



MID-AMERICA GSI CERTIFICATION PROGRAM: MAINTENANCE PROGRAM PLAN

MARC

MID-AMERICA REGIONAL COUNCIL





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Acronym/Abbreviation	Definition
Certification Program	The establishment of a regional Governing Board, who establishes program standards, provides oversight, and decision making for the Program.
GSI	Green Stormwater Infrastructure
GSI Professional	A person that installs and/or maintains green infrastructure as part of construction projects and in retrofit projects to reduce stormwater runoff.
JTA	Job Task Analysis, a comprehensive study to validate the knowledge, skills, and abilities required by professionals performing in the job role.
MARC	Mid-America Regional Council





SECTION 1



Introduction

ABOUT THIS PROGRAM PLAN

The Program Plan describes how the Mid-America GSI Maintenance Certification Program for Maintenance and curriculum was designed, will be delivered, and maintained.





SECTION 2



Administration

PROGRAM ORGANIZATIONAL STRUCTURE

The diagram (Figure 1.) shows the general organizational structure.

Governing Board: Key stakeholders to include at a minimum, MARC, subject matter experts, and representatives from participating jurisdictions in the Kansas City Metro Area. This group convenes a minimum of once per year to provide oversight on decision making, curriculum development, and program administration.

MARC: Administrators of the training program using their online Academy for Sustainable Communities. Maintains records and provides validation for certified individuals who have completed the training program.

Certification Holders/ GSI Professionals: Participants who have successfully completed the training program and achieved certification.

PROGRAM UPDATES AND REVISIONS

The Governing Board is responsible for guiding the educational and experience standards for the certification program. Program updates and revisions will be made based on recommendations from the Governing Board and to be completed by subject matter experts contracted by MARC.



Governing Board

MARC, subject matter experts, and representatives from participating jurisdictions provide oversight on decision making.

MARC

Administrators of the training program and record keepers for certified individuals.

Certification Holders/ GSI Professionals

Participants in the certification program.

Figure 1. Organization Chart



SECTION 3



Program Design

TARGET AUDIENCE

The Certification Program was designed for GSI maintenance professionals, defined as a person or company that maintains green stormwater infrastructure as part of construction projects and in retrofit projects to reduce stormwater runoff.

PURPOSE

In 2020, MARC received a grant to explore development of a Green Infrastructure Training Center to educate Kansas City metro residents and local contractors on GSI installation and maintenance practices. Along with various partners and stakeholders, MARC developed a “State of the Green Infrastructure Practice in Metro Kansas City” Report, which identified GSI Contractor training as a need in the area. The “State of the Green Infrastructure Practice in Metro Kansas City” Report stated, “local contractors will require a deeper, more technical knowledge base to meet municipal standards and pass inspections.”

Green infrastructure is still a relatively new technology that requires nuanced knowledge that may not be developed through standard landscaping experience. The purpose of this Certification is to 1) verify the skills and knowledge of GSI maintenance professionals that will be hired to maintain public facilities, and

2) increase the long-term success of stormwater management in the Kansas City Metro Area. Certification requirements vary by jurisdiction in the Kansas City Metro Area.

The benefits of becoming Mid-America GSI Maintenance certified include:

- Expansion of skills and knowledge for maintaining GSI facilities;
- Proof of commitment to supporting the updated performance standards of GSI; and
- Meet requirements (ordinances) set by jurisdiction or private contracts looking to hire skilled GSI workers.

SCOPE

It is understood that the full lifecycle of GSI is critical, including planning, design, construction, inspection, maintenance, and community outreach. While training can be conducted and may be needed at each stage, the scope of this certification program is focused on preparing maintenance professionals to meet the updated maintenance standards for the Kansas City Metro Area as determined by MARC. Presented below is an outline of the training curriculum comprised of five training modules.

Module 1: Introduction & Overview

- 1.1. How to navigate training modules
- 1.2. Overall Goals/Learning Outcomes
- 1.3. How you will be evaluated
- 1.4. Terminology
- 1.5. Introduction and Importance of Stormwater Management

Module 2: Introduction to Green Stormwater Infrastructure (GSI)

- 2.1. Types of GSI
- 2.2. How GSI Functions
- 2.3. GSI Components
- 2.4. Introduction to Planting Plans
- 2.5. For more information check out Interpreting Site/Planting Plans (Module 5)

Module 3: GSI Inspection and Maintenance Tasks

- 3.1. Importance of Maintenance
- 3.2. GSI Inspection
- 3.3. Maintenance Tasks
- 3.4. Maintenance Tools
- 3.5. Scenario Based Activity

Module 4: Weed Identification & Removal

- 4.1. Methods for Weed Removal
- 4.2. Invasive & Undesirable Plant ID

Module 5: Interpreting GSI Planting Plans & Plant ID

- 5.1. Interpreting Planting Plans
- 5.2. Beneficial Plant ID

LEARNING OBJECTIVES

The learning objectives for the certification program are categorized into five (5) subject areas related to the maintenance of green stormwater infrastructure. Each of the skills and knowledge objectives was designed to meet the purpose of the certification program and decided by the Governing Board.

