Site Name: _____

VRP Number: _____

Voluntary Remediation Program Checklist

Notice and Disclaimer: *This checklist is for tracking purposes only and is not intended to provide regulatory guidance or education. Neither DEQ nor any employees, assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information herein. Use of this checklist assumes familiarity with the Virginia Voluntary Remediation Regulations.*

I. Application

Applicants who are not the site owner must demonstrate that they have access to the property at the time of payment of the Phase 2 registration fee (9VAC20-160-30(B)). If the applicant is not the owner, provide documentation that the owner agrees to submit the application and certifies that the application information is substantially correct to the best of the applicant's knowledge (9VAC20-160-40.A.7). Remittance of the Phase 1 fee is required for a completed application. Application requirements are located here: 9VAC20-160-40.

Make checks payable to the Treasurer of Virginia and submit separately from the application package to the Virginia Department of Environmental Quality P.O. Box 1104, Receipts Control, Richmond, VA 23218 (9VAC20-160-65(B)). Include the VRP site ID and site address on the check.

- ☐ Project overview
- ☐ Statement of applicant's eligibility:
  - ○ Owner
  - ○ Operator
  - ○ Security interest
  - ○ Contract for purchase or use
- ☐ Authorized agent letter from owner included, if applicable
- ☐ Site map/survey (a current land survey will be required for certificate issuance)
- ☐ Operational history
- ☐ Phase 1 fee of $2000
- ☐ Information known to or ascertainable by the applicant pertaining to:
  - i. the nature and extent of any contamination
  - ii. past or present releases, both at the site and immediately contiguous to the site
- ☐ Discussion of potential regulatory jurisdiction includes areas of concern and/or environmental conditions and a discussion of how regulations apply
- ☐ Certification signature of applicant and owner, if applicant is not the owner
- ☐ Provide Phase I and/or Phase II ESA, as applicable

The Virginia Department of Environmental Quality (DEQ) shall review the application for completeness and notify the applicant within 15 days of the application's receipt whether the application is administratively complete or incomplete (9VAC20-160-40(B)).

Date of notice of deficiency (if applicable):
Date of completed application:

Site Name: _____
VRP Number: _____

II. Eligibility Review

Within 60 days of the receipt of a complete application, the DEQ shall verify whether or not the applicant and the site meet the eligibility criteria (9VAC20-160-40(B)).

Date eligibility determination due:

Sites are eligible for participation in the VRP if (9VAC20-160-30(C)):

i. remediation has not been clearly mandated by the United States Environmental Protection Agency, the DEQ, or a court pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (42 USC § 9601 et seq.), the Resource Conservation and Recovery Act (42 USC § 6901 et seq.), the Virginia Waste Management Act (§ 10.1-1400 et seq. of the Code of Virginia), the Virginia State Water Control Law (§ 62.1-44.2 et seq. of the Code of Virginia), or other applicable statutory or common law; or
ii. jurisdiction of the statutes listed in clause (i) has been waived.

Site deemed eligible to participate	O Yes	O No
Is remediation clearly mandated?	O Yes	O No
If remediation is clearly mandated, has jurisdiction been waived?	O Yes	O No

Date of eligibility determination letter:

If the DEQ makes a tentative decision to reject the application, it shall notify the applicant in writing and provide an explanation of the reasons for the proposed rejection (9VAC20-160-40(C)). Within 30 days of the applicant's receipt of notice of rejection, the applicant may submit additional information to correct the inadequacies of the rejected application or accept the rejection.

III. Enrollment

A Phase 2 fee of $7,500 is required within 90 days after date of the eligibility determination unless the DEQ agrees to extend the period. The site and applicant are considered enrolled upon receipt of the Phase 2 fee. A DEQ Remediation Project Manager will be assigned to the project, and a "VRP Kick-off Meeting" may be proposed. Make checks payable to the Treasurer of Virginia and include the VRP# assigned by DEQ. Mail to Virginia Department of Environmental Quality, P.O. Box 1104, Receipts Control, Richmond, VA 23218. Failure to remit the Phase 2 fee within 90 days will result in the loss of eligibility status of the applicant and the site. After such loss of eligibility, the applicant must reestablish eligibility in order to participate in the VRP (9VAC20-160-65(C)).

