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January 15, 2013

RDU 2/4/13
AMY 2-22-13
MJB 3/26/13

File: (Town) Englewood STP 2013 (McMinn Co.)

Basic information concerning the Proposed SRF application reviewed and support letter written. RDUlbom 2/4/13

Mr. Sam Gaddipati, Environmental Manager
State Revolving Fund Loan Program
L & C Tower, 8th Floor
401 Church Street
Nashville, TN 37243

RE: Letter of Request to be Ranked and Placed on the Clean Water State Revolving Fund's Priority Ranking List
Niota Road Pump Station Basin – I/I Abatement
Town of Englewood, Tennessee
CTI Project No. KP12014

Dear Mr. Gaddipati:

On behalf of the Town of Englewood, Tennessee, we request that the following project be ranked and placed on the FY 2013 Clean Water State Revolving Fund's Priority Ranking List. The project is the second in a series of projects being undertaken by the Town of Englewood (Town) to replace aging infrastructure; reduce inflow and infiltration (I/I) into the sewer system; eliminate sanitary sewer overflows (SSOs); and to comply with the Town's NPDES Permit TN0021938. Recently, the Town implemented a self-imposed moratorium in accordance their NPDES permit and as required by the Tennessee Department of Environment and Conservation, Chattanooga Field Office (letter dated December 14, 2012).

The Sewer Treatment Plant (STP) is adjacent to and discharges effluent into Chestuee Creek, a 303(d) listed stream. The Niota Road pump station is located adjacent to an unnamed tributary which eventually flows into Middle Creek, a 303(d) listed stream. The STP underwent rehabilitation in 2008. The collection system was smoke tested; some sewers were videoed; and several defects were repaired in 2009/2010. However, defects within the collection system are still substantial and contribute to continued SSOs and peak wet weather flows into the STP. These peak flows exceed four times the rated capacity of the STP. The goal of this project is to repair defects in the Niota Road pump station basin's collection system and replace the existing Niota Road pumping station and force main.

During heavy rainfall events, the pump station operates continuously as the wetwell overflows. This continuous operation adds increased flow to the downstream collection system, thus contributing to the SSOs in that part of the system. Also, the wetwell SSO into the nearby unnamed tributary results in ceased operations at the Town's Water Treatment Plant (WTP) since the WTP is downstream of the SSO. The continued operation of the pumping station and overflow indicate this basin has significant I/I and is a major contributor to the other SSOs in the system.

Enclosed herewith as Figure 1 is a map that depicts the Niota Road Pump Station Basin, the stream locations, and the location of the Niota Road Pump Station. Also shown is the location of the Englewood STP.

STATE REVOLVING FUND LOAN PROGRAM
QUESTIONNAIRE
FY 2013 PRIORITY RANKING LISTS

Please e-mail raymond.ramage@tn.gov to request an electronic questionnaire. **Please call 615-253-5134 with questions.**

1. CITY/CO/UD/AUTHORITY'S NAME Town of Englewood

2. CONTACT PERSON Jamie Moses, Town Manager **PHONE** (423) 887-7224 **E-MAIL** townmanager@townofenglewood.com

3. CITY/CO/UD/AUTHORITY'S COUNTY(IES) SERVED McMinn County

4. CITY/CO/UD/AUTHORITY'S TN CONGRESSIONAL DISTRICT NO(s). **PRIMARY** 2 **OTHER** _____ **OTHER** _____

5. CITY/CO/UD/AUTHORITY'S 9-DIGIT DUNS NUMBER, if available. _____

6. CONSULTING FIRM, if applicable. CTI Engineers, Inc.

7. CONSULTANT'S NAME John King, PE **PHONE** (865)246-2750 **E-MAIL** jking@ctiengr.com

8. IS THIS REQUEST FOR: Please check 1 or both.

A COMMUNITY DEVELOPMENT BLOCK GRANT AND/OR X	**A COMMUNITY DEVELOPMENT BLOCK GRANT AND/OR** _____
A CLEAN WATER SRF LOAN? _____	**A DRINKING WATER SRF LOAN?** _____
8.a. Associated NPDES Permit No./ SOP No. TN 0021938	8.c. Public Water System Number TN _____
8.b. Non-discharge Type _____	

