Whidbey Island

Integrated Roadside Vegetation Management Plan

May 2004

Washington State Department of Transportation
Maintenance and Operations Division

Introduction

The Washington State Department of Transportation (WSDOT) has completed a Programmatic Environmental Impact Statement on its roadside vegetation management program. This study responded to a wide spectrum of public comment with the selection of a preferred alternative titled Locally Based, Long-Term Planning Integrated Vegetation Management. Integrated Vegetation Management (IVM) is a decision making process that applies the principles of Integrated Pest Management as defined in state law (RCW 17.15.010) to the management of roadside vegetation.

The successful implementation of IVM, within the WSDOT maintenance program, is dependent on the development of a statewide roadside management planning system, incorporating site-specific roadside vegetation management plans for all highways in the state. Success within the maintenance program is also dependent on allocation of sufficient funding to accomplish vegetation maintenance activities as described in these plans. In the long-term, successful implementation is also dependent on the allocation of funding through project development and construction for roadside restoration work in conjunction with highway construction projects.

This document serves to facilitate the implementation of the preferred alternative from the EIS, compliance with RCW 17.15.010 and the intent of The Puget Sound Highway Runoff Program (WAC 173-270), and state policy for roadside management as defined in the Roadside Classification Plan (WSDOT 1996), for state highways on Whidbey Island. It defines the vegetation maintenance processes and agreed upon long-term goals and objectives for roadside vegetation specific to state highways on the island. This plan and the statewide IVM planning system are intended for use primarily within the WSDOT maintenance program. The goal in developing and implementing this plan is to achieve the best and most consistent roadside maintenance practices throughout the corridors on the island and to maximize the efficiency and effectiveness of maintenance program delivery over time. Success in meeting this goal will be measured by the improvement of the overall health of the roadside, a resulting minimization of roadside vegetation maintenance costs and a corresponding minimization of herbicide use over time.

The contents of this document are supplemented by an Intranet based Geographic Information System (GIS) application capable of displaying the tabled location data in graphic map form. Due to software licensing restrictions, this system is accessible only to WSDOT employees, but is capable of generated printed copy of areas and information as needed for communication with maintenance crewmembers and the public. WSDOT employees can access the maps for this area through: http://oscims01.wsdot.wa.gov/website/ivm/whidbey.

WSDOT Roadside Policy
WSDOT's management of roadside vegetation is carried out through two separate but coordinated programs: Project Design/Construction and Maintenance. Policy and practice in roadside design and construction is intended to compliment and support policy and practice in roadside maintenance over the long-term.

A complete description of WSDOT's roadside maintenance policy, typical roadside management zones, and listing of all functional objectives can be found in Chapter 6 of the **Maintenance Manual** (WSDOT M51-01, March 2002). Policy specific to the various roadside management zone objectives for Whidbey Island can be found in the section of this document titled **Maintenance Activities** and referenced appendices. More information on the application of IVM for Roadsides can be found in **Integrated Vegetation Management for Roadsides** (WSDOT, July 1997). These documents also contain guidance for policy and procedures relating to vegetation maintenance aspect in storm water management as described in the **Highway Runoff Manual** (WSDOT M31-16, February 1995). Definition of maintenance practices within designated Environmentally Sensitive Areas can be found in the **Regional Road Maintenance Endangered Species Act Program Guidelines**, (Regional Road Maintenance Technical Working Group, Current Version)

For project development and construction, WSDOT roadside policy is defined in the **Roadside Manual** (WSDOT M25-30, July 2002), and the **Roadside Classification Plan** (WSDOT 1996).

Consultation with Other Agencies and the Public
WSDOT is consulting with the Washington State Department of Ecology on its overall roadside vegetation management program as it relates to storm water runoff and other environmental issues. WSDOT has also presented its program to, and participates in the Interagency Integrated Pest Management Coordinating Committee, established under RCW 17.15 and chaired by the Washington State Department of Agriculture.

In the process of developing and implementing the plan for Whidbey Island, WSDOT will meet as necessary with the general public, local government, and any local special interest groups to collect input on the plan, and make adjustments where possible to address local concerns.

Additional References
Additional information and copies of the documents referenced in this plan are available through the Internet at addresses listed below, or by contacting the WSDOT Headquarters Highway Maintenance Office at: PO Box 47358, Olympia, WA 98504-7358, or (360) 705-7850.

Roadside Maintenance Program information:
http://www.wsdot.wa.gov/biz/maintenance/htm/roadside_maint.htm
Roadside and Site Development Program information:
http://www.wsdot.wa.gov/eesc/design/roadside/

Roadside Vegetation Management Programmatic Environmental Impact Statement:
http://www.wsdot.wa.gov/biz/maintenance/pdf/Roadside_Vegetation_Management_12-93.pdf
WSDOT Maintenance Manual:
http://www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/Final%20MM.pdf
Integrated Vegetation Management for Roadsides:
http://www.wsdot.wa.gov/biz/maintenance/pdf/IVM.pdf
Highway Runoff Manual:
http://www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/Highway.pdf
Regional Road Maintenance Endangered Species Act Program Guidelines:
http://www.metrokc.gov/roadcon.bmp/pdfguid.htm
WSDOT Design Manual:
http://www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/DesignManual.pdf
WSDOT Roadside Manual:
http://www.wsdot.wa.gov/fasc/engineeringpublications/Manuals/RoadsideManual.pdf
WSDOT Roadside Classification Plan:
http://www.wsdot.wa.gov/eesc/design/roadside/pdf/RCP_1.pdf

Roadside Character

Highway roadsides on Whidbey Island are predominately rural or natural in character with the landscape consisting of natural or naturalized forest or a rural mix of built and natural or naturalized elements. The only exceptions to this are the section of highway through Oak Harbor where the landscape shifts to a built character and is classified as either semi-urban or urban. Roadside vegetation maintenance practices are intended to highlight and enhance the natural character of visual environment of this island.

Visual Standards
Visual quality is an important consideration and the SR20/SR525 corridor through the island is classified as a state scenic byway. Vegetation management practices along forested and rural highways throughout this area will maintain the overall natural appearance of this character type through the management of predominately native trees and understory vegetation. Maintenance activities in areas outside of the vegetation free zone at the pavement edge (Zone 1) will encourage grasses and stable native plant communities through the selective removal of competitive noxious, nuisance weeds, and of undesirable or potentially hazardous trees.

Implementation of this management plan will have some impact on the visual quality of these corridors over time. The plan is intended to direct activities and practices to minimize visual evidence of maintenance activities including herbicide applications and side trimming of trees and brush. It is also intended to reduce populations of noxious and nuisance weeds over time in areas where they have become established. This will result is an improvement of the visual quality of these areas by reestablishing native plant communities that appear to be self-sustaining to the greatest degree possible.

Scenic Byways
Whidbey Island Scenic Corridor Management Plan

Scenic Byways are designated at both the state and federal level to showcase, and to some extent protect highway corridors with outstanding scenic, cultural, or recreational attributes. All highways on the island with the exception of the section of SR-20 between the intersection with SR-525 and the Keystone Ferry are part of the Cascade Loop State Scenic Byway. This 400-mile loop stretches from the island across the Cascade Mountains, into the high desert of the Columbia River Valley and back again.

A Scenic Corridor Management Plan is currently under development for highway segments within the Cascade Loop Byway on Whidbey Island. The Whidbey Island Integrated Roadside Vegetation Management Plan and all roadside restoration work done in conjunction with future construction, or through collaborative partnerships, will be coordinated to support the development and contents of the corridor management plan.

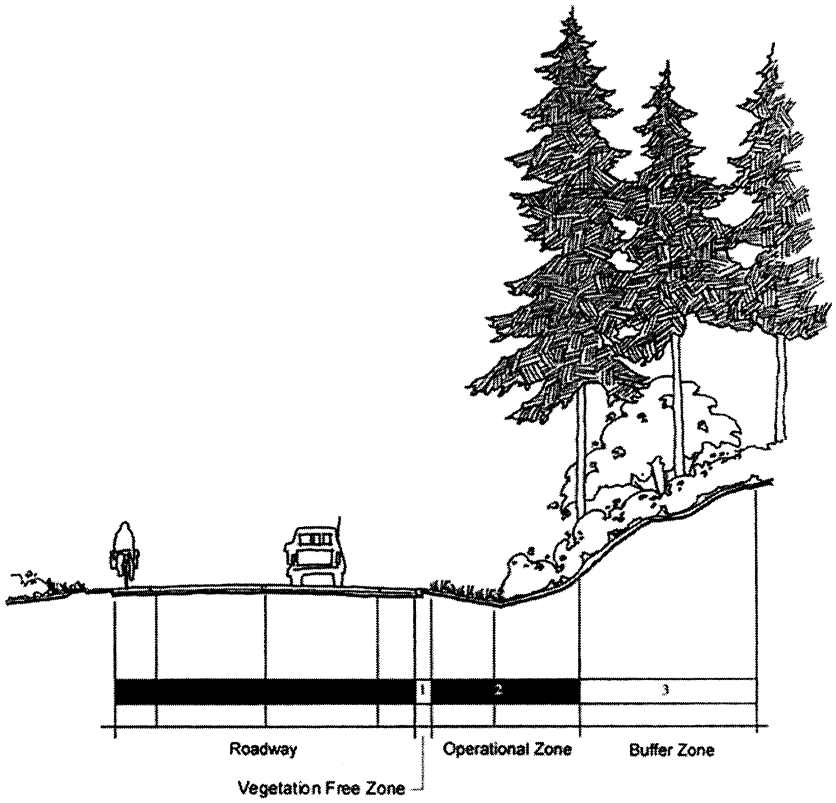
IVM practices as defined in this document are intended help to enhance the visual and natural quality of roadside vegetation on the island. Status as a state scenic highways and the development of a corridor management plan may be used to leverage grant funding for additional enhancement of the roadside condition.

Operational Zones
WSDOT roadsides are divided into several zones for the purposes of assigning management objectives, maintenance intensities, and thresholds for triggering vegetation maintenance actions. Noxious weed species designated for control by state and county law are controlled throughout all zones. Consistent with the 2002 WSDOT Maintenance Manual (M51-01, March 2002), roadside vegetation management zones are described as follows and shown below in Figure 1:

Zone 1 – A vegetation free gravel shoulder, when present, is maintained as 3-foot strip to provide for key operational, safety and pavement preservation needs.

Zone 2 – The operational zone extends from the edge of Zone 1, or the pavement edge, to a width necessary to provide for safe errant vehicular recovery, maintain sight distance at corners and intersections, and provide for other operational, safety, and environmental functions.

Zone 3 – In areas with sufficient right-of-way width, a buffer or transition zone extends from Zone 2 to the right-of-way line to provide a buffer or transitional area between the highway facility and adjacent land uses. This area is maintained selectively, and to the greatest degree possible as a self-sustaining plant community, to minimize erosion and the growth of weeds and undesirable trees and brush.



Vegetation Free Zone
Gravel Shoulder
Maintained using mechanical and chemical methods to improve drainage and protect pavement.

Operational Zone
Low Vegetation
Maintained by mowing and IVM for sight distance, safety, and weed control.

Buffer Zone
Native/ Natural Vegetation
Maintained using IVM to encourage native self-sustaining plant communities.

Typical Roadside Management Zones
Figure 1

Not all maintenance zones will occur along all stretches of state highway on Whidbey Island. In many cases the narrow width of the right-of-way or adjoining land-use, limits the operational zones to Zone 1 and/or a narrow Zone 2 only.

Environmentally and Herbicide Sensitive Areas
In response to the Endangered Species Act and the listing of threatened and endangered aquatic species in Washington State, current WSDOT policy provides for a 300-foot buffer around designated sensitive areas where certain maintenance activities are modified to reduce impacts on natural aquatic systems. Throughout Whidbey Island, WSDOT roadsides cross over, through, or are adjacent to 38 areas considered priority sensitive aquatic habitats. With regard to vegetation management and the use of herbicides, the methods and procedures as defined by WSDOT policy and the contents of this plan will serve to help minimize the impact of the highway and maintenance operations on the environment.

However, there are two areas on the island designated as **Herbicide Sensitive Areas** where practices will be adjusted as an additional precaution due to the highway's close proximity to sensitive aquatic habitat. These two locations are both along SR20 at Keystone Spit and where the right of way borders on the beach along part of Penn Cove. In these locations, herbicide use when necessary will be limited to only selective, hand applications for spot control of undesirable species. Soil-active, residual herbicides will not be used for the maintenance of Zone 1 in these locations. Exact locations of these buffer zones by milepost are listed in **Appendix B**. Policy and methods for these areas are further defined in **Section 3.3**.

Special Maintenance Areas
This plan also defines and identifies areas with unique roadside maintenance requirements or where arrangements exist due to the surrounding land use, neighbor concerns or specific highway related functions. Special maintenance areas identified on Whidbey Island include: highways passing through the cities of Coupeville and Oak Harbor, highway passing through Deception Pass State Park, and roadsides sections with agreements for maintenance by neighbors. These areas are also further defined in **Maintenance Activities, Section 3.3**.

Public Notification of Herbicide Applications
WSDOT is required by law to notify chemically sensitive individuals on file with Washington State Department of Agriculture, where the residing property abuts the highway right of way and the residence is within ½ mile of the property line. For Whidbey Island WSDOT has also established a dedicated phone line to inform the public of locations and timing of all herbicide applications made on the island. The public may call **(360) 848-7238** and listen to a regularly updated recorded message listing the location(s), timing and type of herbicide application(s) being made on state highways for any given week.

