

Revised Final Contractor Quality Control Plan for Soils Remediation

**Landfill Operable Unit
Tonawanda Landfill Vicinity Property
Erie County, New York**

May 2019

Contract: W912QR-12-D-0010
Delivery Order: W912P418F0049

Prepared for:



United States Army Corps of Engineers
Buffalo District
1776 Niagara Street
Buffalo, New York 14207

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STATEMENT OF INDEPENDENT TECHNICAL REVIEW

**Revised Final
Contractor Quality Control Plan for Soils Remediation
Tonawanda Landfill Vicinity Property, Erie County, New York
U.S. Army Corps of Engineers
Buffalo District**

Plexus Scientific Corporation has completed the preparation of the Revised Final Contractor Quality Control Plan. Notice is hereby given that an independent technical review has been conducted that is appropriate to the level of risk and complexity inherent in the project. During the independent technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of data quality objectives; technical assumptions; methods, procedures, and materials to be used; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing U.S. Army Corps of Engineers policy.

Significant concerns and explanation of the resolutions are documented within the project file. As noted above, all concerns resulting from independent technical review of the project have been considered.

[Redacted]
Project Manager

Date

[Redacted], CHMM
Independent Technical Review Team Leader

Date

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APPENDICES

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ACRONYMS AND ABBREVIATIONS

APP	Accident Prevention Plan
ASQ-CMQ/OE	American Society of Quality-Manager of Quality/Organization Excellence
CHP	Certified Health Physicist
CM	Contractor Mode
COR	Contracting Officer's Representative
CQC	Contractor Quality Control
CQCP	Contractor Quality Control Plan
CQCSM	Contractor Quality Control System Manager
DFW	Definable Feature of Work
DQCRs	Daily Quality Control Reports
FUSRAP	Formerly Used Sites Remedial Action Program
IMC	Intermodal Container
ISOCS	In-Situ Object Counting System
KO	Contracting Officer
OU	Operable Unit
PAMP	Perimeter Air Monitoring Plan
PG	Professional Geologist
Plexus	Plexus Scientific Corporation
PM	Project Manager
PMP	Project Management Professional
QA	Quality Assurance
QC	Quality Control
RMS	Resident Management System
RPP	Radiation Protection Plan
RSO	Radiation Safety Officer
SOP	Site Operation Plan
SOW	Scope of Work
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
TBD	To Be Determined
TLVP	Tonawanda Landfill Vicinity Property
UFP-QAPP	Uniform Federal Policy – Quality Assurance Project Plan
USACE	U.S. Army Corps of Engineers
WAC	Waste Acceptance Criteria

1.0 INTRODUCTION

Plexus Scientific Corporation (Plexus) was awarded a contract to provide soils remediation at the Landfill Operable Unit (OU) at the Tonawanda Landfill Vicinity Property (TLVP), in the Town of Tonawanda, in Erie County, New York. Contract Number W912QR-12-D-0010, Delivery Order Number W912P418F0049 was issued by the U.S. Army Corps of Engineers (USACE) – Buffalo District (CELRB), under the USACE’s Formerly Utilized Sites Remedial Action Program (FUSRAP), which was established to identify, investigate, and clean-up or control sites previously used by the Atomic Energy Commission and its predecessor, the Manhattan Engineer District.

Soils at the Landfill OU are contaminated with FUSRAP-related constituents of concern: Radium-226, Thorium-230, and Total Uranium, which consists of Uranium-234, Uranium-235, and Uranium-238 isotopes. Additional information for the soils remediation project, including site location, site background, site topography and drainage, nature and extent of contamination, and selected remedy are presented in the Site Operations Plan (SOP; Plexus, 2019a).

1.1 Purpose and Scope

The purpose of the Contractor Quality Control Plan (CQCP) is to describe the proposed procedures for inspections, monitoring, follow-up, and corrective actions for all phases of work. The information provided in this plan will ensure compliance with the quality goals and applicable statutory and regulatory requirements.

The establishment of qualified project teams, proper training of project personnel, and the implementation of internal and external Quality Control (QC) procedures will be maintained in accordance with this CQCP throughout the project.