9. Please check ONLY the PRIMARY reason

PRIMARY REASON FOR THE CW PROJECT		**PRIMARY REASON FOR THE DW PROJECT**	
ACHIEVE COMPLIANCE	X	ACHIEVE COMPLIANCE	_____
MAINTAIN COMPLIANCE	_____	MAINTAIN COMPLIANCE	_____
PUBLIC HEALTH/ PATHOGEN REDUCTION	_____	PUBLIC HEALTH	_____
MEET FUTURE REQUIREMENTS	_____	MEET FUTURE REQUIREMENTS	_____
INFRASTRUCTURE IMPROVEMENT	_____	INFRASTRUCTURE IMPROVEMENT	_____
REGIONALIZATION/ CONSOLIDATION	_____	CONSOLIDATES SYSTEMS	_____
WATER REUSE/ RECYCLING/ CONSERVATION	_____	WATER REUSE/ RECYCLING/ CONSERVATION	_____
GROUNDWATER PROTECTION	_____	CREATES NEW SYSTEM	_____
WETLAND RESTORATION	_____	OTHER*	_____
GROWTH	_____		
OTHER*	_____		

10. POPULATION SERVED **CURRENT** 1577 **YR 2033** 1892 **CURRENT** _____

11. TOTAL PROJECT AMOUNT –Amount should equal sum of next 3 rows. $ 206,500.00

FUNDING AMOUNT - SRF LOAN _____

FUNDING AMOUNT - CDB GRANT $ 200,000.00

FUNDING AMOUNT - OTHER $ 6,500.00 local match

12. BRIEF PROJECT DESCRIPTION I/I Abatement in Niota Road Pump Station Basin

13. PROJECTED CONSTRUCTION START DATE January 2014

14. PROJECTED CONSTRUCTION END DATE July 2014

15. DOES PROJECT INCLUDE A GREEN COMPONENT? **If so, please complete the following 4 rows as applicable.**

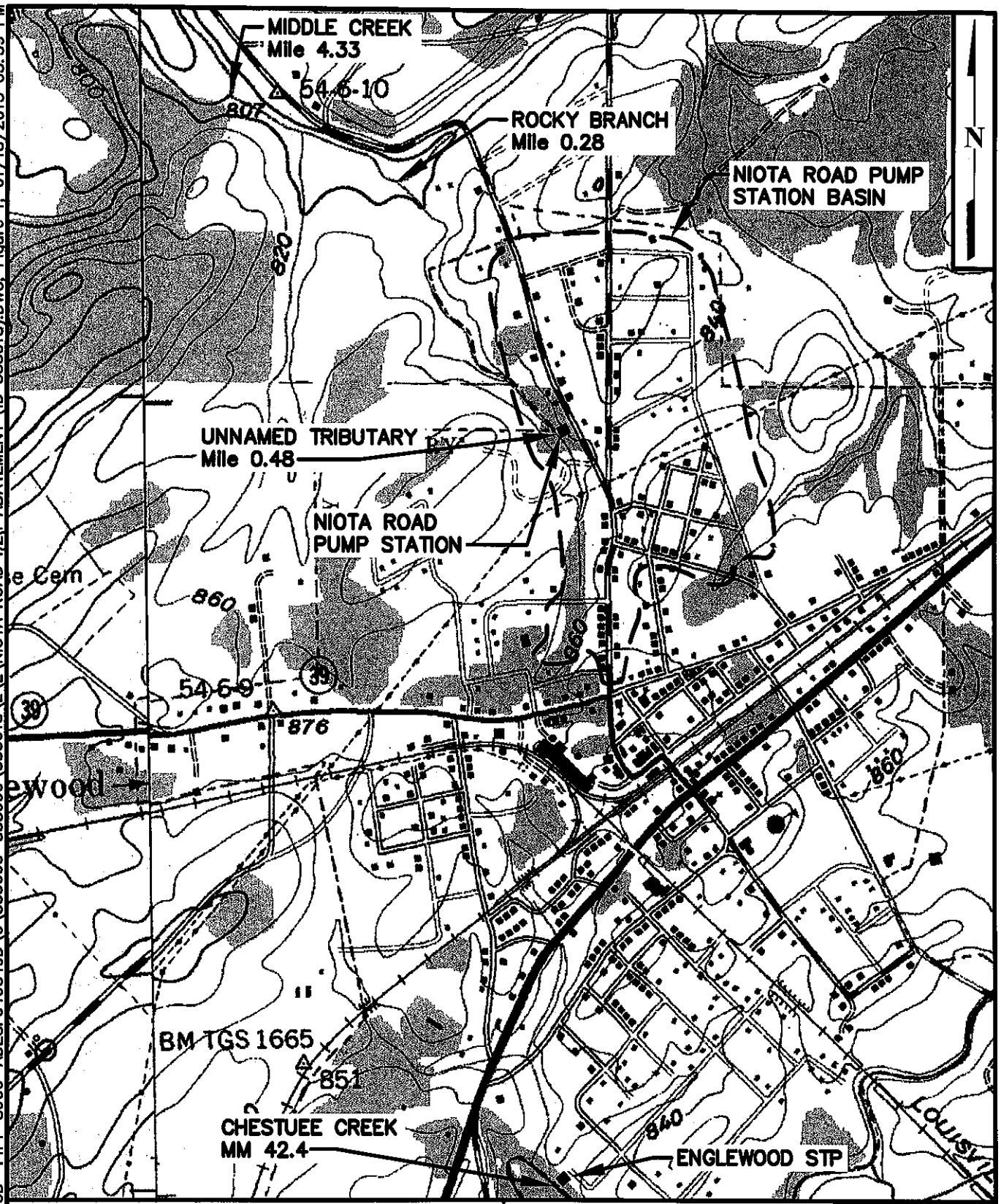
GREEN INFRASTRUCTURE ($) Including All Engineering Costs, Etc. $ 176,500.00