Date of Phase 2 fee $7500:

Site Name: _____
VRP Number: _____

Voluntary Remediation Report

The Voluntary Remediation Report consists of the following components: a Site Characterization, a Risk Assessment, a Remedial Action Plan, a Demonstration of Completion, and Documentation of Public Notice (9VAC20-160-70(A)). All work must be submitted to and accepted by DEQ prior to the issuance of a Certificate (9VAC20-160-110(B)(5)).

IV. Site Characterization

The Site Characterization Report (SCR) includes delineation of the nature and extent of releases to all environmental media, maps of the on-site and off-site vertical and horizontal extent of contaminants, and a discussion of the potential risk or risks posed by the release (9VAC20-160-70(A)(1)). A thorough and complete site characterization must be performed to obtain the site-specific data required for risk assessment input parameters.

The Site Characterization Report should include a clear and concise Conceptual Site Model. The Conceptual Site Model (CSM) is an iterative, 'living representation' of the site that summarizes available information about environmental contamination and site relationships pertinent to decision-making. The CSM serves as the framework for incorporating new data as it becomes available during characterization and remediation. The level of effort necessary to develop a site-specific CSM correlates with site maturity, complexity, and the magnitude of the characterization and cleanup challenges. A detailed, up-to-date, and accurate CSM supports decisions related to key project elements, such as discussion of assumptions, cumulative risk, remedy selection, remedy implementation, site completion, and site reuse. Multiple CSMs may be useful in evaluating different exposure areas or land use scenarios.

A. Conceptual Site Model

- ☐ Complete history of site documented
- ☐ Areas of potential releases identified
- ☐ Contaminants potentially released identified
- ☐ Current and future uses of site described (if unknown assume residential)
- ☐ Ecological setting described, if applicable
- ☐ Fate and transport of contamination including site conditions (e.g. contaminant movement, geology, groundwater flow, preferential pathways, breakdown products of contaminants, etc.) described
- ☐ Physiographic province of Site described
- ☐ Potential impact to off-site properties described
  - ☐ Land use (commercial/industrial, residential, etc.) of adjacent properties described
  - ☐ VDH well survey conducted for adjacent properties
- ☐ Discussion of unknowns and uncertainties
- ☐ Update CSM to reflect the results of the SCR and other investigations

Site Name: _____
VRP Number: _____

B. Site Plan / Maps / Exhibits

- ☐ Property boundary and acreage
- ☐ Parcel lines and IDs
- ☐ VRP site boundary and acreage
- ☐ North arrow
- ☐ Structures (location and use)
- ☐ Scale
- ☐ Date of figure
- ☐ Figure number
- ☐ Underground utilities, ROWs, and easements
- ☐ Area(s) of concern (AOCs)/source areas
- ☐ Source and date of basemap or aerial photography
- ☐ Monitoring wells
- ☐ Potentiometric groundwater contour intervals and flow direction
- ☐ Boring locations
- ☐ Sample locations
- ☐ Extent of horizontal contamination delineated in all media (isoconcentration maps)
- ☐ Listing of detected constituents
- ☐ Off-site area of contamination if plume/vapor extends off-site

C. Site Investigations

- ☐ Drilling methodology (e.g. direct push, hollow-stem auger, hand auger, air rotary)
- ☐ Boring logs
- ☐ Well construction logs/diagrams
- ☐ Groundwater elevation measurements
- ☐ Aquifer identification
- ☐ Surface water impacts
- ☐ VDH drinking water well survey
- ☐ Conceptual Site Model described
- ☐ Sampling and analysis methodology (e.g. composite/grab sampling, low-flow method/bailers, sampling parameters)
- ☐ Completed using appropriate quality assurance and quality control protocols (9VAC20-160-70(C))
- ☐ Documented field procedures
- ☐ Aquifer test(s) to identify hydraulic conductivity/groundwater flow velocity
- ☐ Sample AOCs and source areas
- ☐ Extent of contamination in each media: On and off-site
- ☐ Fate and transport discussion
- ☐ Modeling inputs to estimate plume
- ☐ Indication of plume stability: stable, expanding, or retreating