1.2 Summary of Work

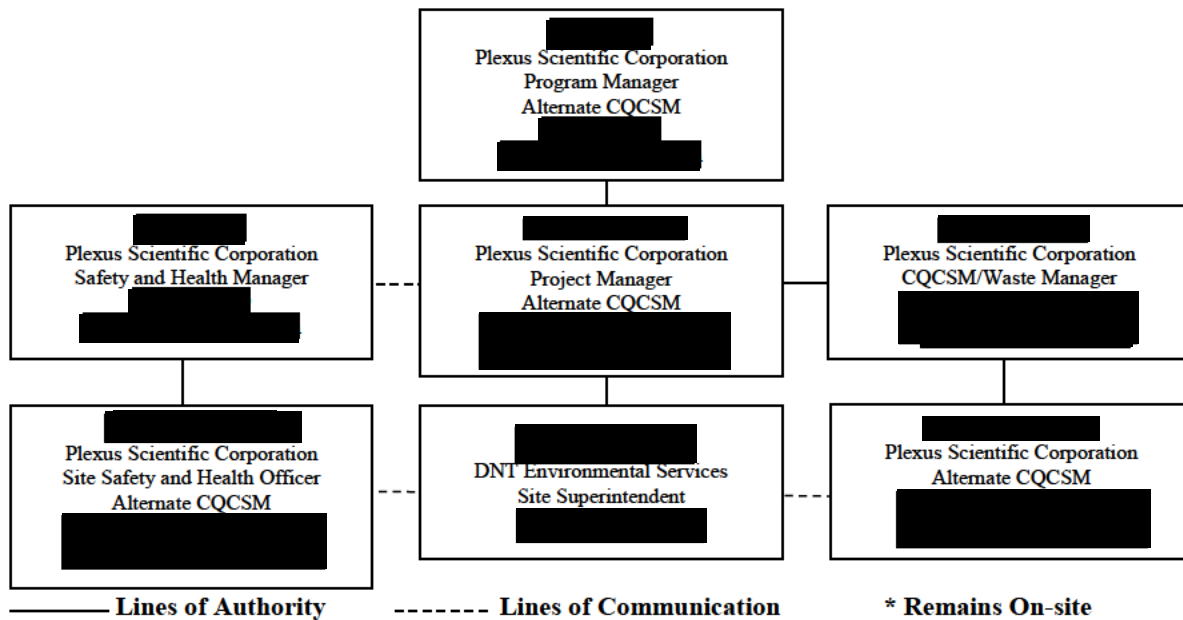
The major components of the selected remedy for the Landfill OU are:

- Excavating impacted soil above cleanup goals within the first 1.5 meters (5 feet) of the surface and dispose at a permitted off-site disposal facility;
- Collecting and analyzing groundwater that had infiltrated excavation areas for potential sanitary discharge and treatment as necessary for off-site disposal at a facility permitted to accept the waste stream. Provisions would be made to protect removal areas from the collection of surface runoff until confirmatory sampling can be conducted, and the areas are determined to comply with remediation objectives;
- Establishing perimeter dust control measures, air monitoring and contamination control measures to monitor and control the discharge of surface water runoff and airborne dust from the excavation areas to local conveyances. This will be conducted for health and safety purposes during excavation;
- Scanning the sidewalls of the excavation to determine if the lateral extent of the excavation areas have confirmed that each removal area has met cleanup criteria. If scan limit has been met, confirmatory samples will be collected and analyzed; and
- Backfilling with clean soil, contoured to promote surface water runoff, and seeding in accordance with the approved site restoration plan (USACE, 2017).

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2.0 PROJECT QUALITY CONTROL ORGANIZATION

Plexus will have the responsibility and authority for development, modification, and implementation of the CQCP. The CQCP will be implemented independently of the oversight performed by USACE representatives. Plexus has established a project team comprised of qualified personnel with the appropriate range of experience and backgrounds. This project team may be supplemented on occasion with personnel who possess specific focused knowledge or experience when necessary. The project team includes field personnel who will be responsible for the implementation of the field effort and who will oversee the review of all documents. The QC organization for this project, including lines of authority and communication is presented below. The resumes of QC personnel are presented in the Site Operations Plan (Plexus, 2019a).



2.1 Quality Control Responsibilities

The office team will consist of the following personnel. The responsibilities of each of the team members are described in **Table 2-1**.

Table 2-1. Team Member Responsibilities

Position	Responsibilities
Program Manager/Alternate CQCSM¹ PMP	<ul style="list-style-type: none"> • Ultimately responsible for the contract quality program. • Ensure compliance with this QC Program. • Perform independent technical reviews of documents. • Assumes responsibilities of the CQCSM when acting as the Alternate CQCSM.

Table 2-1. Team Member Responsibilities

Position	Responsibilities
Project Manager (PM)/Alternate CQCSM¹ [REDACTED] PMP	<ul style="list-style-type: none">• Interface with the Contracting Officer's Representative (COR) to ensure client satisfaction.• Management and execution of the work in accordance with the Scope of Work (SOW) (USACE, 2018), approved plans and all federal, state and local laws and regulations.• Ensure all task prerequisites are complete.• Identify all hazards and hazard controls to all personnel associated with the task.• Ensure that all equipment, tools and materials necessary to perform the work are available, sufficient, and adequate.• Ensure all calibration and testing is complete.• Ensure adequate staff is available to perform the work.• Ensure staff training and qualifications are complete.• Ensure personnel understand roles, responsibilities, and authorities including the bounding conditions that if challenged warrant work suspension.• Ensure any necessary exercises, simulations, mock-ups, etc. are successfully completed.• Assumes responsibilities of the CQCSM when acting as the Alternate CQCSM.
Site Superintendent [REDACTED]	<ul style="list-style-type: none">• Ensure that equipment operators, craft and labor personnel are sufficiently trained and qualified to execute assigned tasks.• Ensure that all necessary equipment, tools, material and personnel are identified.• Ensure that pre-use inspections, calibrations (if required), and QC measurements (if required), are completed and routinely performed as specified.• Participate in the design and installation of all repaired or replaced site infrastructure.• Routine assessment of work activities to ensure tasks are performed in accordance with the SOW and work plan requirements.• Participate in readiness evaluations prior to initiation of each definable feature of the work to ensure that all specified controls and requirements are implemented and enforced during performance of the work.• Must be on-site at all times that work is being performed.

