

Accreditation Standards for Assessing IVM Excellence

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This document establishes the technical requirements for applicants seeking ROW Steward accreditation of IVM practices on electric transmission and pipeline rights of way. It is used in an independent audit of an applicant's integrated vegetation management program. It is intended to aid in identifying excellence.

This document has been developed with the direct participation of the electric transmission, natural gas, and liquid petroleum pipeline industries. The document is also based on input from subject matter experts, and a diverse group of stakeholders including environmental non-governmental organizations, academia, and the public.

ROW Steward Technical Requirements

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INTRODUCTION

As long as there has been utility rights-of-way (ROW), there has been a need to maintain vegetation within these open spaces. New vegetation maintenance methods continue to develop along with new ideas, philosophies and understandings of how to use these treatment methods. Integrated Vegetation Management (IVM) provides a structure with flexibility that supports the development of a comprehensive approach to preserving and maintaining and purposes and functions of electric transmission, natural gas, and liquid petroleum and pipeline ROW. It allows an individual utility to select and schedule appropriate treatment methods to selectively treat specific sites. IVM is an adaptive system that follows an interdisciplinary approach that crosses utility departments and considers current scholarly and stakeholder contributions. IVM is based on a deliberate strategy to encourage the development of sustainable compatible vegetative cover types, which suppresses the establishment and growth of incompatible vegetation. Compatible vegetation is consistent with primary operational objectives of reliability, access, safety and regulatory compliance. These compatible ecological communities protect and preserve environmental and cultural resources at the same time as they protect modern utility infrastructure in a cost effective manner.

IVM is a structured decision making process. The process is a continuous loop adjusted over the course of time as a result of monitoring and adaptation to meet current and new objectives and conditions. Vegetation maintenance actions begin with understanding incompatible species and ecosystem dynamics. Based on this knowledge, management objectives are set around tolerance levels (a.k.a. “action threshold”). These objectives are based on internal and external factors including reliability, regulatory compliance, site sensitivity or location, stakeholder considerations, and maintenance budgets. Vegetation maintenance treatment methods are compiled, while accounting for the economic and environmental effects of the program. The program is implemented according to site-specific plans based on local conditions when or before tolerances are exceeded and at the optimal time to meet stated objectives.

Over the past 60 plus years, the benefits of IVM have been tested, monitored, adapted and proven to benefit the utilities following this strategy. The market claims included in this document may assist a vegetation manager in addressing internal and external stakeholder concerns. IVM promotes sustainable ecological communities that support diverse wildlife including many rare, threatened and endangered species.

The Principles, Criterion, Indicators, and Verifiers included in this *Accreditation Standards for Assessing IVM Excellence* document are intended to codify IVM. They to provide a baseline for evaluating utility performance with the goal of publicly accrediting participating utility right-of-way managers whose programs meet or exceed these standards as “Right-of-Way Utility Stewards.”

ACCREDITATION PROCESS

There are six steps in the accreditation process.

1. **Inquiry:** The prospective utility completes a preliminary application and pays the application fee. The utility then participates in a conference call with the program administrator and audit committee chair to discuss the process and to estimate costs.
2. **Gap Assessment:** A lead auditor is assigned, and a gap analysis of the utility's readiness for an accreditation assessment is conducted.
3. **Statement of Work:** A statement of work describing the full audit process is developed,
4. **Documentation Assessment:** The utility provides the lead auditor with pre-audit documentation, in response to a document request from ROWSC. Based on the statement of work the Applicant determines go/no-go or deferral of full assessment.
5. **On-site Assessment:** The lead auditor forms an auditing team and coordinates with the utility to minimize time and cost while ensuring a comprehensive and objective evaluation of the utility's conformance with the accreditation standards. The auditing team(s) performs an on-site assessment that includes both office interviews and time in the field.
6. **Report of Findings:** The final report process has three phases:
 - a. An initial draft development is prepared by the auditing team and provided to the utility for their feedback.
 - b. A Final Report with recommendation(s) regarding accreditation is provided to the Right-of-Way Stewardship Council for consideration
 - c. The Right-of-Way Stewardship Council considers the final report and makes a decision on the recommendation provided by the Lead Auditor.

The amount of time required for this process varies based on the size and complexity of a utility's vegetation management organization. In general, a prospective utility should anticipate at least 90 days for the full process and six months for large utilities.

HIERARCHICAL CONSTRUCT

The *Accreditation Standards for Assessing IVM Excellence* are based on a hierarchical construct, with each layer becoming increasingly specific.

Element	Example from the 2016 Requirements Document
Principles (10) - high level statements	Principle 1 Compliance with laws, standards, and Best Management Practice
Criteria (30) - foundational references.	Criterion 1.1. VM program respects applicable laws and incorporates applicable BMP's etc.
Indicators (51) - performance metrics	Indicator 1.1.a Documentation exists that assures accreditation body that all federal, state and local regulations are being met.
Verifiers (206)- evidence of compliance	One of three Verifiers specific to Indicator 1.1.a. ✓ <i>(REQUIRED) Evidence of intent to comply with all relevant requirements is found in policies and management plans.</i> ✓ <i>(REQUIRED) Records confirm personnel are trained with respect to applicable regulations and hold appropriate licenses and certificates.</i> ✓ <i>(REQUIRED) No observations of violations are made during audits.</i>
Market Claims; what this represents (each Criterion)	Market Claim ROW Stewards demonstrate due diligence and care in meeting legal requirements.

SCORING GUIDELINES

Indicators are scored as either Pass or Fail

- ✓ Verifiers are stated in terms of “*evidence of compliance*”.
- ✓ Verifiers are used to assess the degree of compliance with each Indicator.
- ✓ Some Verifiers are “Required,” and are scored on a pass/fail basis. These must be evident in order to pass the Indicator.
- ✓ Required Verifiers must be achieved even if the Indicator itself is not required.
- ✓ Required Verifiers are the minimum needed in order to make the Market Claim.
- ✓ Other Verifiers are not required and are used to establish a rating for the Indicator.
- ✓ To be in Compliance with an Indicator, all Required Verifiers must be found and 50% or more of all Verifiers must be confirmed.

Criteria are scored on a qualitative scale ranging from Best Practice, Good Practice, Compliant, to Non-compliant

- ✓ To be in Compliance with a Criterion, all Required Verifiers and all Required Indicators must be found and 50% or more of all Indicators must be confirmed.
- ✓ To be scored a Good Practice, all Indicators must be passed.
- ✓ To be scored a Best Practice, all Verifiers must be passed, and then some.

Principles are scored on a qualitative scale ranging from Best Practice, Good Practice, Compliant, to Non-compliant

- ✓ To be scored as Compliant (minimum acceptable), all Criteria must be passed.
- ✓ To be scored as Good Practice, all Indicators must be passed.
- ✓ To be scored as Best Practice, all Verifiers must be passed.

ABBREVIATIONS

ANSI - American National Standards Institute
BMP – Best Management Practice
EPA - Environmental Protection Agency
EMR – Experience Modification Rate
FAC-003 – NERC Standard “*Transmission Vegetation Management*”
FERC – Federal Energy Regulatory Commission
FIFRA -Federal Insecticide, Fungicide and Rodenticide Act
IPM - Integrated Pest Management
ISA- International Society of Arboriculture.
IVM – Integrated Vegetation Management
NERC -North American Electric Reliability Corporation
ROW – Right-of-way
ROWSC - Right of Way Stewardship Council
UAA – Utility Arborist Association

DEFINITIONS

Annual Vegetation Maintenance Plan – A detailed project specific plan that identifies resources requirements and schedules for ROW vegetation maintenance.

Experience Modification Rate – A number used gauge the frequency of injuries and project future risk.

IVM Workers: The field level supervisors and work planners that plan and oversee completion of vegetation management work and implement the Annual Vegetation Management Plan.

IVM Contractors: The field level “hands on” workers that carry out vegetation management treatments including hand cutting, herbicide applications, mowing in compliance with the Annual Maintenance Plans.