Site Name: _____
VRP Number: _____

D. Cross-Sections

- ☐ Geology
- ☐ Water table
- ☐ Sample locations and results
- ☐ Extent of vertical contamination delineated in all media
- ☐ Groundwater well screen intervals identified

E. Environmental Media Investigation

i. Soils

- ☐ Surficial soil
- ☐ Samples collected in suspected contamination zones
- ☐ Soils collected near capillary fringe
- ☐ Analytical methods (in accordance with EPA SW-846 (9VAC20-160-70(C))
- ☐ Soils screened in the field with photoionization detector (PID)
- ☐ All COPCs included as determined by the CSM
  - ☐ Total TAL metals
  - ☐ VOCs
  - ☐ Semi-VOCs
  - ☐ PAHs
  - ☐ PCBs
  - ☐ Pesticides/Herbicides
  - ☐ PFAS

ii. Groundwater

- ☐ Flow direction
- ☐ Aquifer(s) defined
- ☐ Analytical methods (in accordance with EPA SW-846 (9VAC20-160-70(C))
- ☐ Well development activities performed on permanent groundwater wells
- ☐ Multiple rounds of groundwater sampling from same location
- ☐ All COPCs included as determined by the CSM
  - ☐ Total (unfiltered) TAL metals
  - ☐ VOCs
  - ☐ Semi-VOCs
  - ☐ PAHs
  - ☐ PCBs
  - ☐ Pesticides/Herbicides
  - ☐ PFAS

iii. Vapor Intrusion

- ☐ Deep soil gas
- ☐ Sub-slab / Shallow soil gas
- ☐ Leak detection testing conducted
- ☐ Indoor air (if sub-slab/shallow indicates)
- ☐ VOCs (EPA Method TO-15)

iv. Surface Water

- ☐ Included if applicable

v. Sediments

- ☐ Included if applicable

F. Lab Reports (9VAC20-160-70(C))

- ☐ SW-846 analytical methods for soil and groundwater
- ☐ TO-15 methods used for air/soil gas
- ☐ Alternate methods, as appropriate
- ☐ Summary tables of results
- ☐ Lab certificates
- ☐ Virginia Environmental Laboratory Accreditation Program (VELAP) Certification

G. Discussion

- ☐ Discussion of potential risks
- ☐ Discussion of prior remedial activities
- ☐ Discussion of quality assurance and quality control protocols (e.g., data validation of lab qualifiers)

Date SCR accepted by DEQ:

V. Risk Assessment

The Risk Assessment includes an evaluation of the risks to human health and the environment (including to offsite properties), a proposed set of remediation level objectives consistent with 9VAC20-160-90, and either recommended remediation actions to achieve the proposed objectives or a demonstration that no action is necessary (9VAC20-160-70(A)(2)). The participant, with the concurrence of the DEQ, shall consider impacts to human health and the environment in establishing remediation levels (refer to 9VAC20-160-90 for criteria values).

Site Name: _____
VRP Number: _____

A. Data Collection

- ☐ Sufficient number of samples collected to calculate 95% UCL (at least 8-10 samples even if a full DQO process isn't feasible)
- ☐ All TAL constituents analyzed or adequate rationale provided for exclusion
- ☐ Surface soil samples collected (non-composite with subsurface)
- ☐ Soil samples collected to depth of 15 ft
- ☐ Unfiltered groundwater samples
- ☐ Deep soil gas sampled close to capillary fringe
- ☐ Multiple lines of evidence for VI included
- ☐ Soil samples collected near possible sources

B. Data Evaluation

- ☐ Analytical methods able to detect compounds at screening levels
- ☐ Data with qualifiers summarized
- ☐ All detected chemicals screened for current and potential on-site receptors
- ☐ Screened potential off-site risks

C. Exposure Assessment

- ☐ Selection of exposure pathways tables for on-site and off-site receptors with rationale included
- ☐ Exposure point concentrations (EPCs) included
- ☐ EPCs calculated using max detects **OR** 95% upper confidence limit (UCL) of the mean
- ☐ ProUCL input / output files included for statistical analysis
- ☐ Input / output files included if exposure models (i.e. VISL) used in assessment
- ☐ VURAM used for screening / quantitative risk assessment
- ☐ Separate assessments for constituents not included in VURAM (e.g., radionuclides, lead, and methane)
- ☐ Distinct exposure areas identified
- ☐ Approved rationale and reference for site-specific calculation (if applicable)
- ☐ Ecological exposure identified
- ☐ All data qualifiers documented and discussed
- ☐ Groundwater depth selection based on shallowest groundwater on site

