Appendix 2: Project Types, Definitions and Performance Measures

The following is a table of project types and their corresponding definitions and performance measures. Project types are categorized by sector and step. Steps are defined as: Step 1: preliminary engineering design; Step 2: final engineering design, and Step 3: implementation. Some projects do not necessarily need preliminary and/or final engineering to be prepared for implementation.

Sector	Project Type	Step	Definition	Performance Measures
All	Work Crew-supported Project Implementation	NA	On-the-ground implementation of high priority projects that have been identified and need final planning and assistance for completion. Examples may include but are not limited to stormwater master planning projects, road inventory projects, or lake assessment projects.	Number of projects completed per sector/category
All	Technical Capacity Building	NA	Expanding the technical capacity of targeted audiences (such as, but not limited to, municipal governments or nonprofit organizations), to increase local water quality-based stewardship through implementation of clean water improvement projects.	Number of trainings held Number of individuals trained Number of landowners/contacts done as a result of the training
Agriculture	Agricultural Pollution Prevention – Identification	NA	Assessments of agricultural lands (including cropland, pastureland, barnyards, and production areas) to target pollution prevention projects. These assessments identify areas with the highest contributions of pollutants. Work includes project development and prioritization to target cost effective actions.	Acres of agricultural lands assessed Number of projects identified
Agriculture	Agricultural Pollution Prevention – Preliminary Engineering Design	1	Preliminary determination of feasibility and design of agricultural best management practices that reduce pollutants (e.g., nutrients, pathogens, sediment) and improve soil health. Work includes determining landowner interest, site/design considerations, and overall suitability in implementing agricultural BMPs.	Number of 30% designs completed
Agriculture	Agricultural Pollution Prevention – Final Engineering Design	2	Final design of agricultural best management practices that reduce pollutants (e.g., nutrients, pathogens, sediment) and improve soil health.	Number of 100% designs completed
Agriculture	Agricultural Pollution Prevention – Implementation	3	Implementation of agricultural best management practices that reduce pollutants (e.g., nutrients, pathogens, sediment) and improve soil health.	Acres of agricultural lands treated

Sector	Project Type	Step	Definition	Performance Measures
Agriculture	Agricultural Pollution Prevention – Equipment	3	Purchase of agricultural equipment with demonstrated water quality benefit to enhance/improve the application/installation of best management practices (e.g., no-till seeding systems and dragline manure injection systems) that reduce erosion and runoff containing pollutants (e.g., nutrients, pathogens, sediment) and improve soil health. Requires establishment of long-term use and maintenance plan (minimum of ten years). May involve the establishment of an equipment share/rental program.	Acres applied for BMP enhancement Hours in use (annual estimate)

Sector	Project Type	Step	Definition	Performance Measures
Forest	Forestry – Identification	NA	Assessments of forest logging roads, trails, and/or stream crossings to identify areas with the highest levels of erosion and nutrient and sediment pollution. These assessments identify project areas and prioritize project strategies to address where implementing forestry Acceptable Management Practices (AMPs) would be most beneficial and cost-effective in order to reduce erosion to control nutrient and sediment pollution.	Acres assessed for forest roads Number of projects identified
Forest	Forestry – Design	2	Final design of forest logging road, trail, and/or stream crossing Acceptable Management Practices (AMPs) project(s) to address erosion to control nutrient and sediment pollution at prioritized locations.	Number of 30% designs completed Number of 100% designs completed
Forest	Forestry – Implementation	3	Implementation of forest logging road, trail, and/or stream crossing Acceptable Management Practices (AMPs) project(s) to address erosion to control nutrient and sediment pollution at prioritized locations.	Linear feet of forest road drainage improved Number of forest road stream crossings improved
Forest	Forestry – Equipment	3	Purchase or construction of forestry equipment with demonstrated water quality benefit to enhance/improve the implementation of Acceptable Management Practices (AMPs) on logging jobs in Vermont. The AMPs will address water quality concerns and reduce erosion to control nutrient and sediment pollution (e.g., portable skidder bridges that reduce erosion at stream crossings on forest/logging roads).	Number of forest road stream crossings improved

Sector	Project Type	Step	Definition	Performance Measures
Lake	Lake Wise Master Planning	NA	Assessments of lake shorelands to identify areas with the highest levels of nutrient/sediment pollution and habitat degradation for targeting pollution prevention and natural resources restoration projects. Work includes project development and prioritization to target cost effective actions.	Acres of lake shore assessed Number of projects identified
Lake	Lake Shoreland – Preliminary Engineering Design	1	Preliminary determination of feasibility and design of lake shoreland habitat restoration projects and lakeshore nutrient/sediment pollution reduction practices at priority locations. Work includes determining landowner interest, site/design considerations, permitting needs, and overall suitability for implementing practices.	Number of 30% designs completed
Lake	Lake Shoreland – Final Engineering Design	2	Final design of lake shoreland habitat restoration projects and/or lakeshore nutrient/sediment pollution reduction practices at priority locations. Work includes securing permit(s) and final operation and maintenance plan agreement(s).	Number of 100% designs completed
Lake	Lake Shoreland Buffers – Implementation	3	Implementation of lake shoreland habitat restoration projects and/or lakeshore nutrient/sediment pollution reduction practices at priority locations.	Acres of natural lake shore restored

Sector	Project Type	Step	Definition	Performance Measures
River	River Project – Identification	NA	Assessments of potential floodplain/stream restoration areas to identify locations with the highest levels of erosion, nutrient and sediment pollution, and/or habitat degradation. This work is done outside of a Stream Geomorphic Assessment or River Corridor Planning Process or as a follow up to that process. These assessments identify sites where stream/river restoration projects will be most beneficial to restore the stream/river to least erosive form over time (i.e., equilibrium condition) and improve habitat. Work includes project development and prioritization to target cost effective actions.	Stream miles assessed Number of projects identified
River	Stream Geomorphic Assessment Phase 1	NA	Remote sensing assessment of rivers/streams at the watershed scale to divide rivers/streams into reaches and provide an initial review of stream reach condition.	Stream miles assessed
River	Stream Geomorphic Assessment Phase 2	NA	Field based assessments of stream reaches to determine current geomorphic and habitat conditions and to determine potential management needs and strategies to restore stream to least erosive form over time (i.e., equilibrium). Could be done in conjunction with a Phase 1 Stream Geomorphic Assessment.	Stream miles assessed Number of projects identified
River	River Corridor Plan	NA	Plan developed to identify and prioritize projects to remediate river instability that is responsible for erosion conflicts, increased sediment and nutrient loading, and a reduction in river habitat. Results in a prioritized list of projects and strategies to address problem areas. Could be done in conjunction with a Stream Geomorphic Assessment.	Stream miles assessed Number of projects identified
River	Dam Removal – Preliminary Engineering Design	1	Preliminary determination of feasibility and design of a dam removal project to restore hydrologic connectivity of surface waters. Work includes determining landowner interest, site/design considerations, permitting needs, and overall suitability for implementing project. May involve feasibility or alternatives analysis.	Number of 30% designs completed

Sector	Project Type	Step	Definition	Performance Measures
River	Dam Removal – Final Engineering Design	2	Final design of dam removal project to restore hydrologic connectivity of surface waters. Work includes obtaining any permits required.	Number of 100% designs completed
River	Dam Removal – Implementation	3	Implementation of dam removal project to restore hydrologic connectivity of surface waters. Permit(s) and operation and maintenance plan agreement(s) are in place prior to construction.	Acres of impoundment removed Stream miles reconnected for stream equilibrium conditions and/or aquatic organism passage
River	Floodplain/Stream Restoration – Preliminary Engineering Design	1	Preliminary determination of feasibility and design of stream/river and floodplain restoration projects to restore the stream/river to least erosive condition (i.e., equilibrium condition) and improve habitat. Restoration work includes removing/retrofitting river corridor/floodplain encroachments and instream structures. Work includes determining landowner interest, site/design considerations, permitting needs, and overall suitability for implementing project.	Number of 30% designs completed
River	Floodplain/Stream Restoration – Final Engineering Design	2	Final design of stream/river and floodplain restoration projects to restore the stream/river to least erosive condition (i.e., equilibrium condition) and improve habitat. Restoration work includes removing/retrofitting river corridor/floodplain encroachments and instream structures. Work includes securing permit(s) and final operation and maintenance plan agreement(s).	Number of 100% designs completed
River	Floodplain/Stream Restoration – Implementation	3	Implementation of stream/river and floodplain restoration projects to restore the stream/river to least erosive condition (i.e., equilibrium condition) and improve habitat. Restoration work includes removing/retrofitting river corridor/floodplain encroachments and instream structures. Permits and operation and maintenance plan agreement(s) are in place prior to implementation.	Acres of floodplain/stream restored Linear feet of floodplain/stream restored For in-stream culvert work: stream miles reconnected for aquatic organism passage For encroachment removal: number of river corridor/floodplain encroachments removed/retrofitted