ENERGY EFFICIENCY ($) Including All Engineering Costs, Etc. $ 30,000.00

WATER EFFICIENCY ($) Including All Engineering Costs, Etc. _____

GREEN INNOVATIVE ($) Including All Engineering Costs, Etc. _____

*Please explain in the comments section.

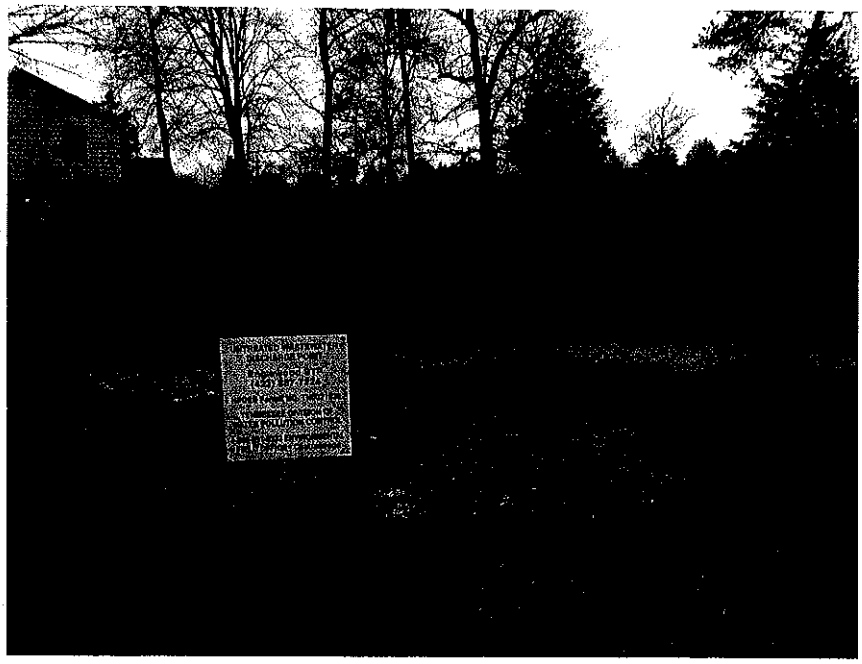


M:\CTI\ID2\5EB9ED65-736D-44F1-8900-ADE8F640C49D\0\353000-353999\353018\LL\NIOTA ROAD I&I ABATEMENT (ID 353018).DWG, Figure 1, 01/15/2013 03:59 PM

FIGURE 1

NIOTA ROAD PUMP STATION BASIN I/I ABATEMENT

CTI ENGINEERS, INC.	TOWN OF ENGLEWOOD	KP12014



INTRODUCTION

The Town of Englewood (Town) is located in the northeast corner of McMinn County, approximately equidistant between Chattanooga and Knoxville. Access to Englewood is via Tennessee State Route (SR) 39 and US Highway 411 (SR33).

The Town is governed by a five-member commission consisting of a Mayor/Chairman and four commissioners. Full-time administrators responsible for the daily functions of the government include City Manager, Publics Work Director, City Recorder, and Chief of Police.