D. Risk Characterization

- ☐ Hazard / risk results presented for all COPCs in all exposure scenarios (VURAM output included)
- ☐ Assessment of uncertainty included
- ☐ Final list of COCs included in the report

- ☐ Remediation Levels calculated for all COPCs as applicable
- ☐ Tier I background levels included if utilized
- ☐ Risk discussion of constituents not evaluated quantitatively
- ☐ Ecological receptors evaluated
- ☐ Tier II Remediation Levels (Unrestricted; default hazard index = 1, default risk for individual chemical = 1.00E-05, default cumulative risk-all chemicals = 1.00E-04)
- ☐ Tier III Remediation Levels (Site-Specific; default hazard index = 1, default risk for individual chemical = 1.00E-05, default cumulative risk-all chemicals = 1.00E-04)

Date Risk Assessment Accepted by DEQ:

VI. Remedial Action Plan

The Remedial Action Plan provides the details for achieving the remediation level objectives specific in the risk assessment. Discuss control or elimination of continuing onsite source or sources of releases to the environment, land use controls, and any permits required for the remediation process. If no remedial action is necessary, discuss the reasoning for no action (9VAC20-160-70(A)(3)).

- ☐ Proposed remediation activities
- ☐ Schedule
- ☐ Permits required
- ☐ Design plans
- ☐ Discussion of control or elimination of sources
- ☐ Verification sampling of soils brought onto site – discuss with RPM
- ☐ Discussion of land use controls (engineering and institutional controls)
- ☐ Remediation levels established per risk assessment
- ☐ Maintenance of engineering controls (if any) required by land use restrictions
- ☐ Reasoning for no action if applicable

Date Remedial Action Plan accepted by DEQ:

VII. Public Notice

The participant is responsible for providing public notice, though a template is provided. Notice shall be made after the DEQ accepts the SCR and the proposed or completed remediation and shall occur prior to the DEQ's issuing a certificate. Such notice shall be paid for by the participant and shall, at a minimum, meet the requirements of 9VAC20-160-120.

Site Name: _____
VRP Number: _____

A. Requirements

- ☐ Written notice provided to local government
- ☐ Written notice to all adjacent property owners and other owners affected by contaminants
- ☐ Publish a notice once in a newspaper of general circulation
- ☐ Public comment period for 30 days minimum

B. Public Notice Contents

- ☐ Name and address of participant
- ☐ Name of site
- ☐ Location of proposed remediation (site location)
- ☐ General nature of the release
- ☐ Brief description of the remediation
- ☐ Proposed land use controls (engineering and institutional controls)
- ☐ Address and phone number of an authorized representative from whom information can be obtained
- ☐ Description of how to submit comments
- ☐ Dates of the public comment period

C. Demonstration of Public Notice

- ☐ Signed statement that the participant provided public notice
- ☐ Copy of public notice
- ☐ List of names and addresses of all persons to whom the notice was sent
- ☐ Copy of all written comments received
- ☐ Copy of acknowledgement letters
- ☐ Copy of responses to comments
- ☐ An evaluation of comment's impact on the remedial action, if any

Date Demonstration of Public Notice accepted by DEQ:

VIII. Demonstration of Completion

The Demonstration of Completion includes, as applicable, a detailed summary of the remediation at the site, including: a discussion of remediation systems and activities that occurred at the site, how site-specific remediation objectives have been achieved, a description of any land use (engineering and institutional) controls, and a demonstration that all other criteria for completion of remediation have been satisfied. The participant must certify that activities performed at the site have been in compliance with all applicable regulations (9VAC20-160-70(A)(4)).