Sector	Project Type	Step	Definition	Performance Measures
River	River Corridor – Buffer Planting	3	Planting of buffer area along rivers/streams with trees and shrubs, resulting in an average minimum buffer width of 35-feet (300 stems per acre), planted with native woody vegetation whose location floats with the river. Buffer supports restoration of river corridor/floodplain, filters nutrient and sediment pollution from runoff, and provides habitat benefits.	Acres of woody river buffer planted Linear feet of woody river buffer planted
River	River Corridor Easement – Design	2	Evaluation of potential river corridor easement projects identified in an assessment that will remediate river instability that is responsible for erosion conflicts, increased sediment and nutrient loading, and a reduction in river habitat. Work includes determining landowner interest, site/design considerations, and overall suitability for participation in the River Corridor Easement Program.	Acres of river corridor scoped for easement
River	River Corridor Easement – Implementation	3	Protection in perpetuity of a high priority river corridor to allow for passive restoration of channel stability by allowing natural erosive forces of the river to establish its least erosive form over time (i.e., equilibrium condition). Requires implementation of land use practices promoting water quality and encouraging flood resilience: landowner sells channel management; no new structures/development can occur within the corridor; a 50-foot river buffer of native woody vegetation is established that moves with the river.	Acres of river corridor conserved Linear feet of river corridor conserved

Sector	Project Type	Step	Definition	Performance Measures
Road	Road Erosion Control Inventory	NA	Inventory of roads and/or culverts required to comply with the Municipal Roads General Permit (MRGP). Inventories identify specific road erosion and stormwater problems impacting water quality and project strategies to address those issues. Inventories will inform MRGP implementation schedules, outlining specific remediation actions to be taken over a specific time-period.	Road miles assessed Number of projects identified
Road	Road Project – Identification	NA	Identification of potential locations to implement road projects outside of a Road Erosion Control Inventory that will correct high priority road related erosion problems and/or collect, store, infiltrate, and filter runoff from transportation infrastructure. Work includes project development and prioritization to target cost effective actions.	Road miles assessed Number of projects identified
Road	Road Project – Preliminary Engineering Design	1	Preliminary determination of feasibility and design of projects to correct road related erosion problems for gravel and paved roads and road drainage culverts (e.g., ditches, turnouts, check dams, culvert armoring) and stormwater treatment practices to collect, store, infiltrate, and filter runoff from transportation infrastructure (e.g., bioretention, gravel wetlands, wet ponds). Work includes determining landowner/ municipal interest, site/design considerations, permit needs, and overall suitability for implementing project.	Number of 30% designs completed
Road	Road Project – Final Engineering Design	2	Final design of projects to correct road related erosion problems for gravel and paved roads and road drainage culverts (e.g., ditches, turnouts, check dams, culvert armoring) and stormwater treatment practices that collect, store, infiltrate, and filter runoff from transportation infrastructure (e.g., bioretention, gravel wetlands, wet ponds). Work includes obtaining any required permits.	Number of 100% designs completed
Road	Road Project – Implementation	3	Implementation of projects to correct road related erosion problems for gravel and paved roads and road drainage culverts (e.g., ditches, turnouts, check dams, culvert armoring) and stormwater treatment practices that collect, store, infiltrate, and filter runoff from transportation infrastructure (e.g., bioretention, gravel wetlands, wet ponds).	Number of drainage structures installed/repaired Linear feet of road drainage improved
Road	Stormwater/ Roads – Equipment	3	Purchase of stormwater equipment with demonstrated water quality benefit to enhance/improve the application/installation of best management practices that will reduce erosion and control nutrient and sediment pollution (e.g., high efficiency street sweepers, and vacuum (vactor) trucks/trailers, hydroseeders). Requires establishment of long-term use and maintenance plan (minimum of ten years). If more than one entity, would require the establishment of an equipment share/rental program.	Annual estimates of: Hours in use Street sweepers: road miles applied Vactor trucks: pounds of material removed Hydroseeders: linear feet applied for BMP enhancement

