JBLE-Langley

Environmental Special Conditions

Developed by the 633 CES Installation Management Flight, Environmental Element (CEIE)

Facility 328
37 Sweeney Blvd.
Hampton VA 23665

633ces.cei.flight@us.af.mil
757-764-3906

Revised - – Supersedes all previous versions

SUMMARY OF CHANGES

Below is a summary of changes made during the most recent revision.

- 4.1 Before Construction Starts (60 – 90 days). Added. EPA Certificate(s) of Conformity for each stationary generator.

- 7.1.2.2 Emergency/Non-Emergency Generators. Added. Exhaust Emission Data Sheet to deliverable list and added examples of generator and engine Name Plates.

- 7.1.3 Contractor Owned/Contractor Operated Permits. Added. Request any contractor owned/contractor operated air permits be submitted to the 633 CES/CEIE for review.

- 7.1.6 HVAC. Added. Examples of HVAC system Name Plates.

- 7.5 Fuel, Sewage and Other Spills. Changed. Contractors should report all spills by immediately calling 911 Fire and Emergency Services.

- 7.6.4 Underground Storage Tanks (USTs). Changed. Updated language to avoid construction and/or excavation activities in the area near an underground storage tank, when possible, or implement procedures to remove the UST.

- 7.7.3.1 Florescent Lamps. Changed. Updated language to reflect current procedures to regarding energy efficient LED lamps.

- 7.7.4.2 Soil. Added. DoD mandates use of EPA Draft Method 1633 for Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA).

- 8.2.1 Imported Fire Ant Quarantine. Added. Articles regulated by Virginia's Imported Fire Ant Quarantine shall not be moved outside of any regulated quarantine area in Virginia, including JBLE-Langley, except in compliance with quarantine conditions.

- 10.1.4 Chemical Testing Standards. Added. DoD mandates use of EPA Draft Method 1633 for Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA).

- Attachment 2 633 CES/CEIE Environmental Program Manager Contact List. Changed. Updated contact information for the Green Procurement, Qualified Recycling Program/Integrated Solid Waste and Spills programs.

- Attachment 3 Deliverable Checklist. Added. New deliverable checklist.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ATTACHMENTS

Foreword

Contractors shall comply with the most current version of this Environmental Special Conditions Package in the bidding and performance of contracts for all work performed at Joint Base Langley Eustis – Langley (herein referred to as JBLE-Langley).

This document was created by JBLE-Langley's 633 CES Environmental Element (herein referred to as the 633 CES/CEIE) to guide those engaging in construction projects and maintenance work within the boundaries of the installation. There are many statutes pertaining to Federal lands, some of which are more restrictive and have more requirements than those of the Commonwealth of Virginia or the City of Hampton. These Environmental Special Conditions are meant to identify those requirements, some which are unique to JBLE-Langley, to be met in the performance of work and ensure full compliance with pertinent provisions of Federal (Environmental Protection Agency, EPA), State (Virginia Department of Environmental Quality, VDEQ), local regulations and procedures and Air Force policies. These Conditions are not intended to be fully inclusive of all regulations. It is the Contractor's responsibility to comply with all Federal, State and local laws, regulations or guidance(s). The Contactor shall also execute Best Management Practices (BMPs) throughout each project or performance of work.

Anyone performing work at JBLE-Langley is required to coordinate with the Government Point of Contact (POC) for a given project, usually the Contracting Officer's Representative or Project Manager, to ensure the complete, accurate and timely submittals of all environmental related documents. Refer to Section 4 for more information on document submittals.

1.0 Objective

It is the duty of JBLE-Langley's environmental specialists (Program Managers) to ensure that all projects that occur on JBLE-Langley meet Federal, State, local and Air Force requirements. This document contains fundamental provisions that pertain to common construction, renovation, repair and demolition activity which regularly occurs at JBLE-Langley. Special projects may have additional requirements not mentioned within, and as such, will require a more detailed review by the 633 CES/CEIE environmental staff in order to ensure that all aspects of JBLE-Langley's environment is protected.

JBLE-Langley is committed to sustaining the environment through a C.L.E.A.N. approach:

C*omply* – We will comply with all environmental regulations and all other requirements while reducing compliance costs and liabilities.

L*imit impact* – We will prevent pollution and minimize waste while cleaning up past sites of environmental concern and making efforts to achieve Chesapeake Bay conservation.

E*xecute plans* – We will identify and attain energy, environment, safety and occupational health objectives and targets through planning that is Specific, Measurable, Achievable, realistic, and Timely (SMART).

A*chieve improvements* – We will continuously improve our programs and processes through the use of effective management and planning.

N*otify* – We will communicate our environmental commitments and performance to all levels of our organization and local community.

Figure 1: Current JBLE-Langley Wetland Boundary Map

It is the Contractor's responsibility to ensure that all the requirements of the Environmental Special Conditions are adequately addressed and that all requested submittals are received and approved by the 633 CES/CEIE. There are several submittals that are required to be delivered through the Contracting Officer's Representative and to the 633 CES/CEIE. Failure to adhere to these requirements can cause delays in construction, renovation, repair, maintenance, etc. of projects. Additions, there may be delays in final payment to the Contractor and the Contractor may be required to uninstall equipment that is not compliant, or redesign and correct any components of the project that do not pass final inspections.

A reference to the Environmental Special Conditions must be included in all Performance Work Statements, Scope of Works and Contract Proposals for work at JBLE-Langley. A project submittal will not be approved by the 633 CES/CEIE without including such reference.

This document is reviewed and updated annually to reflect changes in regulations and policies. Achieving compliance with laws and regulations is a team effort at JBLE-Langley and close integrated collaboration between Contractors and environmental staff is key to protecting the environment in which our families work, live and play. In accordance with the National Environmental Policy Act (NEPA), this program area is imperative to "encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere, and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation."

NEPA is the underlying national charter for protecting the environment. It was enacted on 01 January 1970 and is referred to as the "Environmental Magna Carta." Each Federal agency has its own implementing procedures which adapt the regulations to address agency specific missions and decision-making authority. The NEPA process begins when an agency proposes to take an action (this can include proposals to adopt rules and regulations, formal plans that direct future actions, programs and specific projects). Once a proposal is conceptualized and any reasonable alternatives have been developed, the agency must determine if the action has the potential to affect the quality of the human environment. This process results in one of three levels of NEPA analysis. Agencies may conduct a:

- Record of Environmental Consideration (REC) – application of a Categorical Exclusion (CX)
- Finding of No Significant Impact (FONSI) – preparation of an Environmental Assessment (EA) or
- Record of Decision (ROD) – preparation of an Environmental Impact Statement (EIS)

Most JBLE-Langley actions do not require an EA or EIS and can be documented with a Categorical Exclusion (CX), which are listed in 32 Code of Federal Regulations (CFR) Appendix B to Part 989 (*Air Force Environmental Impact Analysis Process*). However, it is important to note that CX's are sometimes not applicable because NEPA does not replace or supersede the requirements of certain other laws or regulations, such as the National Historic Preservation Act. In addition, some CX's require completion of an AF813, Request for Environmental Impact Analysis. Ultimately, the level of NEPA analysis and documentation for each project is determined by the 633 CES/CEIE Environmental Element Chief or designated representative, who utilizes processes outlined in NEPA to ensure that all requirements are being addressed. Part of this process includes using information from subject matter experts to determine the environmental effects of every project proposed to occur on JBLE-Langley property.

All procedures must follow the requirements specified in these Environmental Special Conditions and be in joint effort with the 633 CES/CEIE.

2.0 Implementation

All work is to be performed in a manner that prevents pollution, protects the environment and conserves natural resources. All work performed within JBLE-Langley boundaries shall be carried out in accordance with all applicable Federal, State and local laws, regulations, ordinances, Executive Orders and any other rules or rulings including JBLE-Langley specific policies. Personnel shall have all necessary required trainings and certifications for the work that is being accomplished.

All parts of this document that pertain to the project work/scope should be included in the contract. Failure to do so could result in noncompliance issues.

3.0 Training

JBLE-Langley requires Environmental Management System (EMS) and Environmental Compliance Training for all Contractor personnel (to include subcontractors, etc.) performing work within the boundaries of the installation. This training is a requirement of the International Organization for Standardization (ISO) 14001 and Department of the Air Force Instruction (DAFI) 32-7001, *Environmental Management.* Details on accessing and obtaining the required training certification can be found in Section 11. Upon inclusion in the contract Statement of Work, the Contracting Officer's Representative will verify that all Contractor personnel have acquired the training at their appropriate site or location and that copies have been submitted to the 633 CES/CEIE EMS Coordinator via email at 633CES.EMS.TRAINING@us.af.mil.

4.0 Environmental Document Submittal Procedures

For environmental issues, the 633 CES/CEIE serves as JBLE-Langley's repository for copies of permits obtained by contractors as required by environmental regulatory agencies such as the EPA and the VDEQ. A copy of any submittal to the EPA or the VDEQ shall also be submitted to the 633 CES/CEIE. All records shall be available for review upon request.

The following contract deliverables are due to the JBLE-Langley Project Manager and Contracting Officer's Representative who will in turn provide them to the appropriate 633 CES/CEIE Program Manager/Point of Contact, found in Attachment 2.

The documents listed shall only be submitted if they are applicable to the project and work being performed.

4.1 Before Construction Starts (60 – 90 days)

- Wetland Permits/Joint Permit Application (JPA), submitted to and approved by: the Virginia Marine Resources Commission (VMRC), the Virginia Department of Environmental Quality (VDEQ), the City of Hampton Wetland Board and the U.S. Army Corps of Engineers (USACE), as applicable. One JPA is sent to all agencies for review following submittal.
- Nationwide Permit (USACE) (Note: ***allow 45 days***)
- Technical and Manufacturer data for all Air Polluting Stationary Sources (see Section 7.1.2 for specific information necessary for submittal)
- EPA Certificate(s) of Conformity for each stationary generator
- VDEQ Construction Generator Permit Registration Statement
- Stormwater Pollution Prevention Plan (SWPPP)
    - Please note that the SWPPP include the following plans:
        - Erosion and Sediment Control Plan (ESC Plan)
        - Pollution Prevention Plan (P2 Plan)
        - Stormwater Management Plan (SWM Plan) to include Runoff Reduction Calculation(s)
- For construction projects involving historic buildings: Building elevations showing proposed building modifications, as well as photographs of the existing condition to support base consultation with the State Historic Preservation Office (SHPO)

4.2 Before Construction Start (30 days)

- Asbestos Abatement Plan
- Lead-Based Paint (LBP) Abatement Plan
- Contractor Hazardous Material (HAZMAT) Worksheet
- Copy of all SDSs attached to Contractor Hazardous Material Worksheet
- Green Procurement Planning Use Forms
- EMS and Environmental Compliance Training Certification(s)
- VDEQ Construction General Permit Coverage Letter
- VDEQ SWM/ESC Plan Approval Letter
- Virginia Clean Soil Certifications
- Proposed Borrow Soil Sampling Laboratory Results
- Petroleum, Oils and Lubricants (POL) Storage Tank Registration Notification (Inspection logs should be maintained on-site)
- EPA Certificate(s) of Conformity for each portable/temporary generator

4.3 During Contract

- Monthly HAZMAT Usage Report
- Monthly wetland impact reports (required only for individual permits issued by VDEQ)
- Quarterly Refuse/Recycling Reports and Weight Tickets
- Hazardous Waste/Asbestos/LBP Manifests (***Must*** be signed by the appropriate JBLE-Langley Environmental Representative(s))
- Weekly/Monthly Storage Tank Inspections (Inspections should be maintained on-site)

4.4 End of Contract/Before Contract Closes

- VDEQ Construction General Permit Notice of Termination Letter
- Green Procurement Exemption Form (if applicable)
- Green Procurement Final Usage Report
- All returned Asbestos, LBP and Hazardous Waste Manifest (signed by receiving landfill or treatment facility)
- VDEQ Stormwater Management As-Builts with seal and signature of Virginia registered professional
- GIS files containing updated stormwater and wastewater utilities, stormwater BMPs, plantings (if available), final site elevations, impacted wetlands or other environmental spatial files produced
- CAD files for wastewater processes and roof gutters (if available)
- HVAC Report

A summary and checklist of these deliverables can be found in Attachment 3: Deliverable Checklist.

5.0 Non-Compliance, Fines and Inspections

Any fines and penalties that are the result of actions by the Contractor, its subcontractors, employees, other representatives or agents of the Contractor are the responsibility of the Contractor to pay. These fines/penalties will not be passed on to JBLE-Langley.

Federal, State and local inspections may occur at any time during the contract period. The 633 CES/CEIE will coordinate with the Contracting Officer's Representative, Project Manager, the Contractors and any other applicable parties as necessary in the event the Contractor's work site/equipment will be involved in any inspection.

6.0 Discrepancies

In case of a conflict or discrepancy between environmental laws and regulations, as well as these special conditions, and the contract specifications, the Contractor shall immediately submit the matter in writing to the Contracting Officer's Representative for further investigation. Without such investigation, any actions taken shall be at the Contractor's own risk and expense.

7.0 Environmental Compliance Program Areas

7.1. Air Quality

Any fixed or stationary unit/source that produces or has the potential to produce any of the six Criteria Pollutants (CP), Hazardous Air Pollutants (HAPs), Greenhouse Gases (GHG) or fugitive Ozone Depleting Chemical (ODC) emissions into the atmosphere constitutes an emissions unit/source at JBLE-Langley and is subject to regulations set forth under the Clean Air Act.

Only projects found by the 633 CES/CEIE Air Quality Program Manager to demonstrate compatibility with regulations and permits may have approval and be allowed to proceed through procurement and construction.

7.1.1 Air Emission Producing Units

Stationary sources of air pollutants are required to be permitted based on the process category (operation category) and overall expected emission rate (referred to as the Potential to Emit emissions, PTE). JBLE-Langley must track various usage and operating throughputs (i.e., hours of operations, fuel consumption and paint usage) to ensure compliance with all Federal, State, local and Air Force regulations. Because JBLE-Langley is quantitatively limited by the amount of pollutants emitted from its sources per the VDEQ issued State Operating Permit, all stationary sources must be evaluated.

The following equipment list contains examples of common stationary sources which emit regulated emissions, and as such, require written approval from the 633 CES/CEIE Air Program Manager ***prior*** to procurement:

- External Combustion Units (including but not limited to: boilers, water heaters, furnaces, unit heaters, space heaters, etc.)
- Internal Combustion Engines (including but not limited to: emergency, non-emergency, fire pumps, barrier engines, etc.)
- Paint Booths/Painting Areas
- Solvent-Based Parts Washers/Cold Cleaners
- Aboveground Storage Tanks (including but not limited to those storing gasoline, MOGAS, E-85, jet fuel, No. 2 distillate oil, diesel fuel or biodiesel) [Note Air Quality approval is different than approval from the Tank Program]
- Any other equipment that emits pollutants regulated under the Clean Air Act

If equipment, such as portable rock crushers, have their own permit already assigned, please provide the 633 CES/CEIE Air Program Manager a copy of the permit.

7.1.2 Permitting Process

To meet permit requirements, the Contractor shall submit necessary information for each stationary source to the 633 CES/CEIE Air Program Manager for evaluation on permitting. The sooner the information is provided, the sooner the 633 CES/CEIE Air Program Manager can complete the evaluation and determine if a New Source Review (NSR) Construction Permit will be required ***before*** construction of the stationary source can begin. An evaluation must be completed for the entirety of a project (i.e., multiple sources per facility, multiple facilities per project, etc.).

If during the evaluation, it is determined that a NSR application ***is*** required to be submitted, the 633 CES/CEIE Air Program Manager will coordinate with the Contracting Officer's Representative and the Contractor to determine who will be responsible for the submission of the NSR application to the VDEQ. If it is determined that the Contractor will be responsible for the NSR application, the 633 CES/CEIE Air Program Manager will need to review the application before submission. If the 633 CES/CEIE Air Program Manager will be responsible, the 633 CES/CEIE Air Program Manager will provide updates to the Contracting Officer's Representative and the Contractor as necessary.

Depending on the project, the definition of ***before construction*** may refer to the construction of the entire project or facility rather than an individual unit. If VDEQ has determined that the definition applies to the project/facility, no work (i.e., even digging a hole) can start until a permit has been issued. The 633CES/CEIE Air Program Manager will provide appropriate guidance.

Consult the 633 Air Program Manager for the definition of "before construction" prior to the start of any construction work!

If during the evaluation, it is determined that a NSR application ***is not*** required to be submitted, the 633 CES/CEIE Air Program Manager will provide written notification to the Contracting Officer's Representative and the Contractor.

The following sections provide a list of the necessary information that must be submitted to the 633 Air Program Manager for evaluation. Please note that the complexity of the project/work may require more information to be submitted.

7.1.2.1 External Combustion Units

- Type of unit (i.e., boiler, water heater, unit heater, furnace, etc.)
- Technical specification sheets/documents including but not limited to:
  - Manufacturer
  - Model
  - Serial Number
  - Maximum heat input (size)
  - Burner data
  - Date of manufacture
- Fuel type(s) (please identify upfront if the source will be dual or multi-fueled)
- Vent/stack or exhaust data (vertical or horizontal configuration, height and exit diameter, if known
- Total number of units, if the same manufacture and size

7.1.2.2 Emergency/Non-Emergency Generators

- Technical specification sheets/documents including but not limited to:
  - Manufacturer, model and serial number
  - Output brake horsepower (hp) and output electrical power in kilowatts (kW)

  - Fuel consumption (gal/hr)
  - Family name
  - Date of manufacture
- Fuel type
- Exhaust Emission Data Sheet (Note: Must be for that particular model and serial number; a general emission sheet may not be accepted by the VDEQ during the permitting process)
- EPA Certificate of Conformity

All generators shall follow Federal, State and Air Force regulations and standards. This includes meeting fuel requirements (if the unit is a diesel combusted engine, the diesel fuel must have a maximum sulfur content of 15 parts per million), emission standards (Tier Standards) and emission controls.

Photographs of the generator and engine Name Plates, as shown in Figure 2 and Figure 3 below, will also be acceptable. Please note that the Name Plates need to be for the specific generator/engine purchased and installed.

Figure 2: Example of Generator Name Plates

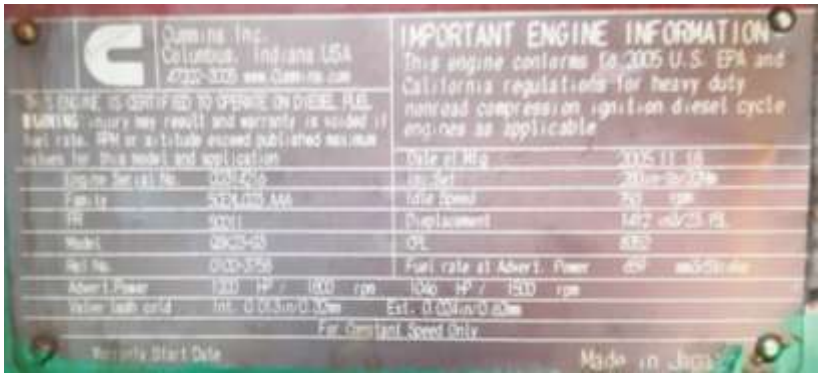


Figure 3: Example of Engine Name Plate

7.1.2.3 Paint Booth/Paint Area

Painting sources often require a NSR application to be submitted based on guidance provided by the VDEQ, and therefore are more complex projects. The permitting process may include more specific information than that listed below:

- Design schematic/drawing(s) including but not limited to:
  - Manufacturer design sheets or drawings
  - Date of manufacturer is spray booth
  - Maximum rated capacity (of intended spray gun(s))
  - Vent/stack or exhaust data:
    - Vertical or horizontal configuration
    - Height
    - Exit diameter
    - Exit gas flow rate
- Filtration design and specification
  - Manufacturer and model of air pollution control equipment (i.e., fabric filters)
  - Percent efficiency
  - Filter material
  - Number of stages
- Differential Pressure Gauge specifications
  - Specific type of monitoring instrumentation (i.e., differential pressure gauge)
  - Pressure drop (inches of H2O)

7.1.2.4 Solvent-Based Parts Washers/Cold Cleaners

- Technical specification sheets/documents including but not limited to:
  - Manufacturer
  - Model
  - Serial number
  - Size/capacity
  - Date of manufacture
- Solvent Safety Data Sheet

7.1.2.5 Aboveground Storage Tank

- Technical specification sheets/documents including but not limited to:
  - Manufacturer
  - Model
  - Serial number
  - Tank capacity (gallons)
  - Tank diameter
  - Shell and roof color
  - Date of manufacture
- Material to be stored (i.e., gasoline, diesel, jet fuel, etc.)
- Color of tank (roof and shell; specify if different)

7.1.3 Contractor Owned/Contractor Operated Permits

If the Contractor is required to maintain and comply with an air permit issued by the VDEQ to operate specific equipment during the project, such as a rock crusher, a copy of the permit should be submitted to the 633 CES/CEIE Air Program Manager.

7.1.4 Replacement Sources

Replacement units/sources are defined as the substitution of one emissions source for another, which will thereafter perform the ***same function*** as the primary (replaced) emissions unit at the same location.

The 633 CES/CEIE Air Program Manager will evaluate all replacement sources as a new stationary source to determine the appropriate permitting action(s). If it is determined that the replacement source ***does*** need to be permitted, an expected removal date for the old source must be provided to complete the NSR application.

If it is determined that the replacement source ***does not*** need to be permitted, the Contractor/Contracting Officer's Representative needs to provide the date in which the old source was removed.

7.1.5 Volatile Organic Compounds (VOCs)

All coatings and solvents used in the performance of this contract shall meet the required performance specifications and shall not exceed the Volatile Organic Compound (VOCs) limits of the Air Pollution Control District(s) where they are used. Coatings and solvents shall be registered with the base HAZMART, as described in Section 7.4.

7.1.5.1 VOC Work Practice Standards

At all times the disposal of VOCs shall be accomplished by taking measures, to the extent practicable, consistent with air pollution control practices for minimizing emissions. VOCs shall not be intentionally spilled, discarded in sewers, stored in open containers, or handled in any other manner that would result in evaporation beyond that consistent with air pollution practices for minimizing emissions.

7.1.6 HVAC

If the maintenance, service, repair or disposal of any HVAC unit is done through contracted work, the responsible person (either the Contractor or subcontractor) must provide a record, as required by 40 CFR Part 82, *Protection of Stratospheric Ozone*, detailing the work performed. Record(s) must include:

- Location/building number
- Date of service
- Type of work (maintenance, service, repair or disposal)
- Model and serial number
- Full charge of the unit
- Refrigerant type
- Part(s) of unit being maintained/serviced/repaired of disposed
- Type of maintenance/service/repair or disposal performed for each part
- Amount and type of refrigerant added to, or in the case of disposal removed from, the unit

- Leak rate and calculation method, if applicable
- Point of Contact

This information can be provided to the 633 CES Operations Flight Infrastructure Systems Element (CEOI) HVAC Shop and the 633 CES/CEIE Air Program Manager using Attachment 4: HVAC Record.

Photographs of the ***outdoor and indoor*** Name Plates, as shown in Figure 4 below, will also be acceptable. Please note that the Name Plates need to be for the specific unit(s) purchased and installed.

Figure 4: Examples of HVAC Name Plates

7.1.7 Ozone Depleting Substances and Chemicals (ODS and ODCs)

Contracts may not include any specification, standard, drawing or other documents that require the use of a Class I ODS in the design, manufacture, test, operation or maintenance of any system, subsystem, item, component or process. Contracts may not require the delivery of any items of supply that contains a Class I ODS or any service that includes the use of a Class I ODS.

7.1.8 Fugitive Dust Emissions

If the project is likely to create dust emissions, the following requirements apply.

Mitigation of fugitive dust emissions shall be accomplished in accordance with the Virginia Department of Environmental Quality (VDEQ) Code 9VAC5-40-90, *Standard for Fugitive Dust/Emissions*, as described below:

- Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
- Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles and other surfaces which may create airborne dust; the paving of roadways and maintaining them in a clean condition.

- Installation and use of hoods, fans and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.
- Open equipment for conveying or transporting materials likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion.
- The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.

7.2 Asbestos

Contact the 633 CES/CEIE Asbestos Specialist to determine any known presence of asbestos before starting any work.

7.2.1 Asbestos Presence

It is important to note the results of any asbestos through proper testing. If asbestos is present, the Contractor must abide to the sections below pertaining to plans, notifications and manifests.

For questions about Asbestos or Lead Based Paint, please contact the JBLE-Langley Specialist(s) at:

757-764-1046

The Contractor should provide a statement and all supporting documentation (i.e., most recent survey) indicating whether asbestos is present or not in the work area.

If suspected asbestos materials are encountered during contract execution, the Contractor shall cease work in that area and advise the Contracting Officer's Representative of the discovery.

7.2.2 Abatement Plan

An abatement plan is only required when a project will have asbestos removal**.** Abatement plans are to include but not limited to:

- The description of how abatement is to be accomplished
- Required notifications
- Required licensing
- Employee Safety Requirements
- Air Sampling

The Abatement Plan shall be submitted to the 633 CES/CEIE Asbestos Specialist for review.

7.2.3 Asbestos Abatement or Removal Notification

Asbestos Abatement or Removal Notifications are only required when a project will have asbestos removal.

Disposal of asbestos debris is the responsibility of the Contractor. The Contractor is subject to Occupational Safety and Health Administration (OSHA), Federal and State compliance and inspection regulations for asbestos removal. The Contractor must perform asbestos abatement in accordance with these specifications and the EPA National Emissions Standards for Hazardous Air Pollutants (NESHAPs) for asbestos and any subsequent updates thereto. This includes EPA Region 3 and State notifications that shall be accomplished at least ***20 days*** prior to starting any asbestos abatement or removal. A copy of the notification shall be submitted to the Contracting Officer's Representative and to the 633 CES/CEIE Asbestos Specialist.

7.2.4 Asbestos Manifests

Asbestos Manifests are only required when a project will have asbestos removal.

All asbestos waste manifests shall be signed by a 633 CES/CEIE representative (can be either the Asbestos Specialist or the Hazardous Waste Program Manager) prior to removal of asbestos waste from the base. A copy of the completed manifest (signed by the receiving landfill) shall be submitted to the 633 CES/CEIE Asbestos Specialist.

Disposal of asbestos debris is the responsibility of the Contractor.

7.3 Lead-Based Paint (LBP)

Contact the 633 CES/CEIE LBP Specialist to determine any known presence of LBP before starting any work.

7.3.1 Lead Based Paint Presence

It is important to note the results of any lead based paint through proper testing. If lead-based paint is present, the Contractor must abide by the sections below pertaining to plans and disposal.

The Contractor should provide a statement and all supporting documentation (i.e., most recent survey) indicating whether lead-based paint is present or not in the work area.

7.3.2 Abatement Plan

An abatement plan is only required when a project will have LBP removal. Abatement plans are to include but not limited to:

- The description of how abatement is to be accomplished
- Required licensing
- Employee Safety Requirements
- Air Sampling

The Abatement Plan shall be submitted to the Project Manager for review.

7.3.3 Lead-Based Paint Disposal

Disposal of lead debris containers is the responsibility of the Contractor. Lead contaminated debris must be sampled and tested to determine the concentration level of lead. The analysis will determine the proper waste management procedures. The 633 CES/CEIE LBP Specialist will inform the Contractor on these management procedures. If wastes are determined to be hazardous by regulatory criteria, the containers cannot leave the installation until a completed manifest is reviewed and signed by the 633 CES/CEIE Hazardous Waste Program Manager.

Disposal of lead debris containers is the responsibility of the Contractor.

7.4 Hazardous Materials (HAZMAT) Management

7.4.1 Hazardous Materials Usage and Reporting

In compliance with AFMAN 32-7002, *Environmental Compliance and Pollution Prevention*, Contractors are required to report the usage of all hazardous materials to the Federal Government for all projects and contracts, including service contracts executed on JBLE-Langley. In accordance with the Federal Acquisition Regulation (FAR) Clause 52.223-3, *Hazardous Materials Identification and Material Safety data*, each offeror (the Contractor) must provide the Contracting Officer's Representative with a list of proposed HAZMAT that is planned to be used on the installation during the performance of the contract. In accordance with FAR Clause 5352.223, *Health and Safety on Government Installations,* the Contractors must obtain installation authorization prior to bringing the HAZMAT on an Air Force installation, and must report usage data to the HAZMART.

No contractor (including sub-contractors) shall bring hazardous materials onto JBLE-Langley without proper coordination and approval!

Hazardous materials are any substance defined by OSHA as a hazardous substance requiring a Safety Data Sheet (SDS). Hazardous materials that need to be reported include but are not limited to:

- Chemicals
- Paints
- Thinners and solvents
- Sealing compounds
- Strippers
- Glues and adhesives
- All petroleum productions including oils, hydraulic fluids and fuels stored on-site (POLs in vehicles and equipment are exempt)
- Pesticides
- Acids
- Flammables
- Corrosives
- Oxidizers
- Compressed gases (i.e., oxygen, acetylene, propane, flammable and non-flammable gases)
- All aerosols
- All materials containing hazardous substances

The Contractor shall request the proposed usage of all Hazardous Materials by completing and submitting the following for each project to the Contracting Officer's Representative prior to bringing the items on the installation:

- Contractor Hazardous Material Worksheet at Attachment 5A
- Contractor HAZMAT SDS Submittal at Attachment 5B
    - Be sure to list all information for each hazardous material
    - Please note that an Excel spreadsheet can be provided upon request
- Copy of the SDS(s) for each item

The Contractor shall submit to the Contracting Officer's Representative the information for each item not less than ***thirty (30) calendar days*** prior to bringing the items on the installation to give the Government sufficient time to review and approve the hazardous materials. The Contractor shall submit this information to the Contracting Officer's Representative as soon as possible for short notice contracts or projects.

NOTE: An electronic version of the Contractor Hazardous Material Worksheet and the Contractor HAZMAT SDS Submittal can be obtained through the Contracting Officer's Representative, the Project Manager or the 633 CES/CEIE Hazardous Materials Management Program Manager.

The Contracting Officer's Representative will immediately provide this information to the Project Manager who will in turn immediately provide it to the 633 CES/CEIE Hazardous Materials Management Program Manager. If possible, it is best for the Contractor to submit this information electronically so it can be distributed to all reviewing parties electronically for a faster review.

Figure 5: HAZMAT Sign

After the project starts, monthly usage information will be provided to the Contracting Officer's Representative (who will in turn provide this information to the Project Manager, who will in turn provide it to the 633 CES/CEIE Hazardous Materials Management Program Manager). Using Attachment 6, Monthly Report for HAZMAT.

- For contracts/projects ***exceeding six months***, this form is required to be filled out ***monthly***.
- For contracts ***less than six months***, this form is required at the ***beginning and upon completion*** of work.

If there are any questions on how to fill out the Contractor Hazardous Material Worksheet or the monthly report, see the Contracting Officer's Representative, the Project Manager or the 633 CES/CEIE Hazardous Materials Management Program Manager.

7.4.2 Hazardous Materials Management Program (HMMP)

The JBLE-Langley HMMP team will meet on an as-needed basis to review the Contractor Hazardous Material Worksheets and SDSs to ensure there are no concerns with the chemicals being used and/or stored on the installation. If there are concerns about any chemicals, and if it is determined that the Contractor plans to use an extremely hazardous chemical on JBLE-Langley, the HMMP team will notify the Contracting Officer's Representative and the Project Manager who will in-turn notify the Contractor of JBLE-Langley's concern.

The Contractor will not bring any extremely hazardous chemicals on JBLE-Langley or any other chemicals that the HMMP team determines cannot be used on JBLE-Langley.

If the Contractor requires additional hazardous materials not previously submitted for approval, they shall submit the request as stated above ***seven days*** prior to bringing the item on the base.

NOTE: If it is determined at any time that hazardous materials are on-site that were not reported in advance, the Contracting Officer's Representative will be notified, and the project could be stopped until the materials are submitted as previously stated.

7.4.3. Hazardous Material Storage

Hazardous materials will be always be managed properly while on JBLE-Langley. This means:

- Containers will be in good condition
- Containers will be properly labeled with the contents and hazard class (flammable, toxic, corrosive, oxidizer, etc.) at all times
- Containers will be remain closed when not in use
- Hazardous materials shall be kept under cover to protect them from the elements and to prevent stormwater runoff contamination

7.4.3.1 Tanks and 55-Gallon Liquid Drums

Tanks and 55-gallon liquid drums shall have secondary containment.

Inclusive in all HAZMAT storage areas:

NO SMOKING signs will be posted in all HAZMAT storage areas. In addition, all HAZMAT will be segregated for storage according to compatibility (i.e., flammables will not be stored with corrosives, corrosives will not be stored with oxidizers, flammable gases will not be stored with flammable liquids, etc.).

7.4.3.2 Gas Cylinders

Gas cylinders shall be maintained in the upright position with caps on and secured with chains and locks to prevent tampering and from falling over. Gas storage areas will have signs indicating what type of gases are stored in the area (i.e., flammable, oxidizer, non-flammable, etc.).

JBLE-Langley is subject to inspections at any time from outside agencies (EPA, VDEQ and OSHA). Any violations by the Contractor will be the responsibility of the Contractor and any fines associated with the violations will be resolved at the Contractor's expense.

7.5 Fuel, Sewage and Other Spills

In the event of a fuel, sewage, and/or other toxic spillage during the performance of this contract, the Contractor shall call the Fire and Emergency Services immediately and be responsible for its containment, cleanup and related disposal costs. The Contractor shall have sufficient spill response supplies readily available on-site to contain any spillage. The Contractor shall take appropriate actions to correct the cause of the release to prevent future occurrences.

NOTE: If the Federal, State or local authorities assess any monetary fine, penalty or assessment related to the release of any substance by the Contractor, his/her employees or agents during the performance of this contract, the Contractor shall be solely liable for the payment and authorizes the United States Air Force (USAF) to withhold such from payment and otherwise indemnify and hold the USAF (JBLE-Langley) harmless.

7.6 Storage Tanks

This section must be included if work includes or is in an area of storage tanks, either Aboveground Storage Tanks (ASTs) or Underground Storage Tanks (USTs). Contact the 633 CES/CEIE Tank Program Manager to determine any known history or presence of storage tanks before performing work. ***Note***: Storage tank determination will be made during the design review stage.

7.6.1 Storage Tank Registration Notification

Notify the 633 CES/CEIE Tank Program Manager ***30 days*** prior to a tank being put into service to meet regulatory documentation requirements. Include the following documents in the submittal:

- Tank contents
- Tank size and schematics
- Tank and pipe testing documentation

7.6.2 Disposal of Petroleum Contaminated Soil

If excavating around any removed, abandoned or in-service AST or UST, please note that contaminated soil may be encountered in proximity to previous and current tank sites. Disposal of such soil must be funded as part of this project. Soil must be disposed of in accordance with Section 7.8.2 of these Environmental Special Conditions, along with applicable Federal and State regulations. If contaminated soil is discovered, notify the 633 CES/CEIE Hazardous Waste Program Manager prior to disposal.

7.6.3 Aboveground Storage Tanks (ASTs)

Any temporary or permanent AST(s) allowed on-site shall have secondary containment, venting and spill/overfill protection. Anti-siphon valves are also required. The Contractor shall visually inspect such tanks daily for leaks. All ASTs shall be installed or erected in accordance with VDEQ Code 9VAC25-91, *Facility and Aboveground Storage Tank (AST) Regulation,* National Fire Protection Association (NFPA) 30, *Flammable and Combustible Liquids Code* and 40 CFR 112.7, *General requirements for Spill Prevention, Control and Countermeasure Plans*.

If an AST is removed or re-located, the Project Manager is required to notify the 633 CES/CEIE Tank Program Manager and the 633 CES/CEIE Air Program Manager prior to the action so regulatory documentation can be initiated and submitted.

7.6.4 Underground Storage Tanks (USTs)

Abandoned USTs within a project area presents underground hazards. To eliminate such hazards, avoid construction and/or excavation activities in the area near an underground storage tank, when possible. If construction and/or excavation must occur, procedures should be implemented to remove the UST. Contact the 633 CES/CEIE Tank Program Manager for additional information.

Note: The 633 CES/CEIE Tank Program Manager will review proposed project site plans/maps and layouts prior to the start of work to determine if there are any known USTs within the project area.

7.7 Waste Disposal

7.7.1 Solid Waste Disposal

All waste materials generated by any work under this contract performed on JBLE-Langley shall be handled, transported, stored, recycled and disposed of by the Contractor, and any subcontractors, at any time in accordance with these specifications, all applicable Federal, State or local laws, ordinances, regulations, court orders or other types of rules or rulings having the same effect of law. These include but are not limited to:

- Resource Conservation and Recovery Act (RCRA) (40 CFR 260-270)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC Sec 9601)
- National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR 300)
- Federal Water Pollution Control Act, as amended (33 USC Sec 1251)
- Clean Air Act, as amended (42 USC Sec 1857)
- Endangered Species Act, as amended (16 USC Sec 1531)
- Toxic Substances Control Act, as amended (15 USC Sec 2601)
- Solid Waste Disposal Act, as amended (42 USC 6901)
- Archaeological and Historic Preservation Act, as amended (16 USC Sec 469)
- Virginia Solid Waste Management Regulations (9VAC20-81)

The Contractor shall collect all solid wastes generated during the performance of the contract in a container/area provided by the Contractor and approved by the Contracting Officer's Representative. The Contractor shall provide appropriate containers for the collection and segregation of solid wastes, recyclables and construction and demolition (C&D) debris generated directly and indirectly by work under this Contract.

The Contractor is prohibited from using base dumpsters or other Federal Government owned/leased waste receptacles for the disposal of any solid wastes.

All solid wastes shall be reclaimed, recycled or disposed of prior to completion of work on JBLE-Langley.

As proof of proper disposition of solid wastes, the Contractor shall provide legible weight receipts for solid waste disposed and materials recycled bearing the name, address and phone number of the receiving facilities for every load of materials delivered.

The weight ticket shall detail:

- The type and weight (in pounds or tons) of material
- The date of the transaction
- A signature from a representative of the receiving facility

The Contractor must submit Attachment 7, Construction/Demolition Debris Recycling and Reporting along with the weight tickets to the Project Manager, who will provide it to the 633 CES/CEIE Qualified Recycling Program/Integrated Solid Waste Program Manager *after every load* is removed from JBLE-Langley for recycling.

Receipts shall be submitted to the Contracting Officer's Representative and the Project Manager within ***ten calendar days*** after the transaction.

Under no circumstances will any solid waste or hazardous materials be left at JBLE-Langley at the end of the project. Before the project is turned over to the Federal Government, the Contractor will remove all solid wastes and hazardous materials from the installation. Those items include but are not limited to dirt piles, concrete piles, asphalt piles and rubbish piles.

No materials will be left for the future use of the Federal Government ***UNLESS*** instructed to do so in writing by the Federal Government. This is to include the previously mentioned items and regular or touch-up paint, plaster, solvents, etc. If it is determined that the Contractor left materials behind, services may be terminated and/or a penalty payment to include the cost of disposal of the material by the Federal Government may be withheld from the project payment.

Hazardous materials are different from hazardous wastes so be careful not to confuse the two. Hazardous Wastes will *not* be removed from the installation without the 633 CES/CEIE Hazardous Waste Program Manager signing the Hazardous Waste Manifest. The JBLE-Langley Hazardous Waste Program Manager can be contacted at 757-764-1133/1132 if needed.

7.7.1.2 Refuse Containers

All refuse containers shall be free from graffiti and ***must*** be equipped with a securable water proof tarpaulin or cover. Location of all refuse containers shall be annotated on the Worksite Layout Plan.

NOTE: The water proof cover shall be in place at ***all times***, except when waste is being deposited or removed.

7.7.1.2.1 Construction and Demolition (C&D) Debris Diversion

As good stewards of the environment, the Federal Government is committed to diverting its waste away from landfills to the greatest extent possible. This can be done through recycling, reusing (when directed by the Federal Government) and donating construction and demolition debris materials. The Contractor shall recycle all C&D debris to the maximum extent possible.

The Contractor shall make every effort to recycle materials such as but not limited to: concrete (including concrete with rebar), brick, asphalt, all metals, wood, roofing materials, wallboard, ceiling tiles, etc. With prior coordination through the Contracting Officer's Representative and the 633 CES/CEIE Qualified Recycling Program/Integrated Solid Waste Program Manager, the Contractor may take scrap metals to the JBLE-Langley scrap metal yard for recycling.

The Contractor must submit Attachment 7, Construction/Demolition Debris Recycling and Reporting along with the weight tickets to the Contracting Officer's Representative and the Project Manager, who will provide it to the 633 CES/CEIE Qualified Recycling Program/Integrated Solid Waste Program Manager *after every load* is removed from JBLE-Langley for recycling.

The following are some suggested local sites for recycling construction and demolition debris. The Air Force and JBLE-Langley does not constitute an endorsement of these vendors.

Table 1: Local Sources of Recycling

City	Company	Address	Phone Number	Acceptable Items
Chesapeake	Waterway Materials Corp	1401 Precon Drive Chesapeake, VA 23320	757-545-0004	Concrete, concrete with rebar, brick, block, asphalt
Hampton	Old Dominion Metals And Recycling	1618 W. Pembroke Ave. Hampton, VA 23661	757-723-2942	Aluminum, copper, steel, iron, metals, paper, tires
	CrushCon Aggregates	100 North Park Lane Hampton, VA 23666	757-723-1131	Concrete, concrete with rebar
Newport News	Tidewater Fibre	5602 Chestnut Ave Newport News, VA 23605	757-247-5766	Paper, cardboard, plastics, aluminum, glass, tin cans
Norfolk	Gutterman Iron & Metal	706 May Ave. Norfolk, VA 23504	757-627-1095	Scrap brass, copper & aluminum
Suffolk	Butler Paper	324 Newport St. Suffolk, VA 23434	757-539-2351	Industrial & Commercial Paper Recycling
Yorktown	S.B. Cox, Inc.	217 Cox Drive Yorktown, VA 23692	757-969-1409	All C & D (concrete, concrete w/rebar, wood, brick, block, steel, metals, sheetrock, asphalt, cardboard, paper, plastics)
	Sims Metal	2116 George Washington Memorial Hwy Yorktown, VA 23693	757-599-4940	Steel, aluminum, brass, copper, stainless steel, radiators

7.7.1.3 Recycling and Disposal Reporting

The Contractor shall report on a ***quarterly*** basis the tonnage of the items recycled and the amounts disposed of by landfill and amounts disposed of by regular or waste-to-energy incineration to the Contracting Officer's Representative, the Project Manager and the 633 CES/CEIE Qualified Recycling Program/Integrated Solid Waste Program Manager by the ***5th day of each quarter (January, April, July and October)*** during the period of performance. This report will be for the previous quarter.

Reporting Period

Reports are due the 5th day of each quarter covering the previous quarter. For example, the report due 5 Apr will cover months January through March.

The report shall include:

- Title of the project
- Project number
- Contractor's company name
- Point of Contact, with name and phone number
- Type of items (i.e., concrete, concrete with rebar, asphalt, brick, scrap metals, wood, wallboard, etc.) and the tonnage of those items recycled
- For all items that could not be recycled, the Contractor will provide a brief reason as to why the items could not be recycled

One total tonnage can be given for items landfilled and one total tonnage for items incinerated (specify waste incinerator or waste-to-energy incinerator) instead of reporting disposal figures for the various items. For items that cannot be accurately measured, estimates will be sufficient.

Use the form at Attachment 7, Construction/Demolition Debris Recycling and Reporting, to report this information to the Contracting Officer's Representative, the Project Manager and to the 633 CES/CEIE Qualified Recycling Program/Integrated Solid Waste Program Manager.

7.7.1.4 Contain Loose Debris

Loose debris on trucks leaving the site shall be loaded in a manner that shall prevent dropping/releasing of materials on streets and conform to local ordinances and laws. Fasten a suitable waterproof cover, such as a tarpaulin, over the load before entering surrounding streets.

7.7.1.5 Trip Tickets

The Contractor shall submit all trip tickets from the landfill facility, incinerators and recycling companies to show all debris is being landfilled, incinerated or recycled in accordance with all Federal requirements to include documentation that the location is an approved location. These trip tickets will be submitted to the Contracting Officer's Representative who will in turn give them to the Project Manager.

7.7.2 Hazardous Waste

7.7.2.1 Site Management

All waste containers (i.e., hazardous waste, non-regulated, used oil, etc.) must meet the following requirements:

- Be closed when not in use
- Stored under cover as to protect from the elements
- All liquid waste shall have secondary containers
- Be properly labeled
- Not stored near a storm drain

Figure 6: Hazardous Waste Label

Upon completion of this project, the Contractor shall remove all waste containers from the installation with an approved manifest (for associated manifest requirements see Section 7.7.2.3).

7.7.2.2 Waste Characterization Samples

Waste characterization samples must be collected to determine if it meets the RCRA definition of a hazardous waste. It is the responsibility of the Contractor to collect the sample and provide analysis to the 633 CES/CEIE Hazardous Waste Program Manager.

Additionally, waste debris from floor stripping or floor blasting performed on JBLE-Langley must be sampled for TCLP Metals (Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium and Silver) for solid debris. A corrosivity test is required for liquid stripping.

It is the Contractor's responsibility to dispose of the waste generated on the project.

For associated manifest requirements see Section 7.7.2.3.

7.7.2.3 Manifests

The 633 CES/CEIE Hazardous Waste Program Manager shall review all lab analyses and/or Safety Data Sheets (SDSs) of wastes prior to signing manifests. ***All*** hazardous waste manifests and land disposal restriction documents (LDR) must be signed by the 633 CES/CEIE Hazardous Waste Program Manager prior to removal of such waste from the base. The generators initial copy of the hazardous waste manifest and the LDR form must be provided after the approved person signs the manifest.

Return Manifest

The destination to generator copy of the manifest must be returned to:

633 CES/CEIE
Attn: Hazardous Waste Program Manager
37 Sweeney Boulevard
JBLE-Langley VA 23665

7.7.3 Universal Waste

7.7.3.1 Florescent Lamps

The Contractor shall use environmentally-friendly and energy efficient LED lamps during lamp replacement. All LED lamps shall be managed as Universal Waste. The Contractor shall manage all Universal Waste Lamps in accordance with Federal, State and Air Force laws, regulations, directives, and plans. If disposal is part of the contract, lamps will be properly disposed of by the Contractor and any waste manifests will be signed by the 633 CES/CEIE Hazardous Waste Program Manager.

Under no circumstances shall lamps be crushed on JBLE-Langley.

For more guidance on Universal Waste, please reference the JBLE-Langley Universal Waste Guidance Memorandum. Contact the Contracting Officer's Representative or the 633 CES/CEIE Hazardous Waste Program Manager for access to this document.

7.7.4 Soil and Petroleum Contaminated Wastes

7.7.4.1 Contaminated Absorbents

All petroleum spills/releases must be cleaned up using absorbent materials. Spills caused by the Contractor will be the Contractor's responsibility to containerize and dispose of the contaminated absorbent material. Spills caused by the Federal Government will be the responsibility of the Federal Government.

7.7.4.2 Soil

All soils must be tested for contaminants prior to either relocating on base or disposing of it off-base. Soils that are to be reused in the same hole from which they are dug up may be replaced without testing (reference 9VAC20-81-95.C.7.d, *Identification of Solid Waste*) unless there is knowledge of possible contamination. The 633 CES/CEIE Hazardous Waste Program Manager will make the determination for soil testing in these instances. Testing and disposal of soil shall follow the Virginia Solid Waste Management Regulations (9VAC20-81-660, *Soil Contaminated with Petroleum Products*).

Testing shall consist of items specified in the solid waste regulations to include but not limited to:

- RCRA hazardous waste characteristics (i.e., corrosivity, ignitability, reactivity, and toxicity)
- Total metals
- Volatile Organic Compounds (VOCs)
- Semi-Volatile Compounds (SVOCs)
- Total Petroleum Hydrocarbons (TPH)
- Pesticides/herbicides
- Polychlorinated Bi-phenyls (PCBs)
- Presence of liquids (paint filters)
- Benzene, Toluene, Ethyl Benzene, and Xylene (BTEX)
- Toxicity Characteristic Leaching Procedure (TCLP)

- Total Organic Halides (TOX)
- Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA) [DoD mandates use of EPA Draft Method 1633]

It is the Contractor's responsibility to coordinate with their selected lab to ensure the testing methods used are the approved testing methods. The 633 CES/CEIE will not be responsible for providing the approved testing method.

If test results determine "other than clean," the material ***must*** be transported to an appropriate landfill or processing center based on the contaminants identified. Contaminated soils, in sludge or slurry form, to include soils from directional drilling shall be containerized and managed as either hazardous waste or non-regulated waste, depending on what contaminate was spilled.

Under no circumstances may soil be stock piled for dewatering, as this could be considered landfilling and would require a permit from the VDEQ. It shall be the responsibility of the Contractor to dispose of such containerized contaminated soil.

The 633 CES/CEIE Hazardous Waste Program Manager must review the sample results and must sign all hazardous/nonhazardous waste manifests prior to disposal. Contact the 633 CES/CEIE Hazardous Waste Program Manager at 757-764-1133/1132 for additional information.

Composite Sample

One composite sample (combined number of samples collected into a single sample) is required for every 250 cubic yards of soil to be disposed.

NOTE: ***Under no circumstances*** shall soil, clean or contaminated, from JBLE-Langley be delivered to or donated to off-base sources for use. Clean or contaminated soil shall be taken to an appropriate landfill or processing center based on the contaminants identified by analysis.

7.8 Water Quality

This section applies when projects will require ***any*** exterior material laydown, construction or excavation. Section 7.8 is to be referenced alongside the JBLE-Langley Construction Inspection and Compliance Procedures document on the JBLE-Langley Environmental Website below:

https://www.jble.af.mil/About-Us/Units/Langley-AFB/Langley-Environmental/

The Contractor shall submit a Site Specific Erosion and Sediment Control Plan and Stormwater Pollution Prevention Plan to the Contracting Officer's Representative, the Project Manager and the 633 CES/CEIE Water Program Manager for an initial review ***before submission*** to the VDEQ for final approval.

The contractor shall not remove ESC measures until construction site is covered with appropriate vegetation that is uniform, mature enough to survive and will inhibit erosion.

Stormwater management and hydrology planning should be considered during initial phases of site planning. Buried utility lines, high groundwater, prohibition of pervious pavement and flightline restrictions often lead to construction delays.

The VDEQ serves as the Virginia Stormwater Management Plan (VSMP) and Virginia Erosion and Sediment Control Plan (VESCP) Authority.

Requirements for land disturbance, based on size of land, can be found in Table 2 on the next page.

Table 2: Land Disturbance Requirements Quick Reference

Size of Land Disturbance	Requirement	Additional Info	Code	Support
All Disturbance	Erosion and Sediment Control (ESC)	Virginia Erosion and Sediment Control Handbook	9VAC25-840, *Erosion and Sediment Control Regulations*	https://www.deq.virginia.gov/water/stormwater/erosion-and-sediment-control
> 5,000 sq ft	Energy Independence and Security Act: Section 438	Maintaining pre-development hydrology	Title 42 USC Section 17094, *Stormwater Runoff Requirements for Federal Development Projects*	https://www.epa.gov/nps/stormwater-management-federal-facilities-under-section-438-energy-independence-and-security-act
> 10,000 sq ft	Site Specific ESC Plan		9VAC25-840, *Erosion and Sediment Control Regulations*	https://www.deq.virginia.gov/water/stormwater/esc-handbook
≥ 1 acre	Construction General Permit (CGP)		9VAC25-880, *General VPDES Permit for Discharges of Stormwater from Construction Activities*	https://www.deq.virginia.gov/permits-regulations/permits/water/stormwater-construction
≥ 1 acre	Stormwater Pollution Prevention Plan (SWPPP)	Impaired water requirements: Back River and Chesapeake Bay	9VAC25-870-54, *Stormwater Pollution Prevention Plan Requirements*	
≥ 1 acre	Stormwater Management Plan (SMP)		9VAC25-870-55, *Stormwater Management Plans*	
≥ 1 acre	Pollution Prevention (P2) Plan		9VAC25-870-56, *Pollution Prevention Plans*	

7.8.1 Energy Independence and Security Act (EISA) Section 438

Federal facility projects ***over 5,000 square feet*** are required to reduce stormwater runoff from development and redevelopment projects to reflect pre-development (natural state) hydrology. A full description of requirements can be found in the "Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act" on the EPA site below:

https://www.epa.gov/nps/stormwater-management-federal-facilities-under-section-438-energy-independence-and-security-act

Runoff reductions may be achieved using one of two options:

1) Complete retention of 95th percentile rainfall events on site
2) Construction of a site-specific hydrologic analysis to determine pre-development runoff conditions to quantify allowable post-construction runoff

It is recommended that Option 1 is calculated and addressed during the conceptual design phase. Design drafts should include the following and will be evaluated by the 633 CES/CEIE Water Program Manager:

- Runoff requirements calculations for EISA Section 438
- Design of control measures to meet runoff requirements at the maximum extent technically feasible

Although this requirement is separate from VDEQ construction laws, stormwater control measures required at the state level may suffice for EISA Section 438. If VDEQ stormwater control measures are used to achieve EISA reductions, runoff calculations should be provided to show compliance.

7.8.2 Erosion and Sediment Control (ESC)

The Contractor is responsible for using Erosion and Sediment Controls (ESC) for ***any amount of land disturbance***. ESC practices shall be designed, installed and maintained in accordance with the Virginia Erosion and Sediment Control Handbook. Any alternate methods of protection will be reviewed at each design phase by the Contracting Officer's Representative and the 633 CES/CEIE Water Program Manager for approval.

Please note the following:

- The Contractor shall provide erosion control fencing (silt) to prevent site runoff.
- Baled vegetation, such as hay or straw, may not be used for erosion control and inlet protection from stormwater run-off.
- The Virginia ESC Handbook uses outdated Intensity Duration Frequency (IDF) values. The National Oceanic and Atmospheric Administration (NOAA) Atlas 14 values for IDF curves shall be used instead.
- Temporary and permanent seeding and planting must be done in accordance with the Natural Resources restrictions and the JBLE-Langley Plant List, which can be found in Section 8.2. **NOTE:** Ensure seed mixes do not contain millet or other prohibited plants.

7.8.2.1 Site Specific ESC Plan

Land Disturbing Activities (LDAs) that are ***over 10,000 square feet*** require the Contractor to develop a site specific Erosion and Sediment Control Plan in accordance with Virginia Code 9VAC25-840, *Erosion and Sediment Control,* and meet the 19 minimum standards described in 9VAC25-840-40, *Minimum Standards,* as applicable. The Contractor shall submit a copy of the ESC plan to the Contracting Officer's Representative for review and approval, and prior to submittal to DEQ.

The ESC Plan shall include:

- Analyses and results used for the Minimum Standard 19
- Site plan(s)/detailed maps for the work site that clearly show the siting of the ESC practices and best management practices
  - The Virginia Uniform Coding System for ESC Practices shall be used on all site plan submittals
- Contractor's maintenance responsibilities required for the ESC controls

7.8.3 Virginia Stormwater Management Plan (SWM Plan)
For LDAs of ***1 acre or more***, projects shall comply with *Virginia Stormwater Management Program (VSMP) Regulations* (9VAC25-870) and *General VPDES Permit for Discharges of Stormwater from Construction Activities* (9VAC25-880).

Figure 7: Stormwater Reference

7.8.4 Stormwater Pollution Prevention Plan (SWPPP)
For LDAs of ***1 acre or more*** a Stormwater Pollution Prevention Plan (SWPPP) submittal shall be developed in accordance with 9VAC25-870-54, *Stormwater Pollution Prevention Plan Requirements,* and the VDEQ Construction General Permit Part II. All documents should be submitted to the Contracting Officer's Representative and the 633 CES/CEIE Water Program Manager for initial review. Once reviewed and approved, the Contractor will submit to VDEQ for final approval.

All SWPPPs must contain the following:

- Erosion and Sediment Control Plan (Section 7.8.2)
- Stormwater Management Plan (Section 7.8.4.1)
- Pollution Prevention (P2) Plan (Section 7.8.4.3)
- Additional control measures to meet the requirements of existing impaired waters and Total Maximum Daily Loads (TMDLs)

7.8.4.1 Stormwater Management Plan (SWM)
A complete SWM Plan must meet the requirements of 9VAC25-870-55, *Stormwater Management Plans*. Plan submittals must have the Virginia Runoff Reduction Method (VRRM) compliance sheets, documentation and calculations verifying compliance with the water quality and quantity requirements (Part II B of the regulations) of these regulations and a map(s) of the site that depict the topography of the site.

The Contractor shall implement the approved SWM Plan and all design features for projects approved by the VDEQ.

At the completion of the project, certified construction record drawing(s) ("as-built") for permanent stormwater management facilities shall be provided to the 633 CES/CEIE

Water Program Manager in accordance with the VDEQ approved SWM plan. Drawings must include tie-ins with existing Stormwater utilities if applicable.

7.8.4.2 Stormwater Management Facilities
Permanent stormwater management facilities must be compatible with the base's high groundwater table. Seasonally high groundwater levels at the project site should be recorded by the Contractor before installation of stormwater management facilities.

Natural stormwater management facilities are encouraged and preferred over manufactured facilities. Areas of trees and vegetation should be considered for stormwater control before manufactured facilities.

Stormwater management facilities that encourage standing water or high vegetation may ***not*** be compatible near the flight line at the discretion of the 633 CES/CEIE Natural Resources Program Manager.

Under no circumstances shall porous, pervious or permeable asphalt/concrete be placed on JBLE-Langley.

Stormwater nutrient credit purchasing is *prohibited* by the DoD.

7.8.4.3 Pollution Prevention Plan (P2 Plan)
A site specific Pollution Prevention (P2) Plan will be developed in accordance with 9VAC25-870-56, *Pollution Prevention Plans*, and VDEQ Construction General Permit Part II B4.

7.8.5 Construction General Permit (CGP) Coverage)
For LDAs of ***1 acre or more*** a Construction General Permit coverage is required under the Virginia Stormwater Management Program (VSMP) General Permit for Discharges of Stormwater from Construction Activities from VDEQ.

No LDAs shall commence without an approved SWPPP and VDEQ-issued CGP coverage.

The Contractor shall submit a copy of the VDEQ Construction General Permit Registration Statement to the Contracting Officer and the 633 CES/CEIE Water Program Manager for review and approval prior to submittal to VDEQ. Upon approval, the Contractor shall submit the VDEQ Construction General Permit Registration Statement and applicable fee to VDEQ.

After SWPPP approval (see Section 7.8.3), the Contractor shall register for CGP coverage from VDEQ in accordance with 9VAC25-880-50, *Registration Statement*. The Contractor is considered the Permit Operator and is responsible for all CGP registration fees (9VAC25-870-820, *Fees for an Individual Permit or Coverage Under the General Permit for Discharges of Stormwater from Construction Activities*).

The Contractor may begin LDAs once a VDEQ Construction General Permit coverage letter has been received. The Contractor shall be responsible for terminating permit coverage once

the project site has reached final stabilization and verified by the VDEQ Inspector and the Contracting Officer's Representative.

Final stabilization is defined in 9VAC25-880-1, *Definitions,* as soil disturbing activities have been completed and a permanent vegetative cover has been established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.

7.8.6 Illicit (Prohibited) Discharges

The Contractor shall ensure no illicit discharges occur at the project site. An "illicit discharge" is **any non-stormwater discharge** to the storm drain system except as expressly allowed by JBLE-Langley's Virginia Pollutant Discharge Elimination System (VPDES) permits, the project-specific VSMP General Permit for Discharges of Stormwater from Construction Activities and/or a discharge approved in writing by JBLE-Langley. Examples of illicit discharges include the following:

- Dumping trash or debris
- Disposing of vehicle/equipment maintenance fluids into a storm drain
- Leaking dumpsters flowing into a storm drain inlet
- Pouring paints, stains or any hazardous material into a storm drain
- Cleaning paint brushes or applicators in or near a storm drain
- Allowing wash water with soaps, detergents or paint debris into a storm drain inlet
- Washing silt, sediment, concrete or gravel into a storm drain
- Allowing uncontrolled release of sediment into a storm drain
- Pumping groundwater from site dewatering into the grass or storm drain before approval and testing for contaminants
- Any measurable flow during dry weather containing pollutants

Figure 8: Example of illegal dumping into a stormwater drain. Note: photograph is not taken at JBLE-Langley and is only used for educational purposes.

Water from firefighting, hydrant flushing and air condition (A/C) condensate are ***not*** considered illicit discharges.

If it is determined that frac tanks are needed after construction has commenced in order to store liquids that cannot be discharged, they must be ***approved*** through the 633 CES/CEIE Water Program Manager.

There shall be no connection of indoor activities to the environment or the storm sewer system, including from basement flood pumps and sprinkler overflow, without explicit approval from the 633 CES/CEIE Water Program Manager. The only exception is A/C condensate. High expansion foam, aqueous film forming foam (AFFF) and any other firefighting foam is strictly ***prohibited*** in the sanitary or storm system. New facilities shall not use installed foam systems for fire suppression.

Outdoor pipes from the building façade should by clearly labeled to assist discharge tracking.

7.8.7 Wastewater

Discharges of any chemicals or products to the sanitary system are ***prohibited*** and may only be authorized through the 633 CES/CEIE Water Program Manager.

7.8.7.1 Cooling Towers in New Facilities

Condensate discharge to the sanitary sewer is ***prohibited***, unless approved by HRSD's P3 Division. Since most condensate is viewed as unpolluted water, its discharge to the sanitary sewer is prohibited per section 301 of the HRSD Industrial Discharge Regulations.

8.0 Environmental Conservation Program Areas

Environmental personnel oversee the preservation and management of cultural and natural resources surrounding JBLE-Langley. These two programs work to retain the installation's cultural and natural heritage together with supporting the military mission. Currently, there are 31 Archeological sites, 250 Historical Buildings, 695 acres (approximately 20%) of wetland area on JBLE-Langley. The requirements for the cultural and natural resources program are discussed below.

8.1 Cultural Resources

Prior to any excavation on JBLE-Langley's property, the Contractor shall complete AF Form 103, *Base Civil Engineering Work Clearance Request (Dig Permit)*, to include coordination with the 633 CES/CEIE Cultural Resources Program Manager to ensure that excavation is not occurring in known archaeological sites. In the event of the inadvertent discovery of a potential archaeological site, the Contractor shall immediately cease work, contact the 633 CES/CEIE Cultural Resources Program Manager and take steps to secure the site. In the event of the discovery of possible human remains, the Contractor shall cease work and contact the 633 Security Forces Squadron to investigate the site.

Prior to rehabilitation, repair, maintenance or new construction on historic facilities, it is imperative that the Contractor contact the 633 CES/CEIE Cultural Resources Program Manager to assure Section 106 compliance. All work on historic facilities shall be accomplished in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. These Standards may be found at the National Park Service website https://www.nps.gov/tps/standards.htm.

For brick repointing work, the Contractor shall also comply with the Program Comment for Department of Defense Rehabilitation Treatment Measures Removal of Mortar Joints and Repointing.

The Contractor is expected to have at least five (5) years of experience working with historic structures.

Prior to commencing demolition projects, the Contractor shall coordinate with the 633 CES/CEIE Cultural Resources Program Manager to ensure Section 106 compliance has been completed. If, during the demolition process, unknown features of potential historic interest are uncovered, the Contractor shall immediately cease work and contact the 633 CES/CEIE Cultural Resources Program Manager.

8.2 Natural Resources

8.2.1 Imported Fire Ant Quarantine

Contractors shall comply with the provisions of the *Federal Imported Fire Ant Quarantine* and *Virginia's Imported Fire Ant Quarantine for Enforcement of the Virginia Pest Law* (2VAC5-315). JBLE-Langley exists within Virginia's Imported Fire Ant Quarantine area.

The following articles regulated by Virginia's Imported Fire Ant Quarantine ***shall not be moved outside of any regulated quarantine area*** in Virginia, including JBLE-Langley, except in compliance with quarantine conditions:

- All soils
- Grass sod
- Plants with roots with soil attached and rhizomes with soil attached
- Hay and straw including pine straw
- Mulch, logs, and pulpwood
- Any life stage of imported fire ant

Soil-moving/soil-excavating equipment (i.e., earth-moving equipment including but not limited to backhoes, bulldozers, skidders, hand shovels, etc.) stored or maintained at locations within quarantine area must be free of soil prior to accessing the installation.

8.2.2 Tree Protection, Preservation and Planting

Trees take generations to mature, yet they can be irreparably damaged or killed within seconds, or subjected to conditions which may take five to ten years to kill them. Improper planting may result in short-term death, structural failure or a long-term deterioration. Most situations can be prevented. The Contractors are responsible for removing or replacing (at the 633 CES/CEIE discretion) trees which are critically injured or killed due to a failure to adhere to the following requirements.

Contractors shall consider and properly protect trees adjacent to work areas whose trunks may be outside of the Limits of Disturbance (LOD), but whose canopy or roots extend into the LOD.

8.2.2.1 Protect Mature Existing Trees

For mature (15+ feet in height) existing trees within a job site, the Contractors must protect a minimum amount of area to prevent killing existing trees through the placement of barrier structures. This minimum amount of area is called the Critical Root Zone (CRZ) or Tree Protection Zone (TPZ) and is equivalent to the soil area below ground and the space above ground defined by the tree's drip line, or the greatest extent of the branches. There is a minimum amount of area, above (for the trunk and crown) and below ground (for soil health and the root system) that is required to protect trees and preserve tree health. See Figure 9 for a diagram of the TPZ.

The Contractors are responsible for replacing trees killed or critically injured because of failing to erect barriers or otherwise protect the TPZ, **including trees whose trunks are not within the work area**. Examples of damage to trees from failure to protect the TPZ

include breaking branches, tearing the bark, wounding the trunk or cutting roots within the critical root zone as shown below.

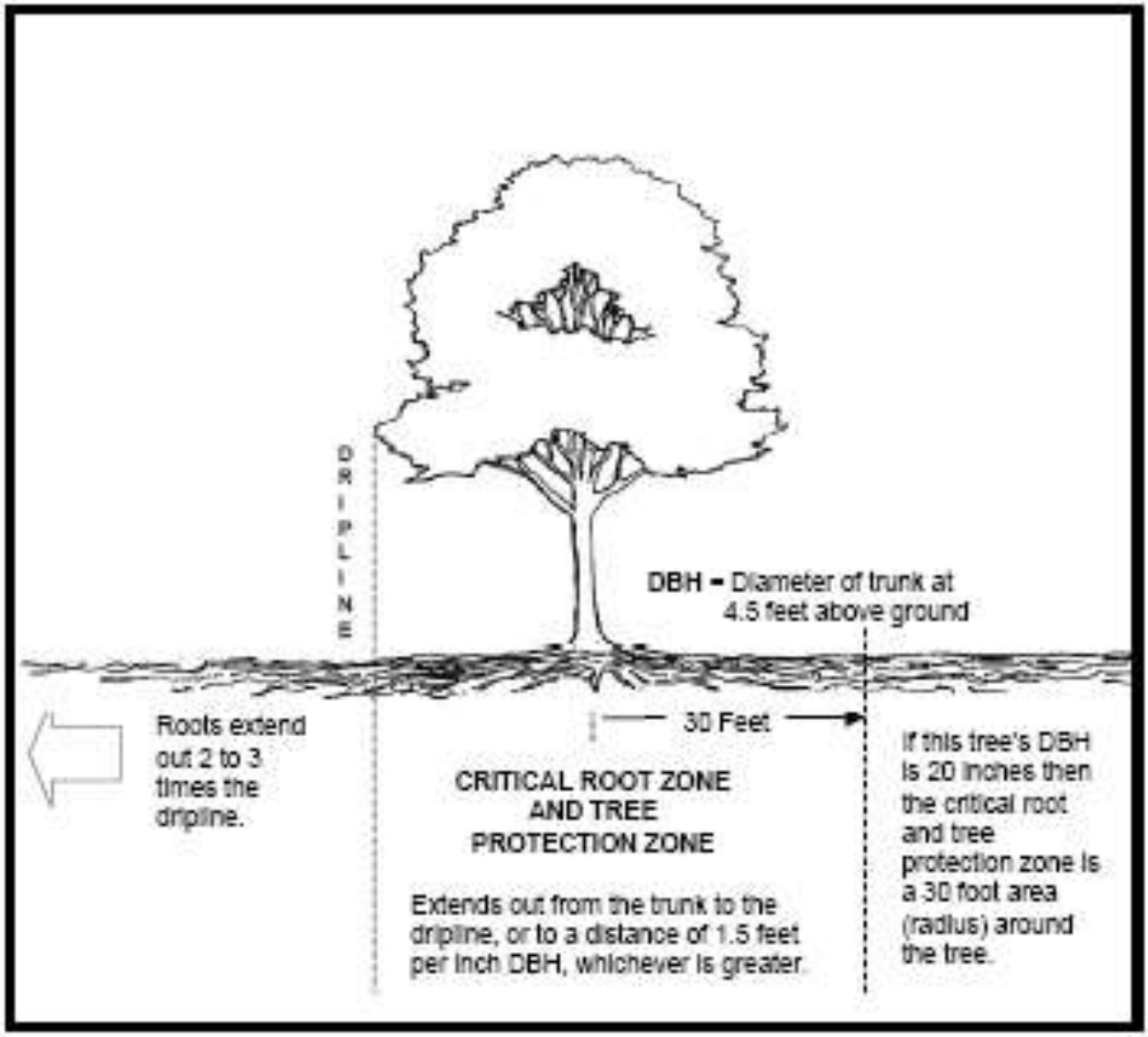


Figure 9: Location of the Critical Root Zone and Tree Protection Zone

8.2.2.2 Erect Tree Protection Zone Structures

When a job site will occur in an area with established trees, structures must be erected to protect the TPZ. Structures erected to preserve TPZ shall meet the minimum requirements below:

- Chain link fence – 48-inch minimum height
- Snow/Sand fence – 48-inch minimum height
- Safety fence – 48-inch minimum height

8.2.2.3 Protect Young Trees

For small trees, newly planted trees and trees with narrow crowns, the drip line defined area is too small for proper protection. Therefore, it is best to define both the Critical Root and Tree Protection Zones as the circular area above and below ground with a radius equivalent to or greater than 6 feet ***or*** 1.5 feet for every inch in trunk diameter at 4.5 feet above the ground. Tree trunks and crowns must also be protected to prevent damage. Tree crowns may be trimmed to prevent damage and facilitate appropriate staging. When such trimming is required, a professional who is licensed to conduct tree work must be used to complete the required task.

Example

A tree with a trunk diameter of 6 inches has a TPZ of 9 feet (6 inches x 1.5) around the tree.

8.2.2.4 Damage to Trees from Digging or Trenching

Tree roots can extend far from the trunk of a tree and are mostly located within the top 18 inches of soil. As shown in Figure 10, digging holes or trenching through roots may disconnect a tree from a large portion of its roots making the tree likely to die and become a hazard. Severing one major root can cause the loss of 5 – 20% of the root system and may cause the death of the tree. Often, this damage is not apparent for many years but can result in costly maintenance or removal requirements for the base in the future. For projects that require digging or trenching, evaluate where the trench must go.

If the digging and trenching that are necessary will likely sever a portion of the tree roots, then the 633 CES/CEIE Natural Resources Program Manager shall be consulted to determine if the tree must be removed.

If trenching or hole digging which will result in the death of an established tree is required to complete a project, the Contractor will be responsible for removing the tree and grinding the stump down to ground level.

If a tree must be removed, replacement with a tree of the same species may be required at the Contractor's expense. The 633 CES/CEIE Natural Resources Program Manager will work with the Contracting Officer's Representative to determine the best course of action for tree replacement.

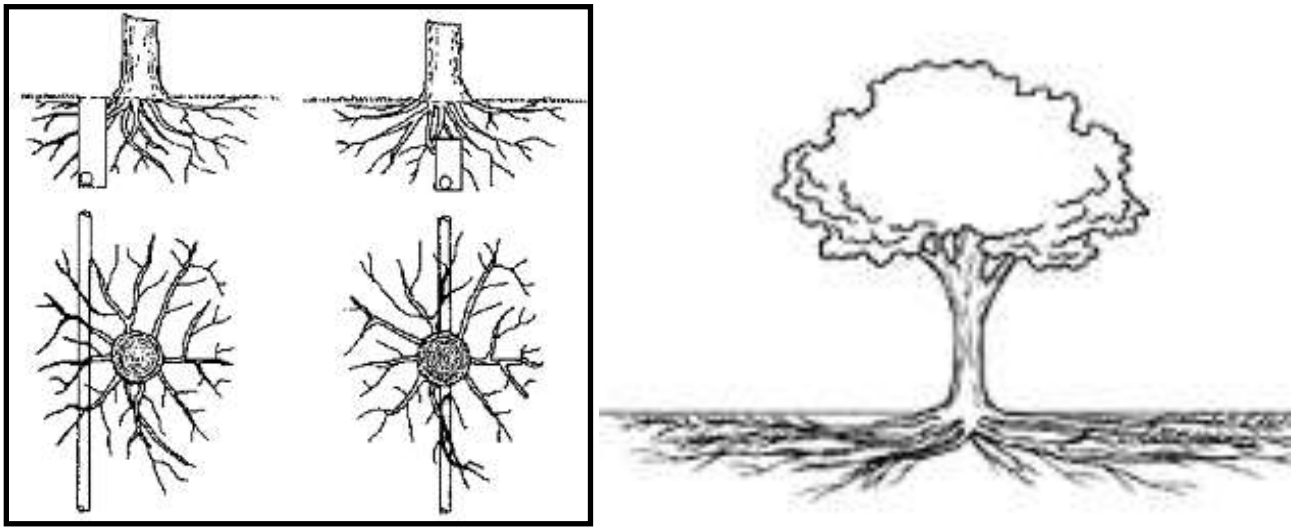


Figure 10: Trench and hole cuts likely to result in serious damage or death to a tree. If a trench or hole will result in serious root damage, the tree may have to be removed at the contractor's expense.

8.2.2.5 Planting New Trees

Many construction projects include tree planting during the final stages. Trees shall be planted and staked (if required) in accordance with industry standards and as shown in the following two figures (Figures 11 and 12). Trees which die within one year of planting because of improper planting will be replaced at the Contractor's expense.

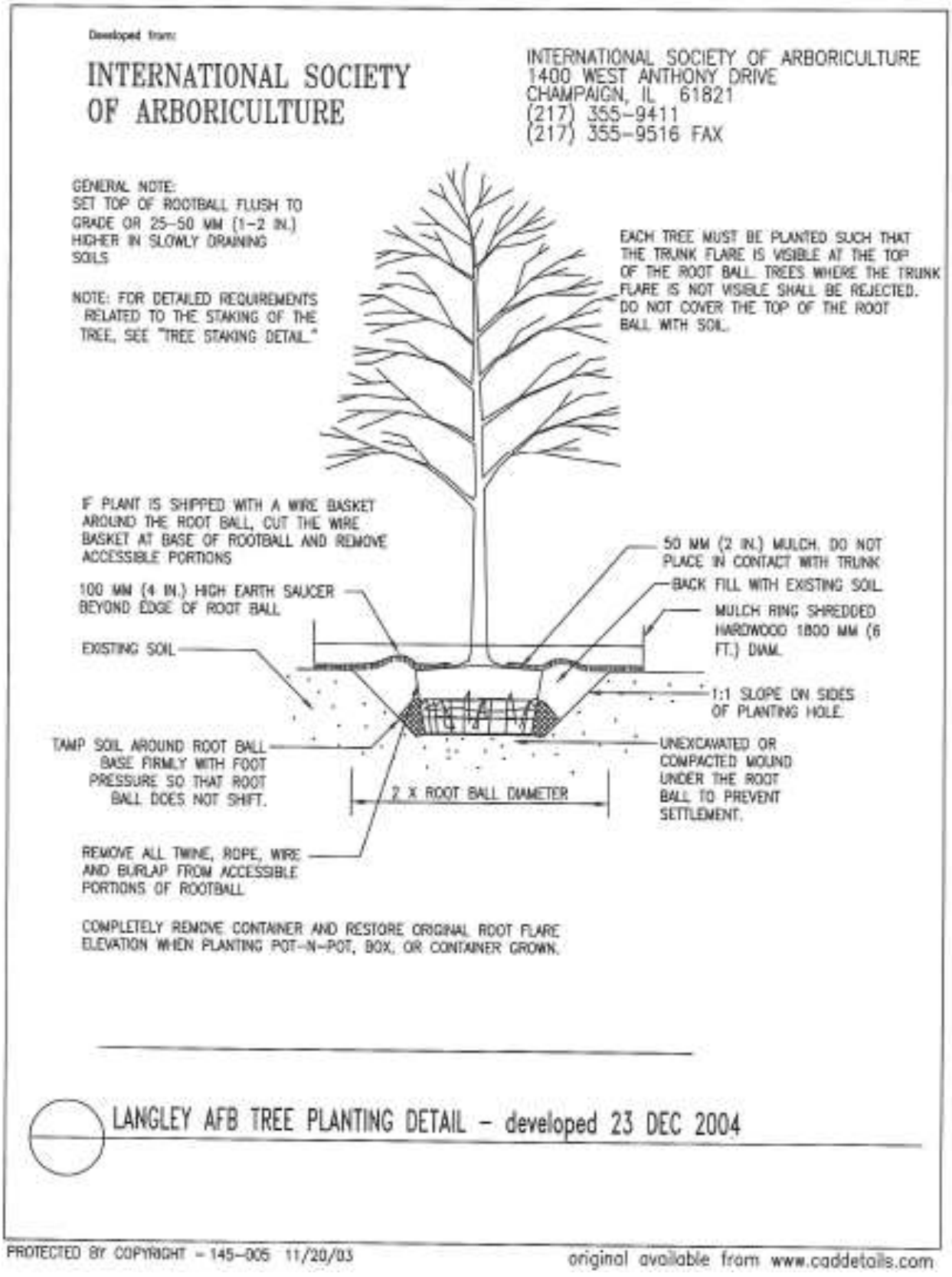


Figure 11: Tree Planting Detail

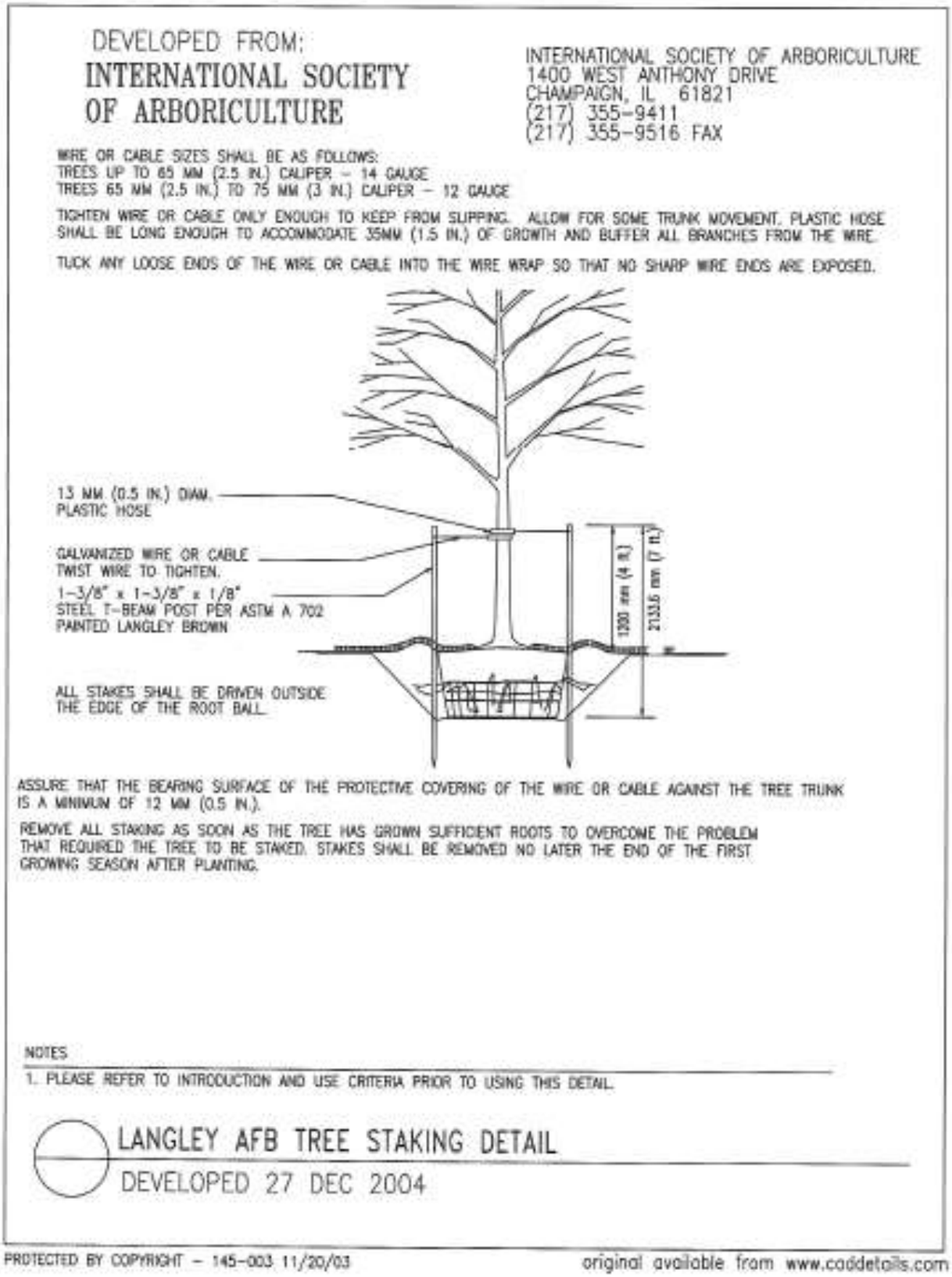


Figure 12: Tree Staking Detail

8.2.3 Plant Listings

The JBLE-Langley approved planting list is ***not*** intended to be a comprehensive list of all plants approved on JBLE-Langley. It is intended to serve as a starting point to inform landscaping on the installation.

When selecting material for landscape installation, select native, drought (or flood) tolerant plant species (including grasses) where appropriate for the locale to promote energy efficiency and water conservation, preserve drainage patterns, inhibit erosion, improve air quality, lower maintenance and add beauty. Drought or flood tolerant horticultural species not listed by the USDA as invasive within the continental U.S. may also be selected to accomplish these goals. Exceptions for locally native species such as *Spartina alterniflora*, should be made to this policy.

Careful consideration of the installation BASH plan should be made when selecting plants for landscaping anywhere near the airfield. Generally speaking, plants which produce berries or an abundance of seeds which are attractive to birds, should not be planted within ***1/4 mile*** from the airfield.

More native, locally adapted species, can be found in the Virginia Department of Conservation and Recreation's Natural Heritage Program brochure available online at: https://www.dcr.virginia.gov/natural-heritage/document/cp-nat-plants.pdf

It is a direct violation of DoD and Air Force policy, as well as Executive Order (EO) 13112, *Invasive Species* (3 Feb 99), to "authorize, fund, or carry out actions likely to cause or promote the introduction or spread of invasive species".

Plants listed on the prohibited list ***shall not be*** planted on the installation as this would be a direct violation of EO 13112 (*Invasive Species*, 3 Feb 99), Air Force Ecosystem Management Principals, Air Force Instruction 32-7064, *Integrated Natural Resources Management*, and JBLE-Langley Installation Natural Resources Management Plan.

The JBLE-Langley approved planting list is *not* intended to be a comprehensive list of all plants approved for planting on JBLE-Langley. It is intended to serve as a starting point to inform landscaping on the installation.

If you have questions related to plant selection for landscaping, please contact the 633 CES/CEIE Natural Resources Program Manager at 757-764-1090.

The following tables have been provided as guidance:

- Table 3: Approved Trees (Section 8.2.3.1)
- Table 4: Approved Shrubs (Section 8.2.3.1)
- Table 5: Approved Vines (Section 8.2.3.1)
- Table 6: Approved Perennials (Section 8.2.3.1)
- Table 7: Approved Grasses, Sedges & Rushes (Section 8.2.3.1)
- Table 8: Approved Annuals & Shortlived (Section 8.2.3.1)
- Table 9: Prohibited Plant List (Section 8.2.3.1)

8.2.3.1 Approved Plant List – Trees

This list is ***not*** intended to be comprehensive.

Table 3: Approved Tree List

Scientific Name	Common Name	Notes
Acer rubrum	Red Maple	
Acer palmatum	Japanese Maple	
Betula nigra	River Birch	
Betula papyrifera	Paper Birch	
Betula populifolia	Gray Birch	
Carpinus caroliniana	Ironwood	
Carya tormentosa	Mockernut Hickory	
Celtis laevigata	**Hackberry**	
Celtis occidentalis	Common Hackberry Δ	Do not plant near airfield
Cercis canadensis	Eastern Redbud	
Chamaecyparis pisifera	False Cypress	
Chinese juniper	Juniperus chinensis	Good for windy exposed areas
Cornus species	Dogwood species	Do not plant near airfield
Cryptomeria japonica	**Cryptomeria**	
Cupressus sempervirens	Italian Blue Cypress	
Fagus grandifolia	American Beech	
Ginkgo biloba	**Ginkgo or Maidenhair Tree**	
Gleditsia triacanthos	Thornless Honeylocust □	
Juniperus virginiana	Eastern Redcedar □Δ	Do not plant near airfield
Liriodendron tulipifera	Tulip Popular	
Magnolia grandiflora	**Southern Magnolia**	Do not plant near airfield
Magnolia virginiana	Sweetbay Magnolia ◊	
Nyssa sylvatica	Black Tupelo	Do not plant near airfield
Pinus taeda	**Loblolly Pine**	
Pinus thungbergii	Japanese Black Pine □	Use with caution. Reported as invasive within Colonial National Historic Park.
Pinus virginiana	Virginia Pine	
Platanus × acerifolia	London Plane Tree	
Platanus occidentalis	American Sycamore	
Quercus alba	White Oak	
Quercus coccinea	Scarlet Oak	
Quercus falcata	Southern Red Oak	
Quercus marlandica	Blackjack Oak	
Quercus phellos	Willow Oak □	Use with caution – overabundant on JBLE-Langley
Quercus shumardii	Shumard Oak	
Quercus virginiana	Live Oak □Δ	Use with caution – overabundant on JBLE-Langley

Scientific Name	Common Name	Notes
Rhapidophyllum hystrix	**Needle Palm**	Do not plant near airfield
Robinia pseudoacacia	**Black Locust**	
Taxodium distichum	Bald Cypress ◊	
Tilia cordata	Littleleaf Linden	
Trachycarpus fortunei	**Windmill Palm**	Do not plant near airfield
Ulmus parvifolia	Lacebark Elm	

Bold text indicates some salt tolerance
□ denotes plants that are especially salt tolerant
Δ denotes plants that are especially tolerant of occasional salt flooding
◊ denotes plants that tolerate wet conditions and/or occasional brackish flooding
Plants listed as not for use near airfield should be located 1/4 mile or more from airfield surface due to potential wildlife attracting fruit

8.2.3.2 Approved Plant List – Shrubs

This list is ***not*** intended to be comprehensive.

Table 4: Approved Shrubs List

Scientific Name	Common Name	Notes
Alnus serrulata	Hazel alder	Do not plant near airfield
Baccharis halimifolia	Saltbush □Δ◊	
Clethra alnifolia	Sweet Pepperbush ◊	Do not plant near airfield
Cotoneaster divaricatus	Spreading Cotoneaster	
Cotoneaster horizontalis	Rockspray Cotoneaster	
Cupressus sempervirens	**Italian Blue Cypress**	
Hydrangea arborescens	**Wild Hydrangea**	**Do not plant near airfield**
Hydrangea macrophylla	Big leaf hydrangea	Only disease resistant varieties - cercospora can be a problem here
Hydrangea macrophylla	**Bigleaf Hydrangea**	
Juniperus species	Horticultural juniper	Do not plant near airfield
Morella cerifera	Wax Myrtle □Δ◊	Do not plant near airfield
Nerium oleander	Oleander □	Highly poisonous if ingested or during contact for pruning by sensitive individuals – do not plant in housing areas, near child development facilities or veterinary clinic
Pittosporum tobira	Mockorange □	
Sabal minor	Dwarf Palmetto Δ	*Do not plant near airfield*
Vitex agnus-castus	**Vitex, Chaste Tree**	
Yucca species	Yucca □	

Bold text indicates some salt tolerance
□ denotes plants that are especially salt tolerant
Δ denotes plants that are especially tolerant of occasional salt flooding
◊ denotes plants that tolerate wet conditions and/or occasional brackish flooding
Plants listed as not for use near airfield should be located 1/4 mile or more from airfield surface due to potential wildlife attracting fruit

8.2.3.3 Approved Plant List – Perennials & Vines

This list is ***not*** intended to be comprehensive.

Table 5: Approved Vine List

Scientific Name	Common Name	Notes
Bignonia capreolata	Cross Vine	
Campsis radicans	Trumpet Vine Δ ◊	
Decumaria barbara	Climbing Hydrangea	
Gelsemium sempervirens	Carolina Jessamine ◊	
Lonicera sempervirens	**Coral or Trumpet Honeysuckle**	Do not plant near airfield
Parthenocissus quinquefolia	**Virginia Creeper**	Do not plant near airfield
Passiflora incarnata	**Purple Passion Vine**	

Bold text indicates some salt tolerance
□ denotes plants that are especially salt tolerant
Δ denotes plants that are especially tolerant of occasional salt flooding
◊ denotes plants that tolerate wet conditions and/or occasional brackish flooding
Plants listed as not for use near airfield should be located 1/4 mile or more from airfield surface due to potential wildlife attracting fruit

Table 6: Approved Perennials

Scientific Name	Common Name	Notes
Achillea millefolium	Common Yarrow	
Aquilegia canadensis	Eastern Columbine	
Asclepias incarnata	Swamp Milkweed	
Asclepias syriaca	Common Milkweed	
Asclepias tuberosa	**Butterfly Weed**	
Canna species	Canna ◊	
Conoclinium coelestinum	Mistflower	
Coreopsis verticillata	Threadleaf Coreopsis	
Delosperma cooperii	**Ice Plant**	
Dianthus gratianopolitanus	**Cheddar Pink**	
Echinacea purpurea	**Purple Coneflowers**	
Eryngium aquaticum	Marsh Rattlesnake Master ◊	
Eupatorium perfoliatum	Common Boneset	
Eutrochium species	**Joe-Pye Weed**	
Gaillardia species	Blanketflower ◊	
Gazania rigens	South African Daisy	
Hemerocallis species	Daylily ◊	
Hibiscus moscheutos	Common Rose Mallow ◊	
Kosteletzkya virginica	Seashore Mallow □Δ◊	
Liatris species	**Gayfeather**	
Limonium carolinianum	Carolina Sea Lavender	
Oenothera species	Sundrops	Do not plant near airfield
Perovskia atriplicifolia	Russian Sage	
Phlox species	Phlox	

Scientific Name	Common Name	Notes
Rhexia species	Meadowbeauty	
Rhododendron species	Asian or native azalea	
Rhus copallinum	Winged sumac	Do not plant near airfield
Rosmarinus officinalis	Rosemary ◊	
Rubus sp.	Blackberry	Do not plant near airfield. Can be used to create a "security border"
Rudbeckia fulgida	**Blackeyed Susan**	
Sedum x Autumn Joy	Autumn Joy Sedum	
Sempervivum	Hens and Chicks	
Solidago sempervirens	Seaside Goldenrod ◊Δ	
Solidago species	Goldenrod	
Symphyotrichum species	**Aster**	
Tradescantia species	Spiderwort	
Tulbaghia violacea	**Society Garlic**	
Violia sororia	Common blue violet	
Yucca species □	Yucca	

Bold text indicates some salt tolerance
□ denotes plants that are especially salt tolerant
Δ denotes plants that are especially tolerant of occasional salt flooding
◊ denotes plants that tolerate wet conditions and/or occasional brackish flooding
Plants listed as not for use near airfield should be located 1/4 mile or more from airfield surface due to potential wildlife attracting fruit

8.2.3.4 Approved Plant List – Grasses, Sedges & Rushes

This list is ***not*** intended to be comprehensive.

NOTE: Care should be used when planting most species of grass to avoid dense stands of brush that can provide habitat for wildlife near the airfield.

Table 7: Approved Grasses, Sedges & Rushes List

Scientific Name	Common Name	Notes
Distichlis spicata	Salt Grass □	
Eragrostis spectabilis	Purple Love Grass	Do not plant near airfield
Juncus effusus	Common Rush	
Muhlenbergia species	Muhly grass	
Panicum virgatum	**Switch Grass**	Do not plant near airfield
Schizachyrium scoparium	Little Bluestem	
Spartina patens	Saltmeadow Cordgrass □Δ	
Spartina alterniflora	Saltmarsh Cordgrass □	

Bold text indicates some salt tolerance
□ denotes plants that are especially salt tolerant
Δ denotes plants that are especially tolerant of occasional salt flooding
◊ denotes plants that tolerate wet conditions and/or occasional brackish flooding
Plants listed as not for use near airfield should be located 1/4 mile or more from airfield surface due to potential wildlife attracting fruit

8.2.3.5 Approved Plant List – Annuals & Shortlived Perennials

This list is ***not*** intended to be comprehensive.

Table 8: Approved Annuals & Shortlived List

Scientific Name	Common Name	Notes
Aquilegia canadensis	Eastern Columbine	
Begonia x semperflorens-cultorum	Wax Begonias	
Coreopsis species	Coreopsis, Tickseed	
Cosmos bipinnatus	Cosmos	
Gazania rigens	South African Daisy	
Portulaca	Purslane, Moss Rose	

Bold text indicates some salt tolerance
□ denotes plants that are especially salt tolerant
Δ denotes plants that are especially tolerant of occasional salt flooding
◊ denotes plants that tolerate wet conditions and/or occasional brackish flooding
Plants listed as not for use near airfield should be located 1/4 mile or more from airfield surface due to potential wildlife attracting fruit

8.2.3.6 Prohibited Plant List

This list is not intended to be all-inclusive. Careful consideration of the installation BASH plan should be made when selecting plants for landscaping anywhere near the airfield. Generally speaking, plants which produce berries or an abundance of seeds which are attractive to birds, should not be planted within ***1/4 mile*** from the airfield.

Millet, partridge pea and lespedeza species shall not be used for erosion control as they have been observed to attract large flocks of mixed blackbirds.

Table 9: Prohibited Plant List

Scientific Name	Common Name	Notes
Acer platanoides	Norway Maple	
Agrostis capillaris	Colonial bent-grass	
Ailanthus altissima	Tree-of-heaven	
Akebia quinata	Five-leaf Akebia	
Albizia julibrissin	Mimosa	Already Present
Aldrovanda vesiculosa	Waterwheel	
Alliaria petiolata	Garlic Mustard	
Alternanthera philoxeroides	Alligator-weed	Already Present
Ampelopsis brevipedunculata	Porcelain-berry	
Arthraxon hispidus var. hispidus	Joint Head Grass	
Asclepias curassavica	Mexican Milkweed	
Berberis thunbergii	Japanese Barberry	
Carex kobomugi	Japanese Sand Sedge	

Scientific Name	Common Name	Notes
Celastrus orbiculatus	Oriental Bittersweet	
Centaurea stoebe ssp. micranthos	Spotted Knapweed	
Chionanthus spp	Fringe Tree	No longer acceptable due to recent invasion of Emerald Ash Borer
Cirsium arvense	Canada Thistle	
Cirsium vulgare	Bull Thistle	
Commelina communis	Asiatic Dayflower	Already Present
Dioscorea polystachya	Cinnamon Vine	
Dipsacus fullonum	Wild Teasel	
Echinochloa frumentaceae	Japanese millet	BASH
Egeria densa	Brazilian Waterweed	
Eichhornia crassipes	Water Hyacinth	
Elaeagnus species	Russian Olive Species	Already Present
Euonymus alatus	Winged Euonymus	Already Present
Euonymus fortunei	Winter Creeper	
Ficaria verna	Lesser Celandine	
Glechoma hederacea	Gill-over-the-ground	
Hedera helix	English ivy	Already Present
Heracleum mantegazzianum	Giant Hogweed	
Holcus lanatus	Common Velvet Grass	
Humulus japonicus	Japanese Hops	
Hydrilla verticillata	Hydrilla	
Imnperata cylindrica	Japanese Blood Grass/Cogongrass	
Imperata cylindrica	Cogon Grass	
Ipomoea aquatica	Water spinach	
Iris pseudacorus	Yellow Flag	Already Present
Lespedeza bicolor	Shrubby Bushclover	Already Present
Lespedeza cuneata	Sericea Lespedeza	BASH concern - already present in some areas
Ligustrum species	Privet	Already Present
Lolium perenne	Perennial ryegrass	BASH concern - may be evaluated for use on a case by case basis
Lonicera fragrantissima	Winter Honeysuckle	
Lonicera japonica	Japanese Honeysuckle	Already Present
Lonicera maackii	Amur Honeysuckle	
Lonicera morrowii	Morrow's Honeysuckle	
Lonicera tatarica	Tartarian Honeysuckle	

Scientific Name	Common Name	Notes
Ludwigia grandiflora ssp. Hexapetala	Large flower primrose willow	
Lysimachia nummularia	Moneywort	
Lythrum salicaria	Purple Loosestrife	
Melia azedarach	Chinaberry	Already Present
Microstegium vimineum	Japanese Stiltgrass	Already Present
Miscanthus sinensis	Chinese Silvergrass	
Miscanthus spp.	Silvergrass, Fountaingrass	
Morus alba	White Mulberry	Already Present
Murdannia keisak	Marsh dewflower	
Myriophyllum aquaticum	Parrot Feather	
Myriophyllum spicatum	Eurasian Water-milfoil	
Najas minor	Brittle Naiad	
Nandina domestica	Heavenly bamboo	Already Present
Oplismenus hirtellus ssp. Undulatifolius	Wavyleaf Grass	
Panicum miliaceum	Proso millet	BASH
Panicum ramosum	Browntop millet	BASH
Paulownia tomentosa	Royal Paulowina	
Pennisetum alopecuroides	Chinese Fountain Grass	
Pennisetum glaucum	Cattail millet	BASH
Perilla frutescens	Beefsteak Plant	
Persicaria longiseta	Long-bristled Smartweed	
Persicaria perfoliata	Mile-a-minute	
Phleum pratense	Timothy	
Phragmites australis ssp. australis	Common Reed	Already Present
Phyllostachys aurea	Golden Bamboo	Already Present
Poa compressa	Flat-stemmed Bluegrass	
Poa trivialis	Rough Bluegrass	
Populus alba	Silver Poplar	Present around Munitions Storage Area
Pueraria montana var. lobata	Kudzu	
Pyrus calleryana	Callery Pear	
Reynoutria japonica	Japanese knotweed	

Scientific Name	Common Name	Notes
Rhodotypos scandens	Jetbead	
Rosa multiflora	Multiflora Rose	Already Present
Rubus phoenicolasius	Wineberry	
Rumex acetosella	Sheep sorrel	Already Present
Rumex crispus ssp. crispus	Curly dock	
Salvinia molesta	Giant Salvinia	
Securigera varia	Crown-vetch	
Serecea spp.	Korean/Chinese Lespedeza	
Setaria italica	Foxtail millet	BASH
Solanum viarum	Tropical Soda Apple	
Sorghum halepense	Johnson Grass	Already Present
Spiraea japonica	Japanese Spiraea	
Stellaria media	Common Chickweed	Already Present
Trapa natans	European Water Chestnut	
Ulmus pumila	Siberian Elm	
Urtica dioica	European Stinging Nettle	
Veronica hederifolia	Ivy-leaved Speedwell	
Viburnum dilatatum	Linden arrow-wood	
Vinca major	Greater Periwinkle	
Vinca minor	Periwinkle	Already Present
Vitex rotundifolia	Beach Vitex	
Wisteria floribunda	Japanese Wisteria	
Wisteria sinensis	Chinese Wisteria	

Use of plants listed by the USDA (https://plants.usda.gov) as invasive in North Carolina, Virginia, Tennessee, Maryland, West Virginia or Kentucky is prohibited. Use of plants listed as invasive anywhere in the U.S.A is strongly discouraged.

8.2.4 Wetlands

The 633 CES/CEIE is not responsible for project compliance with Federal, State and local wetland regulations. It is incumbent upon Design/Contracting personnel, Contractors and the 633 Contracting Squadron (633 CONS) to determine wetland permitting and mitigation requirements. This process begins with the preparation of the DD 1391 and initiation of an Air Force (AF) 813 routed for coordination through the 633 CES Engineering Flight (633 CES/CEN) and the 633 CES/CEIE. The 633 CES/CEN and the 633 CES/CEIE shall confirm permit requirements based on the AF 813 and supporting documentation.

Please note that the proposed activity may be covered by a Nationwide Permit (NWP) or a State Program General Permit (SPGP). A Joint Permit Application (JPA) will be required to determine if either a NWP or a SPGP is appropriate for the proposed activity. Allow at least 60 – 90 days after application submission for the acquisition of a wetlands permit if one is required. For additional information on the application process please refer to this link:

https://www.deq.virginia.gov/permits-regulations/permits/water/wetlands-streams

All wetlands permitting shall be completed prior to the start of construction activities which will affect the waters of the United States. Contractors selected to perform work in wetlands will be responsible for all fees associated with issuance of wetland permits to include fees for required public notification.

If the installations base wide wetland delineation is no longer legally valid and it is determined wetlands may be present on a project site, a wetland delineation must be completed to facilitate permitting. To delineate wetlands and other waters of the United States, the Consultant selected should be trained in delineation standards set forth within the United States Army Corps of Engineers (USACE) 1987 Corps Wetlands Delineation Manual, and subsequent guidance, to perform a wetland(s) delineation. The Consultant's findings should then be provided to the Corps in the form of a report. Corps staff will review the validity of the report and make a written and appealable agency determination on the presence and extent of wetlands and other waters of the United States on the property. Confirmation of a delineation by the USACE generally takes ***30 days*** after submission.

Figure 13: Example of a wetland.

A Joint Permit Application (JPA) is used to apply for standard permits, also known as individual permits, for work in the waters of the United States (including wetlands) within Virginia. Such work may include construction, dredging, filling or excavation in the waters or in wetlands. The JPA

is also used for a Nationwide Permit (NWP) Preconstruction Notification (PCN) when required. If a JPA is submitted as a PCN, then this must be boldly marked as a PCN application. There is a box that should also be check marked to indicate the JPA is for PCN on page 7 of the July 2008 JPA form.

These applications are used to apply for permits from the Norfolk District Army Corps of Engineers, the Virginia Marine Resources Commission (VMRC), the VDEQ and the Local Wetlands Boards (LWB). The JPA process and JPA forms are used by the USACE, the VMRC, the VDEQ and the LWB for permitting purposes involving water, wetlands and/or dune/beach resources, including, but not limited to, construction, dredging, filling or excavation. Read the directions on the application carefully to determine how many copies must be submitted to the VMRC, who acts as the clearinghouse for permit applications. Permit applicants may obtain paper copies of the Joint Permit Applications by calling the Corps at 757-201-7652, or by download at:

http://www.nao.usace.army.mil/Missions/Regulatory/JPA.aspx

There are two different Joint Permit Applications available for use depending on the type of activity that you are proposing. If you propose to impact tidal waters, wetlands, or dunes/beaches in the Tidewater area of Virginia, you may be eligible to use the TIDEWATER JPA, an abbreviated version of the Joint Permit Application. Activities eligible to use the Tidewater JPA include piers, boathouses, boat ramps, moorings, marinas, aquaculture facilities, riprap revetments, bulkheads, marsh toe stabilizations, breakwaters, beach nourishment, groins, jetties, road crossings over tidal waterways and utility lines over or under tidal waterways.

Dredging and excavation projects in tidal waterways/wetlands ***must*** use the Standard JPA.

The 633 Air Base Wing Commander (633 ABW/CC) shall be listed as the permit holder of record on all JPAs. The 633 Civil Engineer Squadron Deputy Base Civil Engineer (633 CES/CD) shall be listed as an agent to facilitate closure of permits upon project completion. The complete JPA shall be submitted to the 633 CES/CEIE Natural Resources Program Manager for review and routing to the 633 Air Base Wing for the signature of the 633 ABW/CC.

Contracts, specifications and bid documents/advertisements should clearly indicate that it is the Contractor's responsibility to determine and verify the presence and location of jurisdictional wetlands, prepare permit applications and other documents for the 633 ABW, submit permit fees and make any required payments in lieu of mitigation to the Virginia Aquatic Resources Trust Fund or its legal designee.

Contractors and Federal Government representatives must make themselves aware of all specific conditions associated with the approved permit. Therefore, the approved permit must be read by both the Contractor and Federal Government representatives. Please note most permits approved will have conditions specific to the permitted project which must be followed. For example, some individual permits will require monthly inspection reports and photos of site conditions to be maintained.

8.2.5 Roof Design to Minimize Bird Colonization

As an Air Force Installation, the presence of large colonies of birds poses a hazard to the JBLE-Langley mission. Roof design that minimizes bird colonization will reduce the frequency of aircraft impacts with wildlife and protect the life of military personnel in and around the airfield. Colonial shorebirds such as Least Tern, Killdeer and American Oystercatcher have demonstrated an affinity for rooftop nesting on flat gravel rooftops. To prevent Bird Aircraft Strike Hazards (BASH), the installation of flat gravel rooftops on new buildings ***must*** be avoided. Major roof repair to existing gravel rooftops should include the removal of gravel substrate and replacement with energy efficient materials such as tar shingles, rubber, vinyl or polyurethane materials.

If a shorebird colony is found to be actively nesting on a building during repair or replacement of an existing roof, harassment or take of shorebirds is ***prohibited*** by the Federal Migratory Bird Act. If shorebirds are present, the 633 CES/CEIE Natural Resources Program Manager should be contacted so that the best course of action in compliance with all Federal and State regulations can be identified.

9.0 Pollution Prevention

9.1 Green Procurement (Use of Recycled-Content Products)

Whenever the potential for use of non-recycled content products exists during the construction stage of the project, the Contractor shall incorporate in this project, as a substitute, recycled-content products that are listed and identified in the EPA's Comprehensive Procurement Guideline (CPG) Program for recycled-content products. The Contractor shall use recycled-content products as required by the EPA, other governmental agencies and the Federal Acquisition Regulation (FAR) clauses.

Figure 14: Recycling Logo

It is mandated by Executive Order 13834, *Efficient Federal Operations*, and Section 6002 of the Resource Conservation and Recovery Act (RCRA) that the Federal Government use recycled-content products in the construction and/or renovation of facilities. It is the intent of the Federal Government to comply with the EPA requirement 100% of the time and use as many of the applicable listed recycled-content products as feasible and economically practical. The Contractor shall consider this a standard requirement for all aspects of the project construction.

The recycled-content products listed in the CPG can be found on EPA's website https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program. These products are also listed in Attachment 8, Contract Submittal and Contractor Reporting Form.

This list is subject to change at any time so it is the <u>Contractor's responsibility</u> to be aware of any updates or additions.

Such products shall also comply with the requirements of the EPA's Consolidated Recovered Materials Advisory Notice (RMAN). The RMANs recommend recycled-content ranges for CPG products based on current information on commercially available recycled-content products. The recommended recovered materials content percentage can be obtained by clicking on the product on the website.

9.1.1 Green Procurement Forms

Before starting the project, the Contractor shall complete Attachment 8 indicating the items planned for use. The Contractor will provide this to the Contracting Officer's Representative and the Project Manager. Upon completion of project construction, the Contractor shall complete the form again. At this time, the Contractor shall indicate the use and non-use of products that are contained in the CPG and shall list the recycled-content percentage for the applicable item. In each instance where a recycled-content construction product is not used, the Contractor shall provide to the Contracting Officer's Representative and the Project Manager a completed Exemption Form, Attachment 9, Recovered Materials Determination Form.

The Contractor shall complete this form for all items for which he or she desires an exemption from the Green Procurement Program for Recovered Materials that are being procured.

Exemptions can only be taken if ***all*** of the following conditions are met:

1) The item is not available within a reasonable period of time
2) The item fails to meet a performance standard in the specifications, and
3) The item was only available at an unreasonable price (i.e., the recycled-content product costs more than the non-recycled content product)

NOTE: The fourth reason on the Recovered Materials Determination Form (i.e., the item is not available from two or more sources), does not apply to construction/renovation Contractors as the Federal Government will not prescribe where you can get your materials from. The Contractor shall provide specific reasons why an item is exempt and shall furnish supporting documentation.

The Contractor will sign the completed Attachment 8 form as the "Procurement Originator," which will also be signed by the 633 CES/CEN Flight Chief or Deputy Flight Chief. The form(s) will be kept in the project folder indefinitely.

10.0 Installation Restoration Program

This section is only required if the project work is being conducted in an Installation Restoration Program (IRP) area. If applicable, ensure drawings define the IRP boundaries and well locations. Appropriate and additional guidance will be provided if the project does impact an IRP site.

10.1 Soil Support Program (SSP) Accountability

The soils obtained from off-base sources shall meet the criteria outlined below. The soils generated during construction project excavation will be collectively referred to as "soil media." Soil media is not inherently waste-like, but it may contain waste-like materials, including contaminants associated with historical operations at the site. Given the base history of operations, the Contractor must make a determination as to whether the soil media is contaminated. The exception is if the soil media is to be placed back into the same hole it was removed from, then testing is not required. If soil media is determined to be contaminated, then a hazardous waste determination must be made. Standard test methods are described below. Contaminated soil media shall be managed as a solid waste and removed from base in accordance with applicable requirements for disposal of solid waste. If the soil media is determined to be uncontaminated and not waste-like, then it may be reused on JBLE-Langley as clean fill, upon request with the approval of the 633 CES/CEIE Hazardous Waste Program Manager, only if there is an identified need for it, or it must be disposed of at an approved landfill.

