Chapter 3

MAP Activity Descriptions and Operation Numbers

MAP Activity Descriptions and Work Operations Chapter 3

This chapter is all about the MAP activities and associated work operations. Each activity is defined and examples of tasks, crew size, equipment used, appropriate work operations and much more can be found here.

MAP Activity numbers indicate which component and group they are a part of. The first character signifies the group, the second signifies the component and the third is simply the order of activities within a particular group. For instance, let's look at 1A3, Shoulder Maintenance. The number 1 tells us this activity is in Group 1, Roadway Maintenance & Operations. The letter A informs us that this activity is considered part of the Maintenance component. Lastly, the number 3 indicates this is the third item in Group 1.

General Notes:

1. The crew size and equipment identified for each activity is representative of what would most commonly be used in each situation. Others may be selected, when in the judgment of trained maintenance personnel, it is determined that other methods are necessary for safe, cost effective, and expeditious execution of the activity.

2. The crew size for many maintenance activities can vary from 1 to 6 people because additional traffic control may be needed to insure a safe work site. Many activities require one or more buffer trucks with a truck mounted attenuator and arrow boards. Highways that have high traffic volumes, are in urban locations, or have extensive curves with low visibility will require additional workers for traffic control purposes.

Group 1 - Roadway Maintenance & Operations

1A1 - Pavement Patching, Repair & Crack Sealing

Activities required to fix pavement deficiencies such as pot holes, alligator cracking, and rutting in order to extend the life of the pavement. Work may include digging out old broken pavement, any unstable base material, and placing and compacting new, free draining, base material and asphalt mix with mechanized equipment or hand tools depending on the size of the patch. For large areas of deficient pavement, an asphalt distributor spraying hot liquid asphalt or emulsified asphalt on the distressed pavement area, and covering it with crushed rock and rolling the rock to compact and seat the stones together, or an overlay patch with hot-mix asphalt may be used. This activity also includes grading and repairing gravel roads, repairing broken curbs, and engineering services for special, roadway-related projects. Crews doing this work may vary from 2 to more than 10 people, depending on the size of the repair and amount of equipment needed to accomplish the work. Equipment may include dump trucks, front end loader, motor grader, paving machine, steel roller, rubber tire roller, chip spreader, oil tank trailer and/or an oil distributor.

This activity also includes crack sealing, which is repairing cracks in asphalt and concrete pavement in order to extend the life of the pavement. Random cracking will appear in pavements due to natural aging and traffic action. Cracks over 1/4 inch wide should be filled to prevent water from entering into and weakening the underlying subgrade. Crack sealing is accomplished by pouring hot liquid asphalt in the cracks. Crews doing this work may vary from 2 or more people, depending on the amount of cracking and amount of equipment needed to accomplish the work. Equipment may include dump trucks, compressor, and asphalt kettle.

1A3 - Shoulder Maintenance

Activities required to repair deficiencies in the paved shoulder or gravel area adjacent to the edge of the pavement. Includes all activities listed above for pavement patching and crack sealing, but also includes grading the gravel to repair erosion or a drop-off developed by vehicles driving off the pavement edge, and removing shoulder buildup caused by vegetation growth, or sand left from winter work. Crews doing this work may vary from 1 to 4 people, depending on the size of the repair and amount of equipment needed to accomplish the work. Equipment may include a motor grader for the grading work and a sweeper for clean up, or all the equipment listed for pavement patching and crack sealing.

1A4 - Sweeping & Cleaning

Includes sweeping paved shoulders and paved islands either by hand or with a self propelled mechanical sweeper. The work may include picking up all debris, hauling it to a nearby waste disposal site, and washing the pavement with a street flusher. Crews doing this work may vary from 1 to 6 people depending on the amount of traffic control needed. Equipment may include dump trucks, sweeper and street flusher.

1B1- Safety Patrol

Includes patrolling the highway to ensure that the roadway, shoulder, and right of way are free of hazards to the traveling public or hazards that may jeopardize the roadway or roadway prism. Work includes traveling the roadway to inspect for hazardous conditions or problems. Situations requiring immediate attention include rocks, debris, downed stop signs, or dead animals on the roadway. These are corrected without delay to minimize the traveling public's exposure to the hazard. Any conditions that require a crew or special equipment, such as damaged guardrail, a sign down, a rock slide, or wind-blown tree that has encroached on the roadway are reported to the area maintenance office for future scheduling of crews. Safety patrols are routinely accomplished in areas that commonly have problems, such rockfall or slide areas, and high volume roadways where there is more likelihood of damage occurring or having debris on the roadway.

This activity also includes responding to complaints from the public or the State Patrol about hazards reported to the area office. Each complaint/identified problem must be inspected to determine the severity of the problem and the appropriate remedy. Situations requiring immediate attention are corrected without delay to minimize the traveling public's exposure to the hazard. The work is normally accomplished by one person in a truck.

Group 2 - Drainage Maintenance & Slope Repair

2A1- Maintain Ditches

Includes all work necessary to remove silt, soil and rock that have built up over time to restore the flow capacity of ditches. Work may include placing rock in ditches that have eroded to restore the original flow lines and control future erosion. Re-vegetation of the cleaned ditch may also be implemented to control future erosion. Material that is removed from the ditch must be hauled to a suitable disposal site. Crews doing this work may vary from 1 to more than 7 people depending on the size of the repair and amount of equipment needed to accomplish the work. Equipment may include dump trucks, front end loader, motor grader, belt loader, excavator, or backhoe.

2A2 - Maintain Culverts

Includes all work necessary to keep culverts that cross state highways free of debris and silt. Also includes removing debris build-up, beaver dams, or brush at culvert ends to insure they are free of obstructions. Crews doing this work may vary from 2 to 4 people depending on the size of the obstruction. Equipment may include a culvert rodder, dump truck, backhoe, double drum dragline and hand tools.

2A3 - Maintain Catch Basins & Inlets

Includes all work necessary to restore flow and storage capacity of inlets, catch basins, manholes, and connecting pipes. Work includes removing the lid and extracting built-up debris and silt. Crews doing this work may vary from 2 to 4 people depending on the amount of traffic control required. Equipment may include a vacuum truck, culvert rodder, water tank truck, dump truck, truck mounted attenuator, and hand tools.

2A4 - Maintain Stormwater Facilities

Includes all work necessary to maintain the original functionality of stormwater facilities to meet WSDOT Highway Runoff Manual Chapter 5-5 requirements. This work may consist of removing soil/silt buildup from stormwater treatment/flow control facilities and inlet/outlet pipes. Material that is removed must be properly managed. Work may also involve erosion repair, liner repair, beaver dam removal, tree removal and noxious and nuisance weed control within the confines of the storm water facility. Crews doing this work may vary from 2 to more than 7 people, depending on the size of the repair and amount of equipment needed to accomplish the work. Equipment may include dump trucks, front end loader, excavator, backhoe, mowers, or herbicide sprayer.

2A5 - Slope Repair

Includes all work necessary to repair slope damage from slides, drifting sand or erosion. Work also includes repairing damage to riprap, cribbing, bulkheads, and dikes. For slide repair, the rock, mud, or dirt that that has slid into the ditch or on the roadway must be removed and the ditch returned to its original shape. Erosion repair will involve replacing the eroded material with rock, gravel or other material to stabilize the slope and restore it to its original shape. It may also require removing the eroded material if it has caused damage to adjoining land. Re-vegetation of the slope may also be implemented to control future slope damage. The crew size will vary greatly depending on the size of the slide or damage that has occurred and the amount of equipment needed to do the work. Equipment may include dump trucks, front end loader, excavator, or backhoe.

Group 3 - Roadside & Vegetation Management

3A1 - Litter Pickup

Includes all work necessary to remove litter, debris, and dead animal carcasses from the shoulder and roadside, and haul it to an appropriate disposal site. Also includes administration of the Adopt-A-Highway Litter Control Program including providing safety hats and vests, signs, and litter sacks to the groups and collecting the filled sacks and hauling to an appropriate disposal site. Work requires one or two people with a small truck, dump truck or garbage compactor.

3A2 - Noxious Weed Control

Includes all work necessary to eradicate and prevent the spread of seed from weeds identified in WAC 16-750 as a Class A or B noxious weed and growing on highway rights of way. The work may involve the spraying of herbicides, mowing, hand pulling, or application of biological control agents (bugs or diseases). The work also includes preventive strategies such as seeding, planting, fertilizing, or liming to enhance desirable vegetation communities which will out-compete unwanted weeds. Work is accomplished by one or two people using power spray equipment, or mowers. A buffer truck may be necessary for traffic control safety.

3A3 - Nuisance Vegetation Control

Includes all work necessary to eradicate nuisance vegetation on the right of way that is not identified in WAC 16-750 as a Class A or B noxious weed, nor considered a safety hazard from a highway operational standpoint. This type of vegetation is either aesthetically unsightly, or is troublesome. Scotch Broom and blackberries are two plants that typically fall into this category on the west side of the state. Morning Glory and Puncturevine are examples for the east side. This work includes general mowing of the roadside to improve neatness and appearance. The work may involve the spraying of herbicides, mowing, brushing with hand tools or power saws, pulling by hand, or application of biological control agents (bugs or diseases). Also includes application of soil residual herbicides to prevent vegetation from growing in the gravel at the edge of the pavement. Work is accomplished by one to eight or more people depending on the amount and size of the project. Equipment may include dump trucks, bucket truck, power spray equipment, mowers, or spyder with a brush head. A buffer truck may be necessary for traffic control safety.

3A4 - Control of Vegetation Obstructions

Includes all work necessary to eliminate vegetation on the right of way that is, or potentially will be, a safety hazard from an operational standpoint. This type of vegetation is either an obstruction to a vehicle leaving the highway that would cause damage if struck, or is an obstruction to the vision of motorists using the highway and would prevent someone from seeing an upcoming hazard and not allow adequate time to prevent an accident. The work also includes keeping sight lines to signs open; removal of trees and brush that shade the roadway causing icing conditions during the winter; removal of vegetation that is a potential fire hazard; and removal of trees that exhibit structural flaws which increase potential for failure and falling on the roadway. Also includes removal of trees that have fallen on the road after a snow or wind storm.

Obstructions can include danger trees, trees 4 inches in diameter or larger in the clear zone, and vegetation blocking regulatory, warning and advisory signs. Other hazards included in this work group are vegetation blocking sight lines to ditch lines, guardrail, guideposts and private approaches. Potential obstructions are seedling trees that are not large enough to be a hazard but will be so in the future.

The work may involve the spraying of herbicides, mowing, brushing with hand tools or power saws, or pulling by hand. This group does not include preventive strategies such as seeding and fertilizing. Work is

accomplished by one to eight or more people depending on the amount and size of the vegetation removed. Equipment may include dump trucks, bucket truck, power spray equipment, mowers, spyder with a brush head, chipper, chain saw, pole saw, or hand tools.

3A5 - Landscape Maintenance

Includes all activities related to the care of formal, ornamental landscape plantings along the highway and interchanges. Work includes weed prevention and eradication; operation and repair of irrigation systems; fertilizing, liming, pruning, trimming and mowing of lawns. Crew size may vary from 1 to 6 people depending on the size of the area being cared for. Equipment may include backhoe, truck, herbicide and insecticide spray equipment, chain saw, hand tools, and fertilizer spreader.

Group 4 - Bridge & Urban Tunnel Maintenance & Operations

4A1 - Bridge Deck Repair

Includes all work necessary to repair scaling, spalling, cracks, and exposed reinforcing steel on bridge decks. The work includes saw cutting and removal of broken asphalt or concrete from the damaged area and patching it with an appropriate mix or compound such as asphalt, epoxy or concrete. Work requires a crew of 6-8 people with an air compressor, jackhammer, concrete saw, front end loader, and trucks. A buffer truck may be necessary for traffic control safety.

4A2 - Structural Bridge Repair

Includes all work necessary to repair deficiencies that affect the structural support systems of a bridge or tunnel. This includes a wide variety of work including repairing piers or girders, replacing bearing pads, replacing damaged or deteriorated truss members, replacing or repairing expansion joints, repairing scour around piers, and removing debris build-up against piers, bulkheads, or pilings. This may also include tunnel interior maintenance, maintenance of non-structural portions of the bridge (bridge rail, traffic gates, navigation lights, etc.), and payments to other states for inter-state bridge maintenance activities. Work requires a crew of 6-8 people with an air compressor, jackhammer, concrete saw, under-bridge bucket truck, backhoe, and dump trucks. A buffer truck may be necessary for traffic control safety.

4A3 - Bridge Cleaning

Includes all work necessary to clean bridge surfaces, sidewalks, and drains to remove sand and debris build-up, provide proper drainage, and an aesthetically clean appearance. Work includes sweeping and washing decks and sidewalks, power washing or sand blasting rust, moss, bird guano, or dirt from surfaces, and cleaning plugged drains and grates so water flows through them freely. This activity also includes painting steel structures to prevent rusting and present an aesthetically pleasant appearance. Work may require a crew of 6-8 people with an air compressor, power washer, sweeper, vactor truck, flusher truck, bucket truck, front end loader, and dump trucks. A buffer truck may be necessary for traffic control safety.