- ☐ Summary of remediation activities
- ☐ Summary of remediation systems installed
- ☐ Summary of how site-specific objectives have been achieved
  - i. Releases / sources eliminated or controlled
  - ii. Confirmation sampling / remediation levels met and migration of contamination stabilized
- ☐ Description of site restrictions proposed for certificate
- ☐ All other criteria for completion of remediation met
- ☐ Discussion of imported soil analytical results/cap materials (as applicable)
- ☐ Participant certifies all activities performed have been in compliance with all applicable regulations
- ☐ O&M manuals/Materials management plans/Health and safety plan (as applicable)

Date Demonstration of Completion accepted by DEQ:

Certificate and Declaration

IX. Certification of Satisfactory Completion of Remediation

A site shall be deemed to have met the requirements for unrestricted use if the remediation levels, based on either background or standard residential exposure factors, have been attained throughout the site and in all media (9VAC20-160-110.C). For sites that do not achieve the unrestricted use classification, land use controls may be utilized to attain remediation levels based on restricted use. All controls necessary to attain the restricted use classification shall be described in the certificate (9VAC20-160-110.D). If a use restriction is specified in the certificate, the participant shall cause the certificate to be recorded among the land records in the office of the clerk of the circuit court for the jurisdiction in which the site is located within 90 days of execution of the certificate by the DEQ, unless a longer period is specified in the certificate. If the certificate does not include any use restriction, recordation of the certificate is at the option of the participant (9VAC20-160-110(E)).

The participant prepares the first draft of the certificate to be submitted to VRP for review and edits. A certificate and declaration template is available on DEQ's website.

The DEQ shall issue a certificate when (9VAC20-160-110(A)):

- ☐ Migration of contamination has been stabilized
- ☐ All applicable requirements of the regulations have been completed
- ☐ DEQ accepts all work submitted, as set forth in 9VAC20-160-70
- ☐ All fees due have been received

Site Name: _____
VRP Number: _____

- ☐ All provisions of the approved remedial action plan as applicable have been completed
- ☐ Site has met the applicable remediation levels and will continue to meet the applicable remediation levels in the future for both onsite and offsite receptors

The certificate shall specify the conditions for which immunity is being accorded, including (9VAC20-160-110(D)):

- ☐ Standard format and language: Model certificate
- ☐ Legal description: Metes and bounds with site map and/or stamped plat; must identify the following:
  - ☐ VRP boundary
  - ☐ Land use restriction areas
  - ☐ Acreages
  - ☐ Ownership information
  - ☐ Utilities
  - ☐ Deed book and page number and/or instrument number
- ☐ The owner signature block from either the application or change of owner notice matches 1st page of certificate
- ☐ The participant signature block from either the application or change of participant notice matches 1st page of certificate
- ☐ Trustees identified
- ☐ Trustees signed
- ☐ Summary of the relevant information considered
- ☐ Restrictions on future use
- ☐ Land use controls (engineering and institutional controls) specified
- ☐ Specific areas with land use controls are surveyed
- ☐ Identify encumbrances affected by restrictive covenants
- ☐ Local land use controls on surrounding properties (i.e. groundwater ordinance)
- ☐ Post-certificate monitoring plan referenced, if applicable
- ☐ O&M Manual referenced, if applicable
- ☐ Health & Safety Plan referenced, if applicable
- ☐ All signatures executed
- ☐ Declaration of Restrictive Covenants for restricted sites

Date Certificate executed by DEQ:
Date Certificate / declaration recorded in the land records:

The certificate may be revoked by the DEQ in any of the following situations (9VAC20-160-110(H)):

1. Conditions at the site, unknown at the time of issuance of the certificate, pose a risk to human health or the environment;
2. Certificate was based on information that was false, inaccurate, or misleading; or
3. Conditions of the certificate have not been met or maintained.

X. Certificate Amendments

The landowner shall submit a certificate amendment request to the DEQ describing the changes being requested. The DEQ will review the request and notify the landowner of any additional information required and the amount of the registration fee to be remitted as follows:

1. **Administrative amendment:** For amendments not requiring a technical review by the DEQ (i.e., subdivision of parcels), a Phase 1 registration fee ($2,000) is required (9VAC20-160-65(H)(1)), or
2. **Technical amendment:** For amendment requests that require a technical review by the DEQ, a reduced Phase 2 registration fee ($4,500) is required (9VAC20-160-65(H)(2)).
    a. Amendments that require technical review: changes to Certificate or Restrictions that require site characterization, risk assessment, or remedial action.
    b. Public notice reflecting the changes is required.