Herbicide Safety
When applying herbicides WSDOT takes precaution to avoid any impact on human and environmental health, and to ensure herbicides do not move off target. Applications are made only by trained and licensed employees following all state and federal regulations as well as all recommendations and restrictions given on the individual product labels as approved by the US Environmental Protection Agency.

WSDOT has also conducted a risk assessment for the herbicide products and application methods used on state highways. Toxicological impacts of WSDOT practices were evaluated for human health (both operators and the general public), for aquatic ecosystems, and terrestrial wildlife. The findings of this assessment are summarized in a series of fact sheets for the individual herbicides used by WSDOT. These fact sheets can be viewed and downloaded through the Internet at: http://www.wsdot.wa.gov/biz/maintenance/htm/risk_assessment.htm, or copies may be obtained by calling the WSDOT Headquarters Maintenance Office at (360) 705-7850.

WSDOT Employee Training and Education

Perhaps the most important key to success in the implementation of this plan is the education and training of the maintenance employees responsible for delivery of the program on a daily basis. This plan and the information resources it provides is intended to supplement and enhance existing training and education opportunities already in place. Training and education for employees engaged in delivery of the roadside vegetation management on Whidbey Island will include:

- Participation in an annual one-day spring review of vegetation management needs and activities from the previous year, and planning for the coming year, including the Whidbey Island maintenance crew, supervisor, and area maintenance superintendent and assistant superintendent.
- Development of a field guide using representative photographs taken along highways and county roads on the island to illustrate key aspects of IVM treatment. This will be developed over the first several years of plan implementation.
- Attendance at the annual statewide WSDOT Roadside Vegetation Management Workshops, where there is a focus on IVM tools and procedures, proper and safe use of herbicides, and lessons learned from around the state.

Study and Evaluation of Alternatives to Herbicide Use for Roadside Vegetation Management

WSDOT is currently working through the Transportation Research Center (TRAC) at the University of Washington to design and implement a long-term study of roadside vegetation management alternatives, analyzing costs and results. This study will utilize a series of state highway sections throughout Western Washington as case studies for alternative approaches. Included in the study will be a portion of SR 525 on Whidbey Island. Approximately 18 miles of highway from the ferry dock at Clinton to the vicinity of Greenbank will be set aside as an evaluation section for reduced herbicide vegetation management practices.

Information updates on this project will be posted on the WSDOT Internet site at: http://www.wsdot.wa.gov/maintenance/ivm.htm, or by contacting the WSDOT Headquarters Maintenance Office at (360) 705-7850.

Roadside Design and Construction Considerations

Highway construction in many cases has a significant impact on drainage, soils and vegetation adjacent to the paved roadway. WSDOT policy and practice for restoring the operational, environmental and visual functions disturbed by construction is based on the guidelines found in the **Roadside Classification Plan** (RCP) (WSDOT 1996), and the **Roadside Manual** (WSDOT M25-30, July 2002).

For State Routes (SR) 20 and 525 on Whidbey Island a series of contracts to improve the safety and condition of the highways are currently being implemented. Construction on SR525 between mileposts 18 and 30 will be finalized in 2005. A series of contracts for SR20 on the north half of the island between mileposts 25 and 42 will begin in 2004 and portions of this segment will be under construction through 2010.

Design and development of the plans for construction now being finalized on SR525 preceded the signing of WSDOT policy as defined in the RCP and funding was not available to implement full restoration of the roadside. WSDOT is committed to restoring roadside functions where they have been disturbed by this contract as well as in all future construction, but completion of roadside restoration work will depend upon available funding.

Previous Construction
Contract Name: SR525/Cameron Rd. to SR20, Safety Improvements
Location: Milepost 18.62 to 30.49
Dates: Began construction 4/96, construction complete 5/05
Plans for Roadside Restoration: Because the design and development of this contract preceded the approval of the RCP, disturbed areas were treated only with erosion control seeding. Since funding for the complete restoration of disturbed areas within this contract was not allocated through project development, this work will be accomplished over time using special maintenance funds and grant funding when available. Complete restoration may take a number of years, but the first phase will be implemented in the fall of 2004 between MP 26.45 and 26.7 on SR525.

Future Construction
Contract Name: SR20/Oak Harbor to Frostad Rd.
Location: Milepost 33.19 to 36.42
Dates: Advertise for bids 3/04
Plans for Roadside Restoration: Considerations will be addressed and determined through a Value Engineering study of all pending constructions projects on Whidbey Island.

Contract Name: SR20/Monkey Hill Rd. to Troxell Rd.
Location: Milepost 37.33 to 39.57
Dates: Advertise for bids 11/04
Plans for Roadside Restoration: Considerations will be addressed and determined through a Value Engineering study of all pending constructions projects on Whidbey Island.

Contract Name: SR20/Troxell Rd. to Deception Pass Vicinity
Location: Milepost 39.92 to 41.04
Dates: Advertise for bids 2/05 (pending Legislative approval)
Plans for Roadside Restoration: Considerations will be addressed and determined through a Value Engineering study of all pending constructions projects on Whidbey Island.

Contract Name: SR20/Sidney St. Vicinity to Scenic Heights
Location: Milepost 27.61 to 31.00
Dates: Advertise for bids 10/05
Plans for Roadside Restoration: Considerations will be addressed and determined through a Value Engineering study of all pending constructions projects on Whidbey Island.

Contract Name: SR20/Libbey Rd. to Sidney St. Vicinity

Location: Milepost 25.00 to 27.61
Dates: Advertise for bids11/06
Plans for Roadside Restoration: Considerations will be addressed and determined through a Value Engineering study of all pending constructions projects on Whidbey Island.

Contract Name: SR20/Ducken Rd. to Rosario Rd.
Location: Milepost 40.53 to 43.17
Dates: Advertise for bids 10/06 (pending Legislative approval)
Plans for Roadside Restoration: Considerations will be addressed and determined through a Value Engineering study of all pending constructions projects on Whidbey Island.

Value Engineering Study
WSDOT will invite public comment on roadside aspects of upcoming construction projects at the 60 and 90% contract review stages. WSDOT will also be conducting an evaluation of the roadside considerations in the projects during the Fall of 2004, through a process referred to as value engineering. The focus of the value engineering study will be reduction of long-term roadside maintenance requirements and the reduction of herbicide use. A multi-disciplinary team of experts will participate in the study.

Vegetation Management Overview

Control and management of roadside vegetation is an on-going cycle, and a resource intensive process. This plan is intended to help guide vegetation management activities through a series of steps that includes:

1. Identification and location of environmentally sensitive areas and areas with special vegetation maintenance consideration
2. Definition, locations, methods, and timing for carrying out routine annual vegetation maintenance activities
3. Definition, identification, and locations of all vegetation problems requiring treatment using the Integrated Vegetation Management (IVM) decision-making process and recommended, species-specific, best management practices (BMP) along with the ongoing monitoring and evaluation of treatments in these locations

A detailed description of IVM activities for the highways on Whidbey Island is included in Section 2.1 of this document, and prescriptions for IVM treatment options are included in Appendix A. Additional information and guidance on the application of IVM can be found in the publication **Integrated Vegetation Management for Roadsides** (WSDOT, July 1997). Figure 2 and page 12 diagrams the IVM decision-making process used by maintenance in the field.

Annual Vegetation Maintenance Cycle

Vegetation management activities typically begin each year in the spring and continue through the fall, with some activities such as danger tree removal and some tree and brush control activities occurring throughout the year. An overview of a typical roadside maintenance season is as follows:

Early Spring

At the start of the active growing season, maintenance technicians routinely apply a band averaging 3' in width of residual herbicide to the road shoulder in order to maintain this area as free of vegetation in support operational needs. A complete description and locations of exception to the standard herbicide applications associated with Zone 1 is covered under **Routine Maintenance Activities, Section 1.1** in the **Maintenance Activities** section of this document.

Spring and Summer

Throughout the growing season roadside maintenance activities are focused on mowing the shoulders, controlling weeds and some control of undesirable emerging trees and brush. Monitoring also occurs through this time to identify any new areas or situations requiring treatment, and to evaluate treatments made earlier in the year or in the previous season. Weed control activities are made dependent on timing in relation to the growth and lifecycle of the weeds or undesirable vegetation being treated. Emerging trees and brush are controlled when small to avoid negative visual impact. These activities will be conducted in accordance with the documented long-term IVM treatment plans following the management prescriptions described in Appendix A and below under Plan Contents, Section 2. IVM activities are documented and evaluated using the forms in the IVM Planning and Treatment Database.

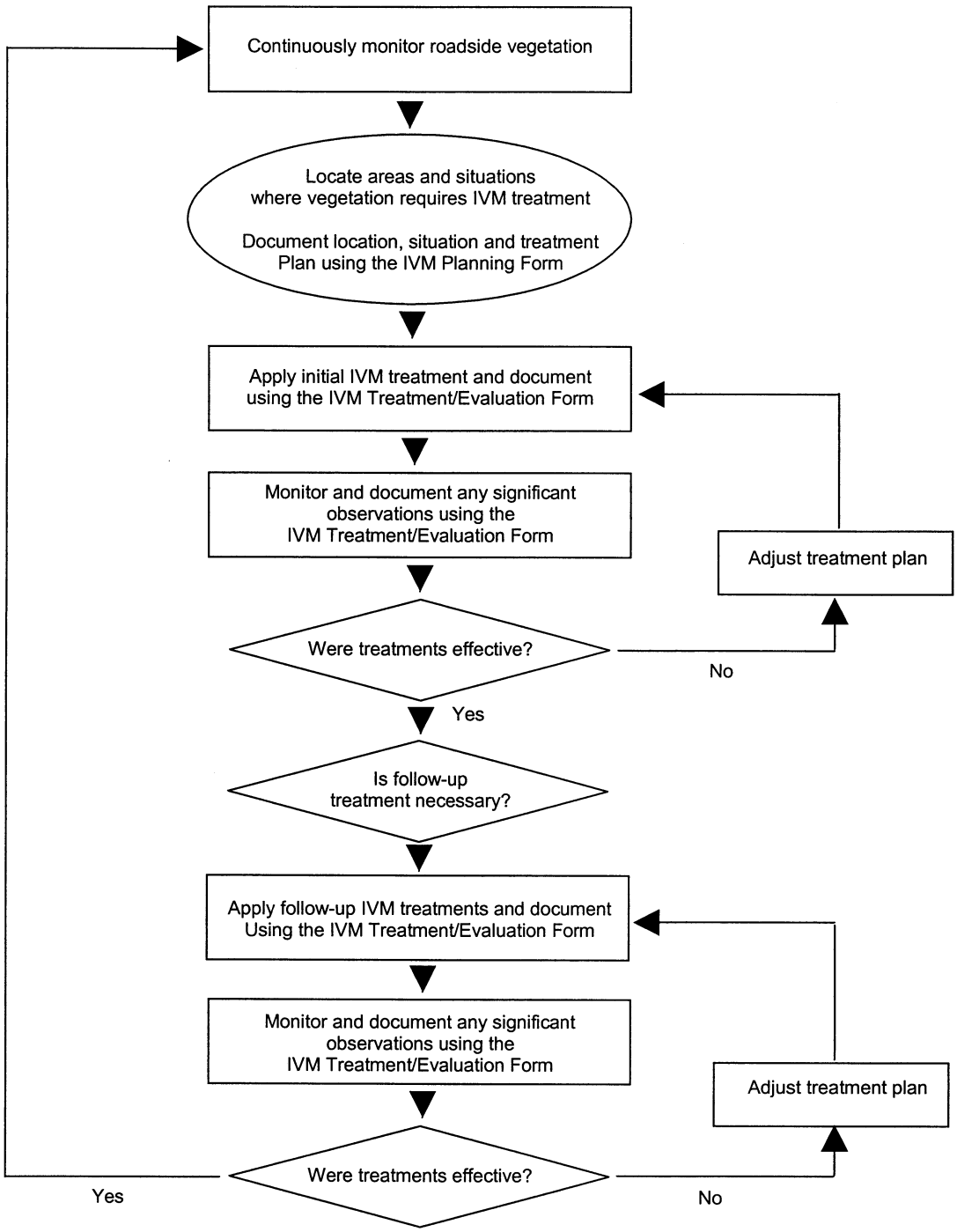
Routine mowing activities during this period are focused on making one pass, if needed, extending to the bottom of the ditch or approximately 8 feet from edge of pavement on all shoulders where guardrail or barrier does not exist. Some selective trimming of areas behind guardrail or barrier, and beyond the 8-foot width where site distance is required also occurs on an as needed basis. A complete description and locations for routine mowing and trimming operations can be found in **Maintenance Activities**, Section 1.

Fall and Winter
Activities in the fall and winter are focused on control of undesirable invading brush species and the removal of trees that pose an immanent or future hazard to the highway. These activities are conducted as time allows given other highway maintenance needs and weather dependent winter maintenance operations. These activities will be conducted in accordance with the documented long-term IVM treatment plans following the management prescriptions described in **Appendix A** and under **Maintenance Activities**, in Sections 1 and 2.

Action Thresholds
The point at which plant species to impact highway operations, WSDOT's legal obligations, or other maintenance program objectives is termed the action threshold. At this point the vegetation is considered undesirable and is subject to the development of treatment plans and prioritized for maintenance action.

The action threshold for some activities is exceeded on a routine or annual basis, such as the maintenance of a vegetation-free strip adjacent to the edge of pavement (Zone 1), or where regular mowing and/or trimming is required to preserve sight distance at curves, road approaches, or intersections. In other cases action thresholds are set at varying levels for individual plant species such as noxious or nuisance weeds, or for potentially large and dangerous trees growing too close to the highway. Action thresholds are described for individual plant species and/or types of vegetation as part the **Integrated Vegetation Management Prescriptions** table shown in **Appendix A**.