4B1 - Movable and Floating Bridges

Coast Guard regulations require that certain waterways be open to navigation at all times. Highway bridges that cross these waterways must either be high enough to allow ships and boats to pass underneath, or have the ability to move the span so ships and boats can pass on demand. This activity includes all work necessary to maintain and operate moving and floating bridges that are not covered in the activities listed above. Work includes maintenance of all mechanical and electrical working parts so the bridges can be opened and closed when needed. The activity includes the work operation of opening and closing the bridge span. Also includes work to operate floating bridges including pumping water out of pontoons and adjusting anchor cable tension. This work is necessary to keep the bridges operational, afloat, and in proper alignment. Work will require a crew of 1 or more people, and some must have special electrical and mechanical skills and licenses. Tools may include a variety of specialized electrical and mechanical equipment.

This activity also includes all work necessary to perform preventive maintenance tasks on mechanical and electrical bridge systems, as identified by the manufacturer, or contained in the O&M Manual. These systems can be very complex and require preventive maintenance to ensure the longest lifecycle possible. Tasks are identified and scheduled for completion in MPET (Maintenance Productivity Enhancement Tool). Work will require a crew of 1 or more people, and some must have special electrical and mechanical skills and licenses. Tools may include a variety of specialized electrical and mechanical equipment.

4B2 - Keller Ferry

Includes all work necessary to operate the Keller Ferry which crosses Franklin D. Roosevelt Lake (slackwater behind Grand Coulee Dam) and is a vital transportation link for agricultural commerce on SR 21 between the communities of Republic and Wilbur. The ferry (the "Martha S.") is a diesel powered barge-type boat that navigates the 1 1/2 miles, 18 hours a day, 365 days a year. The ferry is typically operated by a two-person crew that must be licensed by the U.S. Coast Guard

4B3 - Urban Tunnel Systems

Urban tunnels in the Seattle area contain a number of safety and operational systems that are deployed during high traffic periods to ventilate the tunnels, or apply fire suppressants in the event of a fire. These systems require periodic testing and operation. This activity includes all work necessary to insure all the mechanical, electrical, and electronic equipment such as exhaust fans, fire protection systems, carbon dioxide monitoring equipment, lighting, radio systems, and all other equipment including the computer control system is operational at all times. This activity also includes all work necessary to perform preventive maintenance tasks as identified by the manufacture, or contained in the O&M Manual for Urban Tunnel systems. These systems can be very complex and require preventive maintenance to ensure peak performance. Tasks are identified and scheduled for completion in MPET (Maintenance Productivity Enhancement Tool). This work requires a crew of 14 to 17 technically trained personnel with specialized skills such as those found in the professions of electricians, plumbers/pipefitters, millwrights, and electronics technicians.

Group 5 - Snow & Ice Control Operations

5B1 - Snow & Ice Control

During winter months from November through March, the primary focus of highway maintenance is keeping the highways operational by the removal of snow and ice, and the routine patrolling of the roadway for early detection of slides, icing, and other winter hazards. This includes 10 mountain passes that remain open year-round. On Snoqualmie and Stevens Passes, avalanche crews monitor and control potential avalanches before they are a hazard to the traveling public. Over the past few years, the Snow & Ice Program has moved toward a chemical program, using anti-icing chemicals or deicers more, and sand less. With better technology and better weather forecasting, the appropriate use of chemicals provides the means to keep highways clearer than plowing

alone. Sand continues to be used when appropriate. Between snow storms, the crews in some areas may sweep up accumulated sand to reduce dust and minimize resulting air quality impacts. Highways are prioritized for snow and ice control based primarily on traffic volumes and functional class. Interstate and principal arterial highways with the highest average daily traffic within a given maintenance area, will normally receive the first attention. Since winter storms may occur at any time, during any day, with varying intensity, staffing schedules are adjusted to provide a broader coverage and offer better response to storm events. Crew sizes will vary depending on the number of lane miles for which they are responsible. Typical equipment may include dump trucks with a sander and a plow, motor grader, deicer tanker/truck, pickup truck, front end loader, or snow blower.

Group 6 - Traffic Control Maintenance & Operations

6A1 - Pavement Striping Maintenance

All highways have lines that delineate the travel lane for motorists. On multi-lane and two lane roadways this normally consists of a continuous edge stripe closest to the outside shoulder on each side, and a dashed centerline down the middle, to separate the roadway from oncoming traffic. On hilly and curved roads additional yellow stripes will define “No Passing” Zones. The combination of traffic, sand, dirt, and debris can wear these stripes away over time and they must routinely be replaced. The stripes may last anywhere from a month during the winter season to more than one calendar year depending on a combination of these factors. Stripes can be painted on the roadway, or be composed of thermoplastic or methyl methacrylate materials. Pavement striping normally requires a crew of six people. Equipment may include a paint truck, flat bed truck, van, and 2 or more trucks with a mounted attenuator.

6A2 - Raised/Recessed Pavement Markers (Buttons) Maintenance

On many highways, the lines that delineate the traffic lanes and other pavement markings are made up of individual pavement markers (RPM’s) or buttons. On the west side of the state, these are installed directly on the pavement and have the added advantage of warning a motorist by sound when they are passing over them. This is important when the pavement is wet and painted lines are difficult to see. On the east side of the state, buttons are placed in recesses ground into the pavement, which places them slightly below the elevation of the pavement. This allows steel bit plows used for snow removal to plow over the RPM’s without damaging them. RPM’s are also used to supplement painted lines. Traffic dislodges the RPM’s over time and they must routinely be replaced.

Additionally, the reflectivity of RPM's decreases due to exposure to traffic and new RPM's must be installed even though the old ones are still in place. The RPM's are normally glued in place with a bituminous adhesive. Placing RPM's normally requires a crew of 5 people. Equipment may include a pickup truck, air compressor, and 2 or more trucks with a mounted attenuator.

6A3 - Pavement Marking Maintenance

There are a variety of markings on the highway to advise and direct motorists. Crosswalks, stop bars, directional arrows, HOV diamond, and railroad crossings are just a few. The combination of traffic, sand, dirt, and debris can wear these markings away over time and they must routinely be replaced. Many markings are painted on the roadway, but thermoplastic or methyl methacrylate materials are also used. Pavement marking replacement normally requires a crew of six people. Equipment may include a paint truck, flat bed truck, van, and changeable message sign mounted on a truck or trailer, and one or more truck mounted attenuators or buffers.

6A4 & 5 - Regulatory/Warning & Guide Sign Maintenance

There are a variety of signs placed on the highway to regulate, warn, guide, and inform motorists. Regulatory signs inform motorists of a law, regulation, or legal requirement such as stop signs, speed limit signs, or yield signs. Warning signs alert the motorist of a condition that may be hazardous on or adjacent to the roadway such as "Curve Ahead 35 MPH" or "Crossroad Ahead". Guide signs provide directional or navigational information to the motorists such as "Seattle Next Right" or distance to the next interchange or community. Informational signs provide motorists with information about facilities, services, and attractions such as "FOOD, GAS, and LODGING" or which "Adopt-a-Highway" group is responsible for a given section of highway. These signs periodically get knocked down, are damaged in some manner, eventually lose their reflective properties and readability due to fading from exposure to the elements, or just get dirty. Sign cleaning, repair, or replacement normally requires a crew of two people. Equipment may include a flat bed truck, bucket truck, or a boom truck with a posthole digger

6A6 - Guidepost Maintenance

Guideposts and delineators are placed along the edge of the highway to advise and guide motorists at intersections and on curves. These markers are a reflective indicator on a flexible post used to aid driving at night or during inclement weather such as snow, rain, or fog. Guideposts periodically get damaged in some manner, eventually lose their reflective

properties due to fading from exposure to the elements, or just get dirty. Beginning in 2007, guidepost locations are to be marked on the pavement, making it easier and faster to identify locations for replacement of missing guideposts. This will be instituted over time, with some marking done by contractors or inspectors on new pavement, some being done by maintenance crews as they go about their daily tasks. Cleaning, repair, or replacement normally requires a crew of two to four people. Equipment may include a flat bed truck, pickup truck with hand tools, bucket truck, air compressor, or a boom truck. A buffer truck may be necessary for traffic control safety.

6A7 - Guardrail Maintenance

Guardrail (beam, cable or jersey barrier) is placed at the edge of the pavement to prevent vehicles from striking hazardous obstacles, on coming traffic, or going down steep slopes. The purpose of the guardrail is to redirect errant vehicles and keep them on the road. Guardrail that is damaged must be repaired in order for it to maintain its functionality. Guardrail repair or replacement normally requires a crew of 3 to 10 people using a flat bed truck, backhoe, posthole digger, and a dump truck. A buffer truck may be necessary for traffic control safety.

6B1 - Traffic Signals

Traffic signals control the flow and direction of traffic at major intersections. This highly technical equipment must operate at all times to insure safe movement of vehicles through the intersection. Periodically bulbs burn out, poles are damaged or knocked down, control units malfunction and electrical wiring or services short out or are lost due to power failure. This activity (6B1) encompasses all traffic signal system repairs and also includes performing identified preventive maintenance tasks necessary to keep traffic signal systems operating at optimal performance to extend the longevity of the system. Technically skilled electricians are required to perform PM's, repairs or replacement of signal fixtures. Essential equipment includes a truck, boom truck, bucket truck, and other specialized equipment. Also included in 6B1 are the costs of paying for electricity to power the traffic signals.

6B2 - Highway Lighting

Highway luminaires provide light at major intersections, interchange ramps, rest areas and along high volume highways to improve visibility and safety at night. Major signs are also lighted to improve visibility and readability. Periodically bulbs burn out, light poles are damaged or knocked down, or electrical wiring or services malfunction. This activity

includes all repairs; replacement; and performance of identified preventive maintenance tasks necessary to keep illumination systems operating at optimal performance and extend the longevity of the system. Repair, replacement or PM of lighting fixtures requires technically skilled electricians, a truck, boom truck, bucket truck, and other specialized equipment. Operation of lighting includes paying for electricity to power the lights.

6B3 - Intelligent Transportation Systems (ITS)

Intelligent Transportation System equipment covers a broad variety of highly specialized equipment on the highway that is used to control and regulate the flow of traffic, and inform motorists. Examples of ITS for traffic control include ramp meters, reversible lane gates and signs, and variable speed limit signs. Informational equipment includes video cameras, highway advisory radio, and variable message signs. In some cases this equipment is part of a network that is operated through a central command center using telecommunications for operating and controlling the equipment. All such highly technical equipment requires preventive maintenance and repairs in order to remain at optimal performance. Preventive maintenance tasks, and the frequency for completion, have been identified for this equipment (see work operation codes). Skilled electronics technicians use a variety of specialized equipment to maintain and operate the system. Crews range in size from 2 to 4 people depending on the complexity of the work. Operation of Intelligent Traffic Systems includes paying for electricity to power the systems.

Group 7 – Rest Area Operations

7B1 – Rest Area Operations

There are 43 major rest areas in operation on the state highway system; 29 on interstate highways. The rest areas are small, park-like sites that offer a place for motorists to stop, use a rest room facility, rest, relax, obtain limited refreshments, and generally refresh themselves before continuing on their journey. All rest areas have rest rooms that must be cleaned and sanitized and litter receptacles emptied on a daily basis, and parking areas that must be cared for. Many rest areas have picnic tables, landscaping, and sidewalks to maintain. These sites also have water and sewer systems that must meet public health regulations for operation. Rest areas are usually cared for by one or more attendants who clean and sanitize the building and empty litter. At some locations, site work is done by separate crews on an as-needed basis. Two of the rest areas are maintained cooperatively by WSDOT and another entity.

Group 8 - Training and Testing

8B1 - Employee Technical & Safety Training

Training employees is critical to having a proficient and skilled work force. Much of the equipment that maintenance uses is very technical and requires periodic training to stay current. Many jobs require special licenses that can only be renewed through a continuing education program and obtaining a minimum number of training credits each year.

8B2 - Support and Testing

This activity covers a variety of miscellaneous things that are necessary in order for a maintenance organization to operate efficiently and effectively. Activities include field supervision, administrative/clerical support, organizing and inventorying stockpile sites, drug and alcohol testing, managing store rooms, and having a radio dispatcher.

Group 9 - 3rd Party Damages & Disaster Operations

9B1 - 3rd Party Damages

Whenever an errant vehicle damages part of the highway facility such as guardrail or a light pole, the driver is financially responsible for the repair or replacement. When a maintenance crew repairs such damage they charge their work to this activity so the cost of the repair can be accounted for and recovered.

