\$2,223
3"	88	350	\$25,284	\$33,222	\$9,450	\$1,581	\$3,654
4"	125	500	\$36,120	\$47,460	\$11,025	\$2,668	\$5,492
6"	300	1200	\$86,688	\$113,904	\$12,600	\$4,723	\$7,387
8"	375	1500	\$108,360	\$142,380	\$14,175	\$10,293	\$14,110

SEWER (Fees are based on water meter size)							
Meter Size	SFUE	GPM	SDF	Access Fees	Effluent Disposal Fee	Tap already made ²	City to make tap ³
¾"	1	12.5	\$1,444	\$2,100	\$450	\$263	\$1,240
1"	13	50	\$5,775	\$8,400	\$1,800	\$263	\$1,240
1 ½"	30	120	\$13,860	\$20,160	\$4,320	\$263	\$1,240
2"	40	160	\$18,480	\$26,880	\$5,760	\$263	\$1,240
3"	88	350	\$40,425	\$58,800	\$12,600	\$263	\$1,240
4"	125	500	\$57,750	\$84,000	\$18,000	\$263	\$1,240
6"	300	1200	\$138,600	\$201,600	\$43,200	\$263	\$1,240
8"	375	1500	\$173,250	\$252,000	\$54,000	\$263	\$1,240

1- Irrigation Fees Include Meter Fee & \$25 Application Fee Only

2- Meter and meter box only

3- Includes the tap, meter and meter box

Other Related Information:

1. **Private Fire Hydrant and Sprinkler Systems** – The SDF for connection of private fire hydrants and sprinkler system lines to the City of Franklin's (COF) lines shall be **\$500 per inch diameter of connection** to the City's lines. Radio-read meters will be required on all private fire hydrant and sprinkler systems.
2. Cost reimbursement for water and sewer lines will not be allowed for improvements constructed, on or offsite, for the sole benefit of the development. Main line extensions greater than what is required to serve the development and are available for use and benefit of the customers of the COF may be eligible for reimbursement of a portion of the cost of construction of said improvements including the cost of easements and rights-of-way.
3. Pump stations and force mains are not allowed if the development can be served by extension of gravity sewer.
4. No customer shall supply water service to more than one dwelling or premise from a single service line.
5. The Water and Sewer Specifications are available on-line (in pdf form) for the convenience of the developer's engineer.
6. Properties requesting availability that are located outside of the Franklin city limits, but within the Urban Growth Boundary (UGB) will be required to request annexation **prior** to the availability request being reviewed.

If you have any questions concerning this request, contact the City of Franklin Engineering Department at (615) 791-3218 or the Water and Sewer Department at (615) 794-4554.

Projected Flow Examples

Drainage Facility	Flow in GPD	Design Units
Apartments - One Bedroom	250	per unit
Apartment - Two Bedroom	300	per unit
Apartment - Three Bedroom	350	per unit
Mobile Home Parks	300	per mobile home space
Single Family Dwelling	350	per unit
Assembly Hall (No Food Service)	2	per seat
Beauty Shop, Styling Salon	200	per station
Bowling Alleys (no food service)	75	per lane
Child Care Center	10	Per child and adult
Churches (small)	5	per sanctuary seat
Churches (large with kitchen)	7	per sanctuary seat
Contry Clubs	50	per member
Dance Halls (No Food Service)	2	per person
Drive- In Theaters	5	per car space
Factories (no showers)	25	per employee per 8- hour shift
Factories (with showers)	35	per employee - per 8- hour shift
Hotels	130	per unit
Institutions (residents) (with food service)	100	per person
Laundries (coin- operated)	400	per standard size machine
Office Buildings	25	per employee
Office/warehouse space	0.1	per square foot
Retail Store	20	per employee
Restaurant - Ordinary (not 24- hour)	35	per seat
Restaurant - 24- Hour	50	per seat
Restaurant - Bankquet Rooms	5	per seat
Restaurant - Along Freeway	100	per seat
Restaurant - Tavern (very little food service)	35	per seat
Restaurant - Curb Service (drive- in)	50	per car space
Service Stations	1000	Per fuel island
Shopping Centers (no food service or laundries)	0.2	per sq. ft of floor space
Swimming Pool	10	per swimmer
Youth and Recreation Camps (with food service)	50	per person
Theaters, auditorium type	5	per seat
Car Wash - (stand alone)	500	Per bay
Hospitals (no residents) (with food service)	300	per bed
Nursing and Rest Homes (with food service)	200	per patient
	100	per resident employee
	50	per non- resident employee
Doctors/Dentists	75	per doctor
	20	per employee
	10	per patient
Schools - Elementary (with food service)	15	per pupil
Schools - High and Junior High (with food service)	20	per pupil