The Town operates and maintains its own wastewater (sewer) collection and treatment system. Currently, there are 593 sewer connections serving approximately 1,532 persons.

The collection system has experienced high flows at the sewer treatment plant (STP) and numerous sanitary sewer overflows (SSOs) within the collection system during rainfall events. From 2007 through 2010, an initial inflow/infiltration (I/I) study was performed; the collection system was smoke tested; several sections of piping were video inspected; and several repairs were made within the collection system. This initial work was performed as Phase I for the abatement of I/I within the collection system.

However, the work performed in Phase I did not substantially reduce I/I and the system continues to experience SSOs. Additional improvements are needed to eliminate or minimize sewage overflows, that threaten the environment and the public health. In January 2013, the Town enacted a self-imposed moritorium on new sewer connections as required by it's NPDES permit and the Tennessee Department of Environment and Conservation (TDEC) due to continued SSOs.

The purpose of this phase of the I/I abatement (Phase II -Sewer System Rehabilitation) is to concentrate efforts on one of the sewer sheds (the Niota Road SPS Sewer Shed) to reduce SSOs at the pump station site and to reduce it's impact on the down stream WWTP Sewer Shed.

The existing Town of Englewood (Town) sewer system consists of approximately 63,300 linear feet (L.F.) of 4-inch through 12-inch sewer pipeline and manholes, four (4) sewage pumping stations, and a 250,000 gallon-per-day (GPD) wastewater treatment plant. The majority of the system was constructed in the early 1960's with construction consisting primarily of brick manholes and vitrified clay pipe (VCP). The collection system is divided into four (4) basins (sewer sheds). The Niota Road Sewer Pump Station (SPS) transfers wastewater from the Niota Road SPS Sewer Shed to the Wastewater Treatment Plant (WWTP) Sewer Shed via a 4-inch force main.

Between 2005 and 2010, the Town spent approximately $750,000 for sewer treatment plant improvements to handle higher peak flows attributed to I/I and $260,000 for I/I abatement within the collection system. Records showing recent flows of up to 960,000 GPD being treated at the STP indicate improved ability to treat I/I. However, the Town's monthly reports for bypass/overflow/upsets indicate that a significant amount of I/I still exists with the sewer system which overcomes the system's ability to convey flow to the STP.

From September 2011 to August 2012, the collection system experienced a total of 63 sanitary sewer overflows (SSOs) at 4 separate locations within the collection system. These SSOs were directly related to I/I during rainfall events. Fourteen of these SSOs occurred at the Niota Road SPS wetwell.

SSOs from the wetwell flow directly into an unnamed tributary that flows to Middle Creek. Middle Creek is listed as a 303d steam with "Collection System Failure" shown as one of the reasons for impairment. It should be noted that the Town's Water Treatment Plant (WTP) is located on Middle Creek, downstream from the Niota Road SPS SSOs. During SSOs, the WTP is shut-down to prevent intake of raw sewage contaminated water.

SSO information during the above mentioned period is shown in Table 2.1.

Results of field observations and hydraulic computations indicate that the existing 80gpm pumping station and wetwell are undersized to accommodate peak, non wet-weather flows with one operating pump. Due to the age of the pump station and its components, the pump station has experienced and will continue experience malfunctions that will result in increased SSOs if not corrected. Although some improvements to reducing I/I in the Niota Road SPS Sewer Shed were performed in Phase I, several are still needed to reduce overall I/I to the pump station to limit SSOs. Two alternatives for improvements in this area were evaluated.

Alternative 1

The first alternative involves replacing the existing 80 gpm, duplex, dry-pit type sewer pumping station with a new 110 gpm duplex, submersible pumping station with a 6-foot diameter wetwell; replacing the existing approximate 2,000 LF 4-inch diameter, cast iron force main with a new 4-inch PVC force main; and making additional manhole and sewer main point and section repairs identified in Phase I of the systems rehabilitation efforts.

Costs for Alternative 1 are shown in Table 4.1.

Alternative 1 is advantageous in that it provides (1) increased pumping capacity at the pump station to accommodate peak, non-wet weather flows with a single pump; increased overall pumping capacity during wet weather events thus reducing SSO events and durations (depends on rainfall event); reduces pump station and force main down time due to continued malfunctions; and (2) provides additional work complimentary to previous Phase I work to reduce I/I in the Niota Road SPS Sewer Shed.

Alternative 1 has the lowest estimated cost at $256,500, and is recommended for implementation.