ROW Asset Manager: The manager with broad authority and responsibility for the ROW asset. Could have a senior role (e.g. (vice president, director or manager). It may or may not be the System Arborist/Forester.

Vegetation Manager: The manager with direct responsibility for for Strategic IVM Plan and Annual Vegetation Maintenance Plan.

ROW Steward: As used in market claims statements, referring to a successfully accredited utility.

Strategic Integrated Vegetation Management Plan – A high level plan describing all elements of a utilities vegetation management program.

PRINCIPLE #1: COMPLIANCE WITH LAWS, STANDARDS, AND BEST MANAGEMENT PRACTICES

Laws and regulations are developed to protect natural resources and their associated benefits to society. Integrated Vegetation Management (IVM) practitioners must demonstrate an awareness of and engagement in practices that comply with all laws and regulations, and meet or exceed guidelines related to vegetation management on rights-of-way (ROWs) and to the safety of vegetation management workers.

CRITERION 1.1: Compliance with Laws and BMPs

The vegetation management program and vegetation maintenance practices comply with all laws and regulations. Vegetation management plans and maintenance practices incorporate appropriate industry Standards, Best Management Practices (BMPs), and other guidance applicable to IVM that exist within the state(s), province(s) or other appropriate jurisdiction(s) in which the operations occur.

Compliance requires passing 4 or more Indicators a-f and all required Verifiers a-f:

Indicator 1.1.a: Documentation exists that assures the accrediting body that there is intent to comply with all applicable regulations.

Evidence of Compliance (Verifiers) includes:

- (REQUIRED) Evidence of intent to comply with all relevant requirements related to natural and cultural resources is found in policies and management plans.*
- (REQUIRED) Records confirm that internal and contract personnel are trained with respect to applicable regulations and hold appropriate licenses and certificates.*
- (REQUIRED) No observations of chronic or intentional violation related to vegetation management are made during audits.*

Indicator Rating: Pass if all required Verifiers are confirmed.

Market Claim: ROW Stewards demonstrate due diligence and care in meeting legal requirements.

Indicator 1.1.b: A pattern of follow-up with any violations or regulatory investigations that may occur demonstrates a pattern of control and responsiveness over time (normally the last five years of operations).

Evidence of Compliance (Verifiers) includes:

- (REQUIRED) Violations are addressed appropriately and in a timely manner and program adjustments were made to prevent recurrence.*
- No serious violations remain open or unaddressed during the audit.*

Indicator Rating: Compliance is achieved when both Verifiers are confirmed.

Market Claim: ROW Stewards have demonstrated a pattern of control and responsiveness to avoid and respond to regulatory violations.

Indicator 1.1.c: Personnel are educated, trained, licensed, or supervised in accordance with applicable regulations and BMPs.

Evidence of Compliance (Verifiers) includes:

- *(REQUIRED) Records are kept by HR/personnel regarding training, licensing, certifications, and applicable employee regulations.*
- *(REQUIRED) Records confirm personnel are trained with respect to applicable regulations and hold appropriate licenses and certificates.*
- *Employees have access to copies of statutes, vegetation management practice regulations, codes, operational handbooks, and BMP manuals.*
- *Employees have access to documents that describe the structure and function of the IVM organization and the delegation of authority, particularly as it relates to ROW-related natural resources.*

Indicator Rating: Compliance is achieved when required Verifiers are confirmed.

Market Claim: ROW Stewards assure that vegetation management program personnel are appropriately trained, licensed, and supervised.

Indicator 1.1.d: The organization maintains a safe working environment, including the development and implementation of safety programs and procedures consistent with industry standards.

Evidence of Compliance (Verifiers) includes:

- *(REQUIRED) Safety qualifications and training records for employees and vegetation management contractors provide evidence that a safe work environment is maintained.*
- *The ROW Asset Manager ensures mandatory safety programs have been developed, are in place, and routinely offered to internal and contract IVM workers, and supervisors.*
- *Written policies and procedures address tracking employee and contractor safety.*
- *Incident logs for internal and external field operations are available for review.*
- *The Experience Modification Rate (EMR) is considered in selection of IVM contractors.*

Indicator Rating: Compliance is achieved when three or more Verifiers, including the required evidence, are confirmed.

Market Claim: ROW Stewards maintain a safe working environment.

Indicator 1.1.e: The IVM plan or other document(s) are in compliance with, and include a list or copies of the applicable laws, regulations, and administrative requirements that typically apply to vegetation maintenance operations.

Evidence of Compliance (Verifiers) includes:

- *(REQUIRED) A list citing applicable laws, regulations, standards, and related documents is maintained and available to internal and contract employees.*
- *(REQUIRED) At a minimum, permitting agency requirements for IVM are referenced in planning documents.*

Indicator Rating: Compliance is achieved when both required Verifiers are confirmed.

Market Claim: is consistent with current applicable regulations, industry standards, and BMPs.

Indicator 1.1.f: The IVM plan or other document(s) should include a list of applicable industry Standards, BMPs, and other applicable guidance documents that exist._

Evidence of Compliance (Verifiers) includes:

- *(REQUIRED) Regulatory and permitting requirements are referenced in IVM program documents*
- *(REQUIRED) The industry BMP “Integrated Vegetation Management” is referenced in IVM program documents.*
- *The industry BMP “Closed Chain of Custody for Herbicide in UVM Industry” is referenced in IVM program documents.*
- *The industry BMP “Tree Risk Assessment” is referenced in IVM program documents.*

Indicator Rating: Compliance is achieved when the required Verifiers are confirmed.

Market Claim: The ROW Steward’s IVM plan demonstrates a commitment to adopting of industry standards of recognized practices.

CRITERION 1.2: Employment Eligibility

Compliance requires passing Indicator 1.2.a:

Indicator 1.2.a: (REQUIRED) Employment practices of ROW Asset Manager, **IVM Workers**, and contractors are consistent with all immigration and labor laws.

Evidence of Compliance (Verifiers) includes:

- *(REQUIRED) The employees’ legal right to work within the country is confirmed and documented (e.g., confirmation by Human Resources).*
- *(REQUIRED) ROW Asset Manager requires that contractor(s) abide by relevant labor laws.*

Indicator Rating: Compliance is achieved when the required Verifier is confirmed.

Market Claim: ROW Stewards have employment practices that are consistent with immigration and labor laws.

PRINCIPLE #2: TENURE AND USE RIGHTS AND RESPONSIBILITIES

Sustainable ROW vegetation management requires that the long-term right of use of the land for the intended purpose(s) is clearly defined and documented.

CRITERION 2.1: Right of Use

The ROW Asset Manager has documented evidence of long-term right of use of the land (e.g., the utility may own the land in fee, own an easement, or have certain franchise rights, prescription, or license rights to construct and maintain the ROW facility).

Compliance requires passing Indicator 2.1.a:

Indicator 2.1.a: (REQUIRED) The ROW Manager provides clear evidence of documented long-term rights to use and manage land for the purposes described in the management plan.

Evidence of Compliance (Verifiers) includes the existence of:

- (REQUIRED) ROW easements, deeds, and deed restrictions
- (REQUIRED) ROW-related lease agreements
- Titles and other evidence of fee ownership
- Contracts, MOUs, or other agreements relevant to ROW vegetation management with other entities internal or external to the organization
- Documents conveying recreational use rights and compatible uses such as grazing leases, Christmas tree farms, etc.
- Customary use rights associated with cultural resources including sites of religious importance and historic and community significance
- Field evidence that maintenance operations only occur within boundaries of authorized corridors

Indicator Rating: Compliance is achieved when 4 or more of the Verifiers are confirmed including both required Verifiers

Market Claim: ROW Stewards have the rights and responsibilities necessary to practice IVM on their ROW.

Indicator 2.1.b: When disputes arise regarding right of use of the land, the ROW Asset Manager initially attempts to resolve them through open communication, negotiation, and/or mediation. If these good-faith efforts fail, then federal, provincial, state, and/or local laws may be employed to resolve such disputes.

Evidence of Compliance (Verifiers) includes:

- Written policy and procedures for addressing and resolving disputes in a timely manner

- *Documentation pertaining to the status of issues and concerns brought by stakeholders; timelines, and status of resolved and unresolved disputes; records pertaining to IVM manager's consultations with stakeholders, landowners, and regulators*

Indicator Rating: Compliance is achieved when one or more of the Verifiers are confirmed.

Market Claim: ROW Stewards aim to resolve disputes in a timely and effective manner.

CRITERION 2.2: Unauthorized Uses

Illegal or unauthorized uses of the right-of-way are discouraged and public safety is prioritized.

Compliance requires passing Indicator 2.2.a:

Indicator 2.2.a: (REQUIRED) The ROW Asset Manager supports or implements measures to protect public safety and helps prevent illegal and unauthorized uses of the ROW.

Evidence of Compliance (Verifiers) includes:

- *Policies defining unauthorized uses.*
- *Policy and procedures document(s) defining means of limiting unauthorized use*
- *Field observations of gates, fencing, etc. intended to manage ROW access, use, and reduce unauthorized or unsafe uses.*
- *Field observations of appropriate signage, clear marking of boundaries,*
- *Record of communications with ROW owners, owners of ROW access roads, other users, local community members, and other stakeholders regarding authorized and unauthorized uses*
- *Policies specific to appropriate public recreational use and access*

Indicator Rating: Compliance is achieved when 3 or more Verifiers are confirmed.

Market Claim: ROW Stewards take appropriate steps to ensure that ROW's are managed in an effort to recognize public safety concerns and to reduce conflicts over unauthorized or illegal activities on these lands.

Indicator 2.2.b: When illegal or unauthorized activities are known to occur, the ROW Asset Manager implements actions designed to curtail such activities and correct the situation to the extent possible.

Evidence of Compliance (Verifiers) includes:

- *ROW Asset Manager maintains documentation of known illegal or unauthorized activities*

and their actions taken in response.

- *Evidence of adaptive approaches to curtailing or correcting such activities, and measures to prevent illegal and unauthorized activities that may include, but are not limited to reporting suspected illegal or unauthorized activities to the proper authorities.*

Indicator Rating: Compliance is achieved when one or more of the Verifiers are confirmed

Market Claim: ROW Stewards respond promptly and effectively to reduce or eliminate illegal and unauthorized activities.

CRITERION 2.3: Maintaining Access

If the utility's intent is to maintain a means of access to the ROW then a program is in place that addresses the need for periodic access to ROW for inspection, maintenance and repair. This includes roads both on and off the ROW itself, as necessary. In areas which required off-ROW access roads, the utility's responsibility related to such access is clear and implemented in a manner consistent with applicable range and forest road BMPs. If the utility's intent is to not establish permanent access to the ROW then plans are in place for alternative means of access for vegetation management activities and general inspection, operation, maintenance and repair of the energy delivery infrastructure.

Conformance requires passing Indicator 2.3.a:

Indicator 2.3.a: (REQUIRED) Vegetation Manager has a program to maintain ROW access, including road maintenance consistent with applicable BMPs. (Note: if it is the utility's intent not to establish and maintain permanent access roads Indicator 2.3.a is NOT REQUIRED).

Evidence of Compliance (Verifiers) includes:

- *Periodic inspection of off ROW access lanes*
- *Road construction and maintenance plans*
- *BMPs or performance standards for road construction and maintenance (forest roads)*
- *Summary of road construction and maintenance activities*
- *Easements and other access agreements or constraints*

Indicator Rating: Compliance is achieved when 3 or more of the Verifiers are confirmed.

Market Claim: ROW Stewards maintain access in a manner consistent with BMPs.

PRINCIPLE #3: COMMUNITY RELATIONS

The IVM program provides for outreach to affected communities and other affected stakeholders.

CRITERION 3.1: Public Education

Stakeholders are apprised of the ROW Stewardship program, IVM practices, and resulting benefits.

Conformance requires passing Indicator 3.1.a:

Indicator 3.1.a: (REQUIRED) Communities adjacent to ROW vegetation maintenance activities, and other affected stakeholders, are provided with opportunities for educational support services related to IVM.

Evidence of Compliance includes:

- Employee participation in community programs where employees promote the concepts and benefit of IVM and protecting natural resources*
- Support of and representation in civic activities related to IVM and natural resource issues (e.g., Earth Day programs, Arbor Day celebrations, right-tree-right-place plantings, participation in Pollinator Week programs, etc.)*
- Partnerships with groups such as environmental organizations, youth groups, community groups, and agencies to raise awareness of IVM activities and relevant natural resource issues.*
- Proactive public education material (such as fact sheets door knockers, brochures video newspaper ads) related to IVM practices available to the general public, natural resources agencies, schools, community colleges, and/or other providers of training and education*

Indicator Rating: Compliance is achieved when 2 or more Verifiers are confirmed.

Market Claim: ROW Stewards help their communities and neighbors understand why and how they use IVM in managing rights-of-way.

Indicator 3.1.b: Where opportunities present themselves, IVM principles and criteria are explicitly supported in the public arena.

Evidence of Compliance (Verifiers) includes:

- IVM principles and criteria consistent with the ROWSC are publicly supported through activities such as event sponsorship, staff participation in training, financial donations, donations of time or materials, participation in research, serving on volunteer boards or committees, etc. Event sponsorships, donations to, and volunteering with the ROW Steward program does not qualify towards compliance with this verifier.*

Indicator Rating: Compliance is achieved when the Verifier is confirmed.

Market Claim: ROW Stewards actively and publicly promote IVM principles.

CRITERION 3.2: External Stakeholder Communication

Communities and other stakeholders affected by proposed IVM operations are informed of the primary goals of reliability, safety, and assuring access. This Criterion also acknowledges the need to respect the confidentiality of some information.

Conformance requires passing 2 or more Indicators

Indicator 3.2.a: A summary of vegetation maintenance activities is produced annually and made readily available to workers and the general public. This may include a summary of primary elements of the IVM plan and a summary of recent activities.

Evidence of Compliance (Verifiers) includes:

- *A summary of strategic IVM plan and annual vegetation maintenance plans including annual vegetation maintenance activities may appear on ROW Asset Manager website(s) or other publicly available location (e.g., community library). References should be easy to find for an interested party.*

Indicator Rating: Compliance is achieved if the Verifier is confirmed.

Market Claim: ROW Stewards are transparent in publically disclosing summaries of their vegetation management activities annually.

Indicator 3.2.b: The ROW Asset Manager communicates the likely social effects of vegetation maintenance activities on local communities and incorporates this understanding into management planning and operations.

Evidence of Compliance (Verifiers) includes:

- *Written policies, procedures, and practices define the manner in which landowners, abutting landowners, and other stakeholders such as municipalities are appraised of planned vegetation maintenance operations (direct person-to-person, indirect via mailers, door hangers, signs, bill stuffers, other media).*
- *Written policies, procedures, and practices are used to prevent or minimize conflicts between maintenance activities and societal values; this may include advance public notification of specific maintenance operations.*
- *Relevant information is available on a website, which may also support an exchange of information.*
- *There are documented policies and procedures for interaction and cooperation with special interest groups and the general public.*

- *Documents show ROW restoration plan strategically seeks to benefit natural resources and the community.*

Indicator Rating: Compliance is achieved when 3 or more Verifiers are confirmed.

Market Claim: ROW Stewards practice transparency in communicating about IVM operations.

Indicator 3.2.c: Records are kept of important interactions with stakeholders regarding vegetation maintenance activities, including private or public meeting minutes, correspondence, etc.

Evidence of Compliance (Verifiers) includes:

- *The results of public opinion surveys relative to vegetation management issues*
- *Documented policies and procedures for interaction, dialogue, and cooperation with special interest groups and the general public.*
- *Notification logs.*
- *Public and private party correspondence.*
- *Records of media coverage of vegetation management activities, including dispute resolution efforts*
- *Records of stakeholder involvement that demonstrates that their input was considered in developing ROW site restoration and IVM plans and goals.*

Indicator Rating: Compliance is achieved when 3 Verifiers are confirmed.

Market Claim: ROW Stewards are responsive to stakeholder input and concerns.

Indicator 3.2.d: Stakeholder concerns and outstanding complaints are consistently managed in an effectively manner that demonstrated responsiveness over time.

Evidence of Compliance (Verifiers) includes:

- *Significant stakeholder concerns are identified and considered in IVM policies and plans. IVM policies and plans address stakeholder concerns and explain the reliability benefits of IVM with regards to the environment and energy reliability*
- *(REQUIRED) Outstanding complaints have not shown a pattern of increasing frequency or severity.*

- *(REQUIRED) Outstanding complaints are being actively managed in a responsive and appropriate manner by internal and contract personnel.*

Indicator Rating: Compliance is achieved when both Required Verifiers are confirmed.

Market Claim: ROW stewards have demonstrated an understanding of current issues, are responsive, and have the ability to address complaints and concerns.

Criterion 3.3 Internal stakeholder engagement

The IVM plan is based in part on interdisciplinary collaboration with other departments within the organization that can provide relevant support.

Indicator 3.3.a: The Vegetation Manager actively seeks and supports internal collaboration with subject matter experts in other departments within the organization.

Evidence of compliance

- *Interdisciplinary resource directory*
- *IVM process flow charts that interface with other departments*
- *Internal focus group on IVM or veg management across departments*
- *Records of engagement and collaboration between departments*
- *Specific reference to engagement with other departments in the IVM plan*
- *Intra-organization training / awareness / education sessions*
- *IVM needs considered in other infrastructure construction, operations, and maintenance standards and practices.*

Indicator Rating: Compliance is achieved with 4 or more Verifiers are confirmed.

Market claim: Internal collaboration leads to an integrated approach vegetation management.

CRITERION 3.4: External Stakeholder Engagement

Management planning, including the development of management objectives, considers the societal impact of planned activities. The input of appropriate stakeholder groups interested in or affected by ROW IVM is invited and considered when developing management objectives. Consideration of stakeholder input in development of management objectives is an essential component of IPM/IVM.

Conformance requires passing both Indicators under 3.4

Indicator 3.4.a: (REQUIRED) Management planning considers input from stakeholder groups and societal values including natural resources, wildlife habitat, education, recreation, and other compatible uses.

Evidence of Compliance (Verifiers) includes:

- (REQUIRED) Engagement procedures and tracking of stakeholder involvement in the vegetation management arena, specifically as related to the development of management objectives as part of the planning process.
- (REQUIRED) Specifics on how management objectives have developed with stakeholder input and an understanding of concerns.

Indicator Rating: Compliance is achieved when both Verifiers are confirmed.

Market Claim: ROW Stewards actively seek to engage stakeholders in consideration of the societal and community impact of vegetation management activities.

Indicator 3.4.b: Significant stakeholder concerns are identified and considered in maintenance policies and plans (for example, management activities are modified in response to concerns, or a rationale is provided for not responding to a concern or when unable to comply with a concern).

Evidence of Compliance (Verifiers) includes:

- Strategies and activities demonstrate willingness to adjust vegetation maintenance practices based on landowner inputs (e.g., choice of herbicide selected, timing of application, or alternative treatment type).
- Stakeholder interactions are documented in a formal filing system that includes who was interacted with, the subject of interaction, and the outcome. This information could be used as a performance indicator (see Principle 3 and 10), e.g., to assess the overall quality of stakeholder relations, how concerns are handled, and the ability to reduce complaint levels over time.

Indicator Rating: Compliance is achieved when one or more Verifiers is confirmed.

Market Claim: ROW Stewards have management plans that address public input and concern.

PRINCIPLE #4: MANAGEMENT PLANNING

Documentation of objectives, philosophy, principles, procedures, and practices are critical to long-term, sustainable management, as embodied by various levels of plans, including resource inventories and maps. Program management plans establish goals and objectives that require accountability for both successes and opportunities for improvement. Improvement in maintenance practices is predicated on learning from both successes and opportunities for improvement.

CRITERION 4.1: Strategic Integrated Vegetation Management Plan

The ROW vegetation management program includes an established formal written strategic Integrated Vegetation Management IVM plan with supporting references/documents.

Conformance requires passing Indicator 4.1.a:

Indicator 4.1.a (REQUIRED) Supporting documentation is in place that guides IVM program decisions. The Vegetation Management Program Plan at a minimum addresses:

- a. Management policy, goals, and objectives;
- b. Description of consideration for conservation of ecosystem services;
- c. Description of the ROW resources being managed (e.g., lengths, maintained width, area, infrastructure attributes);
- d. Maps and/or geospatial asset management records of the ROW resources being managed;
- e. Description of the landscapes/ land use classifications traversed by ROW;
- f. Description of compatible vegetative cover types being managed for, and incompatible vegetation being controlled;
- g. Description of vegetation management activities/processes;
- h. Description of vegetation maintenance techniques, and when and where they apply based on the ecosystem in question and information gathered through condition assessment surveys and resource inventories;
- i. Description of maintenance tasks intended to manage storm water runoff and preserve vegetative cover to protect soils from eroding;
- j. Policies and procedures that reduce the impact of vegetation management on human health and the environment. Environmental limitations and safeguards appropriate to the sites and ecosystems are addressed;
- k. Specific citation, list, and/or appendices of relevant industry Standards and BMPs to be complied with;
- l. Specific citation of relevant laws, regulations, regulatory requirements and codes to be complied with;
- m. A means of monitoring work, including feedback mechanisms for revising procedures to more effectively achieve objectives;
- n. Wildfire management plans (as appropriate).

Evidence of Compliance (Verifiers) includes:

- *(REQUIRED) A written Strategic IVM Plan that addresses most (9 of 14) of the elements listed in Criterion 4.1.a*
- *The strategic vegetation management plan receives full review and revision no less than once every five years.*
- *(REQUIRED) A statement of commitment to IVM is included in the Strategic IVM Plan (See Criterion 6.2 Long Term Commitment to IVM)*

Indicator Rating: Compliance is achieved when the required Verifiers are confirmed.

Market Claim: ROW Stewards have a long-term and comprehensive strategic management plan in place.

CRITERION 4.2: Annual Project-Specific Maintenance Plans

The vegetation management program includes project-specific annual maintenance plans that take local considerations into account.

Conformance requires passing Indicator 4.2.a:

Indicator 4.2a: (REQUIRED) Annual vegetation maintenance plans provide details of the intended activities planned for each IVM-based vegetation maintenance project (e.g., individual ROW).

Evidence of Compliance (Verifiers) includes:

- *Annual vegetation maintenance plans are based on site-specific conditions assessments*
- *(REQUIRED) Annual vegetation maintenance plans aligned with the strategic IVM plan*
- *Annual vegetation maintenance plans align with, and reflect budgets*
- *Annual vegetation maintenance plans include resource requirements and project schedules*
- *A statement of commitment to IVM is included in the Annual Vegetation Maintenance Plan.*

Indicator Rating: Compliance is achieved if the 3 or more of the Verifiers, including the Required Verifier(s), are confirmed.

Market Claim: ROW Stewards have operating plans in place to guide activities.

CRITERION 4.3: Strategic IVM and Annual Vegetation Maintenance Plans Remain Up-to-Date

Strategic management and annual maintenance plans are periodically revised to incorporate the results of

monitoring or new scientific and technical information, as well as to respond to changing environmental, social, regulatory, and budgetary circumstances.

Conformance requires passing Indicator 4.3.a:

Indicator 4.3.a: (REQUIRED) Program management plans are kept up-to-date. They are reviewed on an ongoing basis and are updated whenever necessary to incorporate the results of monitoring or new scientific and technical information, as well as respond to changing environmental, social, and economic circumstances.

Evidence of Compliance (Verifiers) includes:

- (REQUIRED) There is documented evidence that annual vegetation maintenance plans are monitored and adjusted to reflect changes to schedule and intended Scope of Work.
- (REQUIRED) There is documented evidence that strategic vegetation management plans are periodically reviewed and revised as necessary.
- The strategic vegetation management plan receives full review and revision no less than once every five years.

Indicator Rating: Compliance is achieved when both required Verifiers are confirmed.

Market Claim: ROW Stewards regularly update their strategic and tactical plans assure compliance with new regulations, incorporate advances in scientific and technical information, and respond to environmental and social circumstances.

CRITERION 4.4: Competency of IVM Practitioners

NOTE: The term “IVM practitioner” refers to both contracted and internal personnel who are responsible for implementing the management plan.

Conformance requires passing one or more Indicators:

Indicator 4.4.a: Workers are well-qualified to implement the Strategic IVM Plan and Annual Vegetation Maintenance plan.

Evidence of Compliance (Verifiers) includes:

- Familiarity with the Strategic IVM plan and Annual Vegetation Maintenance Plan.
- Practical credentials, e.g., pesticide applicator’s license, certified arborist.
- Relevant experience, time spent in technical and professional work positions.
- Training programs specific to IVM and related vegetation management and maintenance plans are available to personnel involved with IVM program management.
- Educational credentials, degrees held, etc.: workers do not need formal degrees in their fields though education could be evidence of qualifications.

Indicator Rating: Compliance is achieved when the 3 or more of the Verifiers are confirmed.

Market Claim: ROW Stewards ensure that personnel are well-qualified to implement the vegetation management plan.

Indicator 4.4.b: The ROW Asset Manager uses practices that encourage long-term and continuous job opportunities for IVM workers in order to assure the implementation of a successful long term IVM program.

Evidence of Compliance (Verifiers) includes:

- There is an acceptable level of worker turnover.*
- The ROW Asset Manager and Vegetation Managers package work in ways that support stable employment.*
- Jobs include a variety of tasks that require varying levels of skill and knowledge.*
- Opportunities for advancement are available.*
- Training opportunities are in place for employees to improve their skills and knowledge.*

Indicator Rating: Compliance is achieved when 3 or more Verifiers are confirmed.

Market Claim: ROW Stewards use contracting practices that encourage a long-term, stable experienced/qualified workforce that understand the requirements of an IVM program.

PRINCIPLE #5: UNDERSTANDING PEST AND ECOSYSTEM DYNAMICS

Knowledgeable managers and practitioners are able to identify both incompatible and compatible vegetation and plant communities in the managed system, and understand the effects of various IVM methods based on knowledge of pest life histories and ecosystem processes. This is foundational knowledge for Vegetation Managers and vegetation management workers.

CRITERION 5.1: Knowledgeable Vegetation Managers

Vegetation Managers (employed directly or retained as contract consultants) are knowledgeable about the managed ecosystem, especially with regard to the basic biology and ecology of plant and animal communities occupying and/or making use of the ROW.

Conformance requires passing Indicator 5.1.a;

Indicator 5.1.a: (REQUIRED) Vegetation Managers are able to demonstrate knowledge about the managed ecosystem by demonstrating an understanding of basic biology and ecology of the plant community and wildlife habitat encountered on the ROW.

Evidence of Compliance (Verifiers) includes:

- (REQUIRED) Demonstrated identification skills of compatible and incompatible plant community and critical wildlife habitats.
- (REQUIRED) Demonstrated knowledge of the ROW ecosystem.
- Evidence of participation in regular continuing education and professional development activities.
- IVM managers and supervisors have appropriate educational background.

Indicator Rating: Compliance is achieved when both required Verifiers are confirmed.

Market Claim: ROW Stewards rely on managers with a basic understanding of ecology of the plant communities and wildlife habitat found on local ROWs.

CRITERION 5.2: Commitment to Research, Development, and Demonstration

Research, development, and demonstration (RD&D) activities such as field trials should be supported (and/or engaged in directly) to provide an opportunity for enhancing understanding and knowledge of the ecology of the managed ROW, and to support continuous improvement.

Conformance requires passing one or more Indicators:

Indicator 5.2.a: RD&D activities are routinely supported.

Evidence of Compliance (Verifiers) includes:

- *Listing of research, development, and demonstration projects conducted and/or supported by the ROW Asset Manager (in-kind or direct monetary support) to develop new skills and knowledge for advancing IVM.*
- *Support of ongoing field research.*
- *In-house applied research and development efforts.*
- *Establish and maintain demonstration projects.*
- *Attendance of IVM staff at industry technical meetings.*

Indicator Rating: Compliance is achieved when 3 or more Verifiers are confirmed.

Market Claim: ROW Stewards are committed to supporting research and demonstration activities that enhance understanding of the ecology of the managed system.

Indicator 5.2.b: Positive results of industry RD&D activities related to IVM, vegetation maintenance methods, and the ecological communities (including wildlife) found on ROW are incorporated in field operations.

Evidence of Compliance (Verifiers) includes:

- *(REQUIRED) Evidence that research and development results are considered and field operations are changed accordingly.*

Indicator Rating: Compliance is achieved if the required Verifier is confirmed.

Market Claim: ROW Stewards use the latest research to continually improve their program.

CRITERION 5.3: Maintaining an Up-to-Date Knowledge Base

Vegetation Managers and IVM workers are provided opportunities to improve their skills and knowledge through education and training.

Conformance requires passing Indicator 5.3.a:

Indicator 5.3.a: (REQUIRED) Vegetation Managers and IVM workers are trained to observe and report sites occupied by incompatible plants that exceed action thresholds and are trained to observe and report significant new populations of invasive species, forest pests and forest pathogens when they are encountered in the field.

Evidence of Compliance (Verifiers) includes:

- *Listing of training and education events attended by IVM internal and contract personnel, and supported by the ROW Asset Manager.*
- *Evidence of training on IVM program and vegetation maintenance practices and techniques*

provided to IVM personnel.

- *Professional society memberships and certificates that requires annual training and/or continuing education to maintain certifications/credentials(e.g., Utility Arborist Association and the International Society of Arboriculture).*
- *In-house training on IVM related topics including laws, regulations, and safety.*
- *(Required) Participation in pesticide applicator training.*
- *Supplier-provided training practices and procedures related to the use of specific tools and materials.*

Indicator Rating: Compliance is achieved when 3 or more Verifiers are confirmed.

Market Claim: ROW Stewards are trained to identify and report ecosystem threats.

PRINCIPLE #6: ESTABLISHING TOLERANCE LEVELS

IVM was developed by adapting principles from Integrated Pest Management (IPM), and depends upon basic elements to function as a system. Tolerance (a.k.a. “action threshold”) levels are one of the fundamental elements of IVM. Vegetation management actions are scheduled based on local conditions and maintenance activities occur when tolerances are exceeded and at the optimal time to meet stated objectives. Primary operational objectives of reliability, access, safety, and regulatory compliance are considered in the context of socioeconomics and environmental concerns.

CRITERION 6.1: Setting Tolerance Levels

Tolerance levels for incompatible species of vegetation are used to define action thresholds for vegetation maintenance treatment options. They may vary by site type and site limitations, and are used in planning and scheduling vegetation maintenance tasks intended to control incompatible vegetation.

Conformance requires passing Indicator 6.1.a; Best Practice requires passing all Verifiers:

Indicator 6.1.a: (REQUIRED) Action thresholds have been established based on tolerance levels for incompatible species of vegetation.

Evidence of Compliance (Verifiers) includes:

- (REQUIRED) Documented thresholds (e.g. clearances, heights, densities) are established for use in identifying unacceptable risks from incompatible vegetation.
- Documented thresholds are established for use in identifying unacceptable risks from off-ROW vegetation.
- (REQUIRED) Field conditions related to ROW vegetation are consistent with thresholds.
- Lists of compatible and incompatible plants and/or vegetative cover types are used in defining thresholds.
- (REQUIRED) ROW zones (e.g. wire/pipe-zone, border-zone, and other zones that may be mentioned in BMPs) with different tolerances are used in managing ROW vegetation. Note: This Verifier also recognizes that partitioning a narrow ROW into zones may not be practical.
- (REQUIRED) Indication that tolerance levels consider stakeholder input. (See Criterion 3.4 External Stakeholder Engagement).

Indicator Rating: Compliance is achieved when all Required Verifiers are confirmed.

Market Claim: ROW Stewards have established practical tolerance levels for incompatible species that determine when action is taken.

CRITERION 6.2: Long-Term Commitment to IVM

The ROW Asset Manager, the Vegetation Manager, and internal and contractor IVM workers demonstrate a long-term commitment to adhere to IVM principles.

Conformance requires passing 1 Indicator:

Indicator 6.2.a: A well-defined and articulated commitment to IVM principles exists in the Strategic IVM Plan and is consistently demonstrated in company communications.

Evidence of Compliance (Verifiers) includes:

- (REQUIRED) A statement of commitment to IVM is included in the Vegetation Management Plan.*
- Examples of corporate communications that articulate IVM principles*

Indicator Rating: Compliance is achieved when the required Verifier is confirmed.

Market Claim: ROW Stewards are committed to the long-term vision and values consistent with the intent of the ROW Stewards Program.

PRINCIPLE #7: COMPILATION OF AN ARRAY OF VEGETATION MAINTENANCE TECHNIQUES

IVM does not focus on the use of one treatment technique; instead, every ROW management situation has a treatment prescribed only after considering all viable treatment options. A complete array of treatment options that are utilized to achieve sustainable compatible plant communities are available and used.

CRITERION 7.1: Variety of Vegetation Maintenance Methods

A wide variety of treatment methods including mechanical, physical, chemical, cultural, and biologically based maintenance practices are considered and the most appropriate method for the site is chosen.

Conformance requires passing Indicator 7.1.a:

Indicator 7.1.a: (REQUIRED) A wide variety of treatment methods are used for vegetation maintenance.

Evidence of Compliance (Verifiers) includes:

- Variety of appropriate vegetation maintenance treatment techniques are observed during the field assessment.*
- Documented use of multiple treatment techniques*
- Knowledge of and availability of various IVM treatment techniques.*

Indicator Rating: Compliance is achieved when two or more Verifiers are confirmed.

Market Claim: ROW Stewards consider a variety of treatment methods as appropriate for each specific site.

CRITERION 7.2: Continuous Improvement of Methods

Treatments are progressively evaluated and added to the vegetation management program, with emphasis on developing selective treatment options and minimizing the impact on compatible vegetative cover types. Non-selective treatments may be used in efforts to reclaim a site that has not been maintained or for cover type conversions. Following conversion, selective treatments are preferred.

Conformance requires passing Indicator 7.2.a.

Indicator 7.2.a. (REQUIRED) The use of selective methods for vegetation maintenance and the associated environmental impacts are accounted for in management planning and maintenance operations.

Evidence of Compliance (Verifiers) includes:

- *(REQUIRED) Presence of complex communities of compatible plants, including a variety of forbs and shrubs, that are indicative of the use of selective vegetation maintenance treatment techniques.*
- *Policy and procedure documents that commit the utility to predominant use of selective treatment methods.*
- *Documented account of treatment technique use over time and space.*
- *Documented patterns of native plant community conditions and herbicide use over time that show compatible plant communities are being developed and supported.*

Indicator Rating: Compliance is achieved when 2 or more Verifiers, including the Required Verifier, are confirmed.

Market Claim: ROW Stewards emphasize the use of selective treatment options that minimize impacts and support development compatible plant communities.

CRITERION 7.3: Appropriate Tools, Equipment, and Technology

Equipment, tools, and technology are up to date, adequately maintained and supported to ensure proper implementation of the Strategic IVM Program and Annual Vegetation Maintenance Plan.

Conformance requires passing Indicator 7.3.a.

Indicator 7.3.a: (REQUIRED) Equipment, tools, and technology appear to be well maintained and up-to-date.

Evidence of Compliance includes:

- *Tools, equipment, and technologies are appropriate for the intended use.*
- *Equipment, tools, and other technology are maintained in serviceable condition and are up-to-date.*
- *Records of calibration of application equipment as appropriate.*
- *A quality assurance practice of verifying (sampling) herbicide mixtures being applied to incompatible ROW vegetation.*
- *Annual expenditure (investment) in new/improved tools equipment and technologies.*

Indicator Rating: Compliance is achieved when 3 or more Verifiers are confirmed.

Market Claim: ROW Stewards assure that appropriate tools, equipment, and other technology necessary to effectively implement IVM is available to internal staff and vegetation maintenance contractors.

PRINCIPLE #8: ACCOUNTING FOR ECONOMIC AND ECOLOGICAL EFFECTS OF TREATMENTS

Cost effectiveness and expected ecological effects over time are used as a basis for selecting IVM treatments. The preferred approach systematically establishes compatible vegetation cover types that assist in reducing populations of incompatible vegetation on the ROW.

CRITERION 8.1: Economic Viability

The IVM plan is economically viable while taking into account the full environmental, social, and operational costs of vegetation management activities. The IVM plan is adequately funded by the operator to ensure the successful long-term implementation of cost-effective vegetation management techniques to facilitate the establishment of sustainable compatible plant communities on and off the ROW.

Conformance requires passing Indicator 8.1.a:

Indicator 8.1.a: (REQUIRED) The Strategic IVM Program and Annual Vegetation Maintenance Plan are economically viable, cost-effective, and adequately funded to achieve its strategic goals and objectives.

Evidence of Compliance (Verifiers) includes:

- Demonstration of successful procurement strategies for vegetation maintenance services that achieve cost-effective vegetation maintenance results.*
- Policies and practices for ongoing evaluation of the cost effectiveness and performance of contractors, vendors, and the overall IVM Program.*
- Demonstrated commitment from internal stakeholders to adequately fund the IVM Program to ensure strategic implementation of IVM principles and practices.*
- Demonstrated success at completing vegetation maintenance projects within budget.*
- Demonstrated effectiveness in management of operational funds sufficient to support adaptive management changes to ROW plant community and support development of new treatment methods.*

Indicator Rating: Compliance is achieved when 3 or more Verifiers are confirmed.

Market Claim: ROW Stewards are fiscally responsible and strive to achieve program cost-effectiveness.

CRITERION 8.2: Environmental Viability

The vegetation management program is environmentally viable, taking into account the full environmental costs and requirements of vegetation management activities. Treatment choices are made with full consideration of direct and indirect effects, including a wide array of positive (ecosystem services) and negative environmental impacts.

Indicator 8.2a: (REQUIRED) The importance of considering the aesthetic impacts of ROW vegetation maintenance activities is clearly recognized and demonstrated to employees, contract workers and stakeholders.

Evidence of Compliance (Verifiers) includes:

- Documented Policies, Procedures and Practices that indicate that the visual impact of IVM treatments is considered in planning and completing vegetation maintenance treatments.*
- Lists/Maps/Field ID that identify visually sensitive sites.*
- Observations during field audit that demonstrate that the visual impact of IVM treatments is considered when completing vegetation maintenance treatments.*
- Collaborations and demonstrations in conjunction with federal, state, provincial and other stakeholder and community groups to address the visual impact of the ROW and IVM practices.*
- Examples of aesthetic considerations such as reducing “brown-out” in visually sensitive areas, timing operations to reduce visual impacts, and short term retention of temporary buffers/visual barriers*

Indicator Rating: Compliance is achieved when 3 or more Verifiers are confirmed

Market Claim: ROW Steward demonstrates an appropriate sense of awareness of the visual impacts of the ROW and IVM operation.

Indicator 8.2.b: (REQUIRED) Wildlife and their habitats are conserved with adequate planning and appropriate maintenance operations.

Evidence of Compliance (Verifiers) includes:

- Documented Policies, Procedures and Practices for the conservation and protection of important wildlife species and their habitats.*
- Lists/Maps/Field ID that identify important habitats.*
- Observations during field audit of wildlife habitat management activities.*
- Collaborations and Demonstrations with wildlife conservation organizations.*
- Documentation of efforts to mitigate issues associated with fragmentation and connectivity of habitats caused by the presence of the ROW.*

- *Adherence to applicable laws and regulations, e.g. the U.S. and Canadian Migratory Bird Act*
- *Adoption of avian protection plan guidelines addressing habitat protection for ground-nesting birds and other avian species.*

Indicator Rating: Compliance is achieved when 4 or more Verifiers are confirmed.

Market Claim: ROW Stewards demonstrates a commitment to mitigating the impact of IVM activities on wildlife and wildlife habitats.

Indicator 8.2.c: (REQUIRED) Rare, threatened, and endangered plant and animal species (RT&E) (defined by state/provincial and federal statutory listings) and natural communities are protected with adequate planning and appropriate maintenance operations.

Evidence of Compliance (Verifiers) includes:

- *Documented Policies, Procedures and Practices for the protection of RT&E species when the ROW Asset Manager becomes aware of their presence.*
- *Lists/Maps/Field ID that include information on the identification, biology, and ecology of RT&E species that might occur on the ROW.*
- *(REQUIRED) Observations during field audit of actions taken for protection of RT&E species.*
- *Collaborations and Demonstrations with agencies and organization related to RT&E species and their habitats.*
- *Restoration plans and actions for habitat enhancement which are shared between the planning, construction, and operations functions of the organization.*

Indicator Rating: Compliance is achieved when 3 or more Verifiers are confirmed.

Market Claim: ROW Steward demonstrates a commitment to minimizing the impact of IVM activities on RT&E species.

Indicator 8.2.d: (REQUIRED) Invasive plants (defined by state/provincial and federal statutory listings) are managed with adequate planning and appropriate maintenance practices to prevent their spread whenever it is practical to do so.

Evidence of Compliance (Verifiers) includes:

- *Documented Policies, Procedures and Practices that indicate that the impact of IVM treatments as related to invasive species is considered in planning and completing vegetation maintenance treatments.*
- *Lists/Maps/Field ID include appropriate information on the identification, biology, and ecology of invasive plant species that occur on ROW.*

- *Observations during field audit that demonstrate that invasive species are considered when completing vegetation maintenance treatments.*
- *Collaborations and Demonstrations with agencies and organization related to invasive species issues.*
- *Only non-invasive plants are used when restoring disturbance within the ROW.*

Indicator Rating: Compliance is achieved when 3 or more Verifiers are confirmed.

Market Claim: ROW Stewards protect and conserve communities of native and non-invasive plants within the ROW.

Indicator 8.2.e: (REQUIRED) Cultural resources, including sites of religious importance and historic and community significance, are considered with adequate planning and appropriate maintenance operations.

Evidence of Compliance (Verifiers) includes:

- *Documented Policies, Procedures and Practices for identifying and protecting significant cultural sites (e.g., historic sites, indigenous lands, archeological sites, etc.).*
- *Lists/Maps/ Field inventories documenting the locations of cultural sites.*
- *Observations during field audit related to protection of cultural resources.*
- *Collaborations, Demonstrations and/or consultation with local community members and stakeholder user groups.*
- *Policies and procedures for identifying and protecting resources of anthropological significance, including historic sites, indigenous lands, archeological sites, public resources, recreational areas, and other compatible uses.*

Indicator Rating: Compliance is achieved when 3 or more Verifiers are confirmed.

Market Claim: ROW Stewards consider cultural resources when planning and conducting ROW vegetation maintenance.

Indicator 8.2.f: (REQUIRED) Water resources (perennial and ephemeral streams, wetlands, vernal pools, and seeps); soils, and habitats are protected with adequate planning and appropriate maintenance operations.

Evidence of Compliance (Verifiers) includes:

- *Documented Policies, Procedures and Practice) that indicate that the impact of IVM treatments on water resources is considered in planning and completing vegetation maintenance treatments.*
- *Lists/Maps/Field ID showing site-specific locations of streams, wetlands, ponds, ephemeral pools or other water resources.*

- *Observations during field audit of riparian buffers, potentially including alternative or limited uses of herbicides and heavy equipment in buffers as compared to practices in upland portions of a ROW.*
- *Observed control of ROW erosion and sedimentation into water resources.*
- *Collaborations and Demonstrations with stakeholders.*

Indicator Rating: Compliance is achieved when 3 or more Verifiers are confirmed.

Market Claim: ROW Stewards consider the impact of IVM operation on water resources within the ROW.

CRITERION 8.3: Sustainable Compatible Vegetative Cover Types

Vegetation management systems promote the development of sustainable compatible vegetative cover types through the use of selective vegetation maintenance methods. Vegetation maintenance plans include site-specific prescriptions designed to control incompatible vegetation on the ROW. Where possible, preferred treatments lead, directly or indirectly, to the development of a compatible plant community that minimizes the establishment of incompatible species through the use of biological control.

Conformance requires passing Indicator 8.3.a:

Indicator 8.3.a: (REQUIRED) Development of compatible plant communities on managed ROWs resulting from selective IVM practices

Evidence of Compliance (Verifiers) includes:

- *(REQUIRED) Presence of complex communities of compatible plants, including a variety of forbs and shrubs that are indicative of a selective treatment method approach based on ROW vegetation conditions observed in the field audit.*
- *Documented account of selective treatment technique use over time and space.*
- *Documented patterns of native plant community conditions and herbicide use over time that show compatible plant communities are being developed and maintained.*
- *The deliberate introduction and establishment of compatible species on a site.*

Indicator Rating: Compliance is achieved when 3 or more Verifiers are confirmed.

Market Claim: ROW Stewards plan and manage for conversion to compatible and sustainable compatible plant communities.

CRITERION 8.4: Holistic Assessment of Effectiveness of Treatments

The effectiveness of vegetation maintenance treatments and their associated environmental impacts are specifically and fully accounted for in management planning and maintenance operations. Herbicides are selectively applied to eliminate incompatible woody plants on ROWs. Selective applications of herbicides conserve grasses, herbs, shrubs, and compatible trees which provide biological control. This is a core concept of both IPM and IVM.

Conformance requires passing 2 or more Indicators:

Indicator 8.4.a: Descriptions of the risks and benefits of each vegetation maintenance technique and the precautions that workers must employ to use them effectively are included in the Vegetation Management Plan.

Evidence of Compliance (Verifiers) includes:

- (REQUIRED) Written statements on the risks and benefits of each maintenance technique used and required worker precautions*

Indicator Rating: Compliance is achieved when the Required Verifier is confirmed.

Market Claim: ROW Stewards seek to minimize or eliminate potential risks of adverse impacts (environmental, worker safety) of vegetation maintenance treatments.

Indicator 8.4.b: Records are kept to document the frequency of occurrence of incompatible species and measures taken to control them in an effort to assess efficacy of each vegetation maintenance technique.

Evidence of Compliance (Verifiers) includes:

- (REQUIRED) Records of vegetation condition (e.g., compatible and incompatible plant densities) associated with vegetation maintenance techniques and prescriptions*

Indicator Rating: Compliance is achieved when the required Verifier is confirmed.

Market Claim: ROW Stewards maintain records for evaluation of efficacy of each vegetation maintenance technique.

Indicator 8.4.c: Vegetation maintenance crews, including mechanized mowers and herbicide application crews, are equipped to minimize adverse site impacts such as contamination with chemicals, including petroleum products.