Group 10 - Disaster Operations

10B2 - Disasters

Whenever a disaster, such as earthquake, flood, or fire damage restricts highway operation and the event is proclaimed a disaster by state or federal authorities, the cost for returning the facility to operation may be recoverable through disaster relief funding. This may also include the cost of personnel setting up temporary traffic control, detours, or road closures, and any other work related to operating the roadway during these disasters. When maintenance personnel are involved in any disaster-related work, they charge their work to this activity so the cost can be accounted for and recovered.

Work Operations

Work Operation Numbers (also called Work Operation Codes) are numbers used to track the cost of specific activities. These are entered on timesheets, stores orders, etc. along with a work order and group. Once these numbers are entered into the systems, reports can then be run showing how much a particular work order cost, how much was spent on a single work operation in a specified date range, how much was spent on a particular MAP activity, and numerous other things. These pages contain information about work operations and their relationship to MAP activities.

Work operation code lists can be found in the Chart of Accounts at this web address: http://wwwi.wsdot.wa.gov/Publications/Manuals/M13-02.htm. This list contains all the work operation codes for every Program and Sub Program associated with WSDOT.

Also on the web, at the Maintenance and Operations Home Page, http://wwwi.wsdot.wa.gov/MaintOps/, three work operation code lists that are specific to Maintenance, are available. The difference between these and what is found in the Chart of Accounts is the presence of a description of the work associated with the code. The first list (Long version) is used primarily in training, has many details and scenarios. Use this list if you are unfamiliar with how all of this functions together. The second list (Short version) contains descriptions, albeit not as detailed as the long version. The third list is simply a list of work operations.

The following pages contain a crosswalk showing which work operation codes are associated with which MAP activities. One MAP activity will have several work operation codes connected to it, but each work operation code is connected to only one MAP activity. For instance, MAP activity 1A1 has nine work operation codes. Each of these nine work operation codes is only associated with 1A1.

Operation Number Connection to MAP Activity

		Unit
Group 1 Roadway Maintenance and Operations		
1A1 Pavement Patching, Repair & Crack Sealing		
1111	MECHANICAL PATCHING GRADER	TONS
1112	MECHANICAL PATCHING PAVER/BOX	TONS
1122	MANUAL PATCHING	SQ FT
1134	PAVEMENT MILLING/FULL DEPTH PATCHING	TONS
1147	CHIP SEAL PATCHING	100 GALS
1148	PATCHING - DURA PATCHER	GALLON
1161	CRACK & JOINT SEALING	LBS
1173	PATCHING WITH SUBGRADE REPAIR	SQ FT
1199	OTHER ROADWAY MAINTENANCE AS APPROVED BY SUPERINTENDENT	NONE
1A3 Shoulder Maintenance		
1142	GRADE/RESHAPE SHOULDER	SHLDR MILE
1143	SHOULDER BUILDUP REMOVAL	CU YD
2420	CLEANING UNDER GUARDRAIL	LINEAR FEET
1A4 Sweeping and Cleaning		
1181	SWEEPING & CLEANING PAVEMENT - PICKUP BROOM	SHLDR MILE
1182	SWEEPING AND CLEANING RAISED ISLANDS - MANUAL	NONE
1183	SWEEPING & CLEANING PAVEMENT WITH SIDE CAST SWEEPER OR FLUSHER	SHLDR MILE
1184	SWEEPINGS RECYCLING	CU YD
Group 2 Drainage Maintenance and Slope Repair		
2A1 Maintain Ditches		
1311	DITCH MAINTENANCE	LINEAR FT
1329	CHANNEL MAINTENANCE	LINEAR FT
1399	OTHER DRAINAGE MAINTENANCE AS APPROVED BY SUPERINTENDENT	NONE
2A2 Maintain Culverts		
1331	CULVERT INSPECTION & PREVENTIVE MAINTENANCE	EACH
1332	CULVERT CLEANING – MECHANICAL	EACH
1333	CULVERT REPAIR OR REPLACEMENT	EACH
2A3 Maintain Catch Basins and Inlets		
1339	CATCH BASIN INSPECTION	EACH
1340	CATCH BASIN LID ROUTINE MAINTENANCE	EACH
1341	CATCH BASIN MARKING	EACH
1342	CATCH BASIN MECHANICAL CLEANING	EACH
1343	CATCH BASIN/MANHOLE REPAIR OR REPLACEMENT	EACH
1346	JERSEY BARRIER SCUPPER CLEANING	LINEAR FT
1352	VACTOR WASTE RECYCLING/DISPOSAL	CU YD

Operation Number	Connection to MAP Activity	Unit
2A4	**Maintain Stormwater Facilities**	
1344	DETENTION/INFILTRATION/WET POND MAINTENANCE	EACH
1345	UNDERGROUND RETENTION DETENTION FACILITY MAINTENANCE	EACH
1360	STORMWATER FACILITY INSPECTION	EACH
1361	STORMWATER FACILITY INSPECTION IN RESPONSE TO WEATHER EVENT	EACH
1362	STORMWATER FACILITY MARKING	EACH
1363	BIOINFILTRATION SWALE MAINTENANCE	EACH
1365	MEDIA FILTER DRAIN/ECOLOGY DITCH MAINTENANCE	EACH
1366	DRY WELL MAINTENANCE	EACH
1367	FILTER STRIP MAINTENANCE	EACH
1368	SAND FILTER MAINTENANCE	EACH
1369	MISCELLANEOUS STORMWATER FACILITY MAINTENANCE	EACH
2A5	**Slope Repair**	
1211	SLOPE REPAIR SLIDE CLEAN UP & MAINTENANCE	CU YD
1212	SHOULDER WASHOUT REPAIR	CU YD
1213	RIP RAP AND CRIBBING REPAIR	CU YD
1214	SLIDE AND ROCK FALL DEBRIS DEBRIS CONTAINMENT: INSTALL OR REPAIR.	NONE
1299	OTHER SLOPE MAINTENANCE AS APPROVED BY SUPERINTENDENT	NONE
Group 3	**Roadside and Vegetation Management**	
3A1	**Litter Pickup**	
1671	ROAD KILL/ANIMAL DISPOSAL	EACH
1673	LITTER PICK-UP	CU YD
1674	LITTER BAG PICK-UP	CU YD
1675	ADOPT-A-HIGHWAY ADMINISTRATION	NONE
1676	TRANSIENT REMOVAL AND CLEANUP	NONE
3A2	**Noxious Weed Control**	
1616	NOXIOUS WEED CONTROL – SPOT SPRAY NON-POWER EQUIPMENT	NONE
1617	NOXIOUS WEED CONTROL – SPRAY WITH POWER EQUIPMENT	ACRE
1618	NOXIOUS WEED CONTROL – MANUAL	NONE
1619	NOXIOUS WEED CONTROL – MECHANICAL	ACRE
1641	HYDRO SEEDING & MULCHING	ACRE
1651	FERTILIZING & LIMING	ACRE

