



Corrosion Management, Inc.

System Designs • Resurveys • Troubleshooting • Repairs

January 29, 2024

Bill Collins
Citizens Bank & Trust Company
126 S. Main St.
Blackstone, VA 23824

Location: Burkeville Market
404 N. 2nd St.
Burkeville, VA
Job #RS-4080

On January 22, 2024, we were at the subject location to resurvey the Sacrificial Anode Cathodic Protection Systems on 3 STI-P3 Tanks.

As of May 26, 2006, Virginia requires that all Cathodic Protection testing be completed according to their document titled "Guidelines for Underground Storage Tank Cathodic Protection Evaluation". The resurvey test data must be recorded on the states forms and include a site drawing. These documents are attached to this letter.

The 3 STI-P3 Tanks passed for corrosion protection according to the requirements in the VADEQ document referenced above.

We greatly appreciate your business. If you have any questions or need more information, do not hesitate to call me at (888) 822-2431.

Sincerely,

Rick Rogers
NACE Cathodic Protection Specialist #4394

- > This form should be utilized to evaluate underground storage tank (UST) cathodic protection systems in the Commonwealth of Virginia
- > Access to the soil directly over the cathodically protected structure that is being evaluated must be provided.
- > A site drawing depicting the UST cathodic protection system and all reference electrode placements must be completed

I. UST OWNER

II. UST FACILITY

NAME: BILL COLLINS

NAME: BURKEVILLE MARKET

ID #

ADDRESS:

ADDRESS: 404 NORTH 2ND STREET

CITY:

PHONE:

CITY: BURKEVILLE

COUNTY:

STATE:

ZIP:

STATE: VA

ZIP:

PHONE:

III. REASON SURVEY WAS CONDUCTED (mark only one)

- Routine - 3 year Routine - within 6 months of installation 90-day re-survey after fail Re-survey after repair/modification

Date next cathodic protection survey must be conducted 1/22/27 (required within 6 months of installation/repair & every 3 years thereafter)

IV. CATHODIC PROTECTION TESTER'S EVALUATION (mark only one)

- PASS** All protected structures at this facility pass the cathodic protection survey and it is judged that adequate cathodic protection has been provided to the UST system (indicate all criteria applicable by completion of Section VI)
- FAIL** One or more protected structures at this facility fail the cathodic protection survey and it is judged that adequate cathodic protection has not been provided to the UST system(s) (complete Section VII)

TESTER'S NAME: BEN CONKLIN

SOURCE OF CERTIFICATION: STI

COMPANY NAME: CONKLIN CORROSION CONTROL LLC

TYPE OF CERTIFICATION: CP TESTER

ADDRESS: 118 OAK POINT LANE

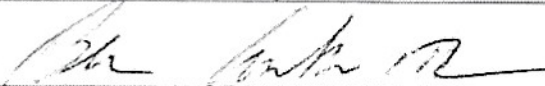
CERTIFICATION NUMBER: CP16036

CITY: STONY POINT

STATE: NC

ZIP: 28678

PHONE: 704-560-9154

CP TESTER'S SIGNATURE: 

DATE SIGNED: 1/27/24

DATE CP SURVEY PERFORMED: 1/22/24

V. CORROSION EXPERT'S EVALUATION (mark only one)

The survey must be conducted and/or evaluated by a corrosion expert when: a) supplemental anodes or other changes in the construction of the cathodic protection system are made, b) stray current may be affecting buried metallic structures or c) an inconclusive result was written in Section VI. (except for under STI-R972 - "Recommended Practice for the Addition of Supplemental Anodes to sti-P₃® UST's")

- PASS** All protected structures at this facility pass the cathodic protection survey and it is judged that adequate cathodic protection has been provided to the UST system (indicate all criteria applicable by completion of Section VI)
- FAIL** One or more protected structures at this facility fail the cathodic protection survey and it is judged that adequate cathodic protection has not been provided to the UST system (indicate what action is necessary by completion of Section VII)

CORROSION EXPERT'S NAME:

SOURCE OF CERTIFICATION:

COMPANY NAME:

TYPE OF CERTIFICATION:

ADDRESS:

CERTIFICATION NUMBER:

CITY:

STATE:

ZIP:

PHONE:

CORROSION EXPERT'S SIGNATURE:

DATE:

VI. CRITERIA APPLICABLE TO EVALUATION (mark all that apply)

- 850mV ON / (Instant) OFF** (circle ON or "OFF" to specify) Structure-to-soil potential more negative than -850 mV with respect to a Cu/CuSO₄ reference electrode with protective current ON (galvanic) or temporarily interrupted (instant-OFF (impressed)). Inconclusive?
- 100 mV POLARIZATION** Structure(s) exhibit at least 100 mV of cathodic polarization. Inconclusive?

VII. ACTION REQUIRED AS A RESULT OF THIS EVALUATION (mark only one)

- NONE** Cathodic protection is adequate. No further action is necessary at this time. Test again by no later than (see Section V)
- RETEST** Cathodic protection may not be adequate. Retest during the next 90 days to determine if passing results can be achieved.
- REPAIR & RETEST** Cathodic protection is not adequate. Repair/modification is necessary as soon as practical but within the next 90 days.

VIII. DESCRIPTION OF UST SYSTEM

TANK #	PRODUCT	CAPACITY	TANK MATERIAL	PIPING MATERIAL	FLEX CONNECTORS
1	T1	>3500	STI P3	NON METALIC	YES CONTAINMENT
2	T2	>3500	STI P3	NON METALIC	YES CONTAINMENT
3	T3	>3500	STI P3	NON METALIC	YES CONTAINMENT
4					
5					
6					
7					
8					
9					
10					

IX. IMPRESSED CURRENT RECTIFIER DATA (complete all applicable)

In order to conduct an effective evaluation of the cathodic protection system, a complete evaluation of rectifier operation is necessary

RECTIFIER MANUFACTURER: NA	RATED DC OUTPUT: _____ VOLTS _____ AMPS
RECTIFIER MODEL: NA	RECTIFIER SERIAL NUMBER:
RECTIFIER OUTPUT AS INITIALLY DESIGNED OR LASTLY RECOMMENDED (if available): _____ VOLTS _____ AMPS	

EVENT	DATE	TAP SETTINGS		DC OUTPUT		HOUR METER	COMMENTS
		COARSE	FINE	VOLTS	AMPS		
"AS FOUND"						NA	
"AS LEFT"							

X. IMPRESSED CURRENT POSITIVE & NEGATIVE CIRCUIT MEASUREMENTS (output amperage)

Complete if the system is designed to allow such measurements (i.e. individual lead wires for each anode are installed and measurement shunts are present).

CIRCUIT	1	2	3	4	5	6	7	8	9	10	TOTAL AMPS
ANODE (+)	N										
TANK (-)											

XI. DESCRIPTION OF CATHODIC PROTECTION SYSTEM REPAIRS AND/OR MODIFICATION

Complete if any repairs or modifications to the cathodic protection system are made OR are necessary. Certain repairs/modifications as explained in the text of the VADEQ cathodic protection guidance document are required to be designed and/or evaluated by a corrosion expert (completion of Section V required).