10.1.1 Clean Soil

Projects requiring clean soil, including but not limited to topsoil and backfill materials, to be brought onto JBLE-Langley or relocated within the boundaries of the base must meet minimum standards based on results of physical (geotechnical) and chemical testing. All materials will meet geotechnical specifications appropriate for the type of project being accomplished and are typically identified elsewhere in the project specifications. The intent of this section is to prevent cross contamination (i.e., planned excavation) and define clean soil based on chemical and/or project specifications. Soil contaminant levels shall be tested, with test procedures and results documented to ensure that only the source(s) of topsoil and/or backfill deemed to have acceptable soil contaminant levels be utilized for current and future use. The Contractor shall implement a plan and confirm the proposed source(s) of clean topsoil and/or backfill (borrow source) meet the clean soil specifications for the project. The plan should incorporate borrow source information, sampling data and testing results. The Contractor will submit the sampling plan and results within ***30 days*** of the start of the project to allow for the review and acceptance/rejection of soil.

10.1.2 Borrow Soil

The Contractor shall provide detailed borrow source information (i.e., location, owner, operator, past and current land use, previous chemical testing results, etc.) at the point of planned excavation to the 633 CES/CEIE Hazardous Waste Program Manager to determine chemical testing requirements.

The Contractor shall also submit a certification stating:

- The materials contain no asbestos
- No gross contamination have been discerned by visual or olfactory observations
- No spills of a hazardous waste (40 CFR 261) have occurred at the borrow site

If previous chemical testing results exist and are provided, the 633 CES/CEIE Hazardous Waste Program Manager will evaluate those results to determine if they are sufficient and that the proposed borrow soils meet clean soil requirements. If testing is incomplete, the 633 CES/CEIE Hazardous Waste Program Manager will review borrow source information to determine chemical sample requirements.

10.1.2.1 On-Base Soil Sources

Unless otherwise provided in the contract, the Contractor shall bear all expenses of developing the source. For the site where soil is reclaimed from Federal Government land, the Contractor may be required to perform final grade and seeding according to project requirements.

10.1.2.2 Excess Soil Work

Acceptable excess soil shall be delivered to the designated location(s) following approved haul routes. For the site where excess soil is deposited on Federal Government land, the Contractor may be required to perform final grade and seeding according to project requirements.

10.1.3 Sample Plan

At least one composite sample (6 – 8 grabs) for each *undisturbed* borrow source should be taken from the original point of excavation and is also required for each 5,000 cubic yards of soil. For soil taken from *disturbed* borrow sources, samples are required for each 1,000 cubic yards of soil. The nature of the borrow source is to be considered when determining the quantity and depth of the samples. Additional samples may be required to adequately characterize the proposed borrow source (i.e. laterally and vertically). The Contractor shall submit a Sample Plan (to include site map, excavation area, location and depth of samples) to the 633 CES/CEIE Hazardous Waste Program Manager for review and approval.

Composite Sample Plan
<u>Undisturbed borrow source:</u> **1 sample per each 5,000 cubic yards**
<u>Disturbed borrow source:</u> **1 sample per each 1,000 cubic yards**

10.1.4 Chemical Testing Standards

The analysis must be performed by an accredited or certified laboratory approved by the EPA and the State of Virginia (i.e., Environmental Laboratory Accreditation Program (ELAP) or the Virginia Environmental Laboratory Accreditation Program (VELAP)). Submit a copy of the chain of custody and complete validated report of analysis to the 633 CES/CEIE Hazardous Waste Program Manager for review and approval ***30 days*** prior to use of any borrow soils. Chemical testing of any borrow source will include sampling for the following

suite of contaminants (test requirements may be reduced based on borrow source information):

- Total Petroleum Hydrocarbons (TPH) to include Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) [EPA Method SW846; EPA Method 8015C]
- Volatile Organic Compounds (VOCs) [EPA Method 8260B] to include Benzene, Toluene, Ethylbenzene, and Xylene (BTEX)

The soil support test suite shall also include the following, unless generator knowledge suggests otherwise:

- Semi-Volatile Organic Compounds (SVOCs) [EPA Method SW846 8270D]
- Pesticides [EPA Method SW846 8081B]
- Herbicides [EPA Method SW846 8151A]
- Polychlorinated Bi-phenyls (PCBs) [EPA Method SW846 8082A]
- Cyanide [EPA Method SW846 9210]
- Target Analyte List (TAL) Metals (including Mercury) [EPA Method SW846 6020A/7471B]
- Volatile Organic Compounds (VOCs) [EPA Method SW846 8260B] (other than BTEX compound reference in the preceding paragraph)
- Perfluorooctane Sulfonate (PFOS)/Perfluorooctanoic Acid (PFOA) [EPA Draft Method 1633]

The above analysis suites will be analyzed on a ***total constituent basis***.

It is the Contractor's responsibility to coordinate with their selected lab to ensure the testing methods used are the approved testing methods.

10.1.5 Clean Soil Determination

Soils tested under the EPA screening levels and/or base "background" levels will be considered acceptable "clean" soil. Results from the total constituent analysis must not exceed EPA Region III "Residential" Risk Based Concentrations (RBC) and the JBLE-Langley Upper Tolerance Limit (UTL) background soil concentrations. For use in current and future industrial areas, EPA Region III "Industrial" RBCs may be considered but shall not exceed UTL background levels.

10.1.6 Excavation and Delivery Screening

Common to any multiple point sampling, composite testing may not accurately characterize the entire site. Should contamination be detected (i.e., free product, stained soils, chemical odors, etc.) during excavation or delivery, soil operations shall be ***immediately*** discontinued pending the 633 CES/CEIE Hazardous Waste Program Manager's notification and resolution. Additional soil testing and screening may be required to determine if continued use of the borrow site is acceptable.

10.1.7 Material Physical Characteristics

All soil obtained from sources within or outside the limits of Federal Government-controlled land shall meet the physical characteristics as defined in project specifications.

10.2 Contaminated Soil and Free Product

Any material (soil) that is suspected of containing petroleum products shall be reported to the Contracting Officer's Representative or the designated representative. If discovered, the Contractor shall mitigate any potential threat to the workers, public and the environment. The area that will be disturbed under this contract has the potential to have free product migrate into and under the construction site.

10.3 Site Safety

Site summaries from our Management Action Plan are furnished with this contract to familiarize personnel with the potential hazards associated with construction and demolition work at these sites. Ensure workers are informed of potential hazardous exposures from working at these sites, and that the appropriate precautions are followed to minimize hazards to human health and the environment. Personnel working at these sites shall have ***current*** 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) Training. At least one individual on site should have completed the OSHA 8-hour supervisor training course. The plans identify the boundary of these IRP sites. To perform work at these sites, the Contractor must have a Health and Safety Plan and Hazardous Waste Disposal Plan for proper disposal of all regulated materials generated during execution of this project.

10.4 Monitoring Wells

There may be several monitoring wells installed in and around the proposed construction area. Site maps and construction drawings provide the location of these wells. The Contractor shall take all precautions to prevent any damage to wells. If the wells and associated structures are damaged during the project, the Contractor shall repair/replace all damages at no additional expense to the Federal Government. The Contractor shall dispose of all regulated materials during repair of the damaged structures and remove any free product as required by the VDEQ regulations.

10.5 Additional Excavation

Prior to any excavation beyond the immediate area or boundary of the construction site, the Contractor shall coordinate with the Contracting Officer's Representative, the 633 CES/CEIE, and the Air Force Civil Engineer Center/Environmental Management Operations (AFCEC/CZO) to obtain proper approval. Please note that this is accomplished through the AF 103 form.

Additional work in an IRP area will likely require additional notification to the EPA and the VDEQ by AFCEC/CZO.

11.0 Environmental Management Systems (EMS) Conformance

The Contractor shall perform work under this contract consistent with the relevant policy and objectives identified in JBLE-Langley's Environmental Management System (EMS). The Contractor shall perform work in a manner that conforms to all appropriate environmental management programs and operational controls identified by the JBLE-Langley EMS. In the case of a noncompliance, the Contractor shall respond and take corrective action immediately. In the case of a nonconformance, the Contractor shall respond and take corrective action based on the time schedule established by the 633 CES/CEIE EMS Coordinator. In addition, the Contractor shall ensure that all personnel associated with the work of this contract (i.e., employees, subcontractors, etc.) are aware of the roles and responsibilities identified by the EMS and how these requirements affect their work performed under this contract.

Figure 15: Concepts of EMS

Upon inclusion in the contract Statement of Work, the Contracting Officer's Representative will verify that all Contractor personnel have acquired EMS Awareness Training in accordance with DAFI 32-7001, *Environmental Management,* at their appropriate site or location. JBLE-Langley has created a base-specific EMS Awareness and Environmental Compliance Training to meet the requirements of the referenced DAFI. The training can be accessed through The Environmental Awareness Course Hub (TEACH) website at https://usaf.learningbuilder.com.

Certifications showing completion of the EMS training should be submitted to the 633 CES/CEIE EMS Coordinator at 633CES.EMS.TRAINING@us.af.mil. If the training is completed as a group, one certificate and a roster of all those in attendance can be submitted.

NOTE: Please open the training link in either Chrome or Edge, as Internet Explorer is not supported.

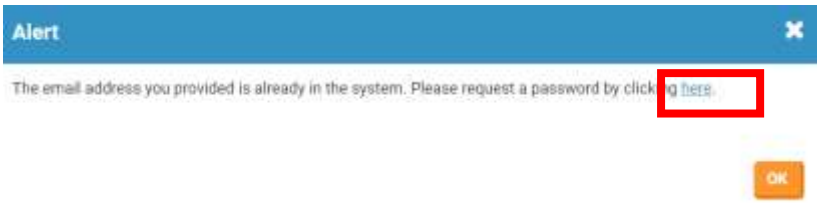
11.1 Accessing and Completing the Training

11.1.1 Logging In

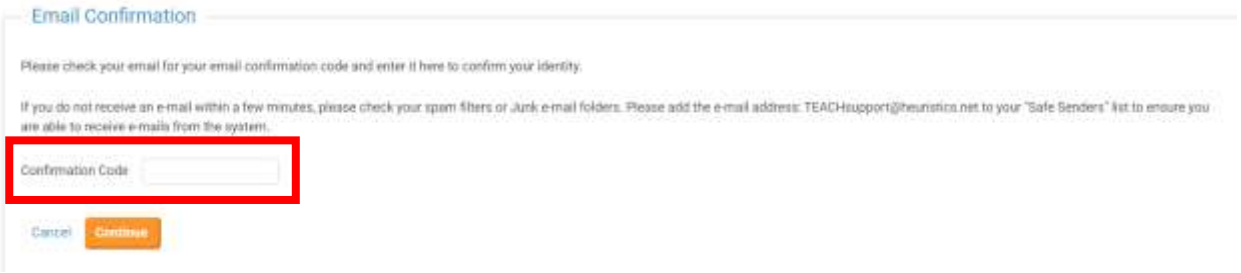
If you already have an account, simply enter your username and password. If you are new to TEACH, select the *Register for an Account* button.

Enter the email address you want associated with the TEACH account. If no alert message appears after typing the email address, proceed by entering Password, and First and Last Name. Note, not all form fields are required to be filled out.

If you receive an alert message, as shown below, the email is already registered in the system. Select the *here* button to request a password. Instructions will then be sent to the email entered.

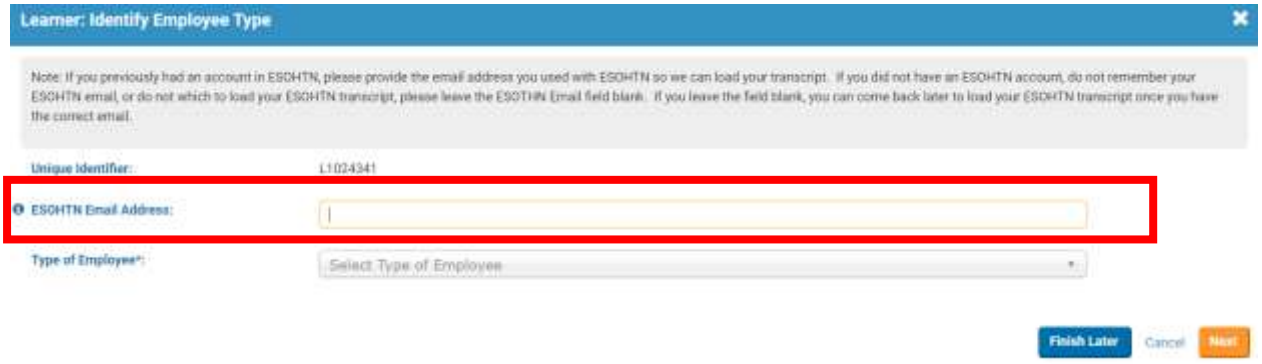


After submitting the new account information, a Confirmation Code will be sent to the email used to establish the account. Enter the Confirmation Code as indicated and select *Continue.*



11.1.2 Enter Account Details

For users that had access to the previous training database, Environmental, Safety, and Occupational Health Training Network (ESOHTN), accounts can be linked to TEACH by providing the email address assigned to the ESOHTN account, as shown below.



Begin to enter the account details by either selecting the appropriate *Type of Employee* or selecting *Finish Later* which will lead to the account details screen.

If the email address was already in the system, then Select *My Account* on the top right hand side of the website. On the new screen, select *Enter Demographics*.

Use the guidance below when completing the demographics.

Employee Type: Civilian, Air National Guard, Reserves, Contractor, etc.

Rank/Title: Select the appropriate position; if the title is not listed select NA

Job Type: Select the job type closest to what describes duty title/additional duties

Installation: Select the base and unit that closest matches; Primary Subordinate Units (PSUs) shall select the nearby installation. An example is below for Contractors.

Other: Enter Wing/Group/Squadron; if Contractor state "Contractor"

Branch of Service/Company Name/Unit: Complete accordingly; if a contract or tenant, please provide full name of company

11.1.3 Take the Course & Print Certificate

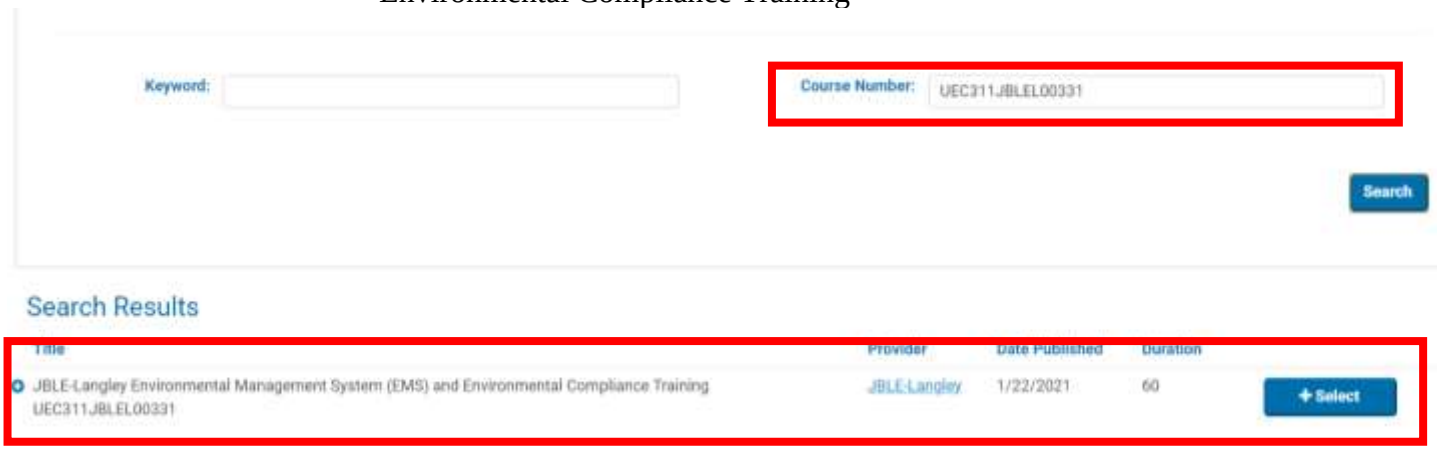
Once account details have been completed, on the Home screen, select the *Begin* button to begin.

Then select the *Search for a Course* button.

Search for the appropriate course using the information below.

Course Number: UEC311JBLEL00331

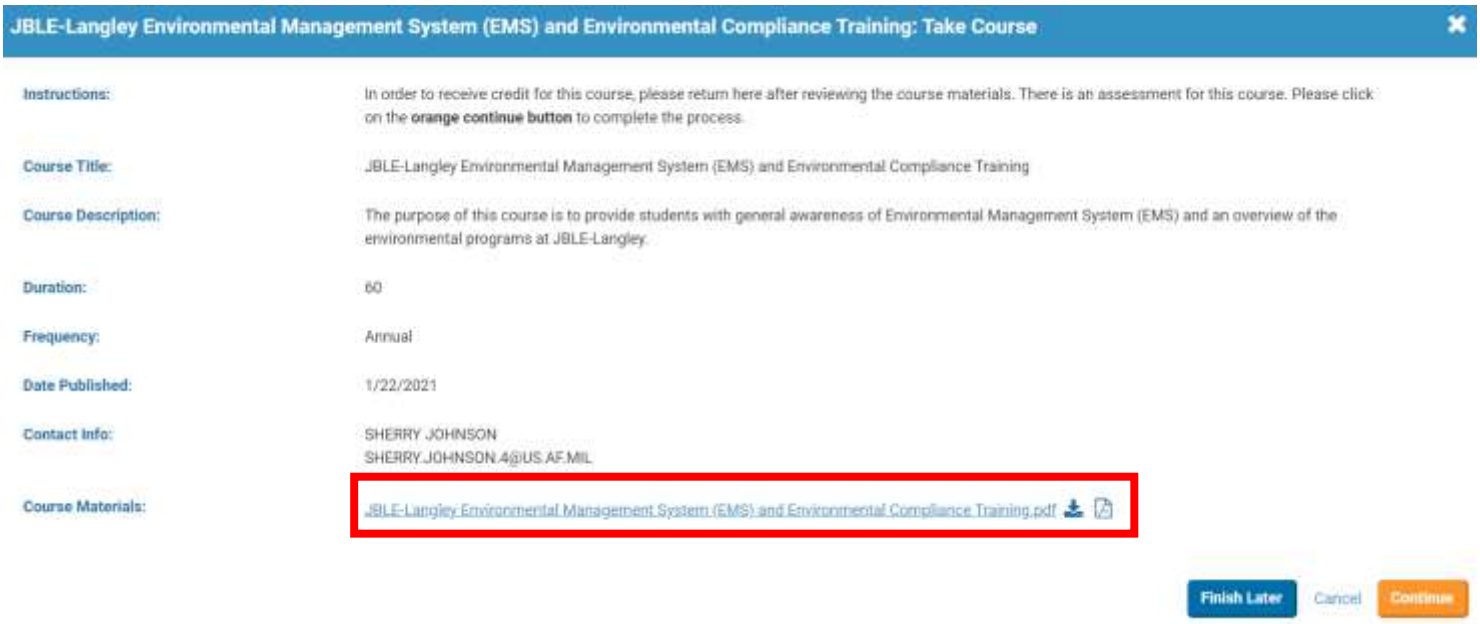
Course Title: JBLE-Langley Environmental Management System (EMS) and Environmental Compliance Training



Select + *Select* to the right of the course descriptions. A new screen should pop-up providing course details.

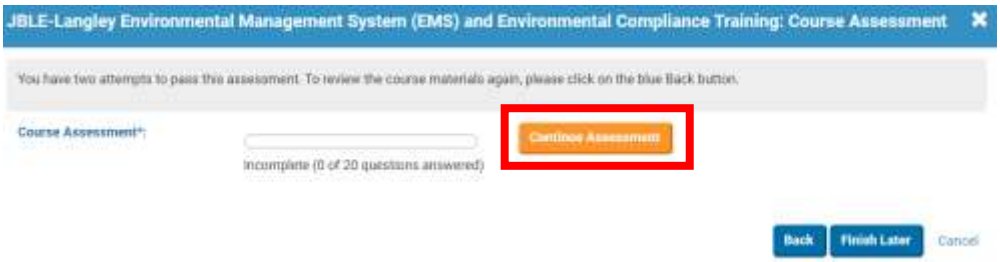
If the screen does not pop-up, the course should be listed in the *Courses* section on the home screen. From there, select the *Take Course* button.

On the course detail screen, select the link provided under *Course Materials.* Review the course material provided ***(download the PDF document).***



Once finished reviewing the course material, go back to the course description screen (if closed, go to the home screen). From the course description screen, select the *Continue* button.

A new screen will appear notifying you that there is an assessment for this course. Select the *Continue Assessment* button.



Upon completion, there will be a course evaluation. Once the course evaluation is finished, select the *Submit* button. The course evaluation ***must*** be completed before the training certificate will be provided.

For a Certificate of Completion, go back to the home screen. Under *Transcripts,* find the course name completed, and select either the yellow certificate in the middle of the course listing or the "gear icon" on the right.

- When selecting the yellow certificate, please note that the certificate will open in a new tab in the internet browser.
- When selecting the "gear icon", an option list will appear. From that list, select *View Certificate*. The certificate will then open in the same window requiring the use of the back button to access the TEACH system.

Additional Notes:

- If the yellow certificate or the gear icon is not available – the course evaluation was not completed.
- ESOHTN *attendance records from 2013* were imported into TEACH. ESOHTN courses cannot be selected, viewed, re-taken or have certificates of completion. ESOHTN records will be shown on your transcripts only.

Once you have received the certificate, please send it to the 633 CES/CEIE EMS Coordinator via email at 633CES.EMS.TRAINING@us.af.mil.

After submission of the training certification, close out of the site by logging off. When using the site in the future, use the same Username and Password.

Attachment 1

Glossary of References and Supporting Information

References

9VAC5, *State Air Pollution Control Board (VDEQ)*

9VAC20, *Virginia Waste Management Board (VDEQ)*

9VAC25, *State Water Control Board (VDEQ)*

29 CFR Part 1926.62, *Occupational Health and Environmental Controls: Lead*

29 CFR Part 1926.1101, *Toxic and Hazardous Substances: Asbestos*

40 CFR Parts 50-98, *Air Programs*

40 CFR Part 112, *Oil Pollution Prevention*

40 CFR Parts 239-282, *Resource Conservation and Recovery Act (RCRA)*

40 CFR Parts 260-273, *Hazardous Waste Program*

40 CFR Part 261, *Identification and Listing of Hazardous Waste*

40 CFR Part 273, *Standards for Universal Waste Management*

40 CFR Part 280, *Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks*

40 CFR Part 300, *National Oil and Hazardous Substances Pollution Contingency Plan*

40 CFR Parts 350-372, *Superfund, Emergency Planning, and Community Right-To-Know Programs*

40 CFR Parts 700-799, *Toxic Substances Control Act*

40 CFR Part 763, *Asbestos*

40 CFR Part 1068, *General Compliance Provisions for Highway, Stationary, and Non-road Engine Programs*

49 CFR Parts 171-180, *Hazardous Materials Regulations*

AFMAN 32-7002, *Environmental Compliance and Pollution Prevention*

DAFI 32-7001, *Environmental Management,* 23 August 2019

Executive Order (EO) 13834, Efficient Federal Operations

FAR Clause 5352.223, *Health and Safety on Government Installations*

FAR Clause 52.223-3, *Hazardous Material Identification and Material Safety Data*

ISO 14001:2015, *Environmental management systems–Requirements with guidance for use*

NFPA 30, *Flammable and combustible Liquids Code*

Title 10 USC Section 2577, *Disposal of Recyclable Materials*

Title 10 USC Section 2701, *Environmental Restoration Program*

Title 15 USC Sections 2601-2692, *Toxic Substance Control Act*

Title 15 USC Sections 2641-2656, *The Asbestos Hazard Emergency Response Act*

Title 16 USC Section 469, *Archeological and Historical Preservation Act*

Title 16 USC Section 1531, *Endangered Species Act of 1973*

Title 33 USC Sections 1251-1386, *The Federal Water Pollution Control Act*

Title 33 USC Sections 1251-1387, *Clean Water Act*

Title 42 USC Sections 4851-4856, *Residential Lead-base Paint Hazard Reduction*

Title 42 USC Sections 6901–6992k, *Solid Waste Disposal*

Title 42 USC Section 7401-7671q, *Clean Air Act (Air Pollution Prevention and Control)*

Title 42 USC Sections 9601-9675, *Comprehensive Environmental Response, Compensation and Liability Act*

Title 42 USC Sections 11001-11050, *Emergency Planning and Community Right-to-Know Act*

Title 42 USC Sections 13101-13109, *Pollution Prevention Act*

Abbreviations and Acronyms

633 ABW	633d Air Base Wing
633 ABW/CC	633d Air Base Wing Commander
633 CES	633d Civil Engineer Squadron
633 CES/CD	633 Civil Engineer Squadron Deputy Commander
633 CES/CEI	633d Civil Engineer Squadron - Installation Management Flight
633 CES/CEIE	633d Civil Engineer Squadron - Installation Management Flight, Environmental Element
633 CES/CEN	633d Civil Engineer Squadron – Engineering Flight
A/C	Air Conditioning
AFCEC/CZO	Air Force Civil Engineer Center/Environmental Management Operations
AF	Air Force
AFFF	Aqueous Film Forming Foam
AFMAN	Air Force Manual
AST	Aboveground Storage Tank
BASH	Bird Aircraft Strike Hazards
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
C & D	Construction and Demolition
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations

CGP	Construction General Permit
CRZ	Critical Root Zone
CX	Categorical Exclusion
DAFI	Department of the Air Force Instruction
DD	Department of Defense
DoD	Department of Defense
DRO	Diesel Range Organics
EA	Environmental Assessment
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
ELAP	Environmental Laboratory Accreditation Program
EMS	Environmental Management System
EPA	Environmental Protection Agency
ESC	Erosion and Sediment Control
ESOHTN	Environmental, Safety, and Occupational Health Training Network
FAR	Federal Acquisition Regulation
FONSI	Finding of No Significant Impact
GHG	Greenhouse Gases
GRO	Gasoline Range Organics
HAZMART	Hazardous Market
HAZMAT	Hazardous Materials
HAZWOPER	Hazardous Waste Operations and Emergency Response
HMMP	Hazardous Materials Management Process
HVAC	Heating Ventilation and Air Conditioning
IDF	Intensity Duration Frequency
IRP	Installation Restoration Program
JBLE	Joint Base Langley Eustis
JPA	Joint Permit Application
LBP	Lead Based Paint
LDA	Land Disturbing Activities
LDR	Land Disposal Restriction
LOD	Limits of Disturbance
LWB	Local Wetlands Board
NCP	National Oil and Hazardous Substances Pollution Contingency Plan

NEPA	National Environmental Protection Act
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NOAA	National Oceanic & Atmospheric Administration
NSR	New Source Review
NWP	Nationwide Permit
ODC	Ozone Depleting Chemical
ODS	Ozone Depleting Substance
OSHA	Occupational Safety and Health Administration
P2	Pollution Prevention
PCB	Polychlorinated Bi-phenyl
PCN	Preconstruction Notification
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
POC	Point of Contact
POL	Petroleum, Oils and Lubricants
PSU	Primary Subordinate Unit
RBC	Risk Based Concentrations
RCRA	Resource Conservation and Recovery Act
REC	Record of Environmental Consideration
RMAN	Recovered Materials Advisory Notice
ROD	Record of Decision
SDS	Safety Data Sheet
SPGP	State Program General Permit
SSP	Soil Support Program
SVOCs	Semi-Volatile Organic Compounds
SWM	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
TAL	Target Analyte List
TCLP	Toxic Characteristic Leaching Procedure
TEACH	The Environmental Awareness Course Hub
TMDL	Total Maximum Daily Loads
TOX	Total Organic Halides
TSCA	Toxic Substance Control Act

TPH	Total Petroleum Hydrocarbons
TPZ	Tree Protection Zone
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USC	United States Code
UST	Underground Storage Tank
UTL	Upper Tolerance Limit
VAC	Virginia Administrative Code
VDEQ	Virginia Department of Environmental Quality
VELAP	Virginia Environmental Laboratory Accreditation Program
VMRC	Virginia Marine Resources Commission
VOCs	Volatile Organic Compounds
VPDES	Virginia Pollutant Discharge Elimination System
VRRM	Virginia Runoff Reduction Method
VSMP	Virginia Stormwater Management Program
VSMW	Virginia Solid Waste Management

Definitions

Air Quality – the specific measurement in the ambient air of a particular air pollutant at any given time. (VDEQ)

Compliance – The measure of how well an organization adheres to Federal, State, and Local Legal drivers.

