



State of New Jersey
Department of Environmental Protection
Division of Land Use Regulation
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NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

MITIGATION PROJECT MONITORING REPORTS

CHECKLIST FOR COMPLETENESS

10-6-08

All mitigation sites must be monitored starting the first full growing season after the construction/planting of the mitigation project is completed. Depending on the type of wetlands being created, restored and/or enhanced, the mitigation project must be monitored for three to five **full** growing seasons. Monitoring information must be collected twice a year in the early spring and the fall. Below are the submission requirements for a complete monitoring report. Please read each section and place a check in the box adjacent to each requirement once completed.. Please submit three copies of the monitoring report and a cd containing the report. All monitoring reports are due to the Department no later then December 31.

Section A: All monitoring reports must include three copies of the following information

- 1. A USGS quad map, and a county road map showing the location of the mitigation site, including the lot and block of the mitigation site. Furthermore provide a copy of an aerial photograph of the mitigation site. This information must clearly indicate the point(s) of access to the mitigation site.
- 2. A copy of the permit that required the mitigation.
- 3. A brief description of the mitigation project.
- 4. Photographs of the mitigation site with a location map indicating where they were taken on the site.
- 5. A grid-sampling pattern must be set-up across the site. There should be sufficient samples taken to accurately assess the vegetation, hydrology and soil conditions across the entire mitigation site. The location of where the samples were collected must be provided in order for the Department to confirm the consultant's findings.

- 6. Data sheets from sampling points, which describe the vegetation present, the percent coverage of the vegetation, soil borings and location of the water table.

Section B: In addition to the information required in Section A above, all first full growing season monitoring reports must include the following information

- 1. A completed WETLAND MITIGATION PROJECT COMPLETION OF CONSTRUCTION FORM which certifies that the mitigation project has been constructed as designed and that the proposed area of wetland creation, restoration or enhancement has been accomplished.
- 2. As built plans which depict final grade elevations at one foot contours. Submit a table listing the vegetative species and quantities of each that were planted including any grasses that may have been used for soil stabilization purposes. Any deviations from the approved mitigation plans must be highlighted and explained to the Program for review and approval.
- 3. Show on the as-built plans that the boundaries of the wetland mitigation area has been visibly marked with 3 inch white PVC pipe extending 4 feet above the ground surface. The stakes must remain on the site for the entire monitoring period.
- 4. Photos of the constructed wetland mitigation project with a photo location map as well as the GPS waypoints in NJ state plane coordinates NAD 1983.
- 5. Document that the required amount of soil has been placed/replaced over the entire area of the mitigation site, provide a minimum of 6 soil profile descriptions to a depth of 20 inches. The location of each soil profile description should be depicted on the as built plan as well as provide the GPS waypoints in NJ state plane coordinates NAD 1983.
- 6. Submit soil test results demonstrating at least 8% organic carbon content (by weight) was incorporated into the A-horizon for sandy soil and for all other soil types 12% organic content or if manmade top soil was used it consisted of equal volumes of organic and mineral materials.
- 7. Document that the mitigation area has been posted with several permanent signs, which identify the site as a wetland mitigation project and that mowing, cutting, dumping and draining of the property is prohibited. The sign must also state the name of the permittee, DLUR permit number along with a contact name and phone number.

Section C: In addition to the information required in Section A above, all monitoring reports except the final report must include the following information

- 1. Assessments of the planted vegetation as well as the species that are naturally colonizing the site. This assessment shall include the location and percent coverage of each species. The data should document that the site is progressing towards 85 percent survival and 85 percent area coverage of mitigation plantings or target hydrophytes (target hydrophytes are non-invasive native species to the area and similar to ones identified on the mitigation planting plan). If the proposed plant community is a scrub/shrub or a forested wetland the permittee must also demonstrate each year with data that the woody species are thriving, increasing in stem density and height each year. If the field data shows that the mitigation project is failing to meet the vegetation survival, coverage and health goals, the monitoring report should

contain a discussion of steps that will be taken to rectify the problem, including a schedule of implementation.

- ❑ 2. Documentation demonstrating that the hydrologic regime specified in the mitigation proposal, which proves the mitigation site is a wetland, is present. The documentation shall include, as appropriate, monitoring well data, stream gauge data, photographs and/or field observation notes collected throughout the monitoring period. If there are problems with the mitigation project and it is anticipated the proposed hydrologic regime will be or has not been met then recommendations on how to rectify the problem must be included in the report along with a time frame within which it will be completed.
- ❑ 3. Documentation on the development of hydric soils across the mitigation site. Include description of soil borings and location they were collected.
- ❑ 4. Documentation of any invasive or noxious species colonizing the site and how they are being eliminated. The permittee is required to eliminate either through hand-pulling, application of a pesticide or other Department approved method any occurrence of an invasive/noxious species on the mitigation site during the monitoring period.
- ❑ 5. Documentation, based on field data, that the goals of the wetland mitigation project (including the transition area) as stated in the approved wetland mitigation proposal will be satisfied. If the permittee is finding problems with the mitigation project and does not anticipate the site will be a full success then recommendations on how to rectify the problems must be included in the report along with a time frame in which they will be completed.
- ❑ 6. A narrative evaluating the success/failure of the site. If problems with the site are identified, the permittee is required to state actions that need to be taken which will permanently rectify the situation and a timeframe in which they will be completed.

Section D: In addition to the information required in Section A above, all final monitoring reports must include the following information:

- ❑ 1. Documentation that demonstrate that the goals of the wetland mitigation project including acreage and the required transition area, as stated in the approved wetland mitigation proposal and the permit, has been satisfied. The permittee must submit a field wetland delineation of the wetland mitigation project based on the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (1989) which shows the exact acreage of State open waters, emergent, scrub/shrub and/or forested wetlands in the mitigation area. Submit a plan showing the flagged wetland delineation referenced above for review and approval by the Program. The wetland line must include global positioning system data points.
- ❑ 2. Documentation that the site has an 85 percent survival and 85 percent area coverage of the mitigation plantings or target hydrophytes which are species native to the area and similar to ones identified on the mitigation planting plan. The permittee must also document that all plant species are healthy and thriving and if the proposed plant community contains trees demonstrate that the trees are at least five feet in height.
- ❑ 3. Documentation that the site is less than 10 percent occupied by invasive or noxious species such as but not limited to: *Acer platanoides* (Norway Maple), *Ailanthus altissima*,

(Tree of Heaven), *Allaria petiole* (Garlic mustard), *Ampelopsis brevipedunculata* (Porecelain berry), *Artemisia biennis* (Biennial wormwood) *Artemisia vulgaris* (Mugwort or Common wormwood), *Berberis thunbergii* (Japanese barberry), *Berberis vulgaris* (Common barberry), *Carex kobomugi* (Japanese sedge), *Celastrus orbiculatus* (Asian Bittersweet), *Centaurea biebersteiniior maculosa* (Spotted knapweed), *Cirsium arvense* (Canadian thistle), *Dipsacus fillonum* (Wild teasel), *Dipsacus laciniatus* (Cut-leaf teasel), *Elaeagnus angustifolia* (Russian olive), