APPENDIX B: BEST MANAGEMENT PRACTICES

Best Management Practice	Best Management Practice Description
Asphalt	Asphalt can be used as a structural material for erosion control much like reinforced concrete. It can be used at stream crossings or to reinforce specific erosion prone areas along roadways or within training areas.
Brush Barrier	Brush barriers are perimeter sediment control structures used to prevent soil in storm water runoff from leaving a construction site. Brush barriers are constructed of material such as small tree branches, root mats, stone, or other debris left over from site clearing and grubbing.
Check Dams	Check dams are small, temporary dams constructed across a swale or channel. Check dams can be constructed using gravel, rock, sandbags, logs, or straw bales and are used to slow the velocity of concentrated flow in a channel. By reducing the velocity of the water flowing through a swale or channel, check dams reduce the erosion in the swale or channel. As a secondary function, check dams can also be used to catch sediment from the channel itself or from the contributing drainage area as storm water runoff flows through the structure.
Chemical Stabilization	Chemical stabilizers, also known as soil binders or soil palliatives, provide temporary soil stabilization. Examples of chemical adhesives include anionic asphalt emulsion, latex emulsion, resin-water emulsions, and calcium chloride. Materials are sprayed onto the surface of exposed soils to hold the soil in place and protect against erosion from runoff and wind.
Cobble Drains	Cobble drains are typically installed underneath roads crossing sub-surface water flows to prevent fill material saturation and impairment. Cobble drains typically run to a downhill slope and are installed perpendicular to the road base. The outlet is left open.
Construction Entrances	The purpose of stabilizing entrances to a construction site is to minimize the amount of sediment leaving the area as mud attached to motorized vehicles. Installing a pad of gravel over filter cloth where construction traffic leaves a site can help stabilize a construction entrance. As a vehicle drives over the gravel pad, mud and sediment are removed from the vehicle's wheels and offsite transport of soil is reduced.
Construction Sequencing	Construction sequencing requires creating and following a work schedule that balances the timing of land disturbance activities and the installation of measures to control erosion and sedimentation, in order to reduce on-site erosion and off-site sedimentation.
(General) Construction Site Waste Management	Building materials and other construction site wastes must be properly managed and disposed of to reduce the risk of pollution from materials such as surplus or refuse building materials or hazardous wastes.
(Permanent) Diversions	Diversions can be constructed by creating channels across slopes with supporting earthen ridges on the bottom sides of the slopes. The ridges reduce slope length, collect storm water runoff, and deflect the runoff to acceptable outlets that convey it without erosion.
(Temporary) Diversion Dikes, Earth Dikes, & Interceptor Dikes	Earthen perimeter controls usually consist of a dike or a combination dike and channel constructed along the perimeter of a disturbed site. Simply defined, an earthen perimeter control is a ridge of compacted soil, often accompanied by a ditch or swale with a vegetated lining, located at the top or base of a sloping disturbed area.
Drainage Swales	A drainage swale is a channel with a lining of vegetation, riprap, asphalt, concrete, or other material and is used to intercept and divert flow to a suitable outlet. It is constructed by excavating a channel and applying the appropriate stabilization. They can be used to convey runoff from the bottom or top of a slope. For swales draining a disturbed area, the outlet can be to a sediment trapping device prior to its release.

Filter Berms	A gravel or stone filter berm is a temporary ridge made up of loose gravel, stone, or crushed rock that slows, filters, and diverts flow from an open traffic area and acts as an efficient form of sediment control. A specific type of filter berm is the continuous berm, a geosynthetic fabric that encapsulates sand, rock, or soil.
Gabions	Gabions consist of coarse aggregates set in wire gabion baskets and are aligned in a terraced wall formation. They are installed to prevent non-desired fish passage between water bodies while maintaining water flow and to control erosive seasonal water flows.
Geotextiles	Geotextiles are porous fabrics also known as filter fabrics, road rugs, synthetic fabrics, construction fabrics, or simply fabrics. Geotextiles are manufactured by weaving or bonding fibers made from synthetic materials such as polypropylene, polyester, polyethylene, nylon, polyvinyl chloride, glass, and various mixtures of these materials. As a synthetic construction material, geotextiles are used for a variety of purposes such as separators, reinforcement, filtration and drainage, and erosion control.
Gradient Terraces	Gradient terraces are made of either earthen embankments or ridge and channel systems that are properly spaced and are constructed with an adequate grade. They reduce damage from erosion by collecting and redistributing surface runoff to stable outlets at slower speeds and by increasing the distance of overland runoff flow.
Grass-Lined Channels	Grass-lined channels convey storm water runoff through a stable conduit. Vegetation lining the channel reduces the flow velocity of concentrated runoff. Grassed channels usually are not designed to control peak runoff loads by themselves and are often used in combination with other BMPs, such as subsurface drains and riprap stabilization.
Grid Pavers	Cement or plastic grid pavers can be used to line ditches or stream bottoms where vehicles cross in order to control erosion, stabilize stream bottoms, and minimize rutting or shifting of material. Grid pavers also reduce storm water runoff, help prevent flooding, reduce non-point source pollution, reduce imperviousness of the area, and minimize site disturbance.
Land Grading	Land grading involves reshaping the ground surface to planned grades as determined by an engineering survey, evaluation, and layout. Land grading provides more suitable topography for buildings, facilities, and other land uses and helps to control surface runoff, soil erosion, and sedimentation during and after construction.
Log Cribbing	Log cribbing is an erosion control technique specifically used to retain soil or gravel firmly to its original place or to confine it as much as possible within the site boundary.
Mulching	Mulching is a temporary erosion control practice in which materials such as grass, hay, wood chips, wood fibers, straw, or gravel are placed on exposed or recently planted soil surfaces.
Preserving Natural Vegetation	The principal advantage of preserving natural vegetation is the protection of desirable trees, vines, bushes, and grasses from damage during project development. Vegetation provides erosion control, storm water detention, biofiltration, and aesthetic values to a site during and after construction activities.
Reinforced Concrete	Reinforced concrete can be used to control erosion at stream crossings, or to reinforce specific erosion prone areas along roadways or within the training areas.
Riprap	Riprap is a permanent, erosion-resistant layer made of stones. It is intended to protect soil from erosion in areas of concentrated runoff. Riprap may also be used to stabilize slopes that are unstable because of seepage problems.
Sediment Basins and Rock Dams	Sediment basins and rock dams are two ways to capture sediment from storm water runoff before it leaves a construction site. Both structures allow a shallow pool to form in an excavated or natural depression where sediment from storm water runoff can settle.

Sediment Trap	Sediment traps are small impoundments that allow sediment to settle out of runoff water. They are usually installed in a drainage way or other point of discharge from a disturbed area.
(Permanent) Seeding	Permanent seeding is used to control runoff and erosion on disturbed areas by establishing perennial vegetative cover from seed. It is used to reduce erosion, to decrease sediment yields from disturbed areas, and to provide permanent stabilization.
Silt Fence	Silt fences are used as temporary perimeter controls around sites where there will be soil disturbance due to construction activities. They consist of a length of filter fabric stretched between anchoring posts spaced at regular intervals along the site perimeter.
(Temporary) Slope Drain	A temporary slope drain is a flexible conduit extending the length of a disturbed slope and serving as a temporary outlet for a diversion.
Sodding	Sodding is a permanent erosion control practice that involves laying a continuous cover of grass sod on exposed soils. In addition to stabilizing soils, sodding can reduce the velocity of storm water runoff. Sodding can provide immediate vegetative cover for critical areas and stabilize areas that cannot be vegetated by seed. It also can stabilize channels or swales that convey concentrated flows and can reduce flow velocities.
Soil Retention	Soil retention measures are structures or practices that are used to hold soil in place or to keep it contained within a site boundary. They may include grading or reshaping the ground to lessen steep slopes or shoring excavated areas with wood, concrete, or steel structures.
Soil Roughening	Soil roughening is a temporary erosion control practice often used in conjunction with grading. Soil roughening involves increasing the relief of a bare soil surface with horizontal grooves, stair-stepping (running parallel to the contour of the land), or tracking using construction equipment.
Spill Prevention and Control Plan	Spill prevention and control plans should clearly state measures to stop the source of a spill, contain the spill, clean up the spill, dispose of contaminated materials, and train personnel to prevent and control future spills.
Stand Pipes	Stand pipes, also known as drop inlets, are used in areas where ponding water levels must be maintained without being allowed to overtop a road or pad. The height of a vertical pipe inlet is set at an elevation that maintains desired water levels, and a trash rack-rate assembly is typically installed on the top of the vertical pipe to prevent coarse debris from entering it.
(Temporary) Storm Drain Diversion	Temporary storm drain diversions are storm drain pipes which redirect an existing storm drain system or outfall channel to discharge into a sediment trap or basin.
Storm Drain Inlet Protection	Storm drain inlet protection measures are controls that help prevent soil and debris due to site erosion from entering storm drain drop inlets.
(Temporary) Stream Crossings	A temporary steam crossing is a structure erected to provide a safe and stable way for construction vehicle traffic to cross a running watercourse. The primary purpose of such a structure is to provide streambank stabilization, reduce the risk of damaging the streambed or channel, and reduce the risk of sediment loading from construction traffic.
Subsurface Drains	These are perforated pipe or conduit placed beneath the surface of the ground at a designated depth and grade. They are used to drain an area by lowering the water table. A high water table can saturate soils and prevent the growth of certain vegetation. Drains can help prevent soil from "slipping" down the hill.
Vegetated Buffer	Vegetated buffers are areas of either natural or established vegetation that are maintained to protect the water quality of neighboring areas. Buffer zones reduce the velocity of storm water runoff, provide an area for the runoff to permeate the soil, contribute to ground water recharge, and act as filters to catch sediment.

Wind Fences and Sand Fences	Sand fences are barriers of small, evenly spaced wooden slats or fabric erected to reduce wind velocity and to trap blowing sand. They can be used effectively as perimeter controls around open construction sites to reduce the off-site movement of fine sediments transported by wind. They also prevent off-site damage to roads, streams, and adjacent properties.