Conformance – The measure of how well an organizational-level's EMS or the appropriate facility meets the requirements of its EMS and the International Organization for Standardization's 14001, standard identified in this Instruction and other policies, or other requirements established by DoD, AF, ANG, installations, and in accordance with the Air Force's EMS declaration of conformance protocol.

Construction Waste – Any solid waste that is produced or generated during construction, remodeling, or repair of pavements, houses, commercial buildings and other structures.

Criteria Pollutant (CP) – air pollutants for which National Ambient Air Quality Standards (NAAQS) have been established. Criterial pollutants include Nitrogen Dioxide (NO2), Sulfur Dioxide (SO2), Carbon Monoxide (CO), Ozone (O3), Particulate Matter (PM-10 and PM-2.5) and Lead (Pb).

Critical Root Zone (CRZ) – The minimum amount of area in order to prevent killing existing trees through the placement of barrier structures. This is generally agreed to be equivalent to the soil area below ground and the space above ground defined by the tree's drip line, or the greatest extent of the branches.

Cultural Resources – All structures, landscapes and objects of some importance to a community or culture for scientific, traditional, religious, or other reasons.

Demolition Waste – Any solid waste that is produced by the destruction of structures and their foundations and includes the same materials as construction wastes.

Greenhouse Gases (GHGs) – are gases that trap heat in the atmosphere. Greenhouse gases include Carbo Dioxide (CO2), Methane (CH4), Nitrous Oxide (N2O) and Fluorinated gases.

Hazardous Air Pollutants (HAPs) – An air pollutant to which no ambient air quality standard is applicable and which in the judgment of the administrator causes, or contributes to, air pollution which may reasonably be anticipated to result in an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness. (VDEQ)

Hazardous Material (HAZMAT) – any material or product that poses a threat to human health, the environment and property if released. HAZMAT is identified by being toxic, ignitable, explosive and/or chemically reactive.

Hazardous Waste (HW) – A waste with properties that make it dangerous or capable of having harmful effects on human health and the environment.

Non-regulated Waste – Solid wastes that have a specific disposal method, which cannot be discarded into normal waste streams (examples include asbestos and antifreeze).

Ozone Depleting Substance (ODS) – Refers to Class I and Class II ODS, as defined by the *Montreal Protocol on Substances that Deplete the Ozone Layer.* Also, as defined as manufactured chemicals, especially halocarbon refrigerants, solvents, propellants and foam blowing agents.

Pollution – Refers to the discharge of waste materials into the air, water or land.

Pollution Prevention – Refers to practice of reducing, eliminating or preventing pollution.

Refuse – All solid waste products having the character of solids rather than liquids and that are composed wholly or partially of materials such as garbage, trash, rubbish, litter, residues from clean up of spills or contamination, or other discarded materials. (VDEQ)

Spill – Any leakage, seepage, pumping, pouring, emitting, emptying, dumping or other release of material. Spills may be unintentional or intentional and be to air, land or water resources.

Solid Waste – Any material that is discarded or abandoned. This means that the material is being disposed of, burned or incinerated, accumulated, stored or treated or recycled, resused or reclaimed.

Stormwater – Precipitation that is discharged across the land surface or through conveyances to one or more waterways and that may include stormwater runoff, snow melt runoff, and surface runoff and drainage. (VDEQ)

Tree Protection Zone (TPZ) – The minimum amount of area in order to prevent killing existing trees through the placement of barrier structures. This is generally agreed to be equivalent to the soil area below ground and the space above ground defined by the tree's drip line, or the greatest extent of the branches.

Universal Waste – A subset of commonly generated Hazardous Wastes that are managed under streamlined regulations to encourage collection and recycling. Among substances that

may be managed as Universal Wastes are mercury containing equipment, pesticides, batteries and lamps.

Volatile Organic Compounds (VOCs) – Any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. (VDEQ)

Wastewater System – Refers to the sanitary sewer system that returns used non-environmentally sources water to the Hampton Roads Sanitary Sewer District treatment plants rather than the storm sewer system that discharges rainwater back into the environment.

Wetland – Those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. (VDEQ)

Attachment 2

633 CES/CEIE Environmental Program Manager Contact List

Program	Contact	Phone Number	Email
Air Quality	Courtney Sian	757-225-7980	courtney.sian@us.af.mil
Asbestos/Lead-Based Paint	David Jennings	757-764-1046	david.jennings.4@us.af.mil
Cultural Resources	Sherry Johnson	757-764-1130	sherry.johnson.4@us.af.mil
Environmental Management Systems (EMS)	Courtney Sian	757-225-7980	courtney.sian@us.af.mil
Green Procurement	Terrence Hodges	757-764-1126	terrence.hodges@us.af.mil
Hazardous Materials (HAZMAT) Management	Shaunell Lattimore	757- 225-7388	shaunell.lattimore@us.af.mil
Hazardous Waste/Universal Waste	Shaunell Lattimore	757- 225-7388	shaunell.lattimore@us.af.mil
Natural Resources	Cecilia Boyd	764-1126	cecilia.boyd@us.af.mil
Qualified Recycling Program/Integrated Solid Waste	Terrence Hodges	757-764-1126	terrence.hodges@us.af.mil
Restoration	John Tice	757-764-9394	john.tice@us.af.mil
Soil Support Program (SSP)	David Jennings	757-764-1046	david.jennings.4@us.af.mil
Spills (Fuel, Sewage, Other, etc.)	Terrence Hodges	757-764-1126	terrence.hodges@us.af.mil
Storage Tanks	Ronald Best	757-764-1132	ronald.best.1@us.af.mil
Water Quality	Jeff Saunders	757-764-1141	jeffrey.saunders.9@us.af.mil
633 CES/CEIE Environmental Element Chief	David Jennings	757-764-1046	david.jennings.4@us.af.mil

Attachment 3

Deliverable Checklist

Below is a checklist of all the environmental deliverables. Please note that not all the deliverables may be required, depending on the scope of the project.

Air Quality				
Deliverable	**Required?**	**Submittal Period**	**Frequency**	**Delivered?**
Technical and Manufacturer Specific Data Sheets	☐ Yes ☐ No	60 – 90 days before construction	Once	☐ Yes ☐ No
EPA Certificate(s) of Conformity (stationary generator)	☐ Yes ☐ No	60 – 90 days before construction	Once	☐ Yes ☐ No
EPA Certificate(s) of Conformity (portable/temporary generator)	☐ Yes ☐ No	30 days before construction	Once	☐ Yes ☐ No
HVAC Report(s)	☐ Yes ☐ No	End of contract	Once	☐ Yes ☐ No

Asbestos				
Asbestos Abatement Plan	☐ Yes ☐ No	30 days before construction	Once	☐ Yes ☐ No
Asbestos Manifest(s)	☐ Yes ☐ No	During contract	As needed	☐ Yes ☐ No
Returned Asbestos Manifest(s) (signed by receiver)	☐ Yes ☐ No	End of contract	Once	☐ Yes ☐ No

Green Procurement				
Green Procurement Planning Use Forms	☐ Yes ☐ No	30 days before construction	Once	☐ Yes ☐ No
Green Procurement Exemption Form	☐ Yes ☐ No	End of contract	Once	☐ Yes ☐ No
Green Procurement Final Usage Report	☐ Yes ☐ No	End of contract	Once	☐ Yes ☐ No

Lead-Based Paint				
Lead-Based Paint (LBP) Abatement Plan	☐ Yes ☐ No	30 days before construction	Once	☐ Yes ☐ No
LBP Manifest(s)	☐ Yes ☐ No	During contract	As needed	☐ Yes ☐ No
Returned LBP Manifest(s) (signed by receiver)	☐ Yes ☐ No	End of contract	Once	☐ Yes ☐ No

Continued on next page.

Hazardous Materials (HAZMAT)				
Hazardous Materials Worksheet	☐ Yes ☐ No	30 days before construction	Initial, as needed after	☐ Yes ☐ No
Copy of Safety Data Sheets (SDSs)	☐ Yes ☐ No	30 days before construction	Initial, as needed after	☐ Yes ☐ No
HAZMAT Usage Report(s)	☐ Yes ☐ No	During contract	Monthly	☐ Yes ☐ No

Hazardous Waste				
Manifest(s)	☐ Yes ☐ No	During contract	As needed	☐ Yes ☐ No
Returned Manifest(s) (signed by receiver)	☐ Yes ☐ No	End of contract	Once	☐ Yes ☐ No

Other				
Building elevation, project details and photographs, if historic	☐ Yes ☐ No	60 – 90 days before construction	Once	☐ Yes ☐ No
EMS and Environmental Compliance Training Certification	☐ Yes ☐ No	30 days before construction	Once	☐ Yes ☐ No

Soils				
Virginia Clean Soil Certifications	☐ Yes ☐ No	30 days before construction	Once	☐ Yes ☐ No
Proposed Borrow Soil Sampling Laboratory Results	☐ Yes ☐ No	30 days before construction	As received	☐ Yes ☐ No

Solid Waste				
Refuse/Recycling Reports and Weight Tickets	☐ Yes ☐ No	During contract	Quarterly	☐ Yes ☐ No

Storage Tanks				
POL Storage Tank Registration Notification	☐ Yes ☐ No	30 days before construction	Once	☐ Yes ☐ No
Storage Tank Inspections	☐ Yes ☐ No	During contract	Weekly/Monthly	☐ Yes ☐ No

Continued on next page.

Water Quality				
VDEQ Construction General Permit Registration Statement	☐ Yes ☐ No	60 – 90 days before construction	Once	☐ Yes ☐ No
Stormwater Pollution Prevention Plan (SWPPP)	☐ Yes ☐ No	60 – 90 days before construction	Once	☐ Yes ☐ No
Erosion and Sediment Control Plan (ESC)	☐ Yes ☐ No	60 – 90 days before construction	Once	☐ Yes ☐ No
Pollution Prevention Plan (P2 Plan)	☐ Yes ☐ No	60 – 90 days before construction	Once	☐ Yes ☐ No
Stormwater Management Plan (SWM Plan)	☐ Yes ☐ No	60 – 90 days before construction	Once	☐ Yes ☐ No
VDEQ Construction General Permit Coverage Letter	☐ Yes ☐ No	30 days before construction	Once	☐ Yes ☐ No
VDEQ SWM/ESC Plan Approval Letter	☐ Yes ☐ No	30 days before construction	Once	☐ Yes ☐ No
VDEQ Construction General Permit Notice of Termination Letter	☐ Yes ☐ No	End of contract	Once	☐ Yes ☐ No
VDEQ Stormwater Management As-Builts (seal and signature required)	☐ Yes ☐ No	End of contract	Once	☐ Yes ☐ No
GIS files for stormwater/wastewater utilities, BMPs, final site elevations, etc.	☐ Yes ☐ No	End of contract	Once	☐ Yes ☐ No
CAD files for wastewater purposes and roof gutters	☐ Yes ☐ No	End of contract	Once	☐ Yes ☐ No

Wetlands				
Wetland Permits/Joint Permit Application (JPA)	☐ Yes ☐ No	60 – 90 days before construction	Once	☐ Yes ☐ No
Nationwide Permit (USACE)	☐ Yes ☐ No	60 – 90 days before construction	Once	☐ Yes ☐ No
Wetland Impact Reports	☐ Yes ☐ No	During contract	Monthly	☐ Yes ☐ No

Attachment 4

HVAC Record

This report must be completed if maintenance, service, repair, disposal or installation of new HVAC equipment is within the scope of the contract and work is not to be done by the 633 CES HVAC Shop.

Location/Building Number: _____

Project Number: _____

Point of Contact*: _____

Type of Work (please select one):

☐ New Installation **Startup date:** _____

☐ Maintenance/Service/Repair

☐ Disposal **Disposal date:** _____

Equipment Information:

Model: _____ Serial Number: _____

Refrigerant Type: _____ Total Charge (lbs): _____

Equipment being maintained/serviced/repaired/disposed/installed:

_____

Type of maintenance/service/repair/disposal being performed:

_____

Total amount and type of refrigerant added to, or in the case of disposal removed from, the unit:

_____

If service determined there was a leak rate, please provide the leak rate (in percentage) and the method used to determine the leak rate (not applicable when disposing of a unit, following a retrofit or installing a new equipment):

_____

* Please note that the Point of Contact must provide a copy of a Universal EPA Refrigerant Card for the 633 CES HVAC Shop to update records in the APIMS Program and this must be the person performing the maintenance, service, repair, disposal or new installation of equipment.

Attachment 5A

Contractor Hazardous Materials Worksheet

Instructions: Complete the attached spreadsheet, attach/include Safety Data Sheets (SDS) for all Hazardous Materials in the order as listed on the spreadsheet, and submit all information to the Contracting Officer (CO), the Contracting Officer's Representative (COR) and the Project Manager (PM), if the PM is not also the COR. An electronic submittal is preferred. For assistance, contact the COR/PM.

Contractors provide all data to CO or COR/PM a minimum of ***30 calendar days*** before the project starts. In cases where 30 days is not feasible, provide the data ***as soon as possible***. Allow a minimum of ***14 calendar days*** for review/approval by the government.

CO or COR/PM will submit all information to 633 CES/CEIE Hazardous Materials Program Manager electronically at 633CES.CEI.Flight@us.af.mil

NOTE: Be sure to take all Hazardous Materials off the installation at completion of the project. **DO NOT** leave any behind for the government to use/dispose of. Leaving chemicals behind may impact payment for your services.

Project/Contract Title: _____ Project Number: _____

Project Location (Bldg #/Room #/Street Address)

_____

Gov't Project Manager (Name, Org, Phone #): _____

Company Name: _____

Company POC (Name and Phone #): _____

Detailed Project/Contract Description: _____

_____

Will Hazardous Materials be stored on-site? ☐ Yes ☐ No

If yes, please indicate:

Storage Location: _____

Projected Number of Days on Site: _____

Estimated Start Date: _____ Estimated Completion Date: _____

Will facility/work area be occupied by government personnel during the project? ☐ Yes ☐ No

Attachment 5B

Contractor HAZMAT SDS Submittal

NOTE: For ease, utilize the government developed excel spreadsheet to accomplish this.

Project/Contract Title: _____ Project Number: _____

Project Location (Bldg #/Room #/Street Address)

_____

Gov't Project Manager (Name, Org, Phone #): _____

Company Name: _____

Company POC (Name and Phone #): _____

Chemical Name	Maximum Quantity Stored (gal, qt, etc.)	Total Quantity to be Used (gal, qt, etc.)	Application Process (Spray, brush, pour, etc.)	Heated? (Yes or No)	Type of Controls[a]	Storage Type[b]

a. Be sure to specify the type(s) of controls that are installed, example being a particular ventilation exhaust system.
b. Examples: flammable cabinet, corrosive cabinet, 55-gal drum, tank, etc.

Attachment 6

Contractor's Monthly Report for HAZMATs

The following information is required for tracking of hazardous materials on JBLE-Langley. For contracts exceeding six months, this form is required to be filled out on a monthly basis and returned to the Federal Government project Contracting Officer Representative (COR). For contracts that are less than six months, this form is required at the beginning and at the completion of the work. The COR will provide a copy to the Project Manager who will provide it to 633 CES/CEIE. This information is required to comply with State, federal, local, and Air Force laws and regulations.

Project/Contract Title: _____ Project Number: _____

Project Location (Bldg #/Room #/Street Address)

_____

Gov't Project Manager (Name, Org, Phone #): _____

Company Name: _____

Company POC (Name and Phone #): _____

Chemical Name	Maximum Quantity Stored (gal, qt, etc.)	Total Quantity to be Used (gal, qt, etc.)	Amount Used this Period (gal, qt, etc.)	Amount Currently on site (gal, qt, etc.)

Use additional sheets if required.

Contractor Name: _____ Date: _____

Signature: _____

GOV COR Name: _____ Date: _____

Signature: _____

Attachment 7

Construction/Demolition Debris Recycling and Reporting

As stewards of the environment and because of the Air Force goals of diverting greater than 40% of its waste away from landfills, Contractors shall recycle C&D debris to the maximum extent possible. There are many sources in the local area that can recycle C&D. A list of sources can be found in the "Special Conditions" portion of JBLE-Langley construction contracts. If you need further assistance finding sources, contact the 633 CES/CEIE Pollution Prevention Program Manager at 757-764-1126. JBLE-Langley must report recycling metrics to higher Headquarters quarterly. Therefore, complete the form below for each project on JBLE-Langley and submit a copy to the 633 CONS Contracting Officer, the 633 CES/CEN Project Manager, and the 633 CES/CEIE Pollution Prevention Program Manager, by the 5th day of each quarter (05 Apr, 05 July, 05 Oct and 05 Jan) for the previous three-month period for the duration of the project.

Project/Contract Title: _____ Project Number: _____

Project Location (Bldg #/Room #/Street Address)

_____

Gov't Project Manager (Name, Org, Phone #): _____

Company Name: _____

Company POC (Name and Phone #): _____

Type of Items	Item Disposal	Reason Items Were Not Recycled
Concrete without rebar	☐ Recycled ☐ Not Recycled	☐ No market for the items ☐ No local vendors to recycle the materials ☐ Not economically feasible: Specify: ☐ Other: Specify:
Concrete with rebar	☐ Recycled ☐ Not Recycled	☐ No market for the items ☐ No local vendors to recycle the materials ☐ Not economically feasible: Specify: ☐ Other: Specify:
Scrap Metals	☐ Recycled ☐ Not Recycled	☐ No market for the items ☐ No local vendors to recycle the materials ☐ Not economically feasible: Specify: ☐ Other: Specify:
Wood	☐ Recycled ☐ Not Recycled	☐ No market for the items ☐ No local vendors to recycle the materials ☐ Not economically feasible: Specify: ☐ Other: Specify:

Continued on next page.

Type of Items	Item Disposal	Reason Items Were Not Recycled
Brick	☐ Recycled ☐ Not Recycled	☐ No market for the items ☐ No local vendors to recycle the materials ☐ Not economically feasible: Specify: ☐ Other: Specify:
Roofing Materials	☐ Recycled ☐ Not Recycled	☐ No market for the items ☐ No local vendors to recycle the materials ☐ Not economically feasible: Specify: ☐ Other: Specify:
Asphalt	☐ Recycled ☐ Not Recycled	☐ No market for the items ☐ No local vendors to recycle the materials ☐ Not economically feasible: Specify: ☐ Other: Specify:

Please specify if there are other items to consider below:

Type of Items	Item Disposal	Reason Items Were Not Recycled
	☐ Recycled ☐ Not Recycled	☐ No market for the items ☐ No local vendors to recycle the materials ☐ Not economically feasible: Specify: ☐ Other: Specify:
	☐ Recycled ☐ Not Recycled	☐ No market for the items ☐ No local vendors to recycle the materials ☐ Not economically feasible: Specify: ☐ Other: Specify:

Tonnage of Items Recycled _____ (tons)

C&D Items Disposed of by Landfill: _____ (tons)

C&D Items Disposed of Through Regular Incineration: _____ (tons)

Items Disposed of by Water-To-Energy Incineration: _____ (tons)

Provide name of company, point-of-contact and phone number of source by which recycling an item(s) were attempted:

Company Name: _____

Company POC (Name and Phone #): _____

_____ _____

Contractor Signature Date

Note: electronic signature acceptable

Attachment 8

Contract Submittal and Contractor Reporting Form
Comprehensive Procurement Guidelines

This chart is not intended to replace the EPA guidelines found at the link below. It is the Contractor's responsibility to stay apprised of any new additions to these guidelines.

https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program#products

	Please mark item with an "x" if applicable		
Categories and Designated Items (Note: This table includes proposed CPG items as well as items designated final.)	Purchased with *no* recycled content	Purchased *with* recycled content	*Percent* of recycled content
Vehicular Products			
Engine coolants – antifreeze			
Rebuilt vehicular parts			
Re-refined lubricating oils – including motor oil			
Retread tires			
Construction Products			
Building insulation products			
Carpet (Polyester)			
Carpet cushion			
Cement and concrete containing coal fly ash, ground granulated blast furnace slag, cenospheres, or silica fume			
Consolidated and reprocessed latex paint			
Floor tiles			
Flowable fill			
Laminated paperboard			
Modular threshold ramps			
Non-pressure pipe			
Patio blocks			
Railroad grade crossing surfaces			
Roofing materials			
Shower and restroom dividers and partitions			
Structural fiberboard			
Landscaping Products			
Compost made from yard trimmings or food waste			
Garden and soaker hoses			
Hydraulic mulch			
Lawn and garden edging			
Plastic lumber landscaping timbers and posts			

Continued on next page.

	Please mark item with an "x" if applicable		
Categories and Designated Items (Note: This table includes proposed CPG items as well as items designated final.)	Purchased with *no* recycled content	Purchased *with* recycled content	*Percent* of recycled content
Non-Paper Office Products			
Binders			
Clipboards			
Clip Portfolios			
File folders			
Presentation Folders			
Office Furniture			
Office recycling containers			
Office waste receptacles			
Plastic desktop accessories			
Plastic envelopes			
Plastic trash bags			
Printer ribbons			
Toner cartridges			
Paper and Paper Products			
Commercial/industrial sanitary tissue products			
Miscellaneous papers			
Newsprint			
Paperboard and packaging products			
Printing and writing papers			
Park and Recreation Products			
Park benches and picnic tables			
Plastic fencing			
Playground equipment			
Playground surfaces			
Running tracks			
Transportation Products			
Channelizers			
Delineators			
Flexible delineators			
Parking stops			
Traffic barricades			
Traffic cones			

Continued on next page.

	Please mark item with an "x" if applicable		
Categories and Designated Items (Note: This table includes proposed CPG items as well as items designated final.)	Purchased with *no* recycled content	Purchased *with* recycled content	*Percent* of recycled content
Miscellaneous Products			
Awards and plaques			
Bike Racks			
Blasting grit			
Industrial drums			
Manual-grade strapping			
Mats			
Pallets			
Signage			
Sorbents			

Attachment 9

Recovered Materials Determination Form

This form is to be completed by the procurement originator for all purchases requesting an exemption from the Affirmative Procurement Program for Recovered Materials being procured. For questions on whether the product is "EPA designated" or what the required recycled content is, refer to the product descriptions on EPA's website at the link below:

https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program#products

This form is not required for construction item purchases less than $2,000, or for other purchases less than $3,000.

Procurement Request/Project No: _____

EPA Designated Eight Product Category Items

Category 1: Paper and Paper Products	**Category 2: Non-Paper Office Products**
☐ Commercial or industrial sanitary tissue products ☐ Paperboard/packing products ☐ Printing and writing papers ☐ Newsprint ☐ Miscellaneous papers	☐ Binders ☐ Plastic envelopes ☐ Office recycling containers ☐ Office furniture ☐ Plastic trash bags ☐ Office waste receptacles ☐ Clipboards ☐ Presentation folders ☐ Clip portfolios ☐ Printer ribbons ☐ Toner Cartridges ☐ Plastic desktop accessories ☐ File folders
Category 3: Park and Recreation Products	**Category 4: Transportation Products**
☐ Park benches and picnic tables ☐ Running tracks ☐ Playground delineators ☐ Plastic fencing ☐ Playground equipment	☐ Traffic barricades ☐ Parking stops ☐ Delineators ☐ Flexible delineators ☐ Traffic cones ☐ Channelizers
Category 5: Vehicular Products	**Category 6: Landscaping Products**
☐ Engine coolants ☐ Retread tires ☐ Re-refined lubricating oils ☐ Rebuild vehicular parts	☐ Garden and soaker hoses ☐ Compost and fertilizer made from recovered organic materials ☐ Hydraulic-mulch ☐ Plastic lumber landscaping timbers and posts ☐ Food waste compost ☐ Lawn and garden edging
Category 7: Construction Products	**Category 8: Miscellaneous Products**
☐ Consolidated and reprocessed latex paint ☐ Cement and concrete containing coal fly ash, ground granulated blast furnace slag, cenospheres, or silica flume ☐ Railroad grade crossing and surfaces ☐ Building insulation ☐ Patio blocks ☐ Shower and restroom dividers ☐ Structural fiberboard ☐ Carpet (polyester) ☐ Roofing materials ☐ Laminated paperboard ☐ Modular threshold ramps ☐ Non-pressure pipe ☐ Floor tiles ☐ Carpet cushion ☐ Flowable fill	☐ Manual-grade strapping ☐ Bike racks ☐ Blasting grit ☐ Mats ☐ Pallets ☐ Awards and plaques ☐ Sorbents ☐ Industrial drums ☐ Signage

Exemption Certification

☐ The following EPA designated guideline item is included in the specifications for the project however, compliance with EPA standards is not attainable.

Item: _____

I have determined that the EPA guidelines were considered and determined inapplicable, based on the following:

☐ Item is not available within a reasonable period of time
Need date: _____ Date available: _____

☐ Item fails to meet a performance standard in the specifications.
Specifically, _____
_____
_____

☐ Item was only available at an unreasonable price (i.e., recycled item cost more than non-recycled item).
Price of recycle item: _____
Price of non-recycled item: _____

☐ Item is not available from two (2) or more sources. Provide market research:
Number of vendors called: _____
Names of vendors who were able to supply the item: _____
_____
_____
_____

This determination is made in accordance with FAR 23.405(c).

_____ _____
Procurement Originator/Contractor Date

_____ _____
Signature of GPC Approving Official (if GPC used) or Project Manager/Supervisor/Flight Chief for Deputy for all other type purchases Date

FINAL

CONSTRUCTION GENERAL PERMIT INSPECTION AND COMPLIANCE PROCEDURES

JOINT BASE LANGLEY EUSTIS – LANGLEY, VIRGINIA

Prepared for:

JOINT BASE LANGLEY EUSTIS – LANGLEY

CONTRACT NUMBER W912QR-12-D-0002, DELIVERY ORDER DK01

2019 Original Prepared by:

PARSONS

AUGUST 2021

TABLE OF CONTENTS

APPENDICES

LIST OF TABLES

LIST OF FIGURES

ACRONYMS AND ABBREVIATIONS

633 CES	633d Civil Engineer Squadron
AFI	Air Force Instruction
COV	Code of Virginia
EPA	Environmental Protection Agency
ESC	Erosion and Sediment Control
ETL	Engineering Technical Letter
GP	General Permit
JBLE-Langley	Joint Base Langley Eustis - Langley
MCM	Minimum Control Measure
MS4	Municipal Separate Storm Sewer System
SWM	Stormwater Management
SWPPP	Stormwater Pollution Prevention Plan
UFC	Unified Facility Criteria
USAF	United States Air Force
VDEQ	Virginia Department of Environmental Quality
VDOT	Virginia Department of Transportation
VESCH	Virginia Erosion and Sediment Control Handbook
VESCL&R	Virginia Erosion and Sediment Control Law and Regulations
VESCP	Virginia Erosion and Sediment Control Program
VSMP	Virginia Stormwater Management Program

SECTION 1
INTRODUCTION

1.1 Background Information

Parsons collaborated with the staff of Joint Base Langley Eustis – Langley (JBLE-Langley) 633d Civil Engineer Squadron (633 CES) to compile erosion and sediment control (ESC) and stormwater management (SWM) procedures to assist the contractor in meeting the requirements for construction site stormwater runoff control and postconstruction stormwater management. The procedures for construction and postconstruction storm water management were developed to meet the Virginia Department of Environmental Quality (VDEQ) requirements of the:

- General Permit (GP) for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4) (Permit No. VAR04), referenced as MS4 GP, and associated regulations (9VAC-870 et. seq.);
- Virginia Erosion and Sediment Control Law (Code of Virginia (COV) § 62.1-44 et. seq.) and Virginia Erosion and Sediment Control Regulations (9VAC25-840 et. seq.), referenced as Virginia Erosion and Sediment Control Law and Regulations (VESCL&R);
- Virginia Stormwater Management Program (VSMP) Regulations (9VAC25-870 et. seq.); and
- GP for Stormwater Associated with Construction Activities (VAR10), referenced as Construction GP, and associated regulations (9VAC-880 et. seq.).

