Native Vegetation

Application

- Vegetative Swale
- Vegetative Detention Basin
- Bioinfiltration
- Flow-Through Planters

Advantages

- Provides habitat and food for wildlife
- Promotes infiltration
- Prevents erosion
- Reduces regular maintenance

Limitations

- Requires specialized maintenance
- May appear messy or unkempt

DESCRIPTION

Native vegetation consists of plants that are naturally occurring in the area. The use of native vegetation in the Green Infrastructure Guidelines primarily relates to its benefits with stormwater. Native plants have deep root systems which help break up clay and compacted soils to promote infiltration and prevent erosion. Native plants additionally assist in storing runoff water, reducing flooding and filtering pollutants. Beyond stormwater benefits, native plants are highly adapted to the local climate and provide habitat and food for local wildlife.

CONDITIONS WHERE PRACTICE APPLIES

Application

Native Vegetation for the Green Infrastructure Guidelines applies to the following:

- Vegetative Swale
- Vegetative Detention Basin
- Bioinfiltration
- Flow-Through Planters

Site Constraints

- Review underlying soil conditions for potential contamination, infiltration rates and seasonal groundwater elevations.
- For areas that may be mowed, slopes should not exceed 3:1. Do not exceed 2:1 slopes without erosion control stabilization measures.
- Avoid native plants that exceed 4-foot height in urban areas and where visibility is needed.
- Utilize salt-tolerant species along roadways which use salt or other de-icing agents for winter storms.
- Hydrology of the stormwater system will dictate plant species in each area depending on their inundation period. The table below provides quick reference for different plant types to consider for different areas of the project (mesic, wet and emergent). Confirm anticipated hydrology with design engineer.

Hydrology Considerations

	Mesic	Wet	Emergent
Water Ponding Time (max)	1-hour	24-hour	N/A
Water Ponding Depth (max)	2-inch	6-inch	12-inch

SIZING AND DESIGN CONSIDERATIONS

Recommended native plant lists have been developed for each of the 3 different hydrology types (mesic, wet and emergent). Most stormwater green infrastructure strategies will include both mesic and wet plantings and the vegetative detention basin may include the opportunity for emergent native plants. Final landscape designs and species selection should be based on site-specific considerations and limitations and designed by a licensed landscape architect or ecologist.

Applications

	Mesic	Wet	Emergent
Vegetative Swale	X	X	
Vegetative Detention Basin	X	X	X
Bioinfiltration	X	X	
Flow-Through Planters	X	X	

Species Selection

- Recommended plant lists provide an overview of readily available commercial plant species for each condition and is not an extensive list of all native plants.
- Promote a diversity of species throughout the project area.
- Consider seasonal interest (spring flowers, fall color, etc.) in selecting species.
- Utilize salt-tolerant species along roadways which use salt or other de-icing agents for winter storms.
- Avoid plants that exceed 4-foot height in urban areas and where visibility is needed.
- Consider deer resistant plants in high-traffic areas to prevent potential collisions.

Seeding

- INDOT Standard Specifications do not include a standard seed mix for native vegetation. If native vegetation is not utilized for a stormwater BMP, INDOT Seed Mixture D should be used as it tolerates wet soils.
- Standard native vegetation seed mixes are available through local nurseries such as Cardno and Spence Nursery. Custom mixes can also be developed based on site conditions and desired heights and aesthetics.
- Install native seed between fall (September 1) to late spring (June 15). Avoid mid-summer planting due to potential droughts. Dormant seeding in the winter may be advantageous for large, wet sites and equipment access.
- Develop appropriate erosion control measures for the project with the project engineer and landscape architect. A temporary cover crop of an annual plant (Annual Rye, Common Oat, etc.) should be included in all seed mixes.
- Seeding is typically applied through either broadcasting or no-till drill. Review the best approach for your site with the landscape architect and contractor.

Live Plants

- Live plants include plug, container stock and bare root herbaceous plants. These are best planted during the growing season between May 1 through October 15, with spring being the ideal time to develop root systems.
- Refer to "American Standards for Nursery Stock (ANSI Z60.1)" for sizing plant materials.

INSPECTION AND MAINTENANCE

Routine Maintenance

Routine maintenance activities in native vegetation should include:

- During the first growing season, apply approximately one inch of water per week during drought periods. Watering may increase weed presence and require additional attention.
- Overseed bare spots where germination has not occurred.
- Monitor areas monthly for invasive species during the first two growing seasons. A professional ecologist may be needed to help identify present species.
- Selective use herbicides should only be applied by certified and trained herbicide applicators. The herbicide applicator shall provide qualifications to ensure chemical selection, rates, and application methods are legal and appropriate.
- Native seeding areas should be mowed between 8 and 10 inches high (1-3 times) during the first growing season. Mowing will help suppress non-native annual plants and undesirable woody species. Mowings may be limited to once or twice a year in subsequent years.
- Remove trash and debris as needed.