Table 2-1. Team Member Responsibilities






Position	Responsibilities
CQCSM¹  PG, ASQ-CMQ/OE	<ul style="list-style-type: none"> • Overall management of the Contractor Quality Control (CQC) System and has authority to act in all QC matters for the Contractor. • Development of the CQCP. • Ensure compliance with the requirements in the SOW, the CQCP, and the contractor's Corporate Quality Assurance (QA) Program. • Responsible for overall management of CQC and have authority to correct any deficiency. • Oversee the determination of readiness to begin task activities. • Perform routine audits and assessments of work performance. • Ensure issues identified are documented in the contractor's corrective action management system. • Has the authority to stop work whenever conditions adverse to quality are identified.
Alternate CQCSM¹  CHMM	<ul style="list-style-type: none"> • Assumes responsibilities of the CQCSM.
Safety and Health Manager  CHP	<ul style="list-style-type: none"> • Development, implementation, oversight, and enforcement of the Accident Prevention Plan (APP)/Site Safety and Health Plan (SSHP). • Sign and date the APP/SSHP prior to submittal. • Conduct initial site-specific training. • Be available for consultation during remedial activities and at the startup of each new major phase of work. • Visit the site as needed to audit the effectiveness of the APP/SSHP. • Be available for emergencies. • Provide onsite consultation as needed to ensure the APP/SSHP is fully implemented. • Coordinate any modifications to the APP/SSHP with the Site Superintendent, the SSHO, and the Contracting Officer (KO). • Provide continued support for upgrading/downgrading of the level of personal protection. • Evaluate air monitoring data and recommend changes to engineering controls, work practices, and personal protective equipment. • Review accident reports and results of daily inspections.
Site Safety and Health Officer / Alternate CQCSM¹ 	<ul style="list-style-type: none"> • Ensure all elements of the accepted APP/SSHP are implemented and enforced on-site. • Must be on-site at all times that work is being performed • Has the authority to stop work if any unacceptable health or safety conditions exist. • Encourage input from site personnel on safety issues. • Assumes responsibilities of the CQCSM when acting as the Alternate CQCSM.

Table 2-1. Team Member Responsibilities

Position	Responsibilities
Waste Manager  PG, ASQ-CMQ/OE	<ul style="list-style-type: none"> • Single point of contact for all waste management regulatory matters. • Overall responsibility for waste management and handling. • Act as liaison between the contractor and the transportation and disposal contractor. • Create manifest documents. • Ensure that Department of Transportation Conveyance surveys are completed and reviewed prior to offering the USACE the manifest package for review & signature. • Ensure that scale weights get logged for each intermodal container (IMC) (In-Situ Object Counting System (ISOCS) will need weight to run report for Waste Acceptance Criteria (WAC) monitoring). • Ensure that ISOCS measurement for WAC compliance is captured & reviewed and included in the manifest package. • Maintain records of all activities for daily QA reporting & project closure report. • Ensure ISOCS QC system is maintained and documented (by the ISOCS operator) to ensure instrument meets minimum detectable activities and established limits of control. • Coordinates container movement along haul roads. • Communicates well with PM/COR/Transportation and Disposal contractor to minimize/avoid undue delays. • Conduct or delegate inspection of each waste package prior to departure (ensure all lids, end doors are secured, all markings/placards are affixed, no leaks from IMC & transport vehicle is operating properly).
<p>Note: Not all personnel listed above will be on site during field activities.</p> <p>1) A copy of required training and the letter to the CQCSM (and alternate) signed by an authorized official of Plexus that describes the responsibilities and delegates sufficient authorities to adequately perform the function of the position, including authority to stop work that is not in compliance with the contract, has been included in Appendix A.</p>	

2.2 Submittals

The Construction Quality Control Systems Manager (CQCSM) will review all submittals and certify that submittals are in compliance with contract requirements. All submittals will be transmitted to the USACE through the USACE Resident Management System (RMS) – Contractor Module. The CQCSM will perform the following tasks:

- Transmit submittals;
- Advise USACE COR of variations;
- Correct and return submittals as directed by approving authority;
- Furnish additional copies of the submittal when requested by the COR; and
- Ensure no work has begun until submittals for that work have been returned as “approved” or “approved as noted.”

2.3 Three-Phase Inspection System

To ensure all construction activities comply with the requirements of the specifications, the CQCSM will perform three phases of inspection, as described in the following sections. The phased inspection system will be implemented for all definable features of the work (DFW). A DFW is a task that is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a DFW, there are frequently more than one DFW under a particular section. The three-phase inspection system will be tracked via RMS 3.0. The DFWs for this project are presented in Section 4.0.

2.3.1 Preparatory Phase

A preparatory phase meeting will be conducted prior to beginning of each DFW. The COR and other appropriate persons will be notified at least 48 hours in advance of the meeting. This phase will include a meeting conducted by the CQCSM and attended by the Site Superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions will be documented by separate minutes prepared by the CQCSM and attached to the Daily Quality Control Reports (DQCR). The CQCSM will instruct applicable workers as to the acceptable level of workmanship required in order to meet design specifications. The preparatory phase will at a minimum cover the topics listed below.

- Review of the applicable specifications, reference codes, and standards as per the contract requirements.
- Review the work plans, drawings, and data.
- Check to ensure that all materials and/or equipment are on hand and have been tested, submitted, and approved as required.
- Check to ensure that provisions have been made to provide required control inspection and testing.
- Examine work area to ensure that all preliminary work has been completed and is in compliance.
- Physical examination of required materials, equipment, and sample work to ensure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- Review activity hazard analysis to ensure safety requirements are met.
- Discussion of procedures for controlling quality of the work including repetitive deficiencies.
- Document tolerances and workmanship standards for that feature of work.
- Check to ensure that the portion of the plan for the work to be performed has been accepted by the COR.
- Discussion of the initial control phase.

The COR will be notified at least 24 hours in advance of the beginning of the preparatory phase. A preparatory meeting, conducted by the CQCSM, and attended by the Site Superintendent, other CQC personnel (as applicable), and the individual responsible for the definable feature will be held prior to the start of the DFW. Workers will be instructed as to the acceptable level of workmanship required in order to meet project requirements. The results of the preparatory phase actions will be documented by separate minutes prepared by the CQCSM and attach to the DQCR via RMS 3.0. An example of the DQCR from RMS is attached as **Appendix B**.

2.3.2 Initial Phase

An initial phase meeting and inspection will be performed at the beginning of a DFW. The initial phase will at a minimum cover the topics listed below.

- Review minutes of the preparatory meeting.
- Check work to ensure that it is in full compliance with contract requirements.
- Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.
- Establish level of workmanship and verify that it meets minimum acceptable workmanship standards.
- Resolve all differences.
- Check safety to include compliance with and upgrading of the APP/SSHP and activity hazard analysis. Review the activity analysis with each worker.

The COR will be notified at least 24 hours in advance of the beginning of the initial phase. The results of this phase will be documented by separate minutes prepared by the CQCSM and attached to the DQCR via RMS 3.0. The exact location of the initial phase will be indicated for future reference and comparison with follow-up phases. The initial phase will be repeated for each new crew that would be brought onsite or anytime acceptable specified quality standards are not being met.

2.3.3 Follow-Up Phase

Follow-up phase inspections are daily checks to assure control activities, including control testing, are providing continued compliance with project requirements, until completion of the particular feature of work. The checks will be recorded in the CQC documentation via RMS 3.0. Final follow-up checks will be conducted, and all deficiencies corrected, prior to the start of additional definable features of work which may be affected by the deficient work. Deficient or non-conforming work will not be built upon or concealed. Deficiencies will be tracked via RMS 3.0.

2.3.4 Additional Preparatory and Initial Phases

Additional preparatory or initial phase inspections may be needed during project execution to ensure compliance with contract requirements on the same DFW. Additional preparation and/or initial phase inspections may be required under the following circumstances:

- Instances where the work quality of on-going work is unacceptable,
- Changes to the CQC staff, onsite supervision or the work crew,

- If work is resumed on a feature of work after a prolonged period inactivity, or;
- Any other unforeseen problems develop during construction.

2.3.5 Completion Inspections

Nearing the end of a remedial action, completion inspections will be performed to document any final deficiencies and acceptance of the work.

2.3.5.1 Punch-Out Inspection

Near the end of work or at any increment of the work established by a time stated in the CQCP, conduct an inspection of the work. Prepare and include in the CQC documentation a punch list of items that do not conform to the SOW and approved work plan. Include within the list of deficiencies the estimated date by which the deficiencies will be corrected. Make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, notify the COR that the work is ready for the COR's pre-final inspection.

2.3.5.2 Pre-Final Inspection

The COR will perform the pre-final inspection to verify that the remedial action is complete. A pre-final punch list may be developed as a result of this inspection. The contractor will ensure that all items on this list are corrected before notifying the COR, so that a final inspection can be scheduled. These inspections and any deficiency corrections required by this paragraph must be accomplished within the time scheduled for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates. When all deficiencies identified during the pre-final inspection have been corrected, the Final Acceptance Inspection will occur.

2.3.5.3 Final Acceptance Inspection

The final acceptance inspection will occur only after the Pre-Final Inspection event has been completed and will be based upon the results of the pre-final inspection. The Site Superintendent or other primary management person, and the KO/COR must be in attendance at the final acceptance inspection. The final inspection will be scheduled with the COR with no less than 14 days advance notice. The notice will be accompanied with an assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the project, will be complete and acceptable by the date scheduled for the final acceptance inspection.

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3.0 TEST METHODS AND APPROVAL

This section details the procedures to be used to control, verify, and accept the results of inspections and/or specific tests required in the project specifications for each DFW. Additional testing may be performed to ensure compliance with the project objectives/specifications. Specified or required tests will be performed to verify that control measures are adequate to provide a product that conforms to contract requirements. The SOW-required testing and the document where the testing requirements are identified are presented in **Table 3-1**.

Table 3-1. Required Testing for the SOW

Testing	Media	SOW / Specification Section	Frequency	Responsible Person	Compliance Document
Meteorological Monitoring	Weather	5.2.1	Continuous	SSHO	PAMP
Radiological Monitoring	Soil, Air, Facilities, Materials, Packaging	5.2.2	Baseline, Periodic	RSO	UFP-QAPP
Air Monitoring and Sampling	Off-Site Air, On-Site Air	5.2.3	Prior to Mobilization. During remediation.	RSO	PAMP; UFP-QAPP
Surface Water, Groundwater, Liquid Waste	Surface Water, Groundwater, Liquid Waste	5.2.5	Prior to disposal.	CQCSM	SOP; UFP-QAPP
Soil Sampling	Soil	5.2.6	To Be Determined (TBD)	CQCSM/RSO	SOP; UFP-QAPP
Radioactive Contaminated Media Sampling	Equipment, Facilities, Soil, Infrastructure, Waste	5.2.7	Each	RSO	RPP; UFP-QAPP
Laboratory Chemical Analysis	Soil, Wastewater	5.2.8	TBD; Every 6 Months / 20,000 gallons	CQCSM	SOP; UFP-QAPP
Radioactive Waste Analysis	Soil; Any	5.2.9	Every 10 IMCs; TBD	CQCSM/RSO	SOP; UFP-QAPP
Geotechnical Testing	Backfill, Topsoil	5.2.10	Every 1,000 cubic yards; TBD	CQCSM	SOP; UFP-QAPP
PAMP = Perimeter Air Monitoring Plan (Plexus, 2019b) RPP = Radiation Protection Plan (Plexus, 2019c) RSO = Radiation Safety Officer					

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4.0 DEFINABLE FEATURES OF WORK

A DFW is a task that is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a DFW, there are frequently more than one DFW under a particular section. The DFWs include those construction activities that need to be controlled as a result of their impact on the quality of the final product and/or compliance with contractual and work plan requirements. All DFWs require preparatory, initial, and follow-up inspections to determine the quantity and quality of work performed. These DFWs may change because of changing site conditions, work methods, or technology. The contractor and USACE will determine, and agree upon, DFWs during coordination meetings held before each task.

4.1 Pre-Mobilization Activities

- Submittals/Implementation Plans
- Pre-Mobilization Survey

4.2 Mobilization and Preparatory Work

- Personnel Mobilization and Training
- Mobilization of Construction Equipment and Facilities
 - Mobilization
- Setup/Construction of Temporary Facilities

4.3 Monitoring, Sampling, Testing and Analysis

- Meteorological Station
- Radiation Monitoring
- Air Monitoring and Sampling
- Monitoring Wells
- Sampling Surface Water/Groundwater/Liquid Waste
- Sampling Soil
- Sampling Radioactive Contaminated Material
- Laboratory Chemical Analysis
- Geotechnical Testing

4.4 Site Work

- Clearing and Grubbing
- Earthwork
- Roads/Parking/Curbs/Walks
- Fencing

4.5 Surface Water Collection and Control

- Sediment Barriers

4.6 Pumping/Draining/Collection

- Pumping/Draining/Collection

4.7 Solids Collection and Containment

- Contaminated Soil Collection
- Waste Containment

4.8 Liquids/Sediments/Sludges Collection and Containment

- Liquids/Sediments/Sludges Collection and Containment

4.9 Disposal

- Container Handling

4.10 Site Restoration

- Earthwork
- Seeding

4.11 Demobilization

- Removal of Temporary Facilities
- Final Decontamination
- Demobilization of Construction Equipment and Facilities
- Submittals/Final Reports

5.0 REPORTING AND RECORD KEEPING

The USACE software entitled “Resident Management System for Windows,” also known as RMS 3.0, will be used for reporting and record keeping. The contractor module of RMS, called “Contractor Mode (CM)” will be used to record, maintain and submit various information to the USACE throughout design and construction. This joint government-contractor use of RMS CM will facilitate the electronic exchange of information and overall management of the contract.

5.1 Recording Forms

The recording forms built into RMS CM will be used to document the quality control activities performed. Supplemental forms may be used to document testing and results and can be entered into RMS CM as an attachment to the DQCR.

5.1.1 Daily Quality Control Reports

The DQCRs will be completed by the Plexus CQCSM or his/her designee, with support from the Site Superintendent and subcontractor(s) as necessary. The DQCRs will be submitted electronically daily, within 24 hours, to the COR or his/her representative. A signed paper copy will also be provided. As a minimum the follow information will be included in the DQCR for Plexus and all subcontractors and suppliers:

- Contractor/subcontractor and their area of responsibility;
- Operating plant/equipment with hours worked, idle, or down for repair;
- Work performed each day, giving location, description, and by whom;
- Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase shall be identified (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action;
- Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements;
- Submittals and deliverables reviewed, with contract reference, by whom, and action taken;
- Offsite surveillance activities, including actions taken;
- Job safety evaluations stating what was checked, results, and instructions or corrective actions;
- Instructions given/received and conflicts in plans and/or specifications; and
- Contractor's verification statement.

The DQCR will also indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. The DQCR will cover both conforming and deficient features and include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. Plexus will furnish the original and one copy of these records in report form to the COR daily within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. Reports must be signed and dated by the CQCSM or his/her

alternate. Include copies of test reports and copies of reports prepared by all subordinate quality control personnel within the CQC organization. Any supplemental report will be summarized in the DQCR and attached as necessary. Attachments to the DQCR may include:

- Daily Safety Tailgate Forms;
- Daily Visitor Logs;
- Field Calibration Forms (if applicable);
- Memorandum of Non-Conformance;
- Copy of Chain-of-Custody; and
- Copy of 3-Phase Inspection Documentation.

5.1.2 Data Security and Storage

All hard copy data generated during the field effort will be stored in a secure location. Electronic data will be transmitted to Plexus' Alexandria, Virginia office and stored in a secured section of the Plexus SharePoint network until the data has been reviewed for accuracy. After the field effort has been completed, all hard copies of data will be transferred from the Landfill OU to the Plexus office. Only persons working on the project will be allowed to access the data from the Landfill OU.

6.0 REFERENCES

USACE, 2017. *Record of Decision for the Landfill Operable Unit of the Tonawanda Landfill Vicinity Property, Tonawanda, New York*. Buffalo District, September.

USACE, 2018. *Scope of Work (Amended) for Landfill Operable Unit of the Tonawanda Landfill Vicinity Property Soils Remediation, Formerly Utilized Sites Remedial Action Program, Erie County, New York*. Buffalo District, August.

Plexus, 2019a. *Site Operations Plan for Soils Remediation, Landfill Operable Unit, Tonawanda Landfill Vicinity Property, Tonawanda, New York*. March.

Plexus, 2019b. *Perimeter Air Monitoring Plan for Soils Remediation, Landfill Operable Unit, Tonawanda Landfill Vicinity Property, Tonawanda, New York*. March.

Plexus, 2019c. *Radiation Protection Plan for Soils Remediation, Landfill Operable Unit, Tonawanda Landfill Vicinity Property, Tonawanda, New York*. March.

Plexus, 2019d. *Uniform Federal Policy – Quality Assurance Project Plan/Sampling and Analysis Plan for Soils Remediation, Landfill Operable Unit, Tonawanda Landfill Vicinity Property, Tonawanda, New York*. March.

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Appendix A

Copy of Construction Quality Control System Letter and Training
Certificates

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May 17, 2019

[REDACTED]

RE: Construction Quality Control System Manager (CQCSM) Delegation of Authority
Tonawanda Landfill Vicinity Property – Landfill Operable Unit
W912QR-12-D-0010-W912P418F0049

[REDACTED]

This letter is to authorize you to act as the CQCSM for the above referenced project for Plexus Scientific Corporation. This delegation of authority is consistent with the responsibility and authority described in the above referenced contract. You are authorized to act on Plexus's behalf in the following manner:

- Perform all CQCSM duties for the project as identified in the approved final Contractor Quality Control Plan.
- Direct work to ensure compliance with approved work plans, drawings, specifications, and applicable regulations.
- Stop work that is not in compliance with the approved work plans, drawings, specifications, and/or applicable regulations.
- Designate and supervise CQCSM representatives, as necessary.
- Prepare and submit project submittals.
- Coordinate and supervise QC tests.
- Prepare daily activity reports.

Respectfully,

[REDACTED]

Program Manager

Cc: Plexus File



May 17, 2019



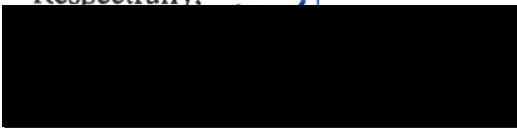
RE: Construction Quality Control System Manager (CQCSM) Delegation of Authority
Tonawanda Landfill Vicinity Property - Landfill Operable Unit
W912QR-12-D-0010-W912P418F0049



This letter is to authorize you to act as the CQCSM for the above referenced project for Plexus Scientific Corporation. This delegation of authority is consistent with the responsibility and authority described in the above referenced contract. You are authorized to act on Plexus' behalf in the following manner:

- Perform all CQCSM duties for the project as identified in the approved final Contractor Quality Control Plan.
- Direct work to ensure compliance with approved work plans, drawings, specifications, and applicable regulations.
- Stop work that is not in compliance with the approved work plans, drawings, specifications, and/or applicable regulations.
- Designate and supervise CQCSM representatives, as necessary.
- Prepare and submit project submittals.
- Coordinate and supervise QC tests.
- Prepare daily activity reports.

Respectfully,



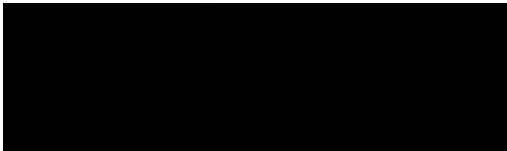
Program Manager

Cc: Plexus File





May 16, 2019



RE: Construction Quality Control System Manager (CQCSM) Delegation of Authority
Tonawanda Landfill Vicinity Property – Landfill Operable Unit
W912QR-12-D-0010-W912P418F0049



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Program Manager

Cc: Plexus File





May 16, 2019

[REDACTED]

RE: Construction Quality Control System Manager (CQCSM) Delegation of Authority
Tonawanda Landfill Vicinity Property – Landfill Operable Unit
W912QR-12-D-0010-W912P418F0049

[REDACTED]

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Respectfully,

[REDACTED]

Program Manager

Cc: Plexus File

May 16, 2019

[REDACTED]

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Tonawanda Landfill Vicinity Property – Landfill Operable Unit
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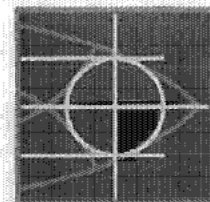
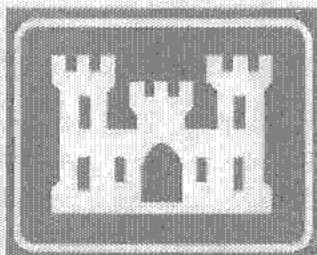
[REDACTED]