1660 Mallory Lane - Map





Please fill in the following information & return this form with the site plan per directions below. Incomplete forms will result in the request being returned until all of the information is included. Refer to the attached memo for fees and additional information.

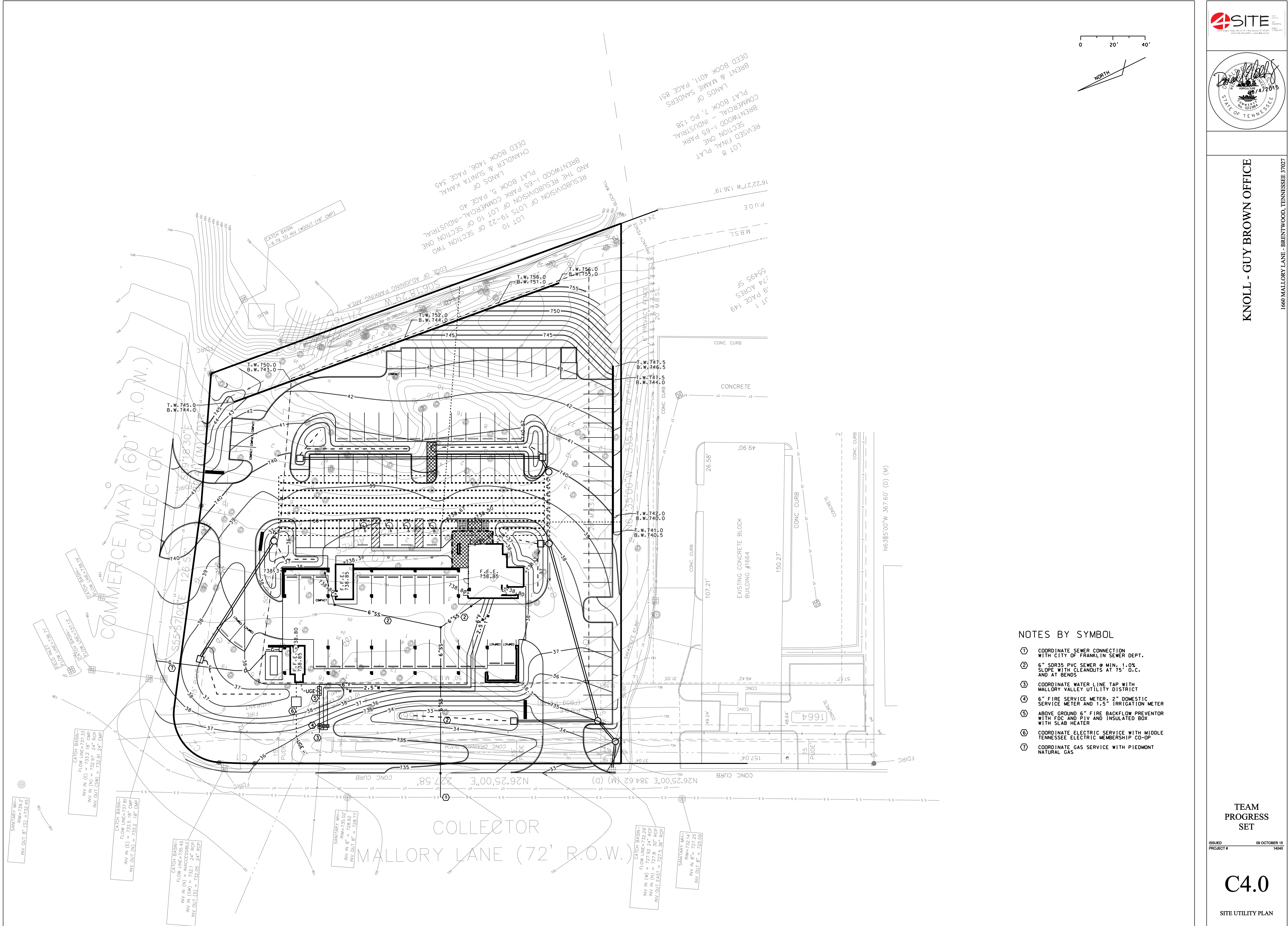
Type of Availability Requested:		CHECK ALL THAT APPLY: ☐ Water ☒ Sewer	
Project Name (If Applicable)		KNOLL - GUY BROWN OFFICE	
Subdivision, Section, Lot		PLAT 59, PAGE 149, LOT 2	
Map & Parcel(s) #		053D A 30.01	
Property Address		1660 MALLORY LANE	
City Project # (If Applicable)		BRENTWOOD P.C. # 1509-001	
Applicant's Name & Company		JAY CHAWAN	
Applicant's Address		320 SEVEN SPRINGS WAY, SUITE 450	
Applicant's Email & Phone #		615-221-0303	
Anticipated Water Meter Size(s) (see chart on pg. 3).		2"	
Sewage Flow Calculations: <i>Use the City of Franklin projected flow examples sheet -pg.4</i> OFFICE BUILDINGS = 25 GPD/EMPLOYEE 150 EMPLOYEES = 3750 GPD			
Anticipated sewage flows. Information Required for Sewer Service		3750 GPD	
FOR OFFICE USE ONLY:	SFUE:	Sewage Flow Calculations Reviewed & Approved By:	

