15A NCAC 13C .0306 TECHNICAL STANDARDS FOR REGISTERED ENVIRONMENTAL CONSULTANTS

(a) The REC shall ensure that the documents, plans, and time taken to complete work comply with the remediating party's agreement with the Department, the Inactive Hazardous Sites Response Act, and the rules of this Section.

(b) All work phase completion statements, schedules, plans, and reports require REC certification. An REC's certification shall comply with the following:

(1) REC certification of any document shall include the following statement, signed by the RSM and notarized:

"I certify that I am personally familiar with the information contained in this submittal, including any and all supporting documents accompanying this certification, and that the material and information contained herein is, to the best of my knowledge and belief, true, accurate, and complete and complies with the Inactive Hazardous Sites Response Act G.S. 130A-310, et seq. and the voluntary remedial action program Rules 15A NCAC 13C .0300. I am aware that there are significant penalties for willfully submitting false, inaccurate, or incomplete information."

(2) Prior to REC certification, documents shall contain the following notarized declaration signed and dated by, and including the title of, the highest ranking official of the remediating party having day-to-day responsibility for the performance of the response action which is the subject of the submittal:

"I certify that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material and information contained herein is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for willfully submitting false, inaccurate, or incomplete information."

(3) Any work which would constitute the "practice of engineering" as defined by G.S. 89C shall be performed under the responsible charge of, and signed and sealed by, a professional engineer registered in the state of North Carolina. Any work which would constitute the "public practice of geology" as defined by G.S. 89E shall be performed under the responsible charge of, and signed and sealed by, a geologist licensed in the state of North Carolina.

(4) RSM certification and submittal to the Department of the following documents shall occur prior to implementation:

(A) remedial investigation work plans prepared in accordance with Paragraph (h) of this Rule;

(B) plans for additional site characterization, pilot studies, or treatability studies to be conducted in relation to the site that are prepared in compliance with Paragraph (j) of this Rule;

(C) remedial action plans prepared in accordance with Paragraph (n), (o) or (p) of this Rule; and

(D) modifications of work schedules.

(5) The RSM shall prepare certified completion statements for the following work phases and provide them to the Department in accordance with Rule .0302(i) of this Section:

(A) completion of the remedial investigation;

(B) REC approval of the proposed remedial action plan following notice of the proposed remedial action plan, the close of the 30-day public comment period, submission of the comments and the REC's responses to the public comments received during the public comment period, and the Department's written acknowledgement that comments have been addressed;

(C) initiation of all groundwater remedial actions as demonstrated by the first field event associated with implementation of the groundwater remedy;

(D) completion of all non-groundwater contamination remedial actions as demonstrated by a confirmatory sampling event and REC certification of a written report pursuant to Paragraph (r) of this Rule summarizing the data; and

(E) completion of all remedial action activities.

(6) RSM certification pursuant to Subparagraph (b)(5) of this Rule shall include the following statement signed by the RSM and notarized:

"The [insert work phase] which is the subject of this certification has, to the best of my knowledge, been completed in compliance with the Inactive Hazardous Sites Response Act G.S. 130A-310, et seq. and the voluntary remedial action program Rules 15A NCAC 13C .0300, and [insert name of the REC] is in compliance with Rules .0305(b)(2) and .0305(b)(3) of this Section. I am aware that there are significant penalties for willfully submitting false, inaccurate, or incomplete information."

Certification of the completion of all remedial action activities shall also include the following statement:

"The approved and certified site remedial action plan has been implemented, and to the best of my knowledge and belief, cleanup levels determined pursuant to Rule .0308 of this Section have been achieved, and no significant or otherwise unacceptable risk or harm to human health or the environment remains at the site."

(c) The RSM shall certify and submit to the Department a project status update report annually on the anniversary date of the executed date of the remediating party's administrative agreement with the Department. Annual project status update reports shall be submitted until the REC submits a certified completion statement pursuant to Part (b)(5)(B) of this Rule for all contaminated media. Annual project status update reports shall include an update on meeting the deadlines in Rule .0302(h) of this Section and in the remediating party's agreement with the Department.

(d) The REC may approve and certify site activities and documents pursuant to the rules in this Section only if the following environmental sample collection and analyses criteria are met:

(1) The REC shall employ analytical and environmental monitoring data to support recommendations or conclusions with respect to assessment, removal, treatment, or containment actions that are scientifically valid and of a level of precision and accuracy commensurate with their stated or intended use.

(2) Procedures and methods employed for the collection and analysis of soil, sediment, water, vapor, air, and waste samples shall be:

(A) methods published by the United States Environmental Protection Agency (USEPA), the American Society for Testing and Materials (ASTM), the American Public Health Association (APHA), the National Institute for Occupational Safety and Health (NIOSH), the American Water Works Association (AWWA), or other organizations with expertise in the development of standardized analytical testing methods; or

(B) modifications of published methods, provided that all modifications have been previously approved by the Department or one of the entities in Part (A) of this Subparagraph.

(3) The REC shall only use laboratories certified to analyze applicable parameters pursuant to 15A NCAC 02H .0800, or a contract laboratory under the United States Environmental Protection Agency Contract Laboratory Program to analyze samples collected pursuant to rules in this Section.

(4) Laboratory and other reports of analyses of samples shall be reported in units applicable to the standards for each media analyzed.

(5) The REC shall only allow sample collection and analyses to be performed by persons who are qualified by education, training, and experience.

(6) All documents prepared pursuant to the rules in this Section that contain the results of sample collection and analyses shall include the following information:

(A) the date, location, and time of sampling and the name of the individual who collected the sample;

(B) specification of all sample filtration or preservation procedures used;

(C) the date of receipt of the sample at the laboratory and the dates the sample was extracted and analyzed;

(D) the name and address of the laboratory and proof of certification received pursuant to 15A NCAC 02H .0800 or approval as a contract laboratory under the USEPA Contract Laboratory Program;

(E) the sample matrix description and identification numbers;

(F) the sample preparation and analytical method names and numbers;

(G) the results of the analysis and concentration units;

(H) the sample quantitation limit of each reported analyte based upon analytical conditions;

(I) details of known conditions or findings that may affect the validity of analytical data, including equipment blank, trip blank, method blank, surrogate, spiked sample, and other quality control data;
(J) the laboratory's written justification for all sample dilution, additional sample preparation, or deviation from specified analytical methods; and
(K) a complete chain of custody documentation for each sample.

(e) The REC shall approve and certify site activities and documents pursuant to this Section only if procedures to protect health, safety, public welfare, and the environment during the performance of response actions are being implemented. The scope and detail of health and safety procedures shall be commensurate with the degree and nature of the risks posed to human and ecological populations by the disposal site and response actions. Such procedures shall include the following:

(1) measures to protect human populations from exposure to hazardous substances;
(2) air monitoring activities, in areas of exceedances of standards as referenced in G.S. 130A-310.3(d); and
(3) measures necessary to contain hazardous substances, including:
(A) measures to control stormwater run-off;
(B) measures to control dust and other environmental media, such as wetting soils;
(C) measures to decontaminate vehicles and equipment to minimize the spread of contaminated soil from the disposal site;
(D) measures to secure on-site excavations and stockpiles of contaminated materials; and
(E) discontinuance of response actions if necessary to protect public health and safety.

(f) In planning the remedial investigation, the REC shall identify each area of known or suspected hazardous substance contamination at the site, based on the following:

(1) then-existing laboratory data;
(2) readily observable conditions indicative of contamination, such as staining, odors, or visible or other evidence of damage to or leakage from a storage facility or vessel;
(3) information ascertainable from the public record, site operation records, and information provided by the remediating party; and
(4) other evidence actually known to the REC.

For each area of known or suspected contamination, the REC shall plan, implement, and complete the remedial investigation so that the location and identity of the hazardous substances are established. For purposes of this Rule, the presence of chemical storage or other similar facilities shall not alone constitute evidence of known or suspected contamination.

(g) The REC shall plan, implement, and complete the remedial investigation so that the areal and vertical extent of hazardous substance contamination is delineated to unrestricted use remedial goals, natural background concentrations, or to concentrations demonstrated by the REC to be unrelated to the contaminant releases comprising the site for each area of concern. The REC may demonstrate, through professional judgement, that the vertical extent of contamination cannot be delineated due to technical impracticability. The technical impracticability demonstration shall include a written evaluation of the usefulness of additional data, including a conclusion that:

(1) no receptor exposure to the media not sampled will take place by not collecting the data;
(2) the success of the remedial design will not be affected by not collecting the data; and
(3) collecting the data will result in additional expense with limited or no associated benefit.

(h) The REC shall prepare, certify, and submit, prior to implementation of a remedial investigation, one or more remedial investigation plans prepared in compliance with Paragraphs (d), (e), (f), and (g) of this Rule and all other applicable requirements. The plan(s) shall contain the following or include an explanation as to why, in the professional judgement of the REC, the component is not relevant to the remedial investigation:

(1) site location information including street address, longitude and latitude, and site and surrounding property land use;
(2) a summary of all management practices employed at the site for hazardous wastes and wastes that may have contained hazardous substances including:
(A) a list of types and amounts of waste generated (with RCRA waste codes), treatment and storage methods, and ultimate disposition of wastes;
(B) a description of the facility's past and current RCRA status;
(C) the location and condition of all identified vessels currently or previously used to store chemical products, hazardous substances, or wastes; and

(D) a summary of the nature of all identified on-site hazardous substance releases, including disposal or spills;

(3) United States Geological Survey topographic maps sufficient to display topography within a one-mile radius of the site;

(4) a map, drawn to scale, that includes:

(A) a north arrow;

(B) a scale;

(C) the locations of property boundaries, buildings, structures, all perennial and non-perennial surface water features, drainage ditches, dense vegetation, known and suspected spill or disposal areas identified pursuant to Paragraph (f) of this Rule, underground utilities, storage vessels, existing on-site wells; and

(D) an identification of all adjacent property owners and land uses.

(5) a description of local geologic and hydrogeologic conditions;

(6) an inventory and map of all identifiable wells, springs, and surface-water intakes used as sources of potable water within a 1,500 foot radius of each source area or within a 1,500 foot radius of the contaminant perimeter, or, if the source area is unknown, within a 1,500 foot radius of each point where contamination has been identified at the site;

(7) an evaluation of the site and all adjacent property for the existence of the following areas if they may have been affected by the contamination from the site:

(A) sensitive environments;

(B) sensitive populations or property uses; and

(C) above and below ground structures and utilities.

(8) a chronological listing of all previous owners and each period of ownership since the property was originally developed; ;

(9) operational history, including aerial photographs and Sanborne Fire Insurance maps if used to support land-use history;

(10) a list of all hazardous substances that have been used or stored at the site and the approximate amounts and dates of use or storage, as revealed by available written documentation and interviews with a representative number of former and current employees or occupants possessing relevant information;

(11) the site environmental permit history, including copies of all federal, State, and local environmental permits, past and present, issued to the remediating party or within its custody or control;

(12) a summary of all previous and ongoing environmental investigations and environmental regulatory involvement with the site and copies of all associated reports and laboratory data in public records or within the custody or control of the REC or remediating party unless the REC confirms that the documents are already present in the Department's electronic document system for REC site records;

(13) plans to evaluate the risk of contaminant migration in any media to:

(A) wells, springs, and surface-water intakes identified in Subparagraph (6) of this Rule; and

(B) sensitive environments, sensitive populations or property uses, or above and below ground structures or utilities identified in Subparagraph (7) of this Rule;

(14) intended procedures for characterizing site geologic and hydrogeologic conditions and identifying and delineating each contamination source as to each affected environmental medium, including any plans for special assessment such as a geophysical survey;

(15) intended methods, locations, depths of, and justification for all sample collection points for all media sampled, including monitoring well locations and anticipated screened intervals;

(16) proposed field and laboratory procedures for quality assurance and quality control;

(17) proposed analytical parameters and analytical methods for all samples;

(18) equipment and personnel decontamination procedures; and

(19) a description of measures that shall be implemented to protect the health and safety of nearby residential and business communities in relation to activities of the remedial investigation.

(i) The REC shall prepare, certify, and submit remedial investigation reports prepared in compliance with this Rule and all other applicable requirements. The reports shall contain the following:

(1) an update on meeting the deadlines required by Rule .0302(h) of this Section and by the remediating party's agreement with the Department;

(2) a narrative description of how the investigation was conducted, including a discussion of all variances from the approved work plan;
(3) a description of groundwater monitoring well design and installation procedures, including drilling methods used, completed drilling logs, "as built" drawings of all monitoring wells, well construction techniques and materials, geologic logs, and copies of all well installation permits;
(4) a map, drawn to scale, showing all environmental media sample locations, test pits, surficial soil samples, soil borings, soil vapor samples, surface water samples, sediment samples, and monitoring wells in relation to disposal areas or other sources of contamination identified pursuant to Paragraph (f) of this Rule. All sample locations shall be surveyed to a known benchmark or flagged with a secure marker until after the remedial action is completed. Groundwater elevations shall be surveyed to a known datum. Any survey performed pursuant to this Paragraph shall be performed by a registered land surveyor duly authorized under North Carolina law to conduct such activities;
(5) a description of all field and laboratory quality control and quality assurance procedures followed during the remedial investigation;
(6) a description of procedures used to manage drill cuttings, purge water, and decontamination water;
(7) a summary of site geologic conditions, including a description of soils and vadose zone characteristics;
(8) a description of site hydrogeologic conditions if groundwater contamination is known or suspected to be present, including current uses of groundwater, notable aquifer characteristics, a water table elevation contour map with groundwater flow patterns depicted, and tabulated groundwater elevation data;
(9) tabulation of analytical results for all sampling including sampling dates and soil sampling depths and copies of all laboratory reports, including quality assurance and quality control documentation;
(10) if contaminants exceed cleanup levels pursuant to Rule .0308 of this Section, soil, groundwater, surface water, and sediment contaminant delineation maps for each primary constituent of concern, including scale and sampling points with contaminant concentrations;
(11) if contaminants exceed cleanup levels pursuant to Rule .0308 of this Section, cross sections, including scale and sampling points with contaminant concentrations;
(12) a description of the risk of contaminant migration in any media to:
(A) wells, springs, and surface water intakes identified in Subparagraph (h)(6) of this Rule; and
(B) sensitive environments, sensitive populations or property uses, or above and below ground structures and utilities identified in Subparagraph (h)(7) of this Rule;
(13) a description of procedures and the results of special assessments such as geophysical surveys, immunoassay testing, soil gas surveys, or test pit excavations; and
(14) color copies of site photographs if used to provide documentation of the investigation results.

(j) If an REC elects to conduct a pilot study, or further contaminant characterization is needed to evaluate a potential remedy, the REC shall prepare, certify, and submit, prior to implementation, a work plan prepared in compliance with Paragraphs (d) and (e) of this Rule and other applicable requirements. The work plan shall also contain a description of additional site characterization, pilot studies, and treatability studies to be conducted in relation to the site.

(k) If any of the following conditions apply to the proposed remedial action, the REC shall seek and obtain Department concurrence with the remedial action prior to implementation by submitting to the Department a summary of available remedies, their projected costs, and the reasons why each was accepted or rejected by the REC:

(1) the remedial action will be conducted entirely on site and for which a permit waiver is desired under G.S. 130A-310.3(e);
(2) the remedial action includes institutional controls for restricted use of contaminated areas or media; or
(3) the remedial action exceeds the cost set forth in G.S. 130A-310.9(a).

(l) Thirty days prior to approving a remedial action plan, the REC shall provide notice of the proposed remedial action plan to those who have requested notice that such plans have been developed, as provided in G.S. 130A-310.4(c)(2). The REC shall provide proof of such notice and of resulting comments from the public to the Department prior to approval of the remedial action plan.

(m) Remedial actions that involve the emission or discharge of hazardous substances to the atmosphere shall be conducted in a manner that provides for the protection of human health and the environment, in conformance with this Section and all applicable permits, approvals, laws, or other rules or regulations.

(n) The REC shall prepare, certify, and submit, prior to implementation of a contaminant remedy, remedial action plans prepared in compliance with Paragraphs (d), (e), (k), (l), and (m) of this Rule and all other applicable requirements. The plans shall contain the following:

(1) a discussion of the results of the remedial investigation, including media contaminated, contaminants of concern, the areal and vertical extent of contamination, and the risk of contaminant migration in any media to any wells, springs, and surface-water intakes, sensitive environments, sensitive populations or property uses, and above and below ground structures or utilities identified in Subparagraph (i)(12) of this Rule;

(2) a statement of objectives for the remedial action;

(3) an evaluation of available remedial alternatives using the following feasibility study criteria:

(A) protection of human health and the environment, including attainment of cleanup levels;

(B) compliance with applicable federal, State, and local regulations;

(C) long-term effectiveness and permanence;

(D) reduction of toxicity, mobility and volume;

(E) short-term effectiveness, such as effectiveness at minimizing the impact of the site remedial action on the environment and the local community;

(F) implementability, such as technical and logistical feasibility and an estimate of time required for completion;

(G) cost; and

(H) community acceptance;

(4) a description of the results of site characterization, pilot studies, or treatability studies that support the design and a description of the procedures and schedule for construction, operation and maintenance, system monitoring and performance evaluation, and progress reporting for the chosen remedial alternative;

(5) a description and conceptual design of the proposed remedy, including process flow diagrams and pre-design drawings of all major components of all treatment;

(6) a demonstration that the proposed remedy is supported by the remedial alternative feasibility study conducted pursuant to Subparagraph (n)(3) of this Rule;

(7) a description of all activities necessary to implement the proposed methods of remedial action in compliance with applicable laws and regulations and in such a manner that cleanup standards are met. These activities shall include, well installation and abandonment, sampling, run-on or run-off control, discharge of treated waste streams, and management of investigation and remedial action derived wastes;

(8) a description of the criteria for remedial action completion, including procedures for confirmatory sampling;

(9) a description of measures that shall be implemented to protect the health and safety of nearby residential and business communities in relation to activities of the remedial action; and

(10) equipment and personnel decontamination procedures.

(o) If, in the opinion of the REC, interim remedial action is necessary to abate an imminent hazard as defined in G.S. 130A-310.5(a), or for removal of waste or chemical sources to protect public health, safety, and welfare and the environment from hazardous substances migrating toward receptors or other properties prior to development of a remedial action plan pursuant to Paragraph (n) of this Rule, the REC shall prepare, certify, and submit, prior to implementation, an interim remedial action plan prepared in compliance with Paragraphs (d), (e), (k), (l), and (m) of this Rule and other applicable requirements that contains the following:

(1) a discussion of the remedial investigation data collected to date, including media contaminated, contaminants of concern, the known areal and vertical extent of contamination, and the risk of contaminant migration in media to any wells, springs, and surface water intakes, sensitive environments, sensitive populations or property uses, and above and below ground structures or utilities identified during the remedial investigation;

(2) a statement of objectives for the interim remedial action;

(3) a description and conceptual design of the proposed interim remedial action, including process flow diagrams and pre-design drawings of all major components of all treatments;

(4) a description of all activities necessary to implement the proposed methods of interim remedial action in compliance with applicable laws and regulations.
(5) a description of measures that shall be implemented to protect the health and safety of nearby residential and business communities in relation to activities of the interim remedial action; and
(6) equipment and personnel decontamination procedures.

(p) The REC may change an approved remedy. In such cases, the REC shall prepare a revised remedial action plan in compliance with Paragraph (n) of this Rule.

(q) The REC shall prepare, certify, and submit remedial action progress reports in compliance with Paragraph (d) of this Rule and all other applicable requirements beginning after the REC has certified approval of the remedial action plan pursuant to Part (b)(5)(B) of this Rule. Remedial action progress reporting shall continue until remedial action is complete. Remedial action progress reports shall be submitted quarterly until one year after the construction of the remedy is complete. After the first year of progress reporting or if a remedy that includes no construction component is being implemented, remedial action progress reports shall be submitted annually until remedial action is complete. Remedial action progress reports shall include, for the reporting period, an update on meeting the deadlines in Rule .0302(h) of this Section and the remediating party's agreement with the Department and the following:

(1) a description of the results of all site characterization, pilot studies, or treatability studies completed since certification of the remedial action plan;
(2) the final engineering design report, including a narrative description of process design, final plans and specifications, and an updated project schedule;
(3) copies of any final registrations, permits, and approvals;
(4) "as built" plans and specifications;
(5) a summary of all problems encountered during construction;
(6) operation and maintenance results of the treatment technology utilized, such as summaries of remedial action operating and maintenance requirements and a discussion of problems encountered;
(7) performance evaluation results, including tabulated and graphical presentations of monitoring data and a comparison of remedial action performance to design goals;
(8) a description of all field and laboratory quality control and quality assurance procedures followed during all sampling and analysis;
(9) tabulation of analytical results for all sampling and copies of all laboratory reports including quality assurance and quality control documentation;
(10) a map, drawn to scale, showing all soil sample and monitoring well locations;
(11) if contaminants exceed cleanup levels pursuant to Rule .0308 of this Section, current soil, groundwater, surface water, and sediment contaminant delineation maps for each primary contaminant of concern, including scale and sampling points with contaminant concentrations;
(12) if groundwater contamination exists at the site in excess of cleanup levels established pursuant to Rule .0308 of this Section, upon construction completion certification by the REC and at least every five years thereafter until remedial action is complete, an update of the information required pursuant to Subparagraphs (h)(6) and (7) of this Rule shall be included. The update shall also include an evaluation of the necessity to implement additional remedial action, and a remedial action plan if the REC determines a need exists, to address a risk of contaminant migration in any environmental media to any of the following:
    (A) identified wells, springs, and surface-water intakes;
    (B) identified sensitive environments, sensitive populations, or property uses; and
    (C) above and below ground structures or utilities; and
(13) sampling and analytical results that demonstrate progress toward achieving remedial goals.

(r) The REC shall prepare, certify, and submit final remedial action completion reports that contain the following, unless provided in a previous progress report:

(1) a final progress report that includes all the information required pursuant to Paragraph (q) of this Rule;
(2) a summary of remedial action operating experience and effectiveness in meeting design goals, based on all performance monitoring data and progress reporting to date; and
(3) a discussion of criteria for completing the remedial action and a demonstration, supported by confirmatory sampling data, that such criteria have been satisfied.

(s) In the performance of its role pursuant to the rules in this Section, the REC shall manage investigation and remedial action derived wastes to provide for the protection of human health and the environment and comply with all applicable federal, State, and local laws, rules, and regulations.

History Note: *Authority G.S. 130A-310.12(b);*
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