In addition to the VDEQ requirements, the contractor is expected to be familiar with and comply with any Department of Defense, United States Air Force (USAF), or JBLE-Langley requirement, including this document, as well as:

- Department of Defense – Unified Facilities Criteria (UFC) 1-200-02: *High Performance and Sustainable Building Requirements*
- Department of Defense – UFC 3-210-10: *Low Impact Development*
- JBLE-Langley – *Environmental Special Conditions*
- JBLE-Langley – *MS4 Program Plan*
- Simplified Acquisition of Base Engineer Requirements General Provisions
- Secretary of the Airforce – Air Force Instruction (AFI) 32-1067: *Water and Fuel Systems*
- Secretary of the Airforce – AFI 32-1032: *Planning and Programing Appropriated Fund, Maintenance, Repair, and Construction Project*

1.2 The 633 CES Oversight

Permittees operating under the MS4 GP shall develop an oversight program to regulate land-disturbing activities occurring within the MS4, as required by minimum control measure (MCM) requirements of

- Section II.B.4., Construction site stormwater runoff control and
- Section II.B.5., Postconstruction stormwater management.

This document, as well as the JBLE-Langley MS4 Program Plan and JBLE-Langley Environmental Management Special Conditions, define the legal authority of the 633 CES to regulate land-disturbing activities occurring at JBLE-Langley. The state ESC and SWM program is administered by VDEQ in accordance with the VESCL&R and VSMP Regulations, respectively, and the VDEQ is to be

considered the Virginia Erosion and Sediment Control Program (VESCP) and VSMP Authority throughout the document. The VDEQ and Environmental Protection Agency (EPA) maintain jurisdictional authority to ensure all land-disturbing activities comply with the VESCL&R, VSMP Regulations, and applicable Federal regulations.

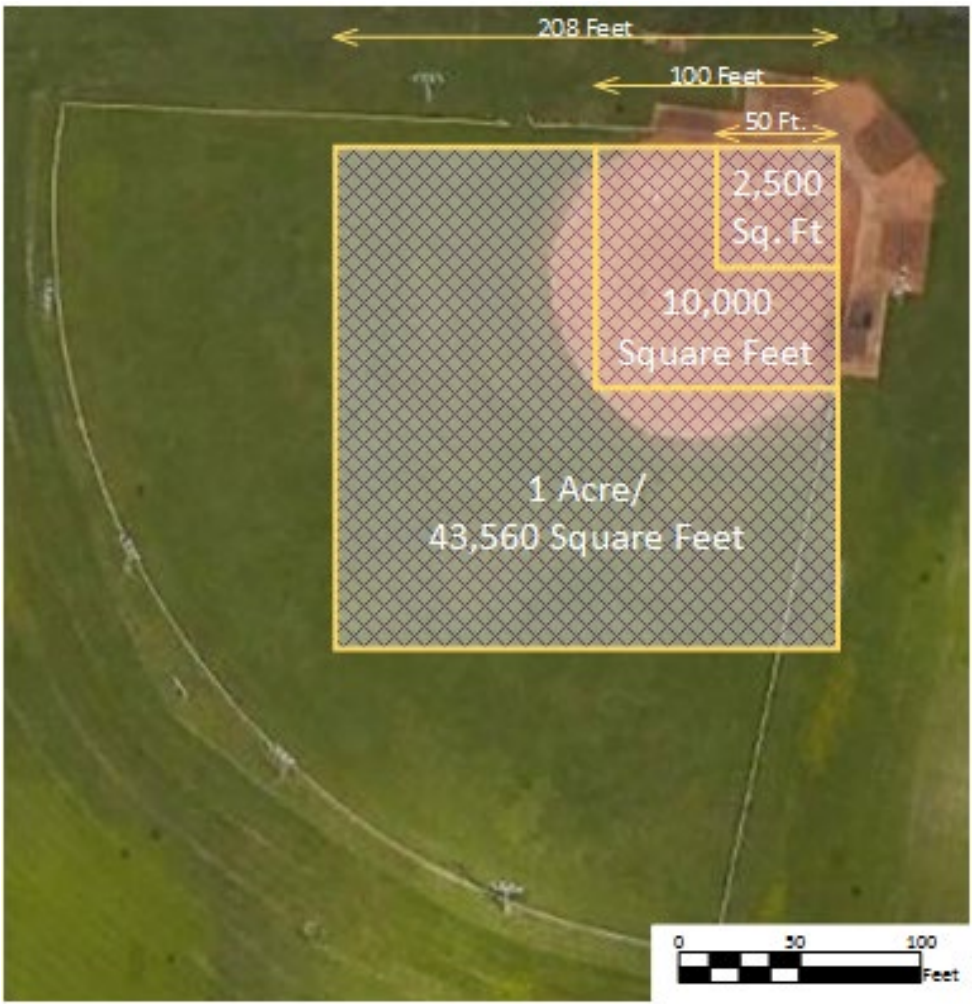
Any land-disturbing activity occurring at JBLE-Langley shall comply with the procedures described herein, as well as any additional USAF, VESCL&R, VSMP regulations, or Federal requirements. Compliance with all applicable regulations is expected for any inspection conducted by the 633 CES, VDEQ, or EPA. The contractor is responsible for the design of a properly functioning project that meets requirements within the VESCL&R and VSMP regulations. It is the responsibility of the contractor to ensure that the techniques used are appropriate for the conditions of an individual site. Where it is determined that conformance with this document is not appropriate, alternative design, materials, and methodologies may be considered on a case-by-case basis for approval by the 633 CES and/or VDEQ.

SECTION 2
LAND-DISTURBING ACTIVITY DELINEATIONS

For this document, land-disturbing activities at JBLE-Langley are delineated, based on area, into four categories that each have differing submittal requirements. These delineations are land-disturbing activities disturbing less than 2,500 square feet, between 2,500 and 10,000 square feet, between 10,000 square feet and 1 acre, and greater than 1 acre. Figure 2-1 gives an example of these delineations in comparison with a common baseball diamond. Land-disturbing activities are defined in COV § 62.1-44 as

> A man-made change to the land surface that potentially changes its runoff characteristics including clearing, grading, or excavation, except that the term shall not include those exemptions specified in § 62.1-44.15:34.

Figure 2-1 Land-Disturbing Delineation Comparison



For all land-disturbing activities at JBLE-Langley, the 633 CES maintains authority to reject the implementation of the project if submittals identified in this section are not provided or are incomplete for the applicable land-disturbing delineation. Table 2-1 shows the documentation that is required to be submitted to the 633 CES and VDEQ. The contractor shall submit all documents identified below to the Contracting Officer during the design phase for review by the 633 CES. Once approved, the documents shall be submitted to VDEQ, as required in the JBLE-Langley Environmental Special Conditions Document.

Table 2-1 JBLE-Langley Required Document Submissions

Land-Disturbing Delineation	Document Requirement
Activities between 2,500 and 10,000 square feet	Narrative describing the nature and purpose of the land disturbing activity
	Stormwater calculations (if applicable)
	Erosion and Sediment Control Plan (ESC Plan)
	Completed ESC Plan checklist (Appendix A)
Activities between 10,000 square feet and 1 acre	Narrative describing the nature and purpose of the land-disturbing activity
	Stormwater calculations (if applicable)
	ESC Plan
	Stormwater Management Plan (SWM Plan) meeting requirements of 9VAC25-870-55
All activities greater than 1 acre	Narrative describing the nature and purpose of the land-disturbing activity
	Stormwater calculations (if applicable)
	Completed ESC Plan checklist (Appendix A)
	Stormwater Pollution Prevention Plan (SWPPP) (minimally consisting of an ESC Plan, SWM Plan, and a Pollution Prevention Plan)
	Virginia Department of Environmental Quality (VDEQ) Construction GP Registration Statement
	Copy of the VDEQ Construction GP (VAR10) or individual permit

In addition to the document submittals above, any amendments to these documents occurring during construction are required to be submitted to the 633 CES and VDEQ.

2.1 Land-Disturbing Activities Less Than 2,500 Square Feet

Land-disturbing activities less than 2,500 square feet have no requirements to prepare or implement an ESC Plan but are required to manage their runoff to minimize erosion and sediment conveyance into the JBLE-Langley MS4 system.

All construction operations shall comply with the requirements of the VESCL&R. The contractor shall provide erosion control fencing (silt) to prevent site runoff. Hay bales must not be used for erosion control and inlet protection from stormwater runoff. The contractor shall submit alternate methods of protection to the Contracting Officer to provide to the 633 CES at the preconstruction conference for review and approval. The Contracting Officer will notify the Contractor of the 633 CES decision on the alternate methods prior to issuance of Notice to Proceed.

2.2 Land-Disturbing Activities Between 2,500 and 10,000 Square Feet

For all land-disturbing activities greater than 2,500 square feet, an ESC Plan must be prepared in accordance with the *Virginia Erosion and Sediment Control Handbook* (VESCH), to meet the applicable minimum standards identified in the VESCL&R, which are detailed in Section 4. Supporting documentation to the ESC Plan includes a narrative describing the nature and purpose of the land disturbing activity, storm water calculations (if applicable), the completed ESC plan review checklist (Appendix A), contractor's maintenance responsibilities for ESC measures, and any other supporting documentation.

During the design phase, the contractor shall submit the ESC Plan and supporting documentation to the Contracting Officer to provide to the 633 CES for review and approval. The Contracting Officer shall require that land disturbance not begin until an ESC Plan or an agreement in lieu of a plan as provided in § 62.1-44.15:55 is approved by the local VESCP authority in accordance with the VESCL&R (§ 62.1-44.15:51 et seq. of the COV). Variances and exceptions for ESC Plans are detailed in Section 3.4. The plan shall be

(1) Compliant with the minimum standards identified in 9VAC25-840-40 of the Erosion and Sediment Control Regulations or

(2) Compliant with department-approved annual standards and specifications. Where applicable, the plan shall be consistent with any additional or more stringent, or both, erosion and sediment control requirements established by state regulation or local ordinance.

The review of the ESC Plan will be conducted by qualified 633 CES personnel who hold a certificate of competence from the VESCP in the area of plan review, as defined in 9VAC25-850 et. seq. Upon receiving approval from the 633 CES, the contractor will submit to VDEQ.

2.3 Land-Disturbing Activities Between 10,000 Square Feet and 1 Acre

For all projects disturbing greater than 10,000 square feet, in addition to the ESC Plan requirements, a SWM Plan shall be developed. In general, the SWM Plan will provide details on permanent SWM measures to be implemented at the site once final grade has been achieved. A summary of the SWM Plan requirements are provided in Section 6, and permanent SWM measures are detailed in Section 7.

During the design phase, the contractor shall submit the ESC Plan and supporting documentation and SWM Plan to the Contracting Officer to provide to the 633 CES prior to submission to the VESCP and VSMP Authority for review and approval. Upon receiving approval from the 633 CES, the contractor will submit to the VESCP and VSMP Authority.

The review of the SWM Plan will be conducted by qualified 633 CES personnel who hold a certificate of competence from the VSMP in the area of plan review, as defined in 9VAC25-850 et. seq. Upon receiving approval from the 633 CES, the contractor will submit to VDEQ.

2.4 Land-Disturbing Activities Greater Than 1 Acre

As part of the MS4 GP, JBLE-Langley is required to enforce procedures to require that large construction activities as defined in 9VAC25-870-10 and small construction activities as defined in 9VAC25-870-10, including municipal construction activities, secure necessary state permit authorizations from the VDEQ to discharge stormwater. If greater than 1 acre (43,560 sq. ft.) is to be disturbed as part of the project, the contactor shall obtain a Construction GP (VAR10) from VDEQ. A Stormwater Pollution Prevention Plan (SWPPP)—minimally consisting of an ESC Plan, a SWM Plan, and a Pollution Prevention Plan—shall be prepared to support the stormwater permit.

Although the VDEQ is the administering authority, the 633 CES maintains authority to review and potentially reject any required part of the SWPPP or permit application.

During the design phase, the contractor shall submit the SWPPP and VDEQ Construction General Permit Registration Statement to the Contracting Officer to provide to the 633 CES for review and approval. Upon receiving approval from the 633 CES, the contractor shall submit the SWPPP and permit application to the VDEQ. The contractor is solely responsible for applying for, obtaining funding for, and complying with the terms of the permit. Upon receiving the permit, a copy of the GP coverage letter shall be forwarded to the 633 CES prior to the construction start date. In addition, a copy of the final permit must be posted on site and SWPPP be maintained on site.

SECTION 3
JBLE-LANGLEY ENFORCEMENT

3.1 Preconstruction Conference

A preconstruction conference shall be held prior to commencement of a land-disturbing activity to clarify roles, responsibilities, and obligations of all parties involved. At a minimum, the preconstruction conference shall be attended by the contractor and a 633 CES representative.

The contractor shall develop a plan during the preconstruction conference and work with the 633 CES throughout the construction project on integrating, phasing, and transitioning temporary ESC measures to permanent SWM measures.

3.2 Construction Compliance Inspection and Enforcement Requirements

For all construction activities at JBLE-Langley greater than 10,000 square feet, the 633 CES shall implement a compliance and enforcement program that meets the JBLE-Langley MS4 GP construction MCM requirements, where the 633 CES is considered the operator:

(1) The operator shall inspect land-disturbing activities for compliance with an approved ESC Plan or agreement in lieu of a plan in accordance with the minimum standards identified in 9VAC25-840-40 or with department-approved annual standards and specifications.

(2) The operator shall implement an inspection schedule for land-disturbing activities identified in Section II B 4 a as follows:

(a) Upon initial installation of erosion and sediment controls;

(b) At least once during every two-week period;

(c) Within 48 hours of any runoff-producing storm event; and

(d) Upon completion of the project and prior to the release of any applicable performance bonds.

Where an operator establishes an alternative inspection program as provided for in 9VAC25-840-60 B 2, the written schedule shall be implemented in lieu of Section II B 4 c (2) and the written plan shall be included in the MS4 Program Plan.

(3) Operator inspections shall be conducted by personnel who hold a certificate of competence in accordance with 9VAC25-850-40. Documentation of certification shall be made available upon request by the VESCP authority or other regulatory agency.

(4) The operator shall promote to the public a mechanism for receipt of complaints regarding regulated land-disturbing activities and shall follow up on any complaints regarding potential water quality and compliance issues.

(5) The operator shall utilize its legal authority to require compliance with the approved plan where an inspection finds that the approved plan is not being properly implemented.

(6) The operator shall utilize, as appropriate, its legal authority to require changes to an approved plan when an inspection finds that the approved plan is inadequate to effectively control soil erosion, sediment deposition, and runoff to prevent the unreasonable degradation of properties, stream channels, waters, and other natural resources.

(7) The operator shall require implementation of appropriate controls to prevent nonstormwater discharges to the MS4, such as wastewater, concrete washout, fuels and oils, and other illicit discharges identified during land-disturbing activity inspections of the

MS4. The discharge of non-stormwater discharges other than those identified in 9VAC25-890-20 through the MS4 is not authorized by this state permit.

(8) The operator may develop and implement a progressive compliance and enforcement strategy provided that such strategy is included in the MS4 Program Plan and is consistent with 9VAC25-840.

The 633 CES uses USAF Form 1477-Appendix B and the VDEQ Construction General Permit Inspection Report to conduct construction site inspections in accordance with the requirements above. In addition, VDEQ inspectors will also periodically inspect Construction GP sites on JBLE-Langley. All ESC measures shown on the plan shall be inspected, and any problems or violations shall be documented in the report. Required or recommended corrective actions for each problem or violation shall be noted on the report along with a date by which all corrective actions must be completed. A signed and dated copy of the report shall be provided to all parties involved with the land-disturbing activity within 24 hours of the inspection.

3.3 Corrective Actions

The contractor shall be responsible for ensuring that corrective action is taken in response to problems and violations listed on the inspection report. If the listed violation(s) constitute noncompliance and/or required corrective actions are not completed by the deadline noted on the report, a Notice to Comply, Stop Work Order, and/or other enforcement actions may be issued.

An appeal to VDEQ for additional oversight may be used for ongoing noncompliance.

3.4 Variances and Exceptions

A variance or exception for development of an ESC Plan may be granted if any requirements are deemed inappropriate or too restrictive for site conditions. The contractor may request a variance or exception at the time of plan submission or during construction.

The applicant shall submit a written request to the VESCP Authority (VDEQ) for a variance or exception, with an explanation and description of the specific condition necessitating the request. The request must also include a detailed description of the alternative practice and justification that the practice meets the intent of the regulation for which the variance is sought.

The 633 CES shall respond in writing either approving or disapproving the variance or exception request. All requests shall be considered unapproved until written approval from the 633 CES has been received. Furthermore, all approved variances or exceptions shall be documented in the ESC plan.

3.5 Pollution Prevention

The contractor shall implement controls to ensure no pollutant enters the storm drain from the affected area during construction. The contractor should determine potential pollutant sources that can be exposed to precipitation on the construction site and implement controls to ensure these pollutants are not discharged to the JBLE-Langley MS4. Any discharge to the JBLE-Langley MS4 that is not entirely composed of stormwater and not explicitly permitted or exempt from permitting requirements is considered an illicit discharge. Examples of illicit discharges include the following:

- Dumping of trash or debris
- Disposing of vehicle/equipment maintenance fluids into a storm drain
- Leaking dumpsters flowing into a storm drain inlet
- Pouring paints, stains, or other hazardous materials into a storm drain

- Cleaning paint brushes/applicators in or near a storm drain
- Allowing wash waters with soaps, detergents, or paint debris into a storm drain inlet
- Washing silt, sediment, concrete, cement, or gravel into a storm drain
- Allowing uncontrolled release of sediment into a storm drain inlet
- A measurable flow during dry weather that contains any other pollutants

To minimize the potential for hazardous materials being discharged to the JBLE-Langley MS4, the 633 CES requires spill protection and control devices, such as secondary containment, be implemented when chemicals or hazardous substances are used on site. If a spill occurs, the 633 CES should be immediately notified. If petroleum, oils, or lubricants are to be stored in containers exceeding 55-gallons, the base-wide Spill Prevention, Control, and Countermeasure Plan should be reviewed by the contractor and a copy should be kept at the project site.

The 633 CES, as well as state and federal regulations, requires solid wastes to be managed to prevent the discharge of pollutants and ensure they are disposed of properly. When concrete wastes may be produced, proper concrete washout methods must be implemented, and the wastes are to be disposed of properly.

3.6 Post-construction Compliance Inspection and Enforcement Requirements

For all construction activities at JBLE-Langley greater than 10,000 square feet, JBLE-Langley shall implement a post-construction oversight program occurring within the boundaries of the MS4. The 633 CES shall implement a compliance and enforcement program that meets the JBLE-Langley MS4 GP Post-construction MCM requirements, reproduced below, where the 633 CES is considered the operator:

b. Required design criteria for stormwater runoff controls. The operator shall utilize legal authority, such as ordinances, permits, orders, specific contract language, and interjurisdictional agreements, to require that activities identified in Section II B 5 address stormwater runoff in such a manner that stormwater runoff controls are designed and installed:

   (1) In accordance with the appropriate water quality and water quantity design criteria as required in Part II (9VAC25-870-40 et seq.) of 9VAC25-870;

   (2) In accordance with any additional applicable state or local design criteria required at project initiation; and

   (3) Where applicable, in accordance with any department-approved annual standards and specifications.

These inspections will be performed by VSMP (VDEQ) inspectors certified in accordance with 9VAC25-850.

3.7 Notice of Termination

As required by 9VAC25-880-60, the contractor shall submit a notice of termination to the VDEQ after one or more of the following conditions have been met:

1. Necessary permanent control measures included in the SWPPP for the site are in place and functioning effectively and final stabilization has been achieved on all portions of the site for which the operator is responsible. When applicable, long-term responsibility and maintenance requirements for permanent control measures shall be recorded in the local land records prior to the submission of a notice of termination;

2. Another operator has assumed control over all areas of the site that have not been finally stabilized and obtained coverage for the ongoing discharge;
3. Coverage under an alternative Virginia Pollutant Discharge Elimination System or state permit has been obtained; or
4. For residential construction only, temporary soil stabilization has been completed and the residence has been transferred to the homeowner.

The notice of termination should be submitted by the contractor no later than 30 days after one of the above conditions is met.

SECTION 4
EROSION AND SEDIMENT CONTROL PLAN REQUIREMENTS

ESC Plans will be completed in accordance with the requirements of the VESCL&R. The requirements are described in this section, and a checklist is provided in Appendix A. Relevant compliance notes are included in Appendix B.

ESC Plans are required to be developed in accordance with the guidance provided in the VESCH. The VESCH details how to prepare an ESC Plan in Chapter 6, Preparing an ESC Plan. The suggested steps for preparing an ESC Plan detailed in the VESCH are summarized below:

1. Data Collection
2. Data Analysis
3. Site Plan Development
4. Plan for ESC
5. Prepare the Plan

The ESC Plan narrative and site plan requirements are summarized in Sections 4.1 and 4.2.

4.1 Narrative

The final ESC Plan will contain a narrative, which is a written description and justification of the ESC measures for the site. The VESCH details the importance of the narrative:

> A narrative is a written statement which explains the erosion and sediment control decisions made for a particular project and the justification for those decisions. The narrative is especially important to the plan approving authority because it contains concise information concerning existing site conditions, construction schedules, and other pertinent items which are not apparent in a typical site plan. Since a plan approving authority cannot always visit the site or discuss the project length with the site planner, it is essential that the necessary information be provided for the plan review.

The narrative shall include, at a minimum, the items included in the checklist provided in Appendix A and the VESCH. These minimum requirements are summarized below in Table 4-1:

Table 4-1 ESC Plan Narrative Requirements

Project Description	Critical Areas with Increased Potential for Erosion
Existing Site Conditions	Erosion and Sediment Control Measures
Adjacent Areas Affected by Land Disturbance	Permanent Stabilization
Off-Site Areas that Will Be Affected	Stormwater Runoff Considerations
Soil Types in the Land-Disturbance Area	Calculations
Project Description	Critical Areas with Increased Potential for Erosion

4.2 Site Plan

The final ESC Plan will contain a site plan, which is a detailed construction drawing of the ESC measures for the site. The site plan shall include, at a minimum, all the items included in the checklist provided in Appendix A and the VESCH. These minimum requirements are summarized in Table 4-2:

Table 4-2 ESC Plan Site Plan Requirements

Vicinity Map	Existing Drainage Patterns
North Arrow	Critical Areas with Increased Potential for Erosion
Limits of Clearing and Grading	Site Development Plan Showing All Improvements
Existing Contours	Location of Erosion and Sediment Controls and Stormwater Management Practices
Final Contours	Off-Site Areas that Will Be Affected
Existing Vegetation	Detail Drawings (if Necessary)
Soils in the Land-Disturbance Area	Maintenance Schedule

SECTION 5
CONSTRUCTION EROSION AND SEDIMENT CONTROL MEASURES

This section recommends some of the typical construction ESC measures for use at JBLE-Langley, but it is not an exhaustive list. Chapter 3 of the VESCH identifies several options for ESC measures for the following categories: safety, road stabilization, sediment barriers, dikes and diversions, sediment traps and basins, flumes, waterway and outlet protection, stream protection, subsurface drainage, site preparation for vegetation establishment, grass establishment, mulches, other vegetative controls, and dust control. It is the contractor's responsibility to provide ESC measures that adequately control erosion and sedimentation in its ESC Plan and properly implement these control measures on site. The use of hay bales to control erosion is ***not*** allowed at JBLE-Langley.

Based on the conditions of the site and the extent of land disturbance, it is likely that a combination of ESC measures will be required to minimize erosion and sedimentation. The ESC Plan will identify all ESC measures to be used throughout all phases of land-disturbing activity. If an ESC measure is deemed to be inadequate to control erosion and sedimentation during the land-disturbing activity, a suitable replacement shall be immediately installed, and the ESC Plan should be amended and resubmitted for approval. If an ESC measure is discovered to be damaged or not properly performing, the root cause shall be determined, and the ESC measure should be repaired or replaced immediately.

On larger sites, over variable terrain or soil types, or on sites with other constraints on specific ESC measures, it is likely that several different ESC measures will be required to work in concert to provide adequate ESC. How the site will change throughout the land-disturbing activity shall be considered when selecting the appropriate ESC measure.

5.1 Temporary Stone Construction Entrance

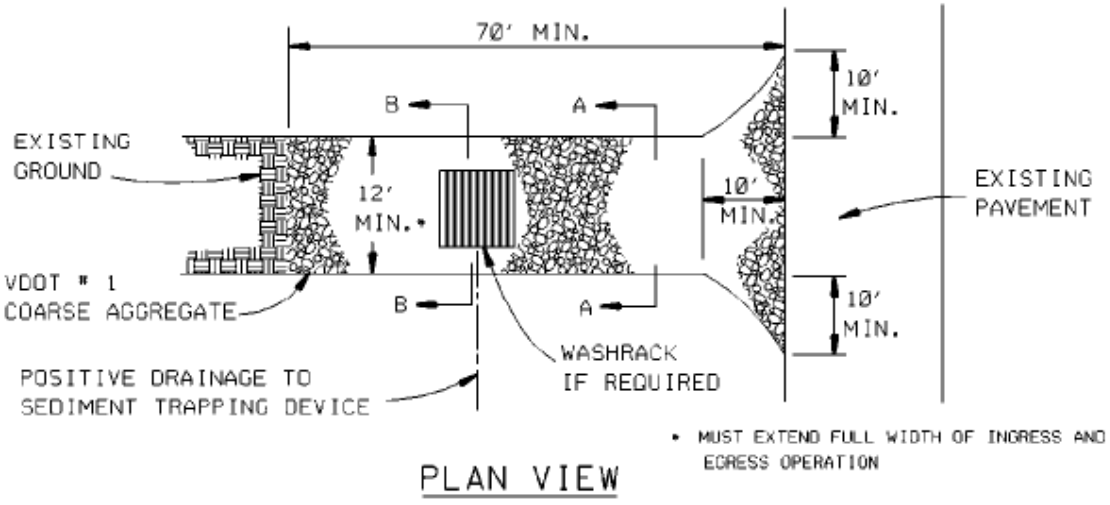
For sites that will require vehicles to enter and exit the site, a stabilized construction entrance is required to minimize mud and dirt from these ingress/egress points onto adjacent public roadways or other paved areas. The construction entrance shall be at least 12 feet wide and 70 feet long. The entrance should be excavated at least 3 inches below the existing soil surface; cleared of all vegetation, roots, and other objectionable material; then stabilized with 6 inches of Virginia Department of Transportation (VDOT) #1 Coarse Aggregate, consisting of 2- to 3-inch stone, with a filter fabric underliner.

JBLE-Langley has the following maintenance requirements when a temporary stone construction entrance is used:

- Inspect routinely
- Keep temporary roadway ditches clear
- Repair as needed or as directed

Section 3.02 of the VESCH provides additional details on the conditions requiring a construction entrance, planning considerations, design criteria, construction specifications, and maintenance requirements. Any implementation of the temporary construction entrance must meet the Section 3.02 requirements. Figure 5-1 shows a plan view drawing of the minimum standards required for the construction entrance. Elevation and section drawings can be obtained through the VESCH or directly from VDEQ.