President & CEO

Cc: Plexus File

U.S. ARMY CORPS OF ENGINEERS

USACE LEARNING CENTER
HUNTSVILLE, ALABAMA



NAVFAC

CERTIFICATE



SE9-06-16-00001

has completed the Corps of Engineers and Naval Facility Engineering Command Training Course

CONSTRUCTION QUALITY MANAGEMENT FOR CONTRACTORS - #784

University of North Florida
Jacksonville, FL

8 December 2015

NAVFAC SOUTHEAST

Location

Training Date(s)

Instructional District/ NAVFAC

QCM-C Manager

Facilitator/Instructor

Email

Telephone

Facilitator/Instructor Signature

THIS CERTIFICATE EXPIRES FIVE YEARS FROM DATE OF ISSUE

QCM-C Recertification online course: <https://www.myuln.net>

Florida Construction Industry Licensing Board – 10 Continuing Education Hours
University of North Florida / NAVFAC SE - Provider # 0001345, Course # 0608220

Chief, USACE Learning Center

U.S. ARMY CORPS OF ENGINEERS

USACE LEARNING CENTER
HUNTSVILLE, ALABAMA



CERTIFICATE



NAB-05-19-14040

has completed the Corps of Engineers and Naval Facility Engineering Command Training Course

CONSTRUCTION QUALITY MANAGEMENT FOR CONTRACTORS - #784

Arlington, Virginia

02 May 2019

NAB /WA 1CEU:0.8 LU:8POH:8

Location

Training Date(s)

Instructional District/ NAVFAC

CQM-C Manager

Facilitator/Instructor

Email

Telephone

Facilitator/Instructor Signature

THIS CERTIFICATE EXPIRES FIVE YEARS FROM DATE OF ISSUE

Center, USACE Learning Center

U.S. ARMY CORPS OF ENGINEERS

USACE LEARNING CENTER
HUNTSVILLE, ALABAMA



CERTIFICATE

[REDACTED]
LRL101801282

has completed the Corps of Engineers and Naval Facility Engineering Command Training Course

CONSTRUCTION QUALITY MANAGEMENT FOR CONTRACTORS - #784

ABC Louisville

14/15 November 2017

LRL - Louisville

Location

Training Date(s)

Instructional District/ NAVFAC

[REDACTED]
Facilitator/Instructor

Instructor's Email

Telephone

[REDACTED]
Facilitator/Instructor Signature

THIS CERTIFICATE EXPIRES FIVE YEARS FROM DATE OF ISSUE

[REDACTED]
Chief, USACE Learning Center

U.S. ARMY CORPS OF ENGINEERS

USACE LEARNING CENTER
HUNTSVILLE, ALABAMA



CERTIFICATE



NAB-05-19-14048

has completed the Corps of Engineers and Naval Facility Engineering Command Training Course

CONSTRUCTION QUALITY MANAGEMENT FOR CONTRACTORS - #784

Arlington, Virginia

02 May 2019

NAB /WA 1CEU:0.8 LU:8POH:8



Location

Training Date(s)

Instructional District/ NAVFAC

CQM-C Manager

Facilitator/Instructor

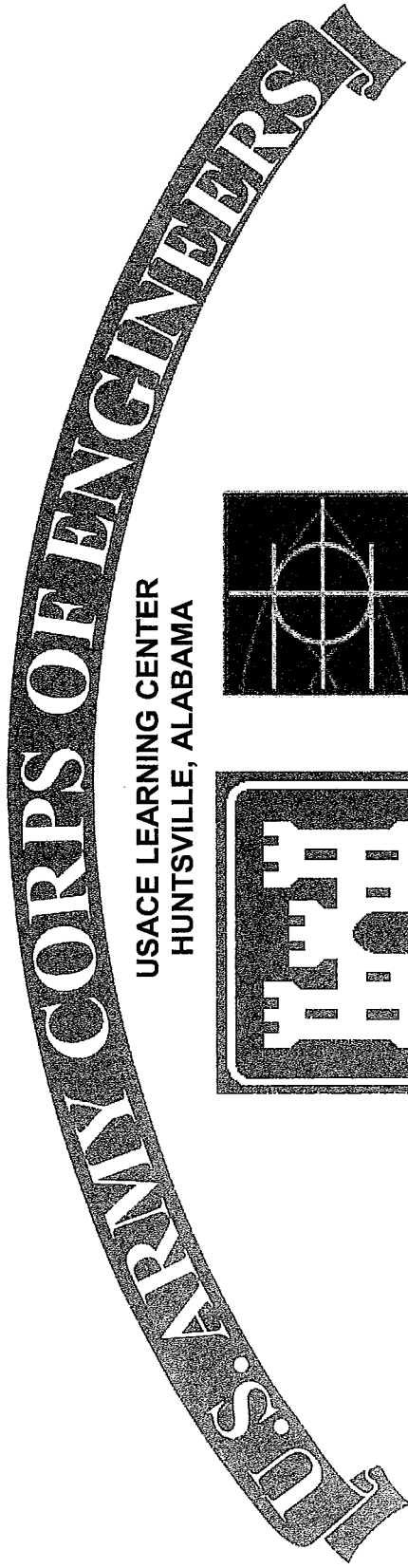
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Telephone