Operation Number	Connection to MAP Activity	Unit
3A3	**Nuisance Vegetation Control**	
1611	NUISANCE VEG. CONTROL - SPRAY WITH POWER EQUIPMENT	ACRE
1612	NUISANCE VEG. CONTROL - MECHANICAL	ACRE
1613	NUISANCE VEG. CONTROL - MANUAL	ACRE
1680	FENCE REPAIR & INSTALLATION	LINEAR FT
1683	PATH AND TRAIL REPAIR AND MAINTENANCE	NONE
1699	OTHER ROADSIDE MAINTENANCE AS APPROVED BY SUPERINTENDENT	NONE
3A4	**Control of Vegetation Obstructions**	
1615	RESIDUAL HERBICIDE APPLICATION - ZONE 1	ACRE
1622	CONTROL OF VEG OBSTRUCTIONS - POWER SPRAYING	ACRE
1625	CONTROL OF VEG OBSTRUCTIONS - MECHANICAL	ACRE
1626	CONTROL OF VEG OBSTRUCTIONS - MANUAL	ACRE
1628	DANGER TREE REMOVAL	EACH
3A5	**Landscape Maintenance**	
1511	NUISANCE VEG. CONTROL - SPRAY WITH POWER EQUIPMENT	ACRE
1512	NUISANCE VEG. CONTROL - MECHANICAL	ACRE
1513	NUISANCE VEG. CONTROL - MANUAL	ACRE
1516	NOXIOUS WEED CONTROL – SPOT SPRAY NON-POWER EQUIPMENT	NONE
1517	NOXIOUS WEED CONTROL – SPRAY WITH POWER EQUIPMENT	ACRE
1518	NOXIOUS WEED CONTROL – MANUAL	ACRE
1519	NOXIOUS WEED CONTROL – MECHANICAL	ACRE
1525	CUTTING/PRUNING/SELECTIVE THIN	NONE
1541	SEEDING, MULCHING & PLANTING PLANT MATERIALS	NONE
1551	FERTILIZING & LIMING	ACRE
1552	MOWING ORNAMENTAL LAWNS	ACRE
1561	IRRIGATION SYSTEM OPERATION & MAINTENANCE	NONE
1599	OTHER LANDSCAPE MAINTENANCE AS APPROVED BY SUPERINTENDENT	NONE
Group 4	**Bridge and Urban Tunnel Maintenance and Operations**	
4A1	**Bridge Deck Repair**	
1936	DECK MAINTENANCE	SQ FT

Operation Number Connection to MAP Activity		Unit
4A2	**Structural Bridge Repair**	
1930	STRUCTURAL STATIONARY BRIDGE/TUNNEL ROUTINE INSPECTION	EACH
1931	STRUCTURAL BRIDGE/TUNNEL INSPECTION - EMERGENCY	EACH
1932	REMOVE DEBRIS UNDERNEATH BRIDGE	EACH
1941	BRIDGE APPURTENANCE MAINTENANCE	NONE
1942	STRUCTURAL MAINTENANCE	NONE
1943	SCOUR REPAIR	NONE
1952	SIGN BRIDGE REPAIR, STRUCTURAL	EACH
1953	EXPANSION JOINT REPAIR	LINEAR FT
1954	EXPANSION JOINT PREVENTIVE MAINTENANCE	LINEAR FT
1999	OTHER BRIDGE & STRUCTURES MAINTENANCE AS APPROVED BY SUPERINTENDENT	NONE
4A3	**Bridge Cleaning**	
1922	BRIDGE STRUCTURE CLEANING	EACH
1928	REPAIR BRIDGE DRAINS	EACH
1933	PAINTING	NONE
4B1	**Movable and Floating Bridge Operations**	
1915	PUMP WATER FROM PONTOON CELLS	NONE
1916	ANCHOR CABLE TENSIONING	NONE
1921	ROUTINE INSPECTION, SPECIAL BRIDGES	NONE
1955	BRIDGE MECHANISM MAINTENANCE, SPECIAL BRIDGE	NONE
1956	ELECTRICAL MAINTENANCE,SPECIAL BRIDGE	NONE
1957	BRIDGE HYDRAULIC MAINTENANCE, SPECIAL BRIDGE	NONE
1980	SPECIAL MOVABLE BRIDGE OPERATION	NONE
4B2	**Keller Ferry Operations**	
2880	FERRY OPERATION	TRIP
2881	FERRY REPAIR & MAINTENANCE	NONE
2882	FERRY FACILITY REPAIR & MAINT	NONE
2899	OTHER FERRIES OPERATIONS AS APPROVED BY SUPERINTENDENT	NONE

Operation Number Connection to MAP Activity		Unit
4B3	**Urban Tunnel Systems**	
3211	VENT FAN/MECHANICAL SYSTEM P M	EACH
3212	FIRE PROTECTION SYSTEMS - ELECTRONICS PM	EACH
3213	ELECTRICAL SYSTEM P.M.	EACH
3214	AIR PLENUM P.M.	NONE
3215	CARBON MONOXIDE MONITOR P.M.	EACH
3216	FIRE PROTECTION SYSTEMS - MECHANICAL PM	EACH
3217	COMPUTER OR ELECTRONICS SYSTEM PM	NONE
3231	VENT FAN/MECHANICAL SYSTEM REPAIR	EACH
3232	FIRE PROTECTION SYSTEMS - ELECTRONICS REPAIR	EACH
3233	ELECTRICAL SYSTEM REPAIR	EACH
3234	AIR PLENUM REPAIR	NONE
3235	CARBON MONOXIDE MONITOR REPAIR	EACH
3236	TUNNEL WASHING-WALLS	100 LINEAR FT
3237	TUNNEL WASHING-ILLUMINATION	NONE
3238	FIRE PROTECTION SYSTEMS - MECHANICAL REPAIR	EACH
3280	URBAN TUNNEL FACILITIES WORK	NONE
3291	COMPUTER OR ELECTRONICS SYSTEM WORK	NONE
3299	OTHER URBAN TUNNEL MAINTENANCE AS APPROVED BY SUPERINTENDENT	NONE