Figure 5-1 Stone Construction Entrance Plan View



5.2 Silt Fence

For areas that receive low-to-moderate level channel flows, a silt fence intercepts and detains small amounts of sediments from disturbed areas during construction operations. The silt fence is a temporary sediment barrier consisting of synthetic fabric stretched across and attached to supporting posts and entrenched. Implementation of a silt fence as an ESC measure is only allowed where the size of the drainage area is no more than one quarter acre per 100 feet of silt fence length; the maximum slope length behind the barrier is 100 feet; and the maximum gradient behind the barrier is 50 percent (2:1).

Section 3.05 of the VESCH provides additional details on conditions requiring a silt fence, planning considerations, design criteria, construction specifications, installation requirements, and maintenance requirements. Any implementation of silt fencing must meet the Section 3.05 requirements.

JBLE-Langley requires silt fences as sediment control, at a minimum, under the following conditions:

- Placed below the toe of exposed/erodible slopes
- Downslope of exposed soil
- Around temporary stockpiles
- Along streams and channels
- Along the perimeter of a project

JBLE-Langley has the following maintenance requirements when a silt fence is implemented:

- Inspect regularly before and after storm events
- Repair undercut silt fences, or those that are torn, slumping, or split
- Remove collected sediment
- Maintain log book

5.3 Storm Drain Inlet Protection

When there are existing storm drain inlets or when storm drain inlets are to be made operational before permanent stabilization of the land-disturbing area, storm drain inlet protection is required. Storm drain inlet protection prevents sediment from entering storm drainage systems prior to permanent stabilization of the disturbed area. Storm drain inlet protection typically includes a sediment filter or an excavated impounding area around a storm drain drop inlet or curb inlet. The use of storm drain inlet protection measures must ensure ponding will not affect traffic patterns at JBLE-Langley. The following material types are recommended for storm drain inlet protection at JBLE-Langley:

- Filter fabric fence
- Excavated drop inlet sediment trap
- Gravel bags
- Foam barriers and fiber rolls

For land-disturbing activities greater than 1 acre, either a temporary sediment trap (VESCH Section 3.13) or temporary sediment basin (VESCH Section 3.14) is required. For all other land-disturbing activities, the following protection methods are recommended in the VESCH:

- Silt fence drop inlet protection (construction specifications: VESCH Plate 3.07-1)
- Gravel and wire mesh drop inlet sediment filter (construction specifications: VESCH Plate 3.07-2)
- Block and gravel drop inlet sediment filter (construction specifications: VESCH Plate 3.07-3)
- Excavated drop inlet sediment trap (construction specifications: VESCH Plate 3.07-4)
- Sod drop inlet sediment filter (construction specifications: VESCH Plate 3.07-5)
- Gravel curb inlet sediment filter (construction specifications: VESCH Plate 3.07-6)
- Curb inlet protection with 2-inch x 4-inch wooden weir (construction specifications: VESCH Plate 3.07-7)
- Block and gravel curb inlet sediment filter (construction specifications: VESCH Plate 3.07-8)

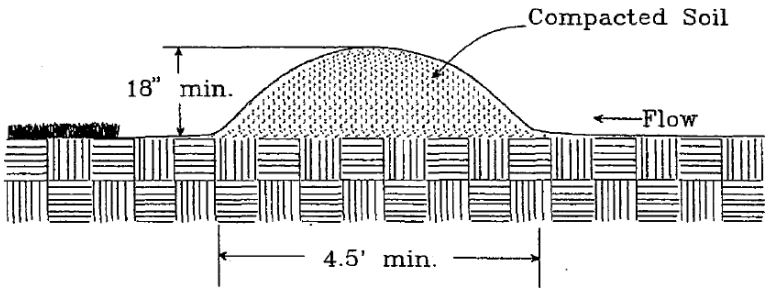
Section 3.07 of the VESCH provides additional details on the conditions requiring storm drain inlet protection, planning considerations, design criteria, construction specifications, and maintenance requirements. Any implementation of storm drain inlet protection must meet the Section 3.07 requirements.

5.4 Temporary Diversions

The VESCH provides details on four different methods of diversion, all of which are designed to intercept and divert stormwater runoff. The four types of diversions are described below:

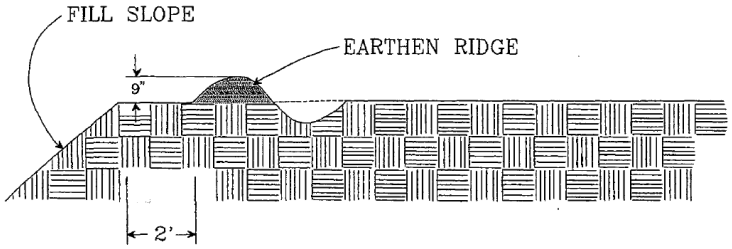
- Temporary diversion dike (VESCH Section 3.09, Figure 5-2): A temporary ridge of compacted soil constructed at the top or base of a sloping disturbed area.

Figure 5-2 Temporary Diversion Dike



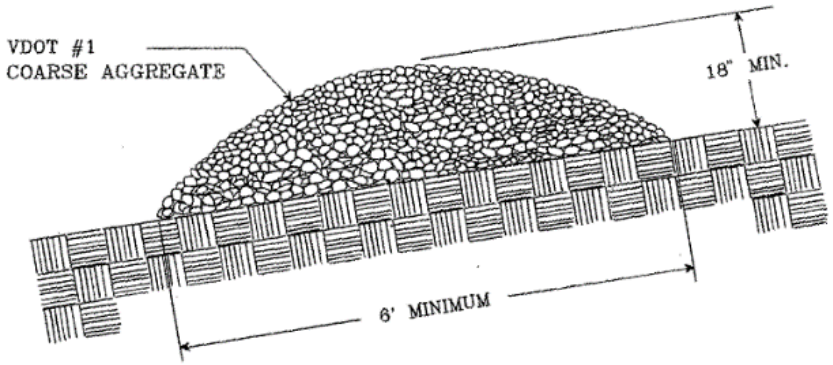
- Temporary fill diversion (VESCH Section 3.10, Figure 5-3): A channel with a supporting ridge of soil on the lower side, constructed along the top of an active earth fill.

Figure 5-3 Temporary Fill Diversion



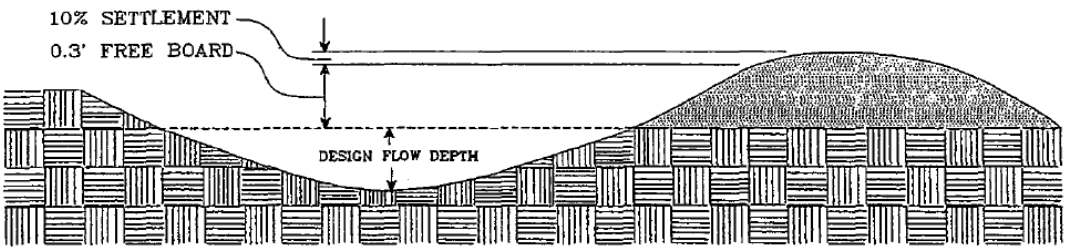
- Temporary right-of-way diversion (VESCH Section 3.11, Figure 5-4): A ridge of compacted soil or loose rock or gravel constructed across disturbed rights-of-way and similar sloping areas.

Figure 5-4 Temporary Right-of-Way Diversion



- Diversion (VESCH Section 3.12, Figure 5-5): A channel constructed across a slope with a supporting earthen ridge on the lower side.

Figure 5-5 Diversion



A diversion is required where runoff from areas of higher elevation may damage property, cause erosion, or interfere with the establishment of vegetation in the lower area; where surface and/or shallow subsurface flow is damaging slope upland; or where slope length needs to be reduced to minimize soil loss.

Each of the sections in the VESCH identified above provides additional details on the conditions requiring each type of diversion, planning considerations, design criteria, construction specifications, and maintenance requirements. Any implementation of diversions must meet the requirements of the associated section.

5.5 Temporary Seeding

Temporary stabilization to reduce erosion and sedimentation is required when the final grade of a site will not be achieved for a period of more than 14 days, but less than one year. Temporary seeding will provide stabilization to denuded areas, soil stockpiles, dikes, dams, sides of sediment basins, and temporary roadblocks while these areas await permanent vegetation or other erosion control measures to be established. The type and rate of application of temporary seeding will vary based on season. Table 5-1 provides details on the acceptable temporary seeding plant materials, regardless of region. Table 5-2 provides details on the acceptable planting dates for temporary seeding plant materials specific to the Coastal Plain region of Virginia.

Table 5-1 Acceptable Temporary Seeding Plant Materials

Planting Dates	Species	Rate (pounds/acre)
Sep 1 to Feb 15	50/50 mix of annual ryegrass (*Lolium multiflorum*) and cereal (winter) rye (*Secale cereale*)	50 to 100
Feb 15 to Apr 30	Annual ryegrass (*Lolium multiflorum*)	60 to 100

Table 5-2 Regional Specific Temporary Seeding Plant Materials.

Species	Rate (pounds/acre)	Season	Notes/Characteristics
Oats (*Avena sativa*)	50 to 100	Feb 15 to Apr 30	Use spring varieties (e.g., Noble).
Rye (*Secale cereale*)	50 to 110	Feb 15 to Apr 30 Sept 1 to Nov 15	Use for late fall seedings, winter cover. Tolerates cold and low moisture.
Annual ryegrass (*Lolium multiflorum*)	60	Feb 15 to Apr 30 Sept 1 to Nov 15	May be added in mixes. Will mow out of most stands.
Weeping lovegrass (*Eragrostis curvula*)	15	May 1 to Sept 1	Warm-season perennial. May bunch. Tolerates hot, dry slopes and acid, infertile soils. May be added to mixes.
Korean lespedeza (*Lespedeza stipulacea*)	25	Feb 15 to Apr 30 May 1 to Sep 1	Warm-season annual legume. Tolerates acid soils. May be added to mixes.

Section 3.31 of the VESCH provides additional details on the conditions requiring temporary seeding, planning considerations, and specifications. Any implementation of temporary seeding must meet the Section 3.31 requirements.

SECTION 6
STORMWATER MANAGEMENT PLAN REQUIREMENTS

The SWM Plan shall be developed to meet the minimum requirements of Stormwater Management Program regulations (9VAC-870-55) and include the following:

1. Information on the type of and location of stormwater discharges, information on the features to which stormwater is being discharged, including surface waters or karst features if present, and predevelopment and postdevelopment drainage areas
2. Contact information, including the name, address, telephone number, and email address of the owner and the tax reference number and parcel number of the property or properties affected
3. A narrative that includes a description of current site conditions and final site conditions or if allowed by the VSMP authority, the information provided and documented during the review process that addresses the current and final site conditions
4. A general description of the proposed stormwater management facilities and the mechanism through which the facilities will be operated and maintained after construction is complete
5. Information on the proposed stormwater management facilities, including (i) the type of facilities; (ii) location, including geographic coordinates; (iii) acres treated; and (iv) the surface waters or karst features into which the facility will discharge
6. Hydrologic and hydraulic computations, including runoff characteristics
7. Documentation and calculations verifying compliance with the water quality and quantity requirements of these regulations
8. A map of the site that depicts the topography of the site and includes
    a. All contributing drainage areas;
    b. Existing streams, ponds, culverts, ditches, wetlands, other water bodies, and floodplains;
    c. Soil types, geologic formations if karst features are present in the area, forest cover, and other vegetative areas;
    d. Current land use including existing structures, roads, and locations of known utilities and easements;
    e. Sufficient information on adjoining parcels to assess the impacts of stormwater from the site on these parcels;
    f. The limits of clearing and grading, and the proposed drainage patterns on the site;
    g. Proposed buildings, roads, parking areas, utilities, and stormwater management facilities; and
    h. Proposed land use with tabulation of the percentage of surface area to be adapted to various uses, including planned locations of utilities, roads, and easements.
9. If an operator intends to meet the requirements established in 9VAC25-870-63 or 9VAC25-870-66 through the use of off-site compliance options, where applicable, then a letter of availability from the off-site provider must be included.

Based on the conditions of the site and the extent of land disturbance, it is likely that a combination of stormwater best management practices will be required, some of which are summarized in Section 7. The 633 CES or VDEQ may require additional information to be provided as part of the SWM Plan.

In addition to the VSMP regulations, the SWM Plan should include information on how to maintain or restore the site to the predevelopment hydrology, as required by the Energy Independence and Security Act 438 for construction sites exceeding 5,000 square feet.

SECTION 7
POSTCONSTRUCTION STORMWATER MANAGEMENT MEASURES

This section recommends some of the typical permanent SWM measures for use at JBLE-Langley, but it is not an exhaustive list. Chapter 3 of the VESCH identify several additional options for SWM measures. Disturbed areas shall be stabilized as quickly as possible after final grade has been attained using permanent structures, temporary or permanent vegetation and mulch, or a combination of these measures. Temporary vegetation and mulches can be used when permanent stabilization is not practical, such as when finished grading may be delayed.

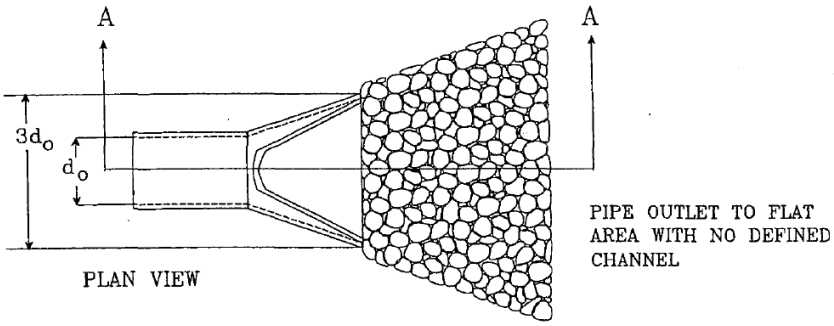
Once a site is stabilized, a thorough maintenance and follow-up program shall be implemented to ensure all control practices perform as designed. It is the contractor's responsibility to provide SWM measures that adequately control erosion and sedimentation in the final design for a site and provide operation and maintenance procedures for each permanent SWM measure as part of the SWM Plan. These operation and maintenance measures will be implemented into JBLE-Langley's permanent stormwater plan. The contractor's final considerations for permanent SWM measures include providing detail to the 633 CES on the following criteria:

- Certification by a licensed professional affirming elevations, conforming to specifications
- Producing as-built plans
- Developing an operations and maintenance manual
- Training maintenance personnel for routine inspections and maintenance tasks
- Performing annual inspection and documentation by a licensed/qualified professional

7.1 Outlet Protection

Outlet protection is a structurally lined apron or other acceptable energy-dissipating device placed at the outlet of pipes or paved channel sections to prevent scour at stormwater outlets, protect the outlet structure, and minimize potential for downstream erosion by reducing the velocity and energy of concentrated stormwater flows. Figure 7-1 give an example plan view of a pipe outlet protection.

Figure 7-1 Pipe Outlet Protection

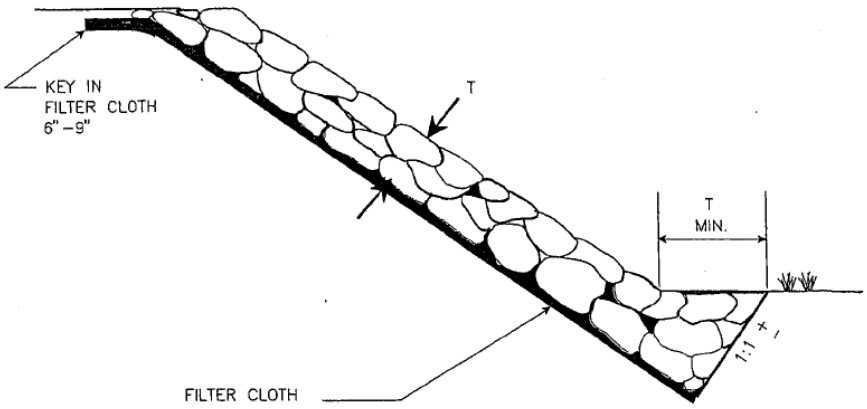


Section 3.18 of the VESCH provides additional details on the conditions requiring outlet protection, planning considerations, design criteria for pipe outlets and paved channel outlets, construction specifications, and maintenance requirements. Any implementation of outlet protection must meet the Section 3.18 requirements.

7.2 Riprap

Riprap is a permanent, erosion-resistant ground cover of large, loose, angular stone with filter fabric or granular underlining. Riprap is typically used to protect the soil from the erosive forces of concentrated runoff, slow the velocity of concentrated runoff while enhancing the potential for infiltration, and stabilize slopes with seepage problems and/or noncohesive soils. Figure 7-2 give an example installation design of riprap.

Figure 7-2 Riprap with Filter Cloth Underliner

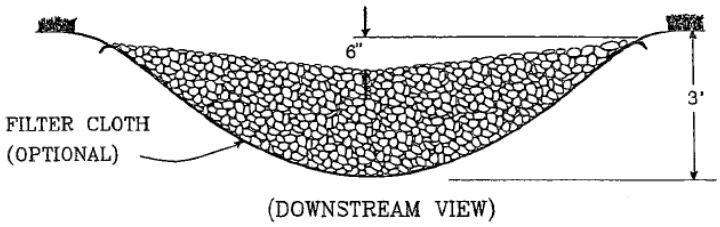


Section 3.19 of the VESCH provides additional details on the conditions requiring riprap, planning considerations, design criteria, construction specifications, and maintenance requirements. Appendix 3.19-a provides details on riprap design in channels, and Appendix 3.19-b provides details on riprap design in lakes and ponds subject to wave action. Any implementation of riprap must meet the Section 3.19 requirements.

7.3 Rock Check Dams

Rock check dams are small stone dams constructed across a swale or drainage ditch to reduce the velocity of concentrated stormwater flows, thereby reducing erosion of the swale or ditch. The use of rock check dams is limited to small open channels that drain 10 acres or less. Figure 7-3 shows an example design of a rock check dam.

Figure 7-3 Rock Check Dam for Drainage of 2 Acres or Less

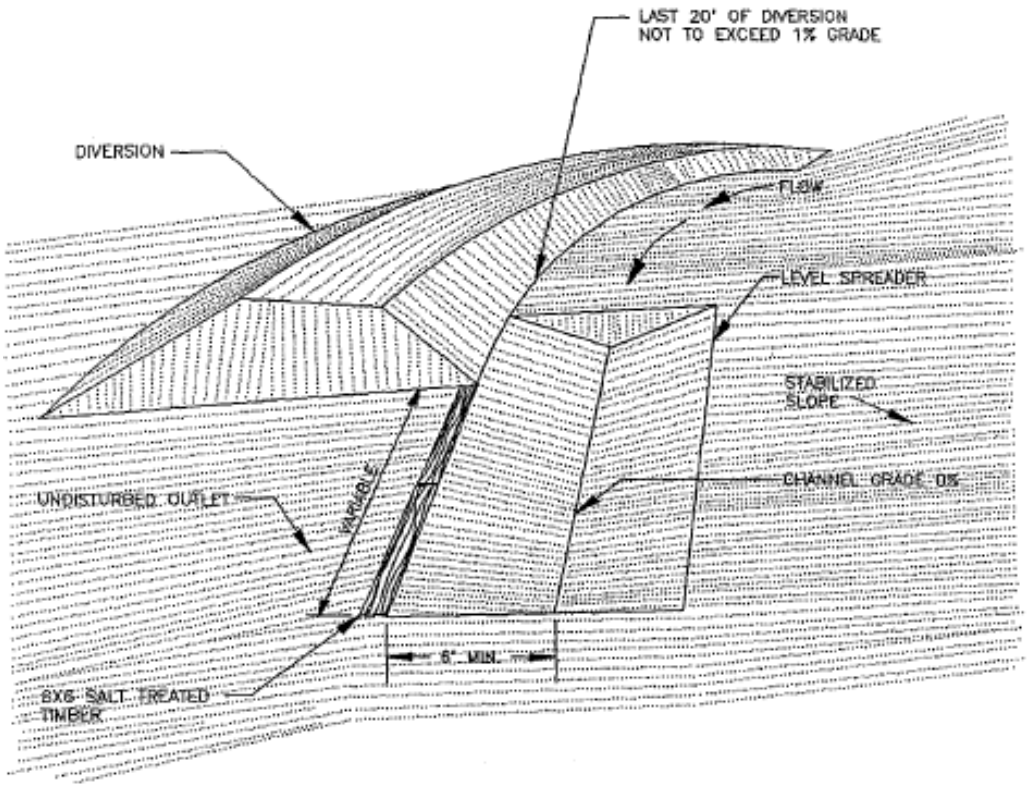


Section 3.19 of the VESCH provides additional details on the conditions requiring rock check dams, planning considerations, specifications, sediment removal requirements, requirements for removal of rock check dams, and maintenance requirements. Any implementation of rock check dams must meet the Section 3.19 requirements.

7.4 Level Spreader

Level spreaders are outlets for dikes and diversions that convert concentrated runoff to sheet flow, allowing it to release uniformly onto areas stabilized by vegetation. Figure 7-4 shows a perspective view of a level spreader.

Figure 7-4 Level Spreader Perspective View



Section 3.21 of the VESCH provides additional details on the conditions requiring level spreaders, planning considerations, design criteria, construction specifications, and maintenance requirements. Any implementation of level spreaders must meet the Section 3.21 requirements.

7.5 Permanent Seeding

Stabilizing disturbed areas by using a perennial vegetative cover improves wildlife habitat and enhances natural beauty. Permanent seeding is required when a disturbed area will not receive its final grade for over a year. The selection of plant material should be based on the climate and planting season, as well as each site-specific topography, soils, and land use. Each site may require modification to provide an adequate seedbed, which includes the following elements:

- Enough fine-grained material to maintain adequate moisture and nutrient supply
- Sufficient pore space to permit root penetration
- Sufficient depth of soil to provide adequate root zone
- Favorable pH range for plant growth (6.0-7.0)
- Freedom from toxic amounts of materials harmful to plant growth

- Freedom from excessive roots branches, large stones, larges clods of earth, or trash of any kind

Approved methods to amend the soil are detailed in the Permanent Seeding section of the VESCH, Section 3.32, as well as the Topsoiling section of the VESCH, Section 3.30. Plant information sheets for approved annual grasses and grains, annual legumes, perennials, miscellaneous erosion control grasses, and legumes are included in Appendix 3.32-c of the VESCH, but must also be approved for planting by 633 CES included the Environmental Special Conditions document. Although the VESCH approves of millet species, millet is prohibited in the 633 CES Environmental Special Conditions due to bird attraction.

Section 3.32 provides additional details on the conditions requiring permanent seeding, planning considerations, and specifications. Appendix 3.32-a provides details on seed quality criteria, Appendix 3.32-b provides keys to successful establishment of grasses and legumes, and Appendix 3.32-c, as mentioned above, provides plan information sheets on VESCH-recommended plant species. Any implementation of permanent seeding must meet the Section 3.32 requirements and the 633 CES Environmental Special Conditions restrictions.

7.6 Sodding

Sodding provides permanent turf immediately and is used where site conditions do not allow the sprouting of permanent seeding or where sodding is preferred to other means of grass establishment. Sodding may be preferred to permanent seeding when attempting to reduce the production of dust and mud associated with soil surfaces, stabilize drainage ways where concentrated overland flow will occur, or to filter device for sediments in areas prior to achieving permanent stabilization. The VESCH Section 3.33 describes the types of sods available in Virginia and recommended uses, which include Kentucky bluegrass, tall fescue, Bermuda grass, and zoysia grass, as well as their approved varieties. Similar to permanent seeding, the area must be acceptable for the establishment of permanent vegetative cover; reference Section 7.5 of this document or Section 3.32 of the VESCH for soil requirements.

Section 3.33 provides additional details on the conditions requiring sodding, planning considerations, specifications, and maintenance requirements. Any implementation of sodding must meet the Section 3.33 requirements.

7.7 Mulching

Mulching is the application of plant residues or other suitable materials to soil surfaces to prevent erosion by protecting the soil surface from raindrop impact and reducing the velocity of overland flow and/or to foster the growth of vegetation by increasing available moisture and providing insulation against extreme heat or cold. Mulching should be used with temporary (Section 5.5) or permanent seeding (Section 7.5), as well as when areas cannot establish vegetative cover because of the season or because trees, shrubs, or certain ground covers do not provide soil stabilization by themselves.

Section 3.35 of the VESCH provides additional details on the conditions requiring mulching, planning considerations, and specifications. Any implementation of mulching must meet the Section 3.35 requirements.

7.8 Soil Stabilization Blankets and Matting

Soil stabilization blankets and matting involve installing a protective cover (blanket) or a soil stabilization textile mat on a prepared planting area of a steep slope, channel, or shore to aid in controlling erosion in critical areas by providing a microclimate that protects young vegetation and

promotes its establishment. Soil stabilization blankets and matting are used when erosion hazard is high and planting is likely to be too slow in providing adequate vegetative cover, in vegetated channels where the velocity of design flow exceeds "allowable" velocity, on streambanks or tidal shorelines where moving water is likely to wash out new plantings, or in areas where the forces of wind prevent standard mulching practices from remaining in place until vegetation becomes established.

Section 3.36 of the VESCH provides additional details on the conditions requiring soil stabilization blankets and matting, planning considerations, VDOT nomenclature and product information, materials, installation requirements, and maintenance requirements. Any implementation of soil stabilization blankets and matting must meet the Section 3.36 requirements.

SECTION 8
REFERENCES

Department of Defense. 2014 August 1. *High Performance and Sustainable Building Requirements*. Unified Facilities Criteria 1-200-02.

Department of Defense. 2016 February 1. *Low Impact Development*. Unified Facilities Criteria 3-210-10.

JBLE-Eustis. 2016 May. *Standards and Specifications for Erosion and Sediment Control for Joint Base Langley Eustis – Eustis*.

JBLE-Langley. 2016 June 27. *JBLE-Langley Municipal Separate Storm Sewer System Program Plan*.

JBLE-Langley. 2018 March 14. *Environmental Special Conditions*.

JBLE-Langley. 2019 March. *JBLE-Langley Stormwater Management Handbook for Construction Operators*.

Secretary of the Air Force. 2015 February 4. *Water and Fuel Systems*. Air Force Instruction 32-1067.

Secretary of the Air Force. 2016 May 19. *Planning and Programing Appropriated Fund, Maintenance, Repair, and Construction Project*. Air Force Instruction 32-1032.

VAC. 2013 July 1. *General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems*. 9VAC25-890.

VAC. 2013 October 23. *Erosion and Sediment Control and Stormwater Management Certification Regulations*. 9VAC25-850.

VAC. 2014 July 1. *General VPDES Permit for Discharges of Stormwater from Construction Activities*. 9VAC25-880.

VAC. 2016 November 17. *Erosion and Sediment Control Regulations*. 9VAC25-840.

VAC. 2018 June 13. *Virginia Stormwater Management Program Regulation*. 9VAC25-870.

VDEQ. 1992. *Virginia Erosion and Sediment Control Handbook*. Third Edition.

VDOT. 2017 July. *Virginia Department of Transportation Drainage Manual*.

VDOT. 2018 September. *Virginia Department of Transportation Approved Materials Lists.*

This Page To Remain Blank

APPENDIX A
VDEQ-PROVIDED ESC PLAN CHECKLIST

This Page To Remain Blank

APPENDIX B
VDEQ ESC COMPLIANCE NOTES

This Page To Remain Blank

APPENDIX C
JBLE-LANGLEY INSPECTION SHEET (AF FORM 1477)

This Page To Remain Blank