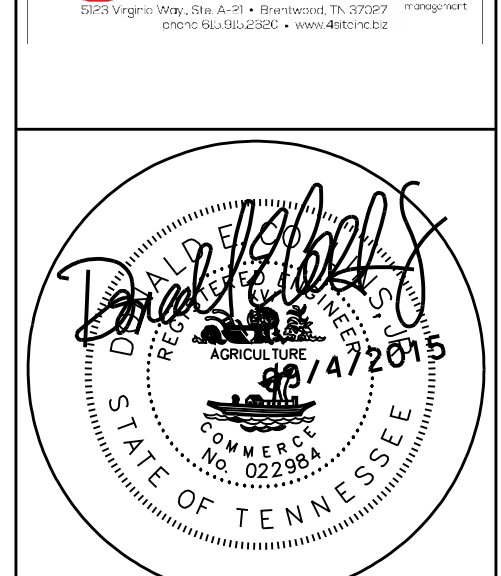
MUST SUBMIT A LOCATION MAP (FOR EX: GOOGLE MAP)

Email Application to: EngineeringMBX@franklinton.gov

For additional information or questions please call: 615-791-3218

Date Submitted:





KNOLL - GUY BROWN OFFICE
1660 MALLORY LANE - BRENTWOOD, TENNESSEE 37027

**TEAM
PROGRESS
SET**
ISSUED 09 OCTOBER 15