Operation Number	Connection to MAP Activity	Unit

Group 5 Snow and Ice Control Operations

5B1 Snow and Ice Control Operations

2111	SNOW BLOWER	EQUIP MILE
2113	SNOW PLOWING TRUCK	EQUIP MILE
2115	SNOW PLOWING - MOTOR GRADER	EQUIP MILE
2117	SNOW DRIFT REMOVAL	NONE
2118	OPENING SEASONAL PASSES	NONE
2142	WINTER SAND CLEANUP	SHLDR MILE
2151	SANDING	NONE
2152	ANTI-ICING & DE-ICING APPLICATION-LIQUID	NONE
2153	ANTI-ICING & DE-ICING APPLICATION – SOLID	NONE
2161	MAINT SNO POLES/STAKES/SIGNS FOR WINTER OPERATIONS	EACH
2162	WINTER DRAINAGE MAINTENANCE	NONE
2164	WINTER SAFETY PATROL	EQUIP MILE
2165	AVALANCHE CONTROL	NONE
2166	STOCKPILING & MIXING SAND & CHEMICALS, RELOCATING & RESHAPING STOCKPILES	NONE
2167	RADIO OPERATION	NONE
2168	DORMITORY & DINING ROOM OPERATIONS	NONE
2169	MIXING ANTI-ICING AND DE-ICING LIQUIDS	NONE
2181	WINTER FIELD SUPERVISION	NONE
2199	OTHER SNOW & ICE MAINTENANCE WORK AS APPROVED BY SUPERINTENDENT	NONE

Group 6 Traffic Control Maintenance and Operations

6A1 Pavement Striping Maintenance

2311	STRIPING - PAINT	LINE MILE
2312	STRIPING– DURABLE	LINEAR FT

6A2 Raised/Recessed Pavement Marker Maintenance

2315	REMOVE LANE MARKERS	EACH
2316	INSTALL RAISED LANE MARKERS	EACH
2317	INSTALL RECESSED LANE MARKERS	EACH

6A3 Pavement Marking Maintenance

2318	SPECIAL MARKINGS - PAINT	LINEAR FT
2323	PAVEMENT MARKINGS - PAINT	EACH
2326	PAVEMENT MARKINGS – DURABLE	EACH
2399	OTHER PAVEMENT MARKING MAINTENANCE AS APPROVED BY SUPERINTENDENT	NONE

6A4 Regulatory Sign Maintenance

2211	SIGN INSPECTION	None
2216	REGULATORY/WARNING SIGN, REPAIR, REPLACE & MAINTAIN	EACH

Operation Number Connection to MAP Activity		Unit
6A5 Guide Sign Maintenance		
2217	GUIDE SIGN, REPAIR, REPLACE & MAINT (SINGLE POST)	EACH
2218	GUIDE SIGN, REPAIR, REPLACE & MAINT (MULTIPLE POST)	EACH
2219	SIGN WASHING	EACH
2224	OVERHEAD SIGN REPAIR, REPLACE AND MAINTAIN	EACH
2299	OTHER SIGN MAINTENANCE AS APPROVED BY SUPERINTENDENT	NONE
6A6 Guidepost Maintenance		
2241	GUIDEPOST & DELINEATOR MAINTENANCE	EACH
2242	GUIDEPOST & DELINEATOR REPLACEMENT	EACH
6A7 Guardrail Maintenance		
2411	CABLE GUARDRAIL INSPECTION AND PREVENTIVE MAINTENANCE	LINEAR FT
2412	CABLE GUARDRAIL REPAIR	LINEAR FT
2413	BEAM GUARDRAIL INSPECTION AND PREVENTIVE MAINTENANCE	LINEAR FT
2414	BEAM GUARDRAIL REPAIR	LINEAR FT
2415	CONCRETE BARRIER INSPECTION AND PREVENTIVE MAINTENANCE	LINEAR FT
2416	CONCRETE BARRIER REPAIR	LINEAR FT
2417	ATTENUATOR INSPECTION AND PREVENTIVE MAINTENANCE	EACH
2418	ATTENUATOR REPAIR	EACH
2419	GUARDRAIL END TREATMENT REPAIR	EACH
2499	OTHER GUARDRAIL/BARRIER WORK AS APPROVED BY SUPERINTENDENT	NONE
6B1 Traffic Signal Systems		
2611	SIGNAL CONTROL SYSTEM MAJOR PM	EACH
2612	SIGNAL CONTROL SYSTEM MINOR PM	EACH
2613	SIGNAL DISPLAY/ DETECT SYSTEM PM	EACH
2614	SIGNAL DISPLAY/ DETECT SYSTEM REPAIR	EACH
2615	FLASHING BEACON SYSTEM PREVENTIVE MAINTENANCE	EACH
2616	FLASHING BEACON SYSTEM REPAIR	EACH
2632	SIGNAL CONTROL SYSTEM REPAIR	EACH
2645	COMMUNICATIONS REPAIR	EACH
2650	COMMISSIONING/TESTING	NONE
2651	SYSTEM ENHANCEMENT/DESIGN	NONE
2698	LOCATES FOR SIGNALS	EACH
2699	OTHER SIGNAL CONTROL MAINTENANCE AS APPROVED BY SUPERINTENDENT	NONE

Operation Number Connection to MAP Activity		Unit
6B2	**Highway Lighting Systems**	
2711	ILLUMINATION SYSTEM P.M.	EACH
2715	ELECTRICAL SERVICE P.M.	EACH
2731	ILLUMINATION SYSTEM REPAIR	EACH
2737	ELECTRICAL SERVICES REPAIR	EACH
2750	COMMISSIONING/TESTING	NONE
2751	SYSTEM ENHANCEMENT/DESIGN	NONE
2798	LOCATES FOR LIGHTING	EACH
2799	OTHER ILLUMINATION MAINTENANCE AS APPROVED BY SUPERINTENDENT	NONE