The Integrated Vegetation Management Decision-Making Process
Within maintenance, the IVM decision-making process is applied in any situation where there is an opportunity to eliminate or reduce a reoccurring vegetation problem with the establishment of or enhancement of surrounding, existing, stable, low-maintenance vegetation. The IVM process and suggestions for its application to the roadside are explained in detail in **Integrated Vegetation Management for Roadsides** (WSDOT, July 1997). But within the context of this plan it can be summarized with the diagram in Figure 2 below.



The IVM Decision-Making Process
Figure 2

Maintenance
Activities

1. ROUTINE MAINTENANCE ACTIVITIES

Roadside maintenance activities are considered routine when regular annual treatment is required because vegetative growth continually exceeds action thresholds.

1.1. Routine Shoulder Maintenance (Zone 1)

1.1.1. Policy and objectives

Zone 1 when present, is maintained free of vegetation to promote positive surface and subsurface drainage, protect asphalt shoulder from deterioration due to vegetation growth, and to function as a firebreak. Zone 1 will be maintained along specific areas of state routes throughout Whidbey Island as defined in this plan. However, there are a number of locations where Zone 1 will not be maintained for various reasons. In these locations, grasses will be allowed to establish up to the edge of pavement and will be routinely mowed as part of Zone 2.

The width of Zone 1, where maintained, is set at an average of 3'-0" (or to the back side of roadside hardware) as measured from the edge of pavement toward the slope of the shoulder. This may include the area behind guardrail and barrier associated with bridge ends, but does not in any case extend down-slope beyond the edge of the bridge abutment.

In the two Herbicide Sensitive Areas, on Keystone Spit and near Penn Cove with milepost as defined in this plan, no soil active residual herbicides will be applied for maintenance of Zone 1. In these buffer zones, grasses will be allowed to naturally establish up to the edge of pavement where guardrail is not present. Any nuisance or noxious weed species that emerge in these areas will be controlled by hand pulling or with selective hand-made spot applications of herbicide. Where guardrail is present in these areas, vegetation will be controlled around the base of hardware with hand mowing or routine annual applications of glyphosate later in the growing season. The boundaries for these sensitive areas and associated no-spray buffers are identified in **Appendix B, Zone 1 Maintenance, Table 1.1.2**. They are also marked with painted markings at the pavement edge.

Zone 1 may be greater or less than the 3-foot standard width under some circumstances for certain operational functions. Prior to application, area maintenance superintendent must approve all exceptions to standard width applications. These locations will be included on future updates to the area maps and plan documents.

Exception Areas (No Zone 1)

Areas where Zone 1 will not be maintained on Whidbey Island:

- Shoulders without guard rail in close proximity to sensitive aquatic habitat
- All shoulders without guardrail on SR 525 between the Clinton ferry dock and Greenbank
- Areas with curb and contained drainage where guardrail is not present
- When required for legal, environmental, or human health compliance such as the drinking water collection area along SR 525 at MP 11.8.
- By agreement/permit where maintenance is done by others

Variance Areas (Wider than Standard Width)

Areas where Zone 1 may be greater than 3 feet include:

- Where required for maintenance or visibility of highway hardware such as guardrail ends or fencing.
- Areas of high fire risk.

- Where maintaining desirable vegetation is impractical such as natural rock or gravel ditches.
- To facilitate sight distance and visibility at intersections where mowing is not practical.

1.1.2 Methods (timing and procedures)

Zone 1 will be maintained by an annual application of non-selective residual herbicide applied each spring according to label instructions and in compliance with all state and federal regulations. Zone 1 applications will not be made during periods of heavy rain or in wind greater than 10 miles per hour.

Applications will be made in the spring typically beginning in April. They will be planned and carried out depending on weather patterns and precipitation events.

Within the designated evaluation section between Clinton and Greenbank alternative methods for Zone 1 maintenance under guardrail is being tested and residual herbicide application will not be used. Alternative methods being evaluated in this section will include: Use of vegetation prevention mats, use of a Glyphosate only annual herbicide treatment, and use of routine hand mowing.

In areas where Zone 1 is not maintained the shoulder will be mowed annually as necessary and described under Section 1.2 below. In some areas the pavement edge is maintained by neighbors under a permit, in these instances each individual permit defines the conditions for maintenance of Zone 1 or other treatment of the pavement edge. It is anticipated that buildup of soil and vegetation at the edge of pavement in areas without Zone 1 may necessitate a greater frequency of mechanical grading. These areas will be monitored and buildup removed every several years or more, as needed to allow for surface drainage.

Zone 1 chemical applications will be documented on the WSDOT Pesticide Application Record.

Prescriptions
See **Appendix A, Routine Maintenance Prescriptions, Zone 1 Maintenance**

1.1.3 Locations by Milepost

Exception areas and variance areas for Zone 1 maintenance are listed in **Appendix B, Zone 1 Maintenance, Table 1.1.2**

1.2. Routine Mowing/Trimming (Zone 2)

1.2.1. Policy and objectives

Zone 2 is referred to as the operational zone and is maintained to fulfill many operational, safety, and environmental functions of the highway roadside. Vegetation management considerations include noxious and nuisance weed control, brush control, the removal of trees with a potential trunk diameter of greater than 4", and the trimming or removal of limbs and brush where there is risk of falling on the highway or otherwise encroaching on highway operations. Maintenance techniques used to accomplish these objectives must consider

impacts on sensitive areas, erosion control, water quality, long-term vegetative growth and overall visual quality.

Overall vegetation management of zone 2 will encourage stable native plant communities through routine mowing and trimming, and the selective removal of competitive noxious and nuisance weeds, and undesirable trees as described in Section 2. Vegetation management techniques will be conducted to maintain the predominately natural but low growing appearance of the roadside.

Zone 2 is measured from the edge of Zone 1 (or pavement if Zone 1 is not present) to the designated errant vehicle recovery zone with for a given segment of highway, or to the width required to provide site distance at curves and intersections, or visibility of highway signs. Maintained recovery zone widths are based on a variety of factors including design speed, slopes, and the presence of guardrail. The typical recovery zone width for highways on Whidbey Island is approximately 30 feet from the outside pavement stripe, or the width of the right of way if less than 30 feet. The recovery zone must be free of vegetation with trunk diameter greater than 4". Where guardrail exists there is no need to maintain the vehicle recovery zone.

In areas where guardrail or other barrier is present on straight highway sections where site distance is not an issue, Zone 2 may not be maintained.

1.2.2. Methods (timing and procedures)

Mowing

Routine mowing as necessary will be the primary treatment method for the portion of zone 2 directly adjacent to the highway. Practices will consist of a single pass to the bottom of the ditch line where present or a 6 to 8 foot mowing pass with a side-mounted mower. This will be done one to two times on an annual basis wherever needed throughout the corridors in all areas where guardrail is not present. Mowing equipment will be set a minimum of 4 inches above ground to eliminate the potential for exposing bare soil caused by close mowing. Ideally mowing height should average 6 to 8 inches. Bare soil may contribute to erosion and provide an opportunity for new weed infestations along the right-of-way. Areas with guardrail or steep sloping terrain will be selectively trimmed when necessary with a side mower attached to an articulated boom as described under Selective Trimming below.

Areas where Zone 1 is not maintained will typically be mowed twice annually once in May and again in late summer. Areas without guardrail where Zone 1 is maintained will be mowed once annually if needed beginning in June.

Single pass mowing of zone 2 will be timed and conducted to minimize damage to desirable herbaceous and woody plant species to the greatest extent possible. In areas dominated by grass, mowing may occur whenever practical to meet operational needs. In areas where desirable herbaceous and woody species are established within 6 to 8 feet of the pavement mowing (when required) should follow spring and early summer flowering and root development. Whenever possible/ practical desirable low-growing vegetation should be skipped or mowed around. When mowing of desirable shrubs is required due to site distance or encroachment on traffic, mowing height should be a minimum of 18".

Selective Trimming
Brush, tree limbs, and other woody vegetation encroaching into Zone 2 will be routinely trimmed as necessary. In some cases it is more effective to selectively remove individual plants when young to prevent them from becoming problems in the future, in these cases IVM treatments will be applied as described in Section 2 below. However routine selective trimming is defined as mechanical side trimming or "hedging" to create a dense cover of desirable plants and reduce the potential for invading, undesirable vegetation.

Whenever possible, side arm brush trimming will be conducted as early in the season as possible so that spring re-growth will minimize negative visual impacts.

Prescriptions
See **Appendix A, Routine Maintenance Prescriptions, Zone 2 Maintenance**

1.2.3. Locations by Milepost
Appendix B, Zone 2 Maintenance, Table 1.2.3 shows locations for roadside hardware, which may affect maintenance of Zone 2.

1.3. Hazard Tree Removal

1.3.1. Policy and Objectives
It is WSDOT policy to remove trees that pose a threat to the traveling public and to the transportation infrastructure as soon as possible upon identification. Danger trees can pose imminent danger to roadway user or be considered a long-term threat during storm events.

Danger trees may be dead, leaning, or structurally unsound. Best horticultural judgement will be used in evaluating trees that appear diseased or structurally unsound or are believed to pose a long-term threat to determine the best course of action.

Danger trees should be removed in such a manner to minimize damage and impact to the highway structure and other healthy trees and understory vegetation.

Another consideration in removal of trees is the contribution to shading in areas prone to frost and ice formation on the highway surface. When such areas are identified, the surrounding canopy may thinned through selective removal of large trees on the right of way.

Special consideration should be given to trees with biological or cultural importance, such as areas within the State Park, in highly scenic areas, or environmentally sensitive areas where the management and maintenance of large old-growth trees is considered ecologically and visually desirable.

2. INTEGRATED VEGETATION MANAGEMENT ACTIVITIES
For all vegetation management needs not addressed through routine maintenance as described above, activities are planned and carried out using the principles of Integrated Vegetation Management (IVM) and the decision making process described in Figure 2. This is consistent with requirements in state law pertaining to the use of Integrated Pest

Management (IPM), as defined in Chapter 17.15 RCW. IVM is a coordinated decision making process that uses the most appropriate vegetation management methods and strategy, along with a monitoring and evaluation system, to achieve long term roadside maintenance goals and objectives in an environmentally and economically sound manner. The result of utilizing the IVM approach is the establishment of stable, low maintenance native or naturalized plant communities on the roadside that are compatible with highway maintenance and safety objectives, preservation of environmental quality, weed control requirements, and the concern's of WSDOT's customers and neighbors. Long term, the use of the IVM approach can reduce the intensity and cost of maintenance as well as reduce the overall use of herbicides.

2.1. Integrated Vegetation Management Planning and Tracking Database

2.1.1. Description

One of the keys to successful use of IVM is carrying out activities in accordance with a long-range plan and to follow up with monitoring and evaluation of treatment results. To facilitate this, forms and a database have been created for statewide use by WSDOT maintenance. This system is being tested as part of the initial development of Roadside Vegetation Management Plans and will be modified and refined as technology in this area continues to develop over the coming years.

2.1.2. Sample forms

Copies of the Integrated Vegetation Management Planning Form and Integrated Vegetation Management Treatment/Evaluation Form can be found in **Appendix E, Forms and Records**.

2.1.3. Instructions for use

Maintenance supervisors and technicians can access the IVM Record through the existing Pesticide Application Record Keeping system available from the area office.

2.2. Noxious Weed Control

2.2.1. Policy and objectives

As defined by RCW 17.10, all property owners including state agencies, are required to control noxious weeds on lands that they own and manage. Noxious weed control is a high priority for WSDOT as a result of this legal mandate as well as the fact that if they are left unchecked, levels of infestation can begin to spread at exponential rates from year to year. Noxious weeds are invasive, non-native plant species that can quickly dominate native plant communities and spread to other areas or regions. New infestations of noxious weeds often appear first in highway corridors after being transported from other areas by vehicles or transportation of agricultural products. Without timely control, these new infestations can further spread along transportation corridors and to adjacent property. The overall cost and impact to the economic viability of the agricultural community and the health of native ecosystems can be significant. Also some of these plants are toxic to livestock and/or humans.

WSDOT prioritizes weed control based on three legally defined weed species classification categories. Chapter 16-750 of the Washington Administrative Code lists weed species in classes A through C. Noxious weeds include all plants listed as class A, and those in classes B and C that are designated for control within each individual county.

Class A
Class A noxious weeds are non-native species with a limited distribution in the state. Immediate treatment of these new infestations is required by State law and is the top weed control priority to prevent spread into adjacent areas.

No Class A weeds are known to occur within WSDOT right-of-way on Whidbey Island.

Class B
Class B weeds are more widespread than Class A, with control mandated by the state only if infestations are generally limited and the species are designated within the individual counties by the County Noxious Weed Control Boards. Containment, gradual reduction, and prevention of further spread are the chief management concerns of Class B species. For the purposes roadside management on Whidbey Island, WSDOT will provide consistent annual IVM treatments for all known species of Class B noxious weeds designated for control by the Island County Noxious Weed Control Board. Treatment will continue until these species have been eradicated from WSDOT rights of way wherever possible. Priority for treatment of these infestations will be areas where control is being also being accomplished on neighboring properties.

Class B noxious weeds designated for control within Island County, and currently present within WSDOT right-of-way on Whidbey Island include: **Japanese knotweed** (*Polygonum cuspidatum*), **meadow knapweed** (*Centaurea jacea x nigra*), **spotted knapweed** (*Centaurea biebersteinii*), **tansy ragwort** (*Senecio jacobaea*), and **dalmation toadflax** (*Linaria dalmatica ssp dalmatica*).