Module 1: Introduction & Overview

- 1.1. Understand the importance of stormwater management and associated regulations.
- 1.2. Identify the impacts of stormwater runoff.
- 1.3. Understand the purpose and benefits of GSI facilities.

Module 2: Introduction to Green Stormwater Infrastructure (GSI)

- 2.1. Identify types and components of GSI facilities.
- 2.2. Understand the purpose and function of GSI facility components.
- 2.3. Understand the purpose of a GSI facility Planting Plan

Module 3: GSI Inspection and Maintenance Tasks

- 3.1. Understand the need for regular, effective GSI maintenance.
- 3.2. Understand the inspection index for litter, appearance, and function.
- 3.3. Identify levels of service and typical frequency of GSI maintenance tasks.
- 3.4. Understand how to perform typical maintenance tasks.

Module 4: Weed Identification & Removal

- 4.1. Identify common invasive and undesirable weeds.
- 4.2. Understand the typical methods and timing for weed removal.

Module 5: Interpreting GSI Planting Plans & Plant ID

- 5.1. Identify common plants used in landscaping GSI facilities.
- 5.2. Understand how to interpret a GSI facility Planting Plan.



SECTION 4



Taking the Training Course

ENROLLMENT

Enrollment in the program will be advertised quarterly. Registration will remain open until filled.

The eligibility requirements for participants to enroll in the certification program include:

- Nomination from a participating MARC jurisdiction.
- Private contractors must pay a [registration fee](#) to participate in the online training program via MARC's Academy for Sustainable Communities training program.

COURSE AVAILABILITY

The training program is available on-demand, online through MARC's Academy for Sustainable Communities. The training course will be available in Spanish in the future.

HOW PARTICIPANTS ARE EVALUATED

Quiz questions and interactive activities are included throughout the training course to evaluate participants' achievement of the learning objectives. Participants must answer the questions and complete activities correctly to proceed onto the next section of the training.

The purpose of the evaluation format is to confirm that candidates for

certification have demonstrated they have the required knowledge and skill to maintain GSI. The questions and interactive activities were developed to meet established standards of validity, reliability, and fairness. The basis of the certification program is the Job Task Analysis (JTA). A JTA is a comprehensive study to validate the knowledge, skills, and abilities required by professionals performing in the job role.

The result of the JTA is the Evaluation Blueprint. The Governing Board will conduct a JTA every five (5) years to ensure the question bank and interactive activities are relevant and current.

The certification program maintains a bank of questions, or items, written and reviewed by subject matter experts in GSI. Items are reviewed occasionally and replaced as necessary to ensure they are relevant and current. While specific items may change over time, the content and weighting as described in the evaluation blueprint remain the same, unless changed as a result of a revised JTA.

EVALUATION BLUEPRINT

Evaluation is integrated into the training modules with quiz questions and interactive activities to confirm that candidates for certification





have demonstrated they have the required knowledge and skill to maintain GSI. Content is delivered in English and will be translated into Spanish within 3 years of program launch. The quiz questions and interactive activities are administered through MARC’s computer-based learning system. The evaluation blueprint identifies the format and content of evaluation, using the learning objectives and the instructional content as a guide.

Presented below are the weightings for the various learning objectives (Section 3).

Module 1: Introduction & Overview	
Understand the importance of stormwater management and associated regulations.	4%
Identify the impacts of stormwater runoff.	4%
Understand the purpose and benefits of GSI facilities.	2%

Module 2: Introduction to GSI	
Identify types and components of GSI facilities.	16%
Understand the purpose and function of GSI facility components.	3%
Understand the purpose of a GSI facility Planting Plan	5%

Module 3: GSI Inspection & Maintenance Tasks	
Understand the need for regular, effective GSI maintenance.	4%
Understand the inspection index for litter, appearance, and function.	4%
Identify levels of service and typical frequency of GSI maintenance tasks.	2%
Understand how to perform typical maintenance tasks.	20%

Module 4: Weed Identification & Removal	
Identify common invasive and undesirable weeds.	15%
Understand the typical methods and timing for weed removal.	2%

Module 5: Interpreting GSI Planting Plans & Plant ID	
Identify common plants used in landscaping GSI facilities.	10%
Understand how to interpret a GSI facility Planting Plan.	5%





SECTION 5



Certification

RECORDS

MARC issues a non-transferable certificate to individuals found to meet all certification requirements. The certificate will include: the certified individual's name, title of certification, date of expiration, and issuing authority (MARC).