Sector	Project Type	Step	Definition	Performance Measures
Stormwater	Stormwater utility development (SWU)	NA	The SWU uses dedicated revenues to provide a stable source of revenue for stormwater management activities, such as the design, construction, maintenance and administration of stormwater systems, as well as best management practices and other strategies to control and reduce stormwater runoff pollution to surface waters.	Acres of impervious surface covered by an adopted stormwater utility.
Stormwater	Stormwater – Illicit Discharge Detection and Elimination (IDDE)	NA	Illicit Discharge, Detection, and Elimination (IDDE) assessment to detect unauthorized/illicit discharges of wastewater or industrial process water into a stormwater-only drainage system. When illicit discharges are detected and confirmed, municipalities are required to address the illicit discharge, preventing wastewater or industrial process water from entering surface waters through stormwater-only infrastructure.	Number of unauthorized/illicit discharges detected and confirmed
Stormwater	Stormwater Master Plan	NA	Assessment of a geographic area (sub watershed or town) to determine where stormwater pollution is generated, and where it can be captured and removed efficiently by projects. Results in a prioritized list of projects and strategies to address/mitigate stormwater runoff, and contain recommendations to preserve natural features and functions, as well as encourage use of low impact green stormwater infrastructure.	Acres assessed Number of projects identified
Stormwater	Stormwater – Preliminary Engineering Design	1	Preliminary determination of feasibility and design of stormwater management practice(s) that collect, store, infiltrate, and filter runoff that contains nutrient and sediment pollution from hard surfaces associated with developed/urban/suburban areas. Work includes determining landowner interest, site/design considerations, permitting needs, and overall suitability for project implementation. Work must result in at least 30% design of project which includes a design concept report, topographic and boundary survey, geotechnical report, and project drawings/ specifications.	Number of 30% designs completed
Stormwater	Stormwater – Final Engineering Design	2	Final design of stormwater management practice(s) that collect, store, infiltrate, and filter runoff that contains nutrient and sediment pollution from hard surfaces associated with developed/urban/suburban areas. Work includes securing permit(s) and final operation and maintenance plan agreement(s).	Number of 100% designs completed

Stormwater	Stormwater – Implementation	3	Implementation of stormwater management practice(s) that collect, store, infiltrate, and filter runoff that contains nutrient and sediment pollution from hard surfaces associated with developed/urban/suburban areas. Permit(s) and operation and maintenance plan agreement(s) are in place prior to construction.	Acres of impervious area treated Acres of impervious area removed (if applicable)

Sector	Project Type	Step	Definition	Performance Measures
Wetland	Wetland Restoration – Identification	NA	Assessments to identify priority wetlands and buffer areas for restoration and protection work to promote water quality benefit, encourage flood resiliency, and provide habitat benefits. Assessments involve project development and prioritization to target cost effective actions.	Acres of wetland assessed Number of projects identified
Wetland	Wetland Restoration – Preliminary Engineering Design	1	Preliminary design of wetland and buffer area restoration and protection projects to promote water quality benefit, encourage flood resiliency, and provide habitat benefits. Work may include determining landowner/ municipal interest, site/design considerations, permit needs, and overall suitability for implementing project.	Number of 30% designs completed
Wetland	Wetland Restoration – Final Engineering Design	2	Final design of wetland and buffer area restoration and protection projects to promote water quality benefit, encourage flood resiliency, and provide habitat benefits. Work may include securing permit(s) and operation and maintenance plan agreements, and final stewardship agreement(s).	Number of 100% designs completed
Wetland	Wetland Restoration – Implementation	3	Implementation of wetland and buffer area restoration and protection projects to promote water quality benefit, encourage flood resiliency, and provide habitat benefits.	Acres of wetland restored