PROJECT # 14040

C4.0
SITE UTILITY PLAN

EXHIBIT 1



R10-11

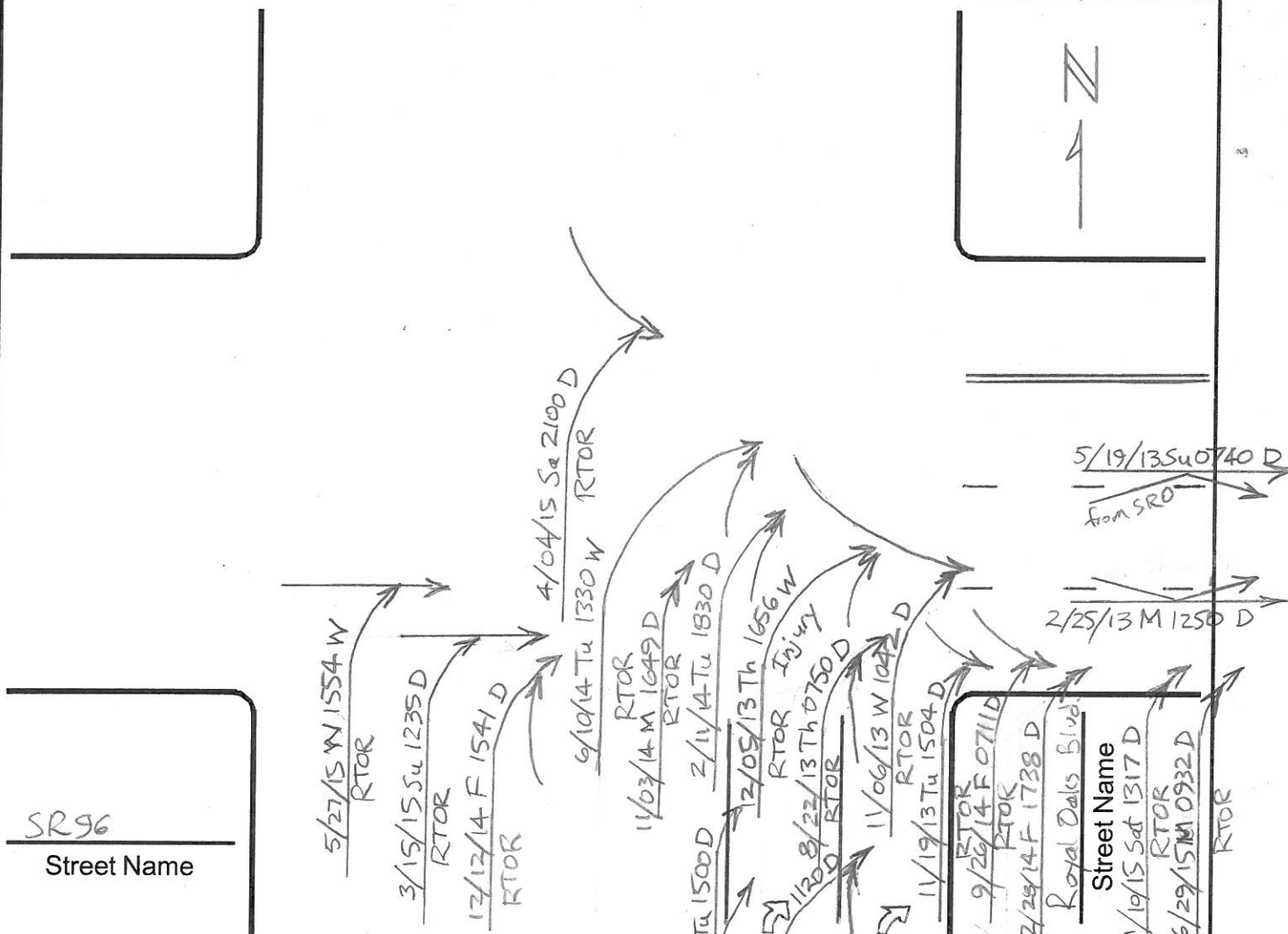


R10-11a

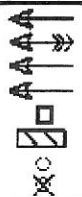


R10-20aP

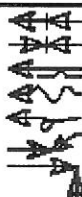
COLLISION DIAGRAM

LOCATION ID: SR 96 & Royal Oaks BlvdCOUNTY: Williamson CITY: FranklinPERIOD 01/2013 TO 06/2015 PREPARED BY: CBB