VERIFICATION

During registration, participants will provide their full name, contact info, current employer and a legal affidavit checkmark to verify their identity and employment. These fields will be required in the registration form.

Names of individuals who have earned the Mid-America GSI Maintenance certification are not considered confidential. MARC will publish the names of individuals who have completed the certification program in the certified individual's directory.

The directory will include the certified individual's name, current employer, effective date of certification, and date of certification expiration.

DISPUTES & APPEALS

Refer to the Disputes and Appeals section of MARC Training and Events Policies and Procedures for contact procedures and appeals process if a training participant is dissatisfied with any aspect of the certification course.



Participants will have the opportunity to opt out of being listed and also may opt out of including their current employer in the published directory.

Please refer to the Confidential information section of the MARC Training and Events Policies and Procedures for additional clarity on MARC data handling.



SECTION 6



Certification Maintenance

MAINTENANCE OF CERTIFICATION

MARC monitors ongoing compliance with the certification through mandatory recertification every three (3) years. The maintenance requirement is designed to push certified individuals to keep up with updates to industry knowledge and standards. Additionally, continuing education and training is recommended so that those within the fields of GSI maintenance may continue to reinforce and expand their knowledge and skill sets. Additional resources and continuing education opportunities are listed on the **Academy for Sustainable Communities: GSI (ASC-GSI)** website.

Certified individuals are expected to update directory contact details, including employment, to ensure an accurate listing of certified individuals in the directory.

REQUIREMENTS FOR CERTIFICATION MAINTENANCE

To maintain the Mid-America GSI Maintenance certification, all certified individuals are required to recertify every three (3) years by retaking the certification training.

To maintain certification and receive recertification notifications, individuals must maintain up-to-date contact information and notify MARC within three (3) months of their change of employment via the Directory. A voluntary annual survey will be sent to participants to request information related to the use of the certification.

The survey will track the participant's use of their certification, interest in re-certification, and additional training opportunities.

RE-CERTIFICATION TIMELINE

The three (3)-year certification cycle begins on the date MARC awards the credential, which may be up to two business days after course completion and expires after 3 years on the same day and month as awarded. Completion of recertification is required 5 business days prior to expiration to avoid a lapse of certification. All individuals seeking recertification must retake and complete the Mid-America GSI Maintenance certification training course on marc.org/GSI. A reminder will be sent to the email provided for training prior to certification expiration. Participants will update their email on file and employer listed in the Directory via the update request form available on the GSI training webpage.

CERTIFICATION EXPIRATION AND FAILURE TO MAINTAIN CERTIFICATION

If a candidate is found to not meet the recertification requirement, the individual will be notified by MARC. To maintain certification and receive recertification notifications, individuals must maintain up-to-date contact information and notify MARC within three (3) months of their change of employment via the Directory, after which the formerly certified individual's information will be removed from MARC's directory of certified GSI Maintenance professionals.



SECTION 7



Program Policies

CODE OF CONDUCT

By enrolling in the course, participants consent to following the MARC Training and Events Policies and Procedures code of conduct. To maintain the Mid-America GSI Maintenance certification participants must read, understand, and comply with the following Code of Conduct statements. Pledging to abide by these statements assures that certified individuals agree to uphold high standards of professionalism.

- Promote and encourage a high-quality level of work on all green infrastructure projects
- Accurately represent my qualifications and credentials
- Shall discontinue the use of all claims to certification upon suspension or withdrawal of certification
- Refrain from using the certificate in a misleading manner

NONDISCRIMINATION

The Mid-America Regional Council prohibits discrimination and harassment of any type without regard to race, color, religion, age, sex, national origin, disability status, genetics, protected veteran status, sexual orientation, gender identity or expression, or any other characteristic protected by federal, state or local laws.

The Mid-America Regional Council assures that no person is excluded from participation in, is denied the benefit of, or is subjected to discrimination in our programs and activities based on race, color, or national origin. Every effort will be made to ensure nondiscrimination in all of MARC's programs and activities, whether those programs and activities are federally funded or not.

CONFIDENTIAL INFORMATION AND SECURITY

MARC will not engage in unauthorized disclosure or use of any personal or other confidential information provided to MARC upon enrollment in the certification program. However, upon successful completion of the certification program, participants agree to permit MARC to publicly list their name, current employer, and date of certification expiration in the directory of certified individuals.

Read more about how MARC handles confidential information at: <https://www.marc.org/training-and-events-policies-and-procedures>