Class C
Class C noxious weeds are widely established throughout Washington or may impact the agricultural industry. Counties may require control of certain Class C weeds at their own discretion. Unless otherwise required, WSDOT classifies most Class C species as "nuisance" weeds and provides control as part of the general roadside vegetation management program. Nuisance weeds and treatment options are described in Section 2.4 of this document.

Class C noxious weeds designated for control within Island County, and are currently present within WSDOT right-of-way on Whidbey Island include: **Canada thistle** (*Cirsium arvense*) and **poison hemlock** (*Conium maculatum*).

2.2.2. Methods
Because noxious weed species are often difficult to control, herbicides treatments are often the primary, initial means of control. If infestations are limited to a few plants, hand pulling is also effective when the entire root system is also removed. Once actively growing plants have been treated or removed, the remaining seed bank in each location must be depleted over succeeding years by treating any re-growth. Timing of herbicide treatments within the growth stage of the weed species is often critical to achieving complete control of perennial species. In conjunction with these treatments, a variety of other measures may be taken to promote natural vegetative

competition through seeding, planting, and soil enhancement. The IVM Record and database are essential to the execution and success of these control measures.

2.2.3. Prescriptions

See **Appendix A, IVM Prescriptions, Noxious Weed Control**

2.2.4. Species Location by Milepost

See **Appendix B, Noxious Weed Locations, Table 2.3.4**.

2.3. Nuisance Weed Control

2.3.1. Policy and objectives

Nuisance weed control, while not required by state law, provides many positive benefits to the overall condition of the roadside, enhances ecological function by maintaining and enhancing native plant communities, reduces the potential for continuing spread of weed infestations, and enhances visual quality. The term nuisance weeds is used in this plan to describe a variety of low growing or shrubby plant species that are considered undesirable on all or portions of the right of way. Many of the plant types referred to as nuisance weeds in this document are actually classified as class B or C noxious weeds under state law, but because their control is not mandatory in Kitsap County they will be controlled as nuisance weeds.

Dependent on crew availability and budget, nuisance weeds will be controlled throughout the roadsides of Whidbey Island as part of the overall Integrated Vegetation Management process. Priority control measures will be given to new infestations where there is a greater chance of control prior to continued invasion into healthy stands of existing vegetation. In some cases where practical, nuisance weed infestations may be treated in conjunction with treatment of noxious weeds.

For established infestations currently identified in this plan, weed populations will be contained and gradually reduced by applying appropriate vegetation management prescriptions. Control options range from manual cutting, mechanical removal, and biological control, to targeted selective herbicide application, or combinations thereof.

2.3.2. List of species currently present

Nuisance weeds are widely established throughout many areas of Whidbey Island. In some cases, these weeds have become the dominant vegetation along the roadsides.

Class C weeds that are currently present within WSDOT right-of-way on Whidbey Island, but not required for control, include: **Scotch broom** (*Cytisus scoparius*), **Himalayan blackberry** (*Rubus discolor*), **common tansy** (*Tanacetum vulgare*), and **bull thistle** (*Cirsium vulgare*) are the most commonly encountered nuisance weeds.

Of these weeds, Bull thistle often coexists with Canada thistle and in these cases will likely receive control along with the Canada thistle, which is designated for control in Island County.

There are many other species of weeds present on the island that are too common and widespread to justify treatment or attempted control. There

are also some new species that have only shown up in recent years and are not yet listed as nuisance or noxious weeds, such as **Hairy willow-herb** (Epilobium hirsutum) growing around SR 20 on Keystone Spit. Other species may be added to this list as they are identified or become priorities for control.

2.3.3. Methods

Control measures for nuisance weed are dependent on the type of plant. Woody species such as Scotch broom and Himalayan blackberry are most effectively treated with a combination of cutting and herbicide treatments. Perennial species such as Japanese knotweed and Canadian thistle are more effective controlled by properly timed herbicide applications. Biennial species such as Bull thistle may also be effectively controlled by hand pulling prior to seed set.

2.3.4. Prescriptions

See **Appendix A, IVM Prescriptions, Nuisance Weed Control**

2.3.5. Species Location by Milepost

See **Appendix B, Nuisance Weed Locations, Table 2.4.5**.

2.4. Tree and Brush Control

2.4.1. Policy and Objectives

The primary objective for this type of work is to prevent the growth of large and potentially overhanging, hazardous trees. If native, large shrub and small tree species should be allowed to grow and mature in Zone 2 and side trimmed if they begin to encroach on site distance or other traffic operational requirements, as described in Section 1.1.2 above. However, large tree species such as conifers or hardwood deciduous species such as Bigleaf maple, Alder, or Cottonwood left to grow in Zone 2 and in some cases parts of Zone 3, they can reach substantial size over a relatively short period of time. The longer they are left to grow in these locations, the greater the visual impact and cost when they eventually must be removed.

2.4.2. Methods

Removal of undesirable tree and brush species is typically accomplished by hand cutting, hand pulling, properly timed selective mowing, properly timed herbicide applications, or combinations thereof. In some locations it is most effective to mow back the majority of the existing vegetation and then selectively treat undesirable re-growth with herbicides in succeeding years, allowing desirable vegetation to grow up around and form a competitive cover. In some cases when tree and brush species are cut by hand, the debris can be fed through a chipper and placed back on the roadside in the form of mulch. In other cases, when trees and brush are of small enough size and maintenance has access to heavy duty mowing equipment, undesirable vegetation can be ground off in one step and the debris left on site as mulch.

Timing of these activities has a significant effect on how the vegetation grows back. Herbicide applications made by hand, directly to the cut surfaces of undesirable plants may be used to reduce or eliminate grow back.

Manual trimming or hand cutting methods will be used on all trees or other brush greater than 6 feet in height or with a trunk diameter of 2 inches or

greater to provide clean cuts. In these cases, trunks will be cut no higher than 4 inches above the ground surface. Chemical control methods will not be used on conifers greater than 2 feet in height. Chemical control methods will not be used on deciduous plants until after the first of September, except for as cut stump treatments to eliminate grow-back.

Whenever possible, safe and practical seedling trees will be dug or pulled by hand and transplanted to areas where there growth will be beneficial and appropriate. Agreements may be signed to allow private citizens to collect seedlings for use as transplants.

2.4.3. Prescriptions

See **Appendix A, IVM Prescriptions, Tree and Brush Control**

3. SPECIAL MAINTENANCE AREAS

Several areas on Whidbey Island require alternative or more intensive maintenance measures than that applied to general roadside areas, and several areas are designated for roadside maintenance by others. These areas are mapped and marked in the field for immediate recognition by vegetation management crews when appropriate. In some cases, these Special Maintenance Areas require special consideration for the use of herbicides as part of the overall integrated vegetated management concept. Specialized control methods, when applicable, are included as alternative prescriptions in **Appendix A**.

Special Maintenance Areas may include interchanges, community entrances or enhancement areas, areas maintained by cities, bicycle paths, storm water retention ponds, state park land, wellheads, environmentally sensitive areas, school zones and roadsides adjacent to individual properties with current or annual no-spray agreements.

3.1. Interchanges/Intersections

3.1.1. Policy and objectives

Interchange and major intersections areas are managed consistent with roadside operational, safety, and environmental functions including sight distance, water quality, noxious and nuisance weed control, and overall visual quality. Interchange areas are often developed to a greater level than general roadside areas to include storm water management facilities, pedestrian areas, and permanent vegetation designed for screening, permanent erosion control, visual enhancement, etc.

There are currently no interchanges or intersections maintained as special maintenance areas on Whidbey Island.

3.2. Formally Landscaped Sections

3.2.1. Policy and objectives

Formally landscaped sections of the roadside and within interchange areas will be maintained consistent with WSDOT operational, safety, and environmental functions and within the context of the surrounding community or landscape. Remote forested roadside areas that were restored under contract or as part of the IVM process will be maintained consistent with the Zone 2 or Zone 3 goals for that section. Interchange or

roadside areas occurring in more urbanized areas will receive more intensive regular maintenance as necessary.

Community Enhancement Areas, as described in the Roadside Classification Plan, are areas designed and maintained in partnership with local communities and civic organizations. These areas can provide opportunities to develop interchange areas to a greater extent that would be possible through normal WSDOT construction or maintenance programs. These areas are typically maintained by agreement with the primary maintenance responsibility given to the local partner.

On Whidbey Island, the only formally landscaped areas are with city limits of Coupeville and Oak Harbor. In both cases these areas are maintained by the cities as community enhancement areas under agreement with WSDOT.

3.3. Herbicide Sensitive Areas

3.3.1. Policy and objectives

WSDOT has identified two areas where herbicide use will be limited to reduce any potential risk to the environment. In areas designated as herbicide sensitive areas, no residual herbicide will be applied to the shoulders and grasses will be allowed to establish to the edge of pavement. Herbicide applications made for noxious or nuisance weed control, maintenance of vegetation at the pavement edge, or applications made in combination with mechanical methods for control of undesirable trees will be made selectively by hand.

There are a number of individuals living on Whidbey Island who have been diagnosed with Multiple Chemical Sensitivity (MCS). WSDOT is required by law to notify these individuals when making herbicide applications to roadside locations if the highway right of way is adjacent to their property and their principle residence is within one-half mile of the application. The area supervisor maintains a current copy of the list of individuals and is responsible for ensuring the notification of these individuals prior to any application made adjacent to their property.

Because many of the individuals with MCS on Whidbey Island do not live within one-half mile of the highway, but must drive on the highway to get around the island, WSDOT has agreed to provide herbicide application updates on a daily basis between April and October to inform concerned individuals where, when and what type of herbicide applications are being made that day and/or planned for the coming week. Concerned individuals should contact the Whidbey Island Herbicide Application Hotline at (360) 848-7238.

3.3.2. Methods and Prescriptions

Activity descriptions and IVM prescriptions are included in sections above and relevant appendices, as they relate to the various types of maintenance.

3.3.3. Locations by Milepost

See **Appendix D, Special Maintenance Areas, Table 3.0**

3.4. Adopt-a-Highway and Owner Will Maintain Agreements

3.4.1. Policy and objectives

The Adopt-a-Highway program is a program that allows private citizens, volunteer groups, and businesses an opportunity to contribute to an enhanced roadside appearance through direct partnership with WSDOT. The program improves the overall appearance of the roadside primarily through litter control, although other activities that improve the visual and environmental condition of the roadside are permitted as well including limited planting and maintenance of specific areas. Other partnership opportunities are possible through general permits and agreements. Volunteer groups that do enhancement planting on WSDOT roadsides are typically required to establish and maintain the plantings. Communities may partner with WSDOT to develop and maintain selected Community Enhancement Areas as described in the **Roadside Classification Plan**.

Neighboring property owners may enter into an agreement with WSDOT where they take responsibility for the vegetation management activities along the area where their property abuts state right of way. These "owner will maintain" agreements are established through a General Permit and are required to be renewed on an annual basis. These agreements are typically implemented in cases where a neighboring property owner desires a higher level of care in front of their business or residence, or prefers maintaining the area to avoid WSDOT herbicide applications near their home or business.

3.4.2. Locations by Milepost

See **Appendix D, Special Maintenance Areas, Table 3.0**

3.5. Environmentally Sensitive Areas

3.5.1. Policy and Objectives

As a state agency, WSDOT is committed to conducting it activities in accordance with the dictates of sound environmental protection practices, including pollution prevention, work to avoid, minimize and appropriately mitigate adverse environmental impacts, and to comply with all environmental laws and regulations applicable to our business and activities.

Numerous environmentally sensitive areas such as streams, rivers, wetlands, lakes, and salt-water beaches containing habitat and species protected by the Endangered Species Act, as well as wellhead areas occur within close proximity to the highway system and sometimes require alternative management techniques or specialized emergency response plans, in order to reasonably avoid or minimize environmental or water quality impacts. Since Integrated Vegetation Management (IVM) techniques will be used along all state highways on the island to mitigate impacts from highway operation through the establishment of naturally self-sustaining plant communities in these areas, practices will not vary within these designated areas.

In compliance with the **Regional Road Maintenance Endangered Species Act Program Guidelines**, as agreed upon with the National Marine Fisheries Service, WSDOT has identified, mapped and located in the field all highway sections within 300 feet of rivers, wetlands and water bodies.

3.5.2. Special Considerations/Actions

With the exception of the limitations on herbicide use as described in **Section 3.3** above, WSDOT will maintain roadside vegetation in these areas consistent with the descriptions and prescriptions dictated in this plan. IVM techniques will be used to target specific noxious weeds that occur in

these areas to maintain control with the least amount of impact to the surrounding environment. All control measures will conform to applicable state and federal laws, label restrictions, and acceptable best management practices.

3.5.3. Locations by Type and Milepost

See **Appendix D, Special Maintenance Areas, Table 3.0**

3.6. Storm Water Management Facilities

3.6.1. Policy and Objectives

Storm water management facilities include bio-filtration swales, retention ponds and infiltration ponds. On Whidbey Island a number of infiltration ponds have been constructed with recent highway improvement projects. All are fenced with locked gates to prevent public access.

Storm water management facilities will be managed for noxious and nuisance weeds following the same guidelines mentioned in previous sections. The primary objectives with regard vegetation management within these facilities are maintenance the functionality in terms of the designed volume of retention and water flow, and the maintenance of the surrounding fence.

3.6.2. Activities and Methods

Noxious weed control will be conducted at all storm water management facilities as necessary. Control of nuisance weeds in will be coordinated with nuisance weed control along the adjacent roadside. Trees and brush should be cleared along both sides of the perimeter fencing for a width of approximately 8 feet as needed. Inlets and outfalls should be kept clear of vegetation and debris as well.

Refer to vegetation management prescriptions for specific weed, tree and brush species in Sections 1 and 2 of this document for timing and control methods.

3.6.3. Locations table by MP

See **Appendix D, Special Maintenance Areas, Table 3.0**

3.7. Wellhead or Drinking Water Protection Areas

3.7.1. Policy and Objectives

The highway is a source of pollution and it is the responsibility of drinking water purveyors and individual well owners to develop measures for protection of drinking water systems. WSDOT has contacted all neighboring class A and B drinking water purveyors in the state and invited them consult with the department on any highway related concerns for protection of their systems.

The county regularly monitors and tests drinking water systems for contamination, including tests for the presence of pesticides. None of the herbicide compounds used by WSDOT have been detected in drinking water anywhere in Island County.

3.7.2. Special Considerations/Actions

As part of the development and implementation of the Whidbey Island Integrated Roadside Vegetation Management Plan, WSDOT has committed

to contact all owners of county-recorded well systems on properties adjacent to the state highway right of way in Island County. WSDOT will provide information on highway related issues with potential to impact groundwater. If there are any well owners with concerns in relation to WSDOT's use of herbicides for vegetation management, the department will work with those individuals to establish "owner maintenance" agreements for the right of way adjacent to their property.

3.7.3. Locations table by MP

There are currently several locations in Island County where WSDOT has existing agreements with neighboring property owners due to concerns relating to herbicide use. These locations are listed and described in **Appendix D, Special Maintenance Areas, Table 3.0**. Additional locations resulting from implementation of this plan will be added to this list.

3.8. Wetland Mitigation Sites

3.8.1. Policy and Objectives

Wetland mitigation results from unavoidable impacts to naturally occurring wetlands from highway construction. In these cases new wetlands are created on WSDOT right of way and vegetation is managed to provide environmental functions similar to those eliminated in other areas by the highway's presence.

Wetland mitigation sites are carefully monitored for up to 10 years following their creation to ensure compliance with environmental regulation. In most cases vegetation in these sites is planted and established through the construction process so the maintenance actions are not required unless noxious weeds or hazardous trees become an issue. However, it is important that maintenance be aware of the locations of wetland mitigation sites to avoid impacting the required environmental functions of the sites.

3.8.2. Locations table by MP

See **Appendix D, Special Maintenance Areas, Table 3.0**

Appendix A

Routine Maintenance Activities

Zone 1 Maintenance - *typical annual maintenance*

Location Type	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
gravel shoulder	3' area free of vegetation	annual herbicide application	spray truck w/ fixed nozzle mounted 18" from ground	non-selective residual herbicide Roundup Pro @ 32 oz/acre Oust @ 6 oz./acre	April start	none required

Zone 1 Maintenance - *annual maintenance (SR 525 Evaluation Section)*

Location Type	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
gravel shoulder under guardrail within SR525 evaluation section	3' area free of vegetation	annual herbicide application	spray truck w/ fixed nozzle mounted 18" from ground	Roundup Pro @ 32 oz/acre	April/May additional app. late summer if needed	none required

Zone 2 Maintenance - *annual mowing w/ no zone 1*

Location Type	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
operational zone adjacent to shoulder - no zone 1	4 inch average ht. single pass mowing adjacent to pavement where zone 1 is not present to to maintain desirable low veg	annual mowing, 6' - 8' wide single pass adjacent to	mower, attenuator	none required	May, July and as needed	seed and fertilize to reduce weed competition if necessary

Zone 2 Maintenance - *annual mowing*

Location Type	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
operational zone adjacent to shoulder	8 inch average ht. single pass to maintain desirable low vegetation.	annual mowing, 6' - 8' wide single pass adjacent to Zone 1 as necessary	mower, attenuator	none required	June on as needed	seed and fertilize to reduce weed competition if necessary

Zone 2 Maintenance - *selective trimming*

Location Type	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
operational zone adjacent to shoulder	annual brush or tree limb control adjacent to shoulder to maintain sight distance and other operational needs.	annual mechanical trimming where needed. Follow up trimming with pole saw as needed.	mower with side-arm unit, pole saw, attenuator as needed.	none required	Late in season to minimize visual impacts.	seed and fertilize if alder/scotch broom are present to reduce competition.

Tree and Brush Control

Tree and Brush Control - *Alder, Maple, Cottonwood (trees under 6' ht.)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
zone 2	as soon as seedlings become visible w/in 30' of fog line (no guardrail present)	control of seedling trees that may impact roadside function if allowed to grow.	selective foliar treatment w/ herbicide	truck mounted sprayer where possible, backpack sprayer where necessary	Garlon 3A w/ Redi-vert at label rate. Krenite S on alder at recommended label rates	late fall to avoid brown out	Seed and fertilize or plant to establish low growing native plant community.

Tree and Brush Control - *Alder, Maple, Cottonwood (trees over 6' ht.)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
zone 2	whenever trees are likely or have potential to grow and fall on the highway	control of young trees that may impact roadside function if allowed to grow.	hand cutting, treatment of cut surface w/ herbicide chip debris in zone 2	power saws, loppers, chipper, backpack or hand-held sprayer	Garlon 4 at label rate for cut-stump treatment	anytime	Seed and fertilize or plant to establish low growing native plant community.

Tree and Brush Control - *Conifers (trees under 2' ht.)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
zone 1 or 2	as soon as seedlings become visible w/in 30' of fog line (no guardrail present)	control of seedling trees that may impact roadside function if allowed to grow.	foliar treatment w/ herbicide	tank sprayer where possible, backpack sprayer where necessary	Garlon 4, Escort, or Krenite S at labelled rates apply w/ Redi-vert when possible	mid summer when new growth is present	Seed and fertilize or plant to establish low growing native plant community.

Tree and Brush Control - *Conifers (trees under 2' ht.)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
zone 1 or 2	as soon as seedlings become visible w/in 30' of fog line (no guardrail present)	control of seedling trees that may impact roadside function if allowed to grow.	hand pulling transplant if possible	Weed Wrench optional		anytime	Seed and fertilize or plant to establish low growing native plant community.

Tree and Brush Control - *Conifers (trees over 2' ht.)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
zone 2 or 3	whenever tree has been identified as defective or likely to fall on the highway	control of trees that may impact roadside function if allowed to grow.	hand cutting chip debris in zone 2 if necessary	power saws, chipper,		anytime	Seed and fertilize or plant to establish low growing native plant community.

Noxious Weed Control

Noxious Weed Control - *Meadow knapweed (A)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones	as soon as plants appear	eradication and control of listed noxious weeds.	spot treatment w/ herbicide most effective	tank sprayer where possible, backpack sprayer where necessary	Transline or Garlon 3A at recommended label rates	growing season	Reapply as necessary. Seed and fertilize to reduce weed competition.

Noxious Weed Control - *Spotted knapweed (A)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones	as soon as plants appear	eradication and control of listed noxious weeds.	spot treatment w/ herbicide	backpack sprayer, pickup, etc.	Transline at recommended label rates	growing season	Reapply as necessary. Seed and fertilize to reduce weed competition.

Noxious Weed Control - *Spotted knapweed (B)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones new or limited infestations	as soon as plants appear	eradication and control of listed noxious weeds.	hand removal (roots must be removed) remove plant from site	labor, transportation	none required	when visible	Repeat as necessary. Seed and fertilize to reduce weed competition.

Noxious Weed Control - *Tansy ragwort (A)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones	as soon as plants appear	eradication and control of listed noxious weeds.	spot treatment w/ herbicide	tank sprayer where possible, backpack sprayer where necessary	Transline or Garlon 3A at recommended label rates	spray by May	Reapply as necessary. Seed and fertilize to reduce weed competition.

Noxious Weed Control - *Tansy ragwort (B)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones new or limited infestations	as soon as plants appear	eradication and control of listed noxious weeds.	hand removal* * may include cut stem treatment		none required* * Round-up in spray bottle for cut stem treatment.	pull by May	Repeat as necessary. Seed and fertilize to reduce weed competition.

Noxious Weed Control - *Dalmation toadflax (A)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones	as soon as plants appear	eradication and control of listed noxious weeds.	spot treatment w/ herbicide	backpack sprayer or spray bottle, pickup, etc.	Telar at label rates w/ silicon based surfactant	when in bloom June - August	Reapply as necessary. Seed and fertilize to reduce weed competition.

Noxious Weed Control - *Dalmation toadflax (B)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones new or limited infestations	as soon as plants appear	eradication and control of listed noxious weeds.	hand removal remove plant from site if flowers or seeds are present	labor, transportation	none required	pull by May	Repeat as necessary. Seed and fertilize to reduce weed competition.

Noxious Weed Control - *Poison hemlock (A)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones	as soon as plants appear	eradication and control of listed noxious weeds.	spot treatment w/ herbicide	backpack sprayer, pickup, etc.	Telar or Round up at recommended label rates	spray by April	Reapply as necessary. Seed and fertilize to reduce weed competition.

Noxious Weed Control - *Poison hemlock (B)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones	as soon as plants appear	eradication and control of listed noxious weeds.	hand removal remove plant from site if flowers or seeds are present	labor, transportation	none required	pull by April	Repeat as necessary. Seed and fertilize to reduce weed competition.

Noxious Weed Control - *Canadian thistle (A)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones	wherever present	eradication and control of selected nuisance weeds and brush.	foliar treatment w/ herbicide	truck mounted sprayer where possible, backpack sprayer where necessary	Transline, Garlon, or Rodeo where appropriate at recommended label rates	at bud set June-July	Repeat annually as necessary.

Nuisance Weed Control

Nuisance Weed Control - *Scotch broom (A)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones new or limited infestations	wherever new infestations occur (dependent on available resources)	minimize populations and prevent further spread of nuisance weeds	foliar treatment w/ herbicide	truck mounted sprayer where possible, backpack sprayer where necessary	Garlon 3A at recommended label rates apply w/ Redi-vert when possible	prior to seed	Reapply as necessary. Seed and fertilize or plant to restore native plant community.

Nuisance Weed Control - *Scotch broom (B)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones	wherever present (dependent on available resources)	minimize populations and prevent further spread of nuisance weeds	hand pull	Weed Wrench optional		anytime	Reapply as necessary. Seed and fertilize or plant to restore native plant community.

Nuisance Weed Control - *Scotch broom (C)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones older established infestations	when resources are available	minimize populations and prevent further spread of nuisance weeds	mechanical control with follow-up cut stump treatment	mower, attenuator, backpack sprayer or spray bottle where necessary	Garlon 3A at label rates	after mowing	Re-cut/treat as necessary Seed and fertilize or plant to restore native plant community.

Nuisance Weed Control - *Himalayan blackberry (A)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones new or limited infestations	wherever present (dependent on available resources)	control and eradication of selected nuisance weeds and brush.	foliar treatment w/ herbicide	truck mounted sprayer where possible, backpack sprayer where necessary	Garlon 3A at label rates	fall after berries drop	Reapply as necessary. Seed and fertilize or plant to restore native plant community.

Nuisance Weed Control - *Himalayan blackberry (B)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones older established infestations	when resources are available	minimize populations and prevent further spread of nuisance weeds	mechanical control with follow-up cut stump treatment	mower or hand labor, backpack sprayer or spray bottle where necessary	Garlon 4 at label rates	after mowing in fall	Re-cut/treat as necessary Seed and fertilize or plant to restore native plant community.

Nuisance Weed Control - *Knotweed species (A)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones new or limited infestations	wherever present (dependent on available resources)	minimize populations and prevent further spread of nuisance weeds	foliar treatment w/ herbicide	truck mounted sprayer where possible, backpack sprayer where necessary	Garlon 3A at label rates (up to 5% solution)	growing season	Reapply when necessary - may take multiple applications. Restore site w/ native vegetation.

Nuisance Weed Control - *Knotweed species (B)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones older established infestations	when resources are available	control and eradication of selected nuisance weeds and brush.	stem injection w/ herbicide	injection equipment	Concentrated Roundup or Garlon.	Any time of year	Re-treat green stems as necessary. Restore site w/ native vegetation.

Nuisance Weed Control - *Horsetail (A)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
near pavement edge, no zone 1	wherever present	control and eradication of selected nuisance weeds	foliar treatment w/ herbicide	truck mounted sprayer where possible, backpack sprayer where necessary	Telar @ 1.5 oz/acre	1x during growing season	Reapply as necessary.

Appendix B

Table 1.1.2

Zone 1 is maintained at an average width of 3' except in locations as described on this table.
Areas under contract for highway construction are not treated for Zone 1 maintenance.
Owner maintained agreements are reviewed and renewed on an annual basis.

SR	Direction	BEG MP	END MP	Width	Site Discription
20	Increase	13.30	13.30	None	Owner maintained
20	Increase	14.47	14.50	None	Curb and contained drainage
20	Increase	22.42	22.64	None	Curb and contained drainage
20	Increase	23.20	23.24	None	Curb and contained drainage
20	Increase	24.70	24.80	None	Curb and contained drainage
20	Increase	24.82	24.98	None	Curb and contained drainage
20	Increase	24.99	25.10	None	Curb and contained drainage
20	Increase	26.28	26.29	None	Curb and contained drainage
20	Increase	35.74	35.77	None	Curb and contained drainage
20	Increase	40.83	40.92	None	Curb and contained drainage
20	Increase	41.04	41.05	None	Curb and contained drainage/Owner maintain
20	Decrease	40.84	40.80	None	Curb and contained drainage
20	Decrease	37.09	36.93	None	Curb and contained drainage
20	Decrease	36.92	36.86	None	Curb and contained drainage
20	Decrease	36.53	36.43	None	Curb and contained drainage
20	Decrease	36.40	36.35	None	Curb and contained drainage
20	Decrease	36.34	36.26	None	Curb and contained drainage
20	Decrease	36.24	36.17	None	Curb and contained drainage
20	Decrease	34.97	34.96	None	Curb and contained drainage
20	Decrease	34.94	34.91	None	Curb and contained drainage
20	Decrease	34.78	34.75	None	Curb and contained drainage/Owner maintain
20	Decrease	34.74	34.73	None	Curb and contained drainage
20	Decrease	30.77	30.63	None	Curb and contained drainage
20	Decrease	24.82	24.72	None	Curb and contained drainage
20	Decrease	22.61	22.41	None	Curb and contained drainage
20	Decrease	21.67	21.45	None	Curb and contained drainage
20	Decrease	15.20	15.20	None	Owner maintained
20	Increase	29.30	29.30	None	Owner maintained
20	Increase	25.47	26.14	None	Herbicide sensitive area (directly adjacent to beach)
20	Both	12.88	14.97	None	Herbicide sensitive area (Keystone Spit)
525	Increase	8.48	8.50	None	No-Zone 1 Evaluation Section
525	Increase	8.64	8.65	None	No-Zone 1 Evaluation Section
525	Increase	8.69	9.56	None	No-Zone 1 Evaluation Section
525	Increase	9.67	11.78	None	No-Zone 1 Evaluation Section
525	Increase	12.25	12.38	None	No-Zone 1 Evaluation Section
525	Increase	12.70	13.01	None	No-Zone 1 Evaluation Section
525	Increase	13.09	13.37	None	No-Zone 1 Evaluation Section
525	Increase	13.46	13.54	None	No-Zone 1 Evaluation Section
525	Increase	13.61	14.70	None	No-Zone 1 Evaluation Section
525	Increase	14.85	15.00	None	No-Zone 1 Evaluation Section
525	Increase	15.13	16.16	None	No-Zone 1 Evaluation Section
525	Increase	16.34	16.89	None	No-Zone 1 Evaluation Section
525	Increase	16.95	17.10	None	No-Zone 1 Evaluation Section
525	Increase	17.17	17.35	None	No-Zone 1 Evaluation Section

Table 1.1.2

Zone 1 is maintained at an average width of 3' except in locations as described on this table.
Areas under contract for highway construction are not treated for Zone 1 maintenance.
Owner maintained agreements are reviewed and renewed on an annual basis.

SR	Direction	BEG MP	END MP	Width	Site Discription
525	Increase	17.40	17.82	None	No-Zone 1 Evaluation Section
525	Increase	17.92	18.29	None	No-Zone 1 Evaluation Section
525	Increase	18.38	18.81	None	No-Zone 1 Evaluation Section
525	Increase	18.86	19.40	None	No-Zone 1 Evaluation Section
525	Increase	19.55	19.84	None	No-Zone 1 Evaluation Section
525	Increase	19.95	20.00	None	No-Zone 1 Evaluation Section
525	Increase	20.04	20.78	None	No-Zone 1 Evaluation Section
525	Increase	20.84	21.15	None	No-Zone 1 Evaluation Section
525	Increase	21.28	21.47	None	No-Zone 1 Evaluation Section
525	Increase	21.58	21.70	None	No-Zone 1 Evaluation Section
525	Increase	21.83	23.57	None	No-Zone 1 Evaluation Section
525	Increase	23.66	23.77	None	No-Zone 1 Evaluation Section
525	Increase	23.86	30.52	None	No-Zone 1 Evaluation Section
525	Decrease	30.47	30.31	None	No-Zone 1 Evaluation Section
525	Decrease	27.40	26.45	None	Composted/Vegetated Shoulder Evaluation
525	Decrease	26.45	23.63	None	No-Zone 1 Evaluation Section
525	Decrease	23.58	21.87	None	No-Zone 1 Evaluation Section
525	Decrease	21.85	21.27	None	No-Zone 1 Evaluation Section
525	Decrease	21.14	20.02	None	No-Zone 1 Evaluation Section
525	Decrease	19.99	19.96	None	No-Zone 1 Evaluation Section
525	Decrease	19.91	19.50	None	No-Zone 1 Evaluation Section
525	Decrease	19.41	18.91	None	No-Zone 1 Evaluation Section
525	Decrease	18.89	17.18	None	No-Zone 1 Evaluation Section
525	Decrease	17.02	16.93	None	No-Zone 1 Evaluation Section
525	Decrease	16.87	16.16	None	No-Zone 1 Evaluation Section
525	Decrease	16.14	16.05	None	No-Zone 1 Evaluation Section
525	Decrease	16.00	15.13	None	No-Zone 1 Evaluation Section
525	Decrease	14.95	14.84	None	No-Zone 1 Evaluation Section
525	Decrease	14.68	14.25	None	No-Zone 1 Evaluation Section
525	Decrease	14.04	13.93	None	No-Zone 1 Evaluation Section
525	Decrease	13.53	13.07	None	No-Zone 1 Evaluation Section
525	Decrease	12.98	12.68	None	No-Zone 1 Evaluation Section
525	Decrease	12.36	12.21	None	No-Zone 1 Evaluation Section
525	Decrease	11.90	11.70	None	No-Zone 1 Evaluation Section
525	Decrease	11.70	11.11	None	No-Zone 1 Evaluation Section
525	Decrease	11.09	11.07	None	No-Zone 1 Evaluation Section
525	Decrease	10.99	10.96	None	No-Zone 1 Evaluation Section
525	Decrease	10.93	10.13	None	No-Zone 1 Evaluation Section
525	Decrease	10.10	9.85	None	No-Zone 1 Evaluation Section
525	Decrease	9.67	9.59	None	No-Zone 1 Evaluation Section
525	Decrease	9.59	9.46	None	Weedender fabric test site
525	Decrease	9.43	9.00	None	No-Zone 1 Evaluation Section
525	Decrease	8.98	8.48	None	No-Zone 1 Evaluation Section

Table 1.2.3

Locations will change with construction on the island in coming years.

Condition Descriptions:

No Hardware Present(NO), Jersy Barrier(JB), Guardrail(GR), Bridge (BR)

SR	Direction	BEG MP	END MP	Condition
20	Increase	12.88	12.94	NO
20	Increase	12.94	12.99	JB
20	Increase	12.99	24.15	NO
20	Increase	24.15	24.37	GR
20	Increase	24.37	25.56	NO
20	Increase	25.56	25.70	GR
20	Increase	25.70	25.74	NO
20	Increase	25.74	25.86	GR
20	Increase	25.86	26.00	NO
20	Increase	26.00	26.10	GR
20	Increase	26.10	26.11	NO
20	Increase	26.11	26.14	GR
20	Increase	26.14	30.19	NO
20	Increase	30.19	30.20	GR
20	Increase	30.20	30.69	NO
20	Increase	30.69	30.74	GR
20	Increase	30.74	30.83	NO
20	Increase	30.83	30.85	CURB
20	Increase	30.85	30.96	NO
20	Increase	30.96	32.98	CURB
20	Increase	32.98	35.40	NO
20	Increase	35.40	35.53	GR
20	Increase	35.53	36.39	NO
20	Increase	36.39	36.41	GR
20	Increase	36.41	36.43	NO
20	Increase	36.43	36.51	GR
20	Increase	36.51	36.81	NO
20	Increase	36.81	36.92	GR
20	Increase	36.92	36.93	NO
20	Increase	36.93	37.09	GR
20	Increase	37.09	41.22	NO
20	Increase	41.22	41.35	GR
20	Increase	41.35	41.49	NO
20	Increase	41.49	41.52	GR
20	Increase	41.52	41.53	NO
20	Increase	41.53	41.58	GR
20	Increase	41.58	41.59	BR
20	Increase	41.59	41.61	GR
20	Increase	41.61	41.81	NO
20	Increase	41.81	41.90	BR
20	Decrease	41.81	41.68	NO
20	Decrease	41.68	41.57	GR
20	Decrease	41.57	41.58	BR
20	Decrease	41.58	41.51	GR

Table 1.2.3

Locations will change with construction on the island in coming years.
Condition Descriptions:
No Hardware Present(NO), Jersy Barrier(JB), Guardrail(GR), Bridge (BR)

SR	Direction	BEG MP	END MP	Condition
20	Decrease	41.51	41.34	NO
20	Decrease	41.34	41.24	GR
20	Decrease	41.24	40.83	NO
20	Decrease	40.83	40.79	CURB
20	Decrease	40.79	40.32	NO
20	Decrease	40.32	40.31	GR
20	Decrease	40.31	38.19	NO
20	Decrease	38.19	38.11	GR
20	Decrease	38.11	38.10	NO
20	Decrease	38.10	38.05	GR
20	Decrease	38.05	35.54	NO
20	Decrease	35.54	35.37	GR
20	Decrease	35.37	34.95	NO
20	Decrease	34.95	34.88	CURB
20	Decrease	34.88	34.73	NO
20	Decrease	34.73	34.71	CURB
20	Decrease	34.71	33.00	NO
20	Decrease	33.00	30.82	CURB
20	Decrease	30.82	30.78	GR
20	Decrease	30.78	30.76	CURB
20	Decrease	30.76	30.10	NO
20	Decrease	30.10	30.04	GR
20	Decrease	30.04	25.68	NO
20	Decrease	25.68	25.66	GR
20	Decrease	25.66	24.36	NO
20	Decrease	24.36	24.19	GR
20	Decrease	24.19	12.88	NO
525	Increase	8.48	8.50	NO
525	Increase	8.50	8.64	GR
525	Increase	8.64	8.65	NO
525	Increase	8.65	8.69	GR
525	Increase	8.69	8.73	NO
525	Increase	8.73	9.01	CURB
525	Increase	9.01	9.56	NO
525	Increase	9.56	9.67	GR
525	Increase	9.67	11.78	NO
525	Increase	11.78	12.25	GR
525	Increase	12.25	12.38	NO
525	Increase	12.38	12.70	GR
525	Increase	12.70	13.01	NO
525	Increase	13.01	13.09	GR
525	Increase	13.09	13.37	NO
525	Increase	13.37	13.46	GR
525	Increase	13.46	13.54	NO

Table 1.2.3

Locations will change with construction on the island in coming years.
Condition Descriptions:
No Hardware Present(NO), Jersy Barrier(JB), Guardrail(GR), Bridge (BR)

SR	Direction	BEG MP	END MP	Condition
525	Increase	13.54	13.61	GR
525	Increase	13.61	14.70	NO
525	Increase	14.70	14.85	GR
525	Increase	14.85	15.00	NO
525	Increase	15.00	15.13	GR
525	Increase	15.13	16.16	NO
525	Increase	16.16	16.34	GR
525	Increase	16.34	16.89	NO
525	Increase	16.89	16.95	GR
525	Increase	16.95	17.10	NO
525	Increase	17.10	17.17	GR
525	Increase	17.17	17.35	NO
525	Increase	17.35	17.40	GR
525	Increase	17.40	17.82	NO
525	Increase	17.82	17.92	GR
525	Increase	17.92	18.29	NO
525	Increase	18.29	18.38	GR
525	Increase	18.38	18.81	NO
525	Increase	18.81	18.86	GR
525	Increase	18.86	19.40	NO
525	Increase	19.40	19.55	GR
525	Increase	19.55	19.84	NO
525	Increase	19.84	19.95	GR
525	Increase	19.95	20.00	NO
525	Increase	20.00	20.04	GR
525	Increase	20.04	20.78	NO
525	Increase	20.78	20.84	GR
525	Increase	20.84	21.15	NO
525	Increase	21.15	21.28	GR
525	Increase	21.28	21.47	NO
525	Increase	21.47	21.58	GR
525	Increase	21.58	21.70	NO
525	Increase	21.70	21.83	GR
525	Increase	21.83	23.57	NO
525	Increase	23.57	23.66	GR
525	Increase	23.66	23.77	NO
525	Increase	23.77	23.86	GR
525	Increase	23.86	30.52	NO
525	Decrease	30.52	30.17	NO
525	Decrease	30.17	30.09	GR
525	Decrease	30.09	29.95	NO
525	Decrease	29.95	29.85	GR
525	Decrease	29.85	29.59	NO
525	Decrease	29.59	29.29	GR

Table 1.2.3

Locations will change with construction on the island in coming years.
Condition Descriptions:
No Hardware Present(NO), Jersy Barrier(JB), Guardrail(GR), Bridge (BR)

SR	Direction	BEG MP	END MP	Condition
525	Decrease	29.29	23.63	NO
525	Decrease	23.63	23.58	GR
525	Decrease	23.58	21.87	NO
525	Decrease	21.87	21.85	GR
525	Decrease	21.85	21.27	NO
525	Decrease	21.27	21.14	GR
525	Decrease	21.14	20.02	NO
525	Decrease	20.02	19.99	GR
525	Decrease	19.99	19.96	NO
525	Decrease	19.96	19.91	GR
525	Decrease	19.91	19.50	NO
525	Decrease	19.50	19.41	GR
525	Decrease	19.41	18.91	NO
525	Decrease	18.91	18.89	GR
525	Decrease	18.89	17.18	NO
525	Decrease	17.18	17.02	GR
525	Decrease	17.02	16.93	NO
525	Decrease	16.93	16.87	GR
525	Decrease	16.87	16.16	NO
525	Decrease	16.16	16.14	GR
525	Decrease	16.14	16.05	NO
525	Decrease	16.05	16.00	GR
525	Decrease	16.00	15.13	NO
525	Decrease	15.13	14.95	GR
525	Decrease	14.95	14.84	NO
525	Decrease	14.84	14.68	GR
525	Decrease	14.68	14.25	NO
525	Decrease	14.25	14.04	GR
525	Decrease	14.04	13.93	NO
525	Decrease	13.93	13.53	GR
525	Decrease	13.53	13.07	NO
525	Decrease	13.07	12.98	GR
525	Decrease	12.98	12.68	NO
525	Decrease	12.68	12.36	GR
525	Decrease	12.36	12.21	NO
525	Decrease	12.21	11.69	GR
525	Decrease	11.69	11.11	NO
525	Decrease	11.11	11.09	GR
525	Decrease	11.09	11.07	NO
525	Decrease	11.07	10.99	GR
525	Decrease	10.99	10.96	NO
525	Decrease	10.96	10.93	GR
525	Decrease	10.93	10.13	NO
525	Decrease	10.13	10.10	GR
525	Decrease	10.10	9.85	NO

Table 1.2.3

Locations will change with construction on the island in coming years.
Condition Descriptions:
No Hardware Present(NO), Jersy Barrier(JB), Guardrail(GR), Bridge (BR)

SR	Direction	BEG MP	END MP	Condition
525	Decrease	9.85	9.67	GR
525	Decrease	9.67	9.59	NO
525	Decrease	9.59	9.43	GR
525	Decrease	9.43	9.00	NO
525	Decrease	9.00	8.98	GR
525	Decrease	8.98	8.92	NO
525	Decrease	8.92	8.48	CURB

Table 2.3.4

Description:
Weed Species - Noxious weed species (common name) identified for control
Level of infestation - Minor infestation, few individual plants(Low), major infestation, many plants(High)

SR	Direction	Weed Species	BEG MP	END MP	Level of Infestation
525	Decrease	Canada Thistle	10.03	10.16	Low
525	Decrease	Canada Thistle	10.16	10.18	High
525	Decrease	Canada Thistle	10.18	10.50	Low
525	Decrease	Canada Thistle	11.02	11.08	Low
525	Decrease	Canada Thistle	11.92	12.25	Low
525	Decrease	Canada Thistle	13.08	13.08	Low
525	Decrease	Canada Thistle	14.75	14.87	Low
525	Decrease	Canada Thistle	15.35	15.70	Low
525	Decrease	Canada Thistle	15.98	16.09	Low
525	Decrease	Canada Thistle	16.82	16.35	Low
525	Decrease	Canada Thistle	17.00	17.24	Low
525	Decrease	Canada Thistle	17.51	18.23	Low
525	Decrease	Canada Thistle	18.46	18.46	Low
525	Decrease	Canada Thistle	18.67	18.67	Low
525	Decrease	Canada Thistle	19.94	19.94	Low
525	Decrease	Canada Thistle	20.45	20.45	Low
525	Decrease	Canada Thistle	21.00	21.13	High
525	Decrease	Canada Thistle	21.56	21.56	Low
525	Decrease	Canada Thistle	22.88	22.90	Low
525	Decrease	Canada Thistle	24.00	24.00	Low
525	Decrease	Canada Thistle	24.87	24.87	Low
525	Decrease	Canada Thistle	25.86	25.86	Low
525	Decrease	Canada Thistle	26.04	26.17	Low
525	Decrease	Canada Thistle	26.17	26.45	High
525	Decrease	Canada Thistle	26.90	27.36	Low
525	Decrease	Canada Thistle	28.00	28.00	Low
525	Decrease	Canada Thistle	28.35	28.35	Low
525	Decrease	Canada Thistle	28.90	28.90	Low
525	Decrease	Canada Thistle	28.96	29.20	Low
525	Decrease	Canada Thistle	29.40	29.40	Low
525	Increase	Canada Thistle	9.24	9.35	Low
525	Increase	Canada Thistle	9.53	9.66	Low
525	Increase	Canada Thistle	9.75	10.29	Low
525	Increase	Canada Thistle	13.30	13.30	Low
525	Increase	Canada Thistle	15.00	15.14	Low
525	Increase	Canada Thistle	15.40	15.61	Low
525	Increase	Canada Thistle	16.13	16.37	High
525	Increase	Canada Thistle	16.37	16.44	Low
525	Increase	Canada Thistle	16.77	16.94	Low
525	Increase	Canada Thistle	17.09	17.24	Low
525	Increase	Canada Thistle	17.34	17.85	Low
525	Increase	Canada Thistle	17.97	18.21	Low
525	Increase	Canada Thistle	18.39	18.48	Low
525	Increase	Canada Thistle	19.34	20.00	Low

Table 2.3.4

Description:
Weed Species - Noxious weed species (common name) identified for control
Level of infestation - Minor infestation, few individual plants(Low), major infestation, many plants(High)

SR	Direction	Weed Species	BEG MP	END MP	Level of Infestation
525	Increase	Canada Thistle	20.30	20.82	Low
525	Increase	Canada Thistle	22.25	22.37	Low
525	Increase	Canada Thistle	24.05	24.13	Low
525	Increase	Canada Thistle	24.90	24.90	Low
525	Increase	Canada Thistle	25.00	25.05	Low
525	Increase	Canada Thistle	26.18	26.18	Low
525	Increase	Canada Thistle	26.48	26.48	Low
525	Increase	Canada Thistle	26.88	26.88	Low
525	Increase	Canada Thistle	30.00	30.00	Low
525	Decrease	Japanese Knotweed	10.36	10.40	High
525	Decrease	Japanese Knotweed	19.44	19.44	Low
525	Decrease	Japanese Knotweed	23.62	23.62	Low
525	Increase	Japanese Knotweed	12.80	12.80	Low
525	Increase	Japanese Knotweed	19.44	19.44	Low
525	Increase	Japanese Knotweed	23.50	23.65	Low
525	Decrease	Tansy Ragwort	16.62	16.62	Low
525	Decrease	Tansy Ragwort	17.25	17.25	Low
525	Decrease	Tansy Ragwort	19.00	19.64	Low
525	Decrease	Tansy Ragwort	22.54	22.54	Low
525	Decrease	Tansy Ragwort	25.47	25.47	Low
525	Increase	Tansy Ragwort	9.30	9.30	Low
525	Increase	Tansy Ragwort	14.95	14.95	Low
525	Increase	Tansy Ragwort	17.50	17.50	Low
525	Increase	Tansy Ragwort	18.45	18.45	Low
525	Increase	Tansy Ragwort	18.89	20.00	Low
525	Increase	Tansy Ragwort	21.20	21.25	Low
525	Increase	Tansy Ragwort	21.51	21.51	Low
525	Increase	Tansy Ragwort	21.89	21.89	Low
20	Increase	Canada Thistle	13.81	13.81	Low
20	Increase	Canada Thistle	14.80	15.00	Low
20	Increase	Canada Thistle	16.39	16.39	Low
20	Increase	Canada Thistle	18.69	18.69	Low
20	Increase	Canada Thistle	18.95	19.07	High
20	Increase	Canada Thistle	19.44	19.44	Low
20	Increase	Canada Thistle	20.22	20.22	Low
20	Increase	Canada Thistle	20.73	21.32	Low
20	Increase	Canada Thistle	21.47	21.66	High
20	Increase	Canada Thistle	22.22	22.65	Low
20	Increase	Canada Thistle	22.84	22.88	Low
20	Increase	Canada Thistle	23.15	23.26	Low

Table 2.3.4

Description:
Weed Species - Noxious weed species (common name) identified for control
Level of infestation - Minor infestation, few individual plants(Low), major infestation, many plants(High)

SR	Direction	Weed Species	BEG MP	END MP	Level of Infestation
20	Increase	Canada Thistle	24.61	25.05	Low
20	Increase	Canada Thistle	25.69	25.95	Low
20	Increase	Canada Thistle	26.40	26.59	Low
20	Increase	Canada Thistle	27.12	27.43	Low
20	Increase	Canada Thistle	28.30	28.40	Low
20	Increase	Canada Thistle	28.40	28.51	High
20	Increase	Canada Thistle	29.84	29.97	Low
20	Increase	Canada Thistle	30.03	30.03	Low
20	Increase	Canada Thistle	35.57	35.78	Low
20	Increase	Canada Thistle	36.47	36.84	High
20	Increase	Canada Thistle	36.84	37.18	Low
20	Increase	Canada Thistle	38.16	38.17	Low
20	Increase	Canada Thistle	38.84	38.85	Low
20	Increase	Canada Thistle	39.55	40.52	Low
20	Decrease	Canada Thistle	13.51	13.71	Low
20	Decrease	Canada Thistle	14.57	14.75	High
20	Decrease	Canada Thistle	15.23	15.23	Low
20	Decrease	Canada Thistle	16.05	16.20	Low
20	Decrease	Canada Thistle	19.83	19.23	Low
20	Decrease	Canada Thistle	20.70	21.49	Low
20	Decrease	Canada Thistle	22.20	22.30	Low
20	Decrease	Canada Thistle	23.10	23.25	High
20	Decrease	Canada Thistle	24.75	24.80	Low
20	Decrease	Canada Thistle	25.62	25.90	High
20	Decrease	Canada Thistle	26.10	26.23	Low
20	Decrease	Canada Thistle	26.24	26.30	Low
20	Decrease	Canada Thistle	26.60	26.90	Low
20	Decrease	Canada Thistle	27.35	27.40	Low
20	Decrease	Canada Thistle	27.75	27.80	Low
20	Decrease	Canada Thistle	27.91	28.94	Low
20	Decrease	Canada Thistle	28.95	28.95	High
20	Decrease	Canada Thistle	29.20	29.25	Low
20	Decrease	Canada Thistle	29.76	30.00	High
20	Decrease	Canada Thistle	30.30	30.30	Low
20	Decrease	Canada Thistle	34.40	34.52	Low
20	Decrease	Canada Thistle	36.43	36.85	High
20	Decrease	Canada Thistle	36.85	37.08	Low
20	Decrease	Canada Thistle	37.31	37.45	Low
20	Decrease	Canada Thistle	38.10	38.20	Low
20	Decrease	Canada Thistle	38.25	38.40	Low
20	Decrease	Canada Thistle	39.32	40.15	Low
20	Decrease	Canada Thistle	41.49	41.50	Low
20	Increase	Dalmation Toadflax	22.84	22.88	Low

Table 2.3.4

Description:
Weed Species - Noxious weed species (common name) identified for control
Level of infestation - Minor infestation, few individual plants(Low), major infestation, many plants(High)

SR	Direction	Weed Species	BEG MP	END MP	Level of Infestation
20	Increase	Diffuse Knapweed	22.95	23.10	Low
20	Increase	Poison Hemlock	13.71	13.71	Low
20	Increase	Poison Hemlock	14.97	14.97	Low
20	Increase	Poison Hemlock	26.09	26.09	Low
20	Increase	Poison Hemlock	26.53	26.53	Low
20	Decrease	Poison Hemlock	13.51	13.87	Low
20	Decrease	Poison Hemlock	14.75	14.95	Low
20	Decrease	Poison Hemlock	26.24	26.24	Low
20	Increase	Spotted Knapweed	40.32	40.33	Low
20	Increase	Tansy Ragwort	23.15	23.15	Low
20	Increase	Tansy Ragwort	24.70	24.90	Low
20	Decrease	Tansy Ragwort	24.75	25.20	Low

Table 2.3.4

Description:
Weed Species = Nuisance weed species identified for control
Level of Infestation = Minor infestation, few individual plants (low), major infestation, many plants (high)

SR	Direction	Weed Species	BEG MP	END MP	Level of Infestation
20	Decrease	Blackberry	12.88	12.91	Low
20	Decrease	Blackberry	14.90	15.00	Low
20	Decrease	Blackberry	15.25	15.45	Low
20	Decrease	Blackberry	18.78	18.80	Low
20	Decrease	Blackberry	20.94	20.95	Low
20	Decrease	Blackberry	21.28	21.30	Low
20	Decrease	Blackberry	21.65	21.67	Low
20	Decrease	Blackberry	35.57	35.62	Low
20	Decrease	Blackberry	36.43	36.44	Low
20	Decrease	Blackberry	36.97	37.08	Low
20	Decrease	Blackberry	37.51	38.20	Low
20	Decrease	Blackberry	40.30	40.65	Low
20	Increase	Blackberry	14.95	14.97	Low
20	Increase	Blackberry	15.24	15.52	Low
20	Increase	Blackberry	20.17	20.31	Low
20	Increase	Blackberry	26.81	26.82	Low
20	Increase	Blackberry	29.34	29.40	Low
20	Increase	Blackberry	34.55	34.56	Low
20	Increase	Blackberry	35.69	35.70	Low
20	Increase	Blackberry	36.47	36.50	Low
20	Increase	Blackberry	36.94	36.95	Low
20	Decrease	Bull Thistle	36.09	36.25	Low
20	Decrease	Bull Thistle	40.30	40.65	Low
20	Increase	Bull Thistle	35.57	35.78	Low
20	Increase	Bull Thistle	36.23	36.37	Low
20	Increase	Bull Thistle	38.84	38.85	Low
20	Increase	Bull Thistle	41.02	41.19	Low
20	Increase	Bull Thistle	41.26	41.30	Low
20	Increase	Common Tansy	26.12	26.13	Low
20	Decrease	Scotchbroom	19.58	19.60	Low
20	Decrease	Scotchbroom	23.47	24.60	Low
20	Decrease	Scotchbroom	24.78	24.80	Low
20	Decrease	Scotchbroom	25.20	25.23	Low
20	Decrease	Scotchbroom	27.01	27.02	Low
20	Decrease	Scotchbroom	27.33	27.34	Low
20	Decrease	Scotchbroom	27.83	27.85	Low
20	Decrease	Scotchbroom	28.48	28.50	Low
20	Decrease	Scotchbroom	28.94	28.95	Low
20	Decrease	Scotchbroom	30.01	30.02	Low
20	Decrease	Scotchbroom	34.44	34.90	Low