Operation Number	Connection to MAP Activity	Unit
6B3	**Intelligent Transportation Systems**	
2512	RAMP METER SYSTEM P.M.	EACH
2513	CLOSED CIRCUIT TELEVISION P.M.	EACH
2514	VMS/CHANGEABLE SIGN P.M.	EACH
2515	HIGHWAY ADVISORY RADIO TRANSMITTER AND SIGN P.M.	EACH
2516	EXPRESS LANE GATES/SIGNS & BARRIER P.M.	EACH
2517	ROADWAY WEATHER INFORMATION STATION P.M.	EACH
2518	DATA STATION SYSTEMS P.M.	EACH
2519	HUB P.M.	EACH
2520	WEIGH STATIONS - WEIGH IN MOTION AND SIGN CONTROL SYSTEMS P.M.	EACH
2521	EMERGENCY PHONE PM	EACH
2522	RADIO REBROADCAST SYSTEM PM	EACH
2523	NWR HUB P.M.	EACH
2524	ACTIVE TRAFFIC MANAGEMENT P.M.	EACH
2525	TOLLING TAG READER P.M.	EACH
2526	TOLLING RATE SIGN P.M.	EACH
2532	RAMP METER SYSTEM REPAIR	EACH
2533	CLOSED CIRCUIT TELEVISION REPAIR	EACH
2534	VARIABLE MESSAGE SIGN/CHANGEABLE MESSAGE SIGN REPAIR	EACH
2535	HIGHWAY ADVISORY RADIO TRANSMITTER AND SIGN REPAIR	EACH
2536	EXPRESS LANE GATES/SIGNS & BARRIER REPAIR	EACH
2537	ROADWAY WEATHER INFORMATION STATION REPAIR	EACH
2538	DATA STATION SYSTEM REPAIR	EACH
2539	HUB REPAIR	EACH
2540	WEIGH STATIONS - WEIGH IN MOTION AND SIGN CONTROL SYSTEMS REPAIR	EACH
2541	EMERGENCY PHONE REPAIR	EACH
2542	RADIO REBROADCAST SYSTEM REPAIR	EACH
2543	NWR HUB REPAIR	EACH
2544	COMMUNICATIONS REPAIR	EACH
2545	ACTIVE TRAFFIC MANAGEMENT REPAIR	EACH
2546	TOLLING TAG READER REPAIR	EACH
2547	TOLLING RATE SIGN REPAIR	EACH
2550	COMMISSIONING/TESTING	NONE
2551	SYSTEM ENHANCEMENT/DESIGN	NONE
2598	LOCATES FOR ITS	EACH
2599	OTHER ITS MAINTENANCE AS APPROVED BY SUPERINTENDENT	NONE

Operation Number Connection to MAP Activity

		Unit

Group 7 Rest Area Operations

7B1 Rest Area Operations

1711	WEED CONTROL MANUAL	NONE
1721	WINTER MAINTENANCE ACTIVITIES	NONE
1725	CUTTING/PRUNING/SELECTIVE THINNING	NONE
1741	SEEDING/PLANTING, MULCHING & FERTILIZING	NONE
1752	MOWING LAWNS	ACRE
1761	IRRIGATION SYSTEM OPERATION & MAINTENANCE	NONE
1773	LITTER PICK-UP	NONE
1774	GARBAGE COLLECTION AND DISPOSAL	CU YD
1781	GENERAL BUILDING MAINTENANCE	NONE
1782	JANITORIAL SERVICE	NONE
1783	ELECTRICAL MAINTENANCE	NONE
1784	DOMESTIC WATER SYSTEM MAINTENANCE	NONE
1787	SANITARY/STORM DRAINAGE MAINTENANCE	NONE
1788	RV DUMP MAINTENANCE	NONE
1799	OTHER REST AREA MAINTENANCE AS APPROVED BY SUPERINTENDENT	NONE

Group 8 Training and Testing

8B1 Employee Technical and Safety Training

6017	NON-REQUIRED TRAINING	NONE
6018	REQUIRED TRAINING	NONE
6019	SAFETY AND OTHER MEETINGS	NONE
6020	EQUIPMENT TRAINING	NONE
6032	INSTRUCTOR TRAINING	NONE

8B2 Support and Testing

0A28	LOCAL 17 SHOP STEWARD	NONE
0B28	FEDERATION SHOP STEWARD	NONE
0C28	LOCAL 17 CONTRACT NEGOTIATIONS	NONE
6014	MAINT OF STOCKPILE SITES	NONE
6015	YARD AND SHOP CLEAN UP	NONE
6016	FIELD SUPERVISON/EXCEPT SNOW&ICE	NONE
6024	RADIO OPERATOR - EXCL. SNOW/ICE	NONE
6027	ADMINISTRATIVE SUPPORT	NONE
6028	TORT LIABILITIES	NONE
6033	DRUG AND ALCOHOL TESTING	NONE
6099	OTHER TRAINING & GENERAL WORK AS APPROVED BY SUPERINTENDENT	NONE
XM08	IT ACQUISITIONS/NEW DEVELOPMENT	NONE
YM08	IT MAINT & OPERATIONS	NONE

Operation Number	Connection to MAP Activity	Unit

Group 9 3rd Party Damage Repair

9B1 3rd Party Damages

3111	PAVEMENT REPAIR	SQ FT
3112	ROADSIDE REPAIR	NONE
3113	FENCE REPAIR	LINEAR FT
3115	STRUCTURES	NONE
3120	HAZ WASTE/SPILL/DEBRIS CLEANUP	NONE
3122	GRAFFITI REMOVAL	SQ FT
3131	TRAFFIC SIGNS/DIRECTION MARKER	EACH
3150	CABLE GUARDRAIL	LINEAR FT
3151	BEAM GUARDRAIL	LINEAR FT
3152	ENERGY ABSORBING BARRIERS	EACH
3153	CONCRETE BARRIERS	LINEAR FT
3154	GUARDRAIL END TREATMENT	EACH
3161	TRAFFIC SIGNAL EQUIPMENT REPAIR	EACH
3162	EXPRESS LANE EQUIP. REPAIR	EACH
3163	VMS REPAIR	EACH
3164	HIGHWAY ADVISORY RADIO HAR REPAIR	EACH
3165	RWIS REPAIR	EACH
3166	DATA STATION REPAIR	EACH
3167	RAMP METER REPAIR	EACH
3168	CCTV REPAIR	EACH
3169	HUB REPAIR	EACH
3170	WEIGH IN MOTION REPAIR	EACH
3171	HIGHWAY LIGHTING SYSTEM REPAIR	EACH
3172	EMERGENCY PHONE REPAIR	EACH
3173	TRAFFIC OPS INCIDENT RESPONSE TEAM	NONE
3181	REST AREA REPAIR	NONE
3195	TRAFFIC CONTROL/DETOURS	NONE
3199	OTHER 3RD PARTY DAMAGE AS APPROVED BY SUPERINTENDENT	NONE

Group 10 Disaster Maintenance

9B2 Disasters

4011	ROADWAY SURFACES	NONE
4013	DRAINAGE FACILITIES	NONE
4015	ROADSIDE & REST AREAS	NONE
4019	STRUCTURES	NONE
4021	BRIDGE INSPECTION	NONE
4022	TRAFFIC SERVICES	NONE
4095	TRAFFIC CONTROL/DETOURS	NONE
4099	OTHER DISASTER MAINTENANCE AS APPROVED BY SUPERINTENDENT	NONE