COLLISION SYMBOLS



VEHICLE PATH
BACKING VEHICLE
NON-INVOLVED VEH.
PEDESTRIAN PATH
FIXED OBJECT
PARKED VEHICLE
PERSONAL INJURY
FATALITY



REAR-END COLLISION
HEAD-ON COLLISION
SIDE SWIPE
OUT OF CONTROL
OVERTURNED VEHICLE
LEFT TURN COLLISION
RIGHT ANGLE COLLISION

CONDITION CODES

PAVEMENT CONDITION:
D = DRY W = WET I = ICY
WEATHER CONDITION:
C = CLEAR R = RAIN F = FOG S = SNOW
LIGHT CONDITION:
L = DAYLIGHT N = NIGHT (DARK)
TIME OF DAY (MILITARY)

CRASH SUMMARY

	PROP. DMG ONLY	INJURY	FATAL	TOTAL
DAYTIME	16	1		17
NIGHTTIME	2			2
TOTAL	18	1		19

$$\frac{1049 + 740 + 921}{4} = 2709$$

10,330 ADT

$$MEV = 9.938$$

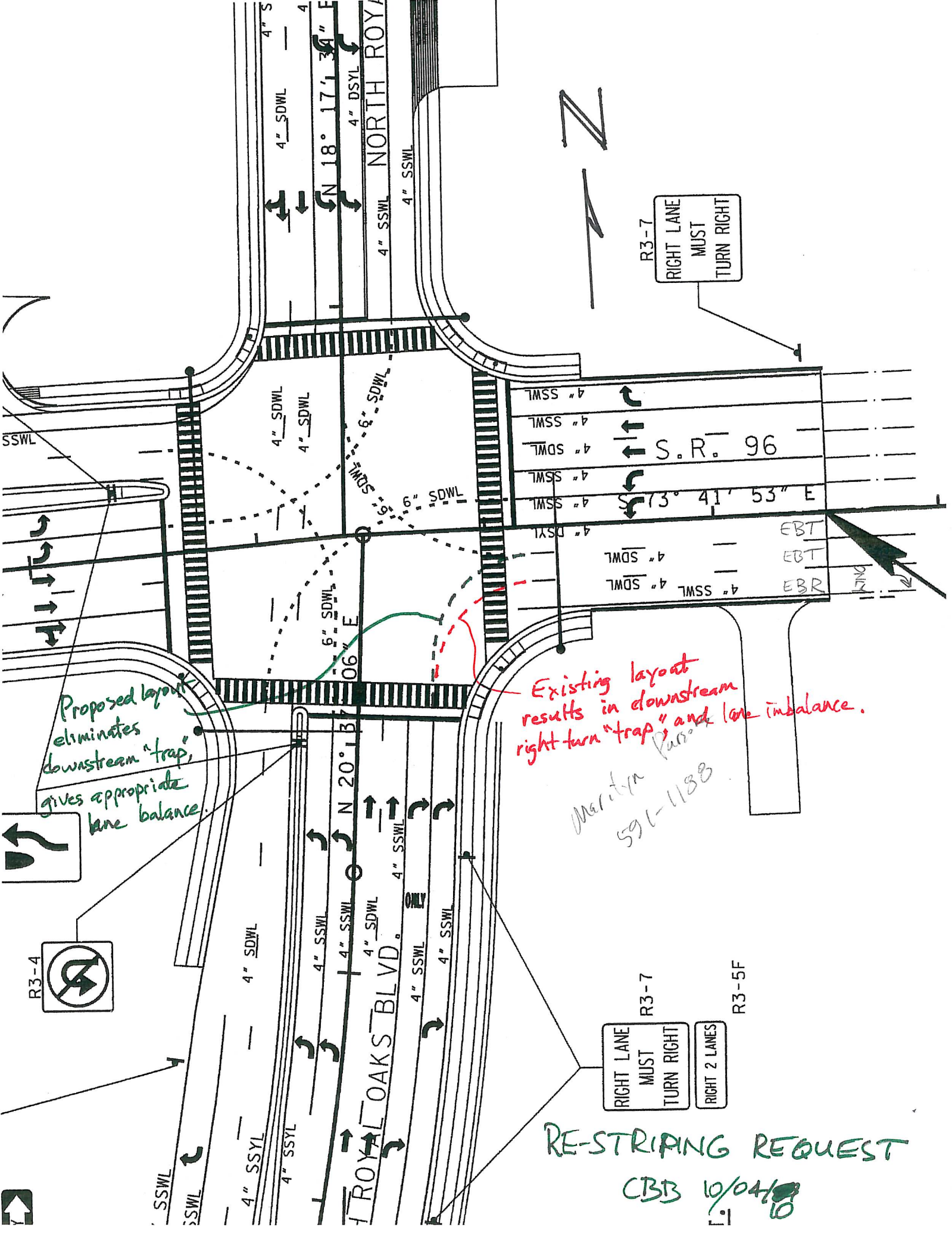
rate =

$$13 \div 9.888 = 1.31$$

Compare to 0.99 for

Urban Multi Lane Divided Signalized Turn Lane
Rate is 48% above statewide average.





Proposed layout eliminates downstream "trap", gives appropriate lane balance.

Existing layout results in downstream right turn "trap" and lane imbalance.