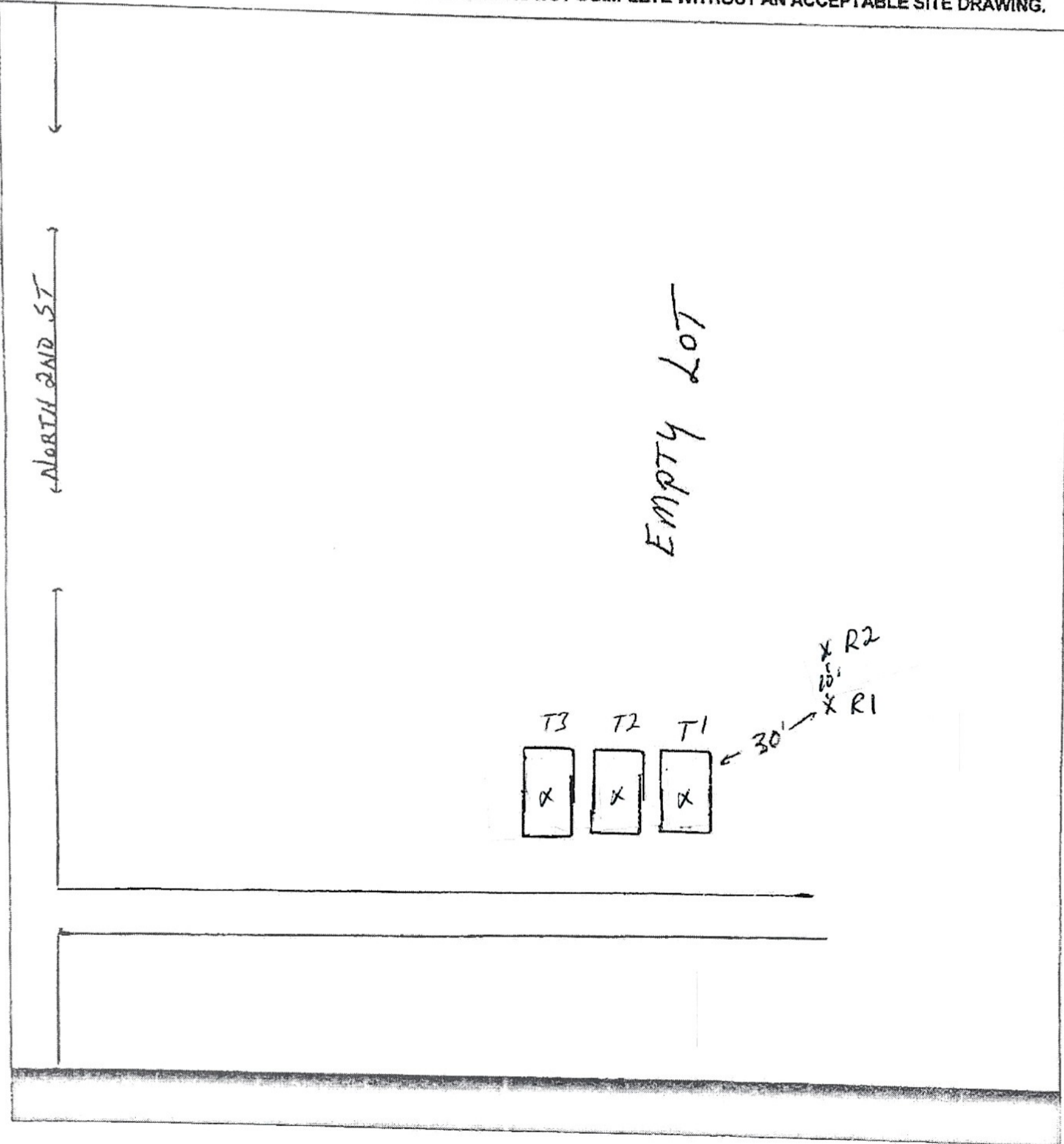
- Additional anodes for an impressed current system (attach corrosion expert's design)
- Supplemental anodes for a STI-P3[®] tank or metallic pipe (attach corrosion expert's design or documentation industry standard was followed).
- Repairs or replacement of rectifier (explain in "Remarks/Other" below)
- Anode header cables repaired and/or replaced(explain in "Remarks/Other" below).
- Impressed current protected tanks/piping not electrically continuous (explain in "Remarks/Other" below)
- Galvanically protected tanks/piping NOT electrically isolated (explain in "Remarks/Other" below)

Remarks/Other:

XII. UST FACILITY SITE DRAWING

Attach detailed drawing of the UST and cathodic protection systems. Sufficient detail must be given in order to clearly indicate where the reference electrode was placed for each structure-to-soil potential that is recorded on the survey forms. Any pertinent data must also be included. At a minimum indicate the following: all tanks, piping and dispensers; all buildings and streets; all anodes and wires; location of CP test stations; and, each reference electrode placement must be indicated by a code (1, 2, 3; R-1, R-2, R-3...etc.) corresponding with the appropriate line number in Section XIV of this form. (Note, CP test stations (PP4) may be questionable for use as described in Section 6.1.2)

AN EVALUATION OF THE CATHODIC PROTECTION SYSTEM IS NOT COMPLETE WITHOUT AN ACCEPTABLE SITE DRAWING.



XIV. CATHODIC PROTECTION SYSTEM SURVEY

This section may be utilized to conduct a survey of the cathodic protection system by obtaining structure-to-soil potential measurements.

- **For Impressed Current (IC) systems** the reference electrode must be placed (minimum of three locations) in the soil directly above the structure that is being tested and as far away from any active anode as practical to obtain a valid structure-to-soil potential (refer to the VADEQ cathodic protection evaluation guidance document for detailed discussion of electrode placement)

➤ Both "on" and "instant off" potentials must be measured for each structure that is intended to be under cathodic protection

➤ The "instant off" potential must be -850 mV DC or more negative or the 100 mV DC polarization criterion must be satisfied in order to pass
- **For Galvanic (G) systems:** the reference electrode must be placed (minimum of three locations) with at least one local and at least one placed remotely 25-100 feet away from the structure.

➤ Both the local and remote voltage must be -850 mV DC or more negative, in order for the structure to pass.

➤ Inconclusive is indicated when both the local and remote structure-to-soil potentials do not result in the same outcome (both must "pass" or both must "fail").

➤ As a place to record the "galvanic CP system voltage", use the "On Voltage" fifth column below, and, in cases with supplemental anodes use the "Instant Off" column six.

FACILITY NAME: **BURKEVILLE MARKET**

NOTE: This survey is not complete unless all applicable parts of sections I – XIV are also completed.

LOCATION ¹ CODE	STRUCTURE ²	CONTACT POINT ³	REFERENCE CELL PLACEMENT ⁴	ON ⁵ VOLTAGE	INSTANT OFF ⁶ VOLTAGE	100 mv polarization		PASS/ ⁹ FAIL
						ENDING ⁷ VOLTAGE	VOLTAGE CHANGE ⁸	
				LOC	REM1	REM2		
	T1	TANK BOTT	SOIL AT CENTER	-853	-875	-877		PASS
	T2	TANK BOTT	SOIL AT CENTER	-856	-860	-863		PASS
	T3	TANK BOTT	SOIL AT CENTER	-850	-859	-858		PASS

COMMENTS:

Use copies of this page as needed for additional reference cell readings.

1. Designate numerically or by code on the site drawing each local reference electrode placement (e.g. R1-IC, R2-G, R3-IC...etc.)
2. Describe the structure that is being tested (e.g. plus tank; diesel piping; flex connector, etc.)
3. Describe where the structure being tested is contacted by the test lead (e.g. plus tank bottom; diesel piping @ dispenser 7/8; etc.)
4. Describe the exact location where the reference electrode is placed for each measurement (e.g. soil @ regular tank STP manway soil @ dispenser 2, etc.)
5. (Applies to all tests) Record the structure-to-soil potential (voltage) observed with the current applied (e.g. -1070 mV.)
6. (Applies to all tests) Record the structure to soil potential (voltage) observed when the current is interrupted (e.g. 680 mV.)
7. (Applies to 100 mV polarization test only) Record the voltage observed at the end of the test period (e.g. 575 mV.)
8. (Applies to 100 mV polarization test only) Subtract the final voltage from the instant off voltage (e.g. 680 mV - 575 mV = 105 mV.)
9. Indicate if the tested structure passed or failed one of the two acceptable criteria (850 instant off or 100 mV polarization) based on your interpretation of data.