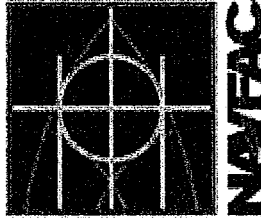
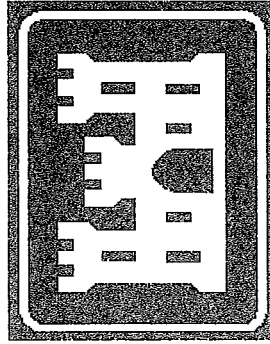
Facilitator/Instructor Signature

THIS CERTIFICATE EXPIRES FIVE YEARS FROM DATE OF ISSUE

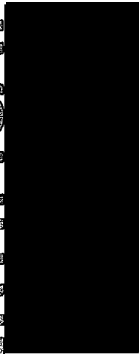
Chief, USACE Learning Center



USACE LEARNING CENTER
HUNTSVILLE, ALABAMA



CERTIFICATE



NAB-05-19-14050

has completed the Corps of Engineers and Naval Facility Engineering Command Training Course

CONSTRUCTION QUALITY MANAGEMENT FOR CONTRACTORS - #784

Arlington, Virginia

02 May 2019

NAB /WA 1CEU:0.8 LU:8POH:8

Location

Training Date(s)

Instructional District/ NAVFAC

CQM-C Manager

Facilitator/Instructor

Email

Telephone

Facilitator/Instructor Signature

THIS CERTIFICATE EXPIRES FIVE YEARS FROM DATE OF ISSUE

Center, USACE Learning Center

Appendix B

Daily Quality Control Report Example

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CONTRACTORS QUALITY CONTROL REPORT (QCR) DAILY LOG OF CONSTRUCTION		REPORT NUMBER 106		Page 1 of 2					
		DATE 31 Jan 2019 - Thursday							
PROJECT Tonawanda Landfill		CONTRACT NUMBER W912QR-12-D-0010 W912P418F0049							
CONTRACTOR Plexus Scientific Corporation		WEATHER Weather Not Entered							
QC NARRATIVES No QC narratives entered today									
PREP/INITIAL DATES (Preparatory and initial dates held and advance notice) Preparatory Inspections held today _____ No preparatory inspections held today Initial Inspections held today _____ No initial inspections held today									
ACTIVITY START/FINISH Activity No Description _____ No activities were started or finished today									
QC REQUIREMENTS <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Requirement No</td> <td style="width: 15%;">Type</td> <td style="width: 55%;">Description</td> <td style="width: 15%;">Results</td> </tr> </table> No QC requirements were completed today						Requirement No	Type	Description	Results
Requirement No	Type	Description	Results						
ISSUED QA/QC DEFICIENCY (Describe QC Deficiency items issued) <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Item No</td> <td style="width: 25%;">Location</td> <td style="width: 60%;">Description</td> </tr> </table> No QC Deficiency items were issued today						Item No	Location	Description	
Item No	Location	Description							
CORRECTED QA/QC DEFICIENCY (Report QC and QA Deficiency items corrected) <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Item No</td> <td style="width: 25%;">Location</td> <td style="width: 60%;">Description</td> </tr> </table> No QC Deficiency items were corrected today						Item No	Location	Description	
Item No	Location	Description							
CONTRACTORS ON SITE (Report first and/or last day contractors were on site) <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 55%;">Name</td> <td style="width: 20%;">First Day</td> <td style="width: 25%;">Last Day</td> </tr> </table> No Contractors had their first or last day on the site						Name	First Day	Last Day	
Name	First Day	Last Day							
LABOR HOURS <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Employer</td> <td style="width: 45%;">Labor Classification</td> <td style="width: 15%;">Number of Employees</td> <td style="width: 15%;">Hours Worked</td> </tr> </table> No labor hours were reported today Total hours worked to date: 0.0 Total _____						Employer	Labor Classification	Number of Employees	Hours Worked
Employer	Labor Classification	Number of Employees	Hours Worked						
EQUIPMENT HOURS <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Serial Number</td> <td style="width: 50%;">Description</td> <td style="width: 15%;">Idle Hours</td> <td style="width: 15%;">Operating Hours</td> </tr> </table> No equipment hours reported today Total operating hours to date: 0.0 Total _____						Serial Number	Description	Idle Hours	Operating Hours
Serial Number	Description	Idle Hours	Operating Hours						
ACCIDENT REPORTING (Describe accidents) No accidents reported today									

CONTRACTORS QUALITY CONTROL REPORT (QCR) DAILY LOG OF CONSTRUCTION		REPORT NUMBER 106	Page 2 of 2
		DATE 31 Jan 2019 - Thursday	
PROJECT Tonawanda Landfill		CONTRACT NUMBER W912QR-12-D-0010 W912P418F0049	
CONTRACTOR CERTIFICATION		On behalf of the contractor, I certify that this Report is complete and correct and all equipment and material used and work performed during this Reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as noted above.	
QC REPRESENTATIVE'S SIGNATURE	DATE	SUPERINTENDENT'S INITIALS	DATE