Table 2.3.4

Description:
Weed Species = Nuisance weed species identified for control
Level of Infestation = Minor infestation, few individual plants (low), major infestation, many plants (high)

SR	Direction	Weed Species	BEG MP	END MP	Level of Infestation
20	Decrease	Scotchbroom	35.05	35.38	Low
20	Decrease	Scotchbroom	38.09	38.10	Low
20	Decrease	Scotchbroom	40.98	41.30	Low
20	Increase	Scotchbroom	16.45	16.56	Low
20	Increase	Scotchbroom	18.40	18.62	Low
20	Increase	Scotchbroom	19.34	19.51	Low
20	Increase	Scotchbroom	19.82	20.00	Low
20	Increase	Scotchbroom	23.33	24.46	Low
20	Increase	Scotchbroom	25.07	25.48	Low
20	Increase	Scotchbroom	28.78	28.80	Low
20	Increase	Scotchbroom	29.05	29.10	Low
20	Increase	Scotchbroom	34.51	35.37	Low
20	Increase	Scotchbroom	37.35	38.16	Low
20	Increase	Scotchbroom	38.43	39.32	Low
20	Increase	Scotchbroom	41.04	41.19	Low
20	Increase	Scotchbroom	42.16	42.17	Low
525	Decrease	Blackberry	8.50	8.80	Low
525	Decrease	Blackberry	9.00	9.58	Low
525	Decrease	Blackberry	9.65	10.34	Low
525	Decrease	Blackberry	11.60	12.09	Low
525	Decrease	Blackberry	12.80	13.25	Low
525	Decrease	Blackberry	13.84	14.15	Low
525	Decrease	Blackberry	14.25	14.35	Low
525	Decrease	Blackberry	14.70	15.15	Low
525	Decrease	Blackberry	15.99	16.90	Low
525	Decrease	Blackberry	17.03	17.34	Low
525	Decrease	Blackberry	17.50	18.00	Low
525	Decrease	Blackberry	18.50	18.61	Low
525	Decrease	Blackberry	18.94	19.30	Low
525	Decrease	Blackberry	19.59	20.50	Low
525	Decrease	Blackberry	22.88	22.25	Low
525	Decrease	Blackberry	23.20	23.34	Low
525	Decrease	Blackberry	23.60	23.64	Low
525	Decrease	Blackberry	23.76	23.83	Low
525	Decrease	Blackberry	24.46	25.00	Low
525	Decrease	Blackberry	28.74	28.75	Low
525	Decrease	Blackberry	29.06	29.07	Low
525	Increase	Blackberry	8.50	8.75	Low
525	Increase	Blackberry	9.00	10.42	Low
525	Increase	Blackberry	13.09	13.47	Low
525	Increase	Blackberry	13.87	14.86	Low
525	Increase	Blackberry	14.97	15.15	Low

Table 2.3.4

Description:
Weed Species = Nuisance weed species identified for control
Level of Infestation = Minor infestation, few individual plants (low), major infestation, many plants (high)

SR	Direction	Weed Species	BEG MP	END MP	Level of Infestation
525	Increase	Blackberry	15.44	15.59	Low
525	Increase	Blackberry	15.97	17.96	Low
525	Increase	Blackberry	18.10	18.30	Low
525	Increase	Blackberry	18.75	19.10	Low
525	Increase	Blackberry	19.33	19.61	Low
525	Increase	Blackberry	19.89	19.99	Low
525	Increase	Blackberry	25.25	25.26	Low
525	Increase	Blackberry	29.10	29.11	Low
525	Increase	Butterfly bush	12.24	12.25	Low
525	Decrease	Scotchbroom	8.50	8.80	Low
525	Decrease	Scotchbroom	9.00	9.05	Low
525	Decrease	Scotchbroom	9.85	10.44	Low
525	Decrease	Scotchbroom	10.75	10.85	Low
525	Decrease	Scotchbroom	11.08	11.31	Low
525	Decrease	Scotchbroom	11.66	11.80	Low
525	Decrease	Scotchbroom	12.80	13.10	High
525	Decrease	Scotchbroom	12.80	12.60	Low
525	Decrease	Scotchbroom	13.25	13.84	Low
525	Decrease	Scotchbroom	14.67	14.68	Low
525	Decrease	Scotchbroom	15.15	15.50	High
525	Decrease	Scotchbroom	15.50	15.75	Low
525	Decrease	Scotchbroom	18.34	18.35	Low
525	Decrease	Scotchbroom	18.50	18.61	Low
525	Decrease	Scotchbroom	20.60	20.67	Low
525	Decrease	Scotchbroom	22.49	22.60	Low
525	Decrease	Scotchbroom	23.20	23.25	Low
525	Decrease	Scotchbroom	23.56	23.62	Low
525	Decrease	Scotchbroom	24.10	24.17	Low
525	Decrease	Scotchbroom	25.00	25.10	Low
525	Decrease	Scotchbroom	25.99	26.00	Low
525	Decrease	Scotchbroom	28.27	28.32	Low
525	Increase	Scotchbroom	8.50	8.75	Low
525	Increase	Scotchbroom	9.00	9.05	Low
525	Increase	Scotchbroom	9.47	9.55	Low
525	Increase	Scotchbroom	10.14	10.99	Low
525	Increase	Scotchbroom	11.13	11.14	Low
525	Increase	Scotchbroom	11.26	11.82	Low
525	Increase	Scotchbroom	12.23	14.78	Low
525	Increase	Scotchbroom	14.97	15.36	Low
525	Increase	Scotchbroom	15.70	16.32	Low
525	Increase	Scotchbroom	16.49	17.10	Low
525	Increase	Scotchbroom	17.53	17.54	Low

Table 2.3.4

Description:
Weed Species = Nuisance weed species identified for control
Level of Infestation = Minor infestation, few individual plants (low), major infestation, many plants (high)

SR	Direction	Weed Species	BEG MP	END MP	Level of Infestation
525	Increase	Scotchbroom	18.30	18.50	Low
525	Increase	Scotchbroom	19.26	19.61	Low
525	Increase	Scotchbroom	19.99	20.14	Low
525	Increase	Scotchbroom	21.30	21.31	Low
525	Increase	Scotchbroom	22.56	23.00	Low
525	Increase	Scotchbroom	25.10	25.11	Low
525	Increase	Scotchbroom	25.44	25.67	Low
525	Increase	Scotchbroom	26.40	26.42	Low
525	Increase	Scotchbroom	28.29	28.38	Low

Appendix D

Table 3.0

SR	Direction	BEG MP	END MP	Description
20	both	41.81	41.79	Environmentally Sensitive Area (Priority 1)
20	both	41.81	41.14	Deception Pass State Park
20	both	40.89	40.83	Environmentally Sensitive Area (Priority 2)
20	decrease	39.80	39.80	Unfenced stormwater retention pond
20	both	37.06	36.66	Environmentally Sensitive Area (Priority 2)
20	both	35.72	35.57	Environmentally Sensitive Area (Priority 2)
20	both	30.77	33.69	Maintained by City of Oak Harbor
20	both	30.26	30.25	Environmentally Sensitive Area (Priority 2)
20	both	29.35	29.32	Environmentally Sensitive Area (Priority 2)
20	increase	29.30	29.30	Neighbor maintained, including Zone 1 (NS 030)
20	increase	28.30	28.01	Environmentally Sensitive Area (Priority 1)
20	both	27.43	27.39	Environmentally Sensitive Area (Priority 2)
20	increase	26.14	25.47	Herbicide Sentive Area - adjacent to beach
20	both	24.63	24.61	Environmentally Sensitive Area (Priority 2)
20	both	21.67	22.18	Maintained by City of Coupville
20	decrease	20.50	20.60	Neighbor maintained, WSDOT maintains Zone 1 (NS 007)
20	decrease	15.20	15.20	Neighbor maintained, including Zone 1 (NS 026)
20	both	14.97	12.88	Herbicide Sentive Area - Keystone spit
20	increase	13.30	13.30	Neighbor maintained, including Zone 1 (NS 020)
525	decrease	30.50	30.50	Fenced stormwater retention pond
525	decrease	30.47	30.41	Environmentally Sensitive Area (Priority 2)
525	decrease	30.20	30.20	Unfenced stormwater detention pond
525	decrease	29.99	29.99	Fenced stormwater detention pond
525	both	29.43	29.31	Environmentally Sensitive Area (Priority 2)
525	decrease	28.70	28.70	Unfenced stormwater detention pond
525	decrease	27.90	27.90	Unfenced stormwater detention pond
525	decrease	27.70	27.70	Unfenced stormwater detention pond
525	decrease	27.62	27.75	Neighbor maintained community wellhead protection area, WSDOT maintains Zone 1 (NS 017)
525	decrease	27.00	27.00	Unfenced stormwater detention pond
525	increase	26.45	27.40	Zone 1 Alternative Test Site - Vegetated shoulder
525	increase	26.45	26.60	Zone 2 and 3 Roadside Restoration Project (2004)
525	both	25.64	25.57	Environmentally Sensitive Area (Priority 2)
525	decrease	24.16	24.16	Neighbor maintained, WSDOT maintains Zone 1 (NS 019)
525	both	23.87	23.80	Environmentally Sensitive Area (Priority 2)
525	both	23.64	23.60	Environmentally Sensitive Area (Priority 2)
525	decrease	23.60	23.60	Fenced stormwater detention pond
525	increase	23.20	23.20	Fenced stormwater retention pond
525	increase	22.55	22.55	Unfenced stormwater detention pond
525	increase	22.40	22.40	Unfenced stormwater retention pond
525	decrease	21.90	21.90	Unfenced stormwater detention pond
525	both	21.82	21.75	Environmentally Sensitive Area (Priority 2)
525	both	21.54	21.50	Environmentally Sensitive Area (Priority 2)
525	both	21.28	21.19	Environmentally Sensitive Area (Priority 2)
525	both	20.79	20.67	Environmentally Sensitive Area (Priority 2)
525	decrease	20.40	20.40	Neighbor maintained, WSDOT maintains Zone 1 (NS 028)
525	increase	19.33	19.29	Environmentally Sensitive Area (Priority 2)

Table 3.0

SR	Direction	BEG MP	END MP	Description
525	decrease	18.99	18.99	Unfenced stormwater detention pond
525	increase	17.90	17.90	Unfenced stormwater retention pond
525	both	17.16	17.05	Environmentally Sensitive Area (Priority 2)
525	both	16.49	16.46	Environmentally Sensitive Area (Priority 2)
525	both	16.25	16.06	Environmentally Sensitive Area (Priority 2)
525	decrease	16.08	16.08	Fenced stormwater detention pond
525	increase	15.30	15.45	Neighbor maintained, WSDOT maintains Zone 1 (NS 027)
525	both	15.15	14.99	Environmentally Sensitive Area (Priority 2)
525	increase	14.80	14.80	Unfenced stormwater retention pond
525	both	13.93	13.60	Environmentally Sensitive Area (Priority 2)
525	both	13.13	13.05	Environmentally Sensitive Area (Priority 2)
525	both	12.68	12.64	Environmentally Sensitive Area (Priority 2)
525	both	12.10	11.96	Environmentally Sensitive Area (Priority 2)
525	decrease	11.70	11.90	Neighbor maintained drinking water collection area, WSDOT maintains road edge without herbicide (NS 023)
525	decrease	11.13	11.07	Environmentally Sensitive Area (Priority 2)
525	decrease	10.33	10.31	Environmentally Sensitive Area (Priority 2)
525	both	10.19	9.81	Environmentally Sensitive Area (Priority 2)
525	decrease	9.59	9.46	Environmentally Sensitive Area (Priority 2)
525	decrease	9.59	9.46	Zone 1 Alternative Test Site - Weedender under guardrail
525	both	9.38	9.04	Environmentally Sensitive Area (Priority 2)
525	both	8.48	26.45	No Zone 1 Evaluation Section

Appendix E

Washington State Department of Transportation

Integrated Vegetation Management Record

Org. Code	County	Date		Vegetation Management Zone(s) ☐ Zone 1 ☐ Zone 2 ☐ Zone 3

Area
SR _____ MP _____ to MP _____

Location _____

Check Appropriate Boxes
☐ NB ☐ EB
☐ SB ☐ WB

☐ Roadside ☐ Landscaped Area ☐ Interchange ☐ Mitigation Site
☐ Shoulder ☐ Rest Area ☐ Bridge ☐ Stormwater
☐ Median ☐ Park-n-Ride ☐ Ramp ☐ Yard/Stockpile

Third Party Damage ☐ Yes

Sensitive Sites ☐ Aquatic ☐ Wetlands

Target Species ☐ Noxious Weeds ☐ Brush/Trees ☐ Other
☐ Nuisance Weeds ☐ Hazard Tree

List Target: Species _____

Reason for Action:
☐ Noxious Weeds ☐ Nuisance Weeds ☐ Fire prevention ☐ Aesthetics
☐ Site Distance ☐ Hazard Vegetation ☐ Customer request ☐ Other _____

Long term IVM plan (Describe goals/objectives and a step-by-step approach over time)

Approximate Acres to Accomplish _____

Activities

Planned date of Treatment Actual date of Treatment

Manual ☐ Digging ☐ Pulling ☐ Lopping ☐ Scalping ☐ Other _____

Mechanical ☐ Arial Saw Work ☐ Tractor Brush Cutter ☐ Manual Brush Cutting ☐ Tractor Mower ☐ Other _____

Bio-Control ☐ Insects ☐ pathogens ☐ Parasites Type/Species _____

Cultural ☐ Burning ☐ Grading ☐ Seeding ☐ Fertilizing ☐ Grazing ☐ Other _____

Chemical _____ Record Number

Evaluation of Previous Treatments