Evidence of Compliance (Verifiers) includes:

- (REQUIRED) Observed state of vegetation maintenance equipment.*
- (REQUIRED) Observed state of equipment treatment staging areas (e.g., equipment is not parked in sensitive sites such as riparian areas).*
- (REQUIRED) Spill kit availability.*

- *Documented spill cleanup procedures.*
- *Completed inspection forms (Vegetation Manager inspecting in-house or contractor operations).*
- *Policies and practices related to use of herbicides.*
- *Written policies for proper use and disposal of hazardous materials.*
- *List of herbicides used on lands indicating ROW condition, management objective, acreage treated, product name, active ingredient, application rate, and quantity used in the last five years.*

Indicator Rating: Compliance is achieved when 4 or more Verifiers, including all required Verifiers, are confirmed.

Market Claim: ROW Stewards ensure crews are properly equipped and capable of responding to any adverse event.

PRINCIPLE #9: SITE-SPECIFIC IMPLEMENTATION OF TREATMENTS

ROW corridors are divided into vegetation maintenance units based on their operational, economic, ecological, and socioeconomic significance. Each maintenance unit has a specific prescription. A record of vegetation maintenance performed on each unit is retained and serves as a benchmark for future evaluations of treatment effectiveness.

CRITERION 9.1: Land Management Units

Specific maintenance management units are designated within each ROW to delineate sites that warrant different maintenance treatments (e.g., buffers to protect water resources, conservation areas, and vegetative communities that may cause a change in successional directions or rate).

Conformance requires passing Indicator 9.1.a:

Indicator 9.1.a: (REQUIRED) The ROW is recognized as consisting of multiple management units that may warrant different treatment prescriptions.

Evidence of Compliance (Verifiers) includes:

- Demonstrated spatial control of ROWs (e.g., inventory and mapping, GIS system).*
- Matching field conditions to map units.*
- Station numbers, mile or kilometer post, or similar spatial delineation/marketing systems.*
- “Planametric” maps, alignment sheets, or aerial photos showing pipe and ROW locations and related site features. These references could be hard copy of digital.*
- Documented, formal land unit designations within ROWs as a basis for vegetation management.*
- Field use of the “wire zone-border zone” or “pipe zone-border zone” concept.*
- Special sites procedure, which includes maps showing special sites and lists of special sites.*

Indicator Rating: Compliance is achieved when 4 or more Verifiers are confirmed.

Market Claim: ROW Stewards manage their ROW in a site-specific manner.

CRITERION 9.2: Site-Specific Maintenance Prescriptions

Annual vegetation maintenance plans and project-specific vegetation maintenance prescriptions are used to define treatments for each ROW vegetation maintenance unit, and justify treatment choices considering economic, ecological, and socioeconomic factors, as well as administrative opportunities and constraints. Prescriptions include:

- a. ROW maintenance unit designation;

- b. Description of current vegetation (e.g., compatible and incompatible) and environmental conditions;
- c. Definition of vegetation maintenance treatment method(s) being prescribed;
- d. Site-specific maps that detail ROW vegetation maintenance units, and show important cultural and environmental features;
- e. Description of vegetation management goal for future vegetative cover types and conditions (i.e. compatible vegetative cover type that is being managed for).

Conformance requires passing Indicator 9.2.a:

Indicator 9.2.a: (REQUIRED) Maintenance prescriptions provided to IVM workers are detailed and site-specific.

Evidence of Compliance (Verifiers) includes:

- (REQUIRED) Written project-specific vegetation maintenance plans include elements from Criterion 9.2, as listed as a-e above.
- (REQUIRED) Prescriptions are specific to land management units (see Criterion 9.1).

Indicator Rating: Compliance is achieved when both Verifiers are confirmed.

Market Claim: ROW Stewards provide site-specific vegetation maintenance prescriptions to IVM workers.

CRITERION 9.3 Maintenance Prescriptions Based on Site Assessment Inventory

Plans, prescriptions, and the decision to treat incompatible vegetation are based on current inventories of vegetation and site conditions.

Conformance requires passing Indicator 9.3.a:

Indicator 9.3.a: (REQUIRED) The ROW Asset Manager has a system for acquiring and evaluating site-specific vegetation data prior to implementation of maintenance prescriptions.

Evidence of Compliance (Verifiers) includes:

- Inventory policy and procedure, including inventory forms or equivalent exist for describing vegetative conditions on a treatment site.
- Documented inventories of vegetation and relevant environmental factors are created in advance or at the time of treatment of ROW vegetation maintenance and used as a basis for prescribing maintenance practices.
- Balanced mix of ground-level and aerial assessment methods are used in evaluating vegetation conditions.
- Formally documented method (e.g. matrix or decision rules) is available and used in determining possible treatment techniques based on conditions of vegetation (incompatible

and compatible).

Indicator Rating: Compliance is achieved when two or more Verifiers are confirmed.

Market Claim: ROW Stewards base their site-specific prescriptions on current conditions.

PRINCIPLE #10: MONITORING AND ADAPTIVE MANAGEMENT

Monitoring of managed systems is done to: 1) judge the success of decision making and the effectiveness of management activity; 2) assess system-level function, integrity, and capacity; and 3) be held accountable for the judgments, assessments, and results of management. It is through monitoring, and specifically a quality control and quality assurance program that adjustments are made to future management to better and more sustainably meet the organization's operational goals and objectives – this special effort at continuous improvement is referred to as “adaptive management.”

This ROWS principle relates to the “Monitor Treatment and Quality Assurance” requirement found in ANSI A300 part 7 and ISA IVM BMP.

CRITERION 10.1: Performance Indicators and Monitoring

Results of IVM work is monitored with reference to judging the degree to which vegetation management objectives are achieved.

Conformance requires passing Indicator 10.1.a:

Indicator 10.1.a: (REQUIRED) Elements that are monitored to assess the success of IVM plan implementation should include the following measures:

- a. Integrity (safe and reliable service) is considered as part of the management plan for vegetation management work;
- b. Composition and changes in the plant communities and wildlife habitat and in right-of-way condition;
- c. Environmental and social impacts of operations;
- d. Appropriate record-keeping regarding completion of vegetation management activities;
- e. Cost, productivity, effectiveness, and efficiency of vegetation management.

Evidence of Compliance (Verifiers) includes:

- Written policy and procedures for monitoring that include Performance Indicators*
- Data are available related to elements listed above (a-e)*
- Documentation that links monitoring data to management plan, goals and objectives*
- Sample vegetation management treatment closure documents for the past 5 years*

- *Monitoring that is well connected to management objectives (objectives are specific, measurable, accountable, relevant, and time-bound – all evaluated through monitoring)*
- *Documented results of monitoring in the form of Performance Indicators*

Indicator rating: Conformance is achieved when 3 or more Verifiers are compatible.

Market Claim: ROW Stewards monitor a comprehensive set of data to evaluate and improve planning and operations.

CRITERION 10.2: Revision and Refinement of Management Plans and Operations

Results from monitoring IVM work should be incorporated into any assessment of the need for, and subsequent implementation of necessary revisions and refinement of the Strategic IVM Program, revision to Annual Vegetation Maintenance Plans, and adjustments to IVM operations in the field.

Conformance requires passing Indicator 10.2.a:

Indicator 10.2.a: (REQUIRED) Management plans are periodically revised and management activities adjusted based on monitoring and documenting deviations from the management plan, effects of vegetation maintenance activities and other site disturbances, and their social and environmental effects.

Evidence of Compliance (Verifiers) includes:

- *Written policy and procedures for continuous improvement*
- *Documented changes in management planning based on results from monitoring*
- *New or revised post-treatment protocols and policies based on evaluation of results.*
- *Revisions to Strategic IVM Program Annual Vegetation Maintenance Plan.*

Indicator Rating: Conformance is achieved when two or more Verifiers are compatible.

Market Claim: ROW Stewards improve management planning and operations based on results from monitoring.