Martin P... 591-1188

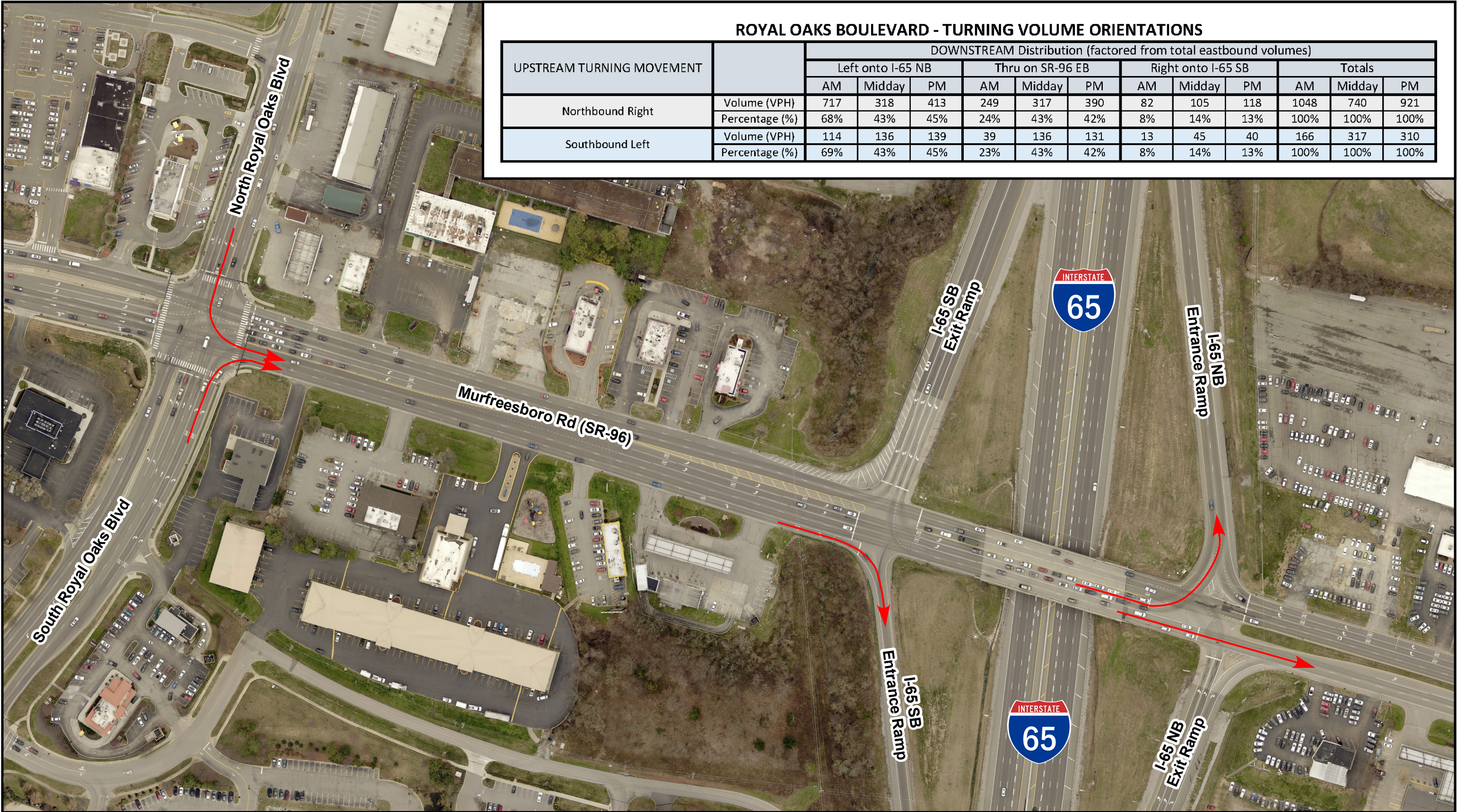
RE-STRIPING REQUEST
CBB 10/04/10

120 S Royal Oaks Blvd, Franklin, Tennessee
Address is approximate



ROYAL OAKS BOULEVARD - TURNING VOLUME ORIENTATIONS

UPSTREAM TURNING MOVEMENT		DOWNSTREAM Distribution (factored from total eastbound volumes)											
		Left onto I-65 NB			Thru on SR-96 EB			Right onto I-65 SB			Totals		
		AM	Midday	PM	AM	Midday	PM	AM	Midday	PM	AM	Midday	PM
Northbound Right	Volume (VPH)	717	318	413	249	317	390	82	105	118	1048	740	921
	Percentage (%)	68%	43%	45%	24%	43%	42%	8%	14%	13%	100%	100%	100%
Southbound Left	Volume (VPH)	114	136	139	39	136	131	13	45	40	166	317	310
	Percentage (%)	69%	43%	45%	23%	43%	42%	8%	14%	13%	100%	100%	100%



ROYAL OAKS BOULEVARD - TURNING VOLUME ORIENTATIONS

UPSTREAM TURNING MOVEMENT		DOWNSTREAM Distribution (factored from total eastbound volumes)											
		Left onto I-65 NB			Thru on SR-96 EB			Right onto I-65 SB			Totals		
		AM	Midday	PM	AM	Midday	PM	AM	Midday	PM	AM	Midday	PM
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	Percentage (%)	68%	43%	45%	24%	43%	42%	8%	14%	13%	100%	100%	100%
Southbound Left	Volume (VPH)	114	136	139	39	136	131	13	45	40	166	317	310
	Percentage (%)	69%	43%	45%	23%	43%	42%	8%	14%	13%	100%	100%	100%

1 inch = 150 feet



LOCATION MAP
ROYAL OAKS BOULEVARD TURNING MOVEMENTS

DISCLAIMER

THIS MAP WAS CREATED BY THE CITY OF FRANKLIN ENGINEERING DEPARTMENT AND WAS COMPILED FROM THE MOST AUTHENTIC INFORMATION AVAILABLE. THE CITY IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS CONTAINED HEREON. ALL DATA AND MATERIALS © COPYRIGHT 2015, CITY OF FRANKLIN, TN. ALL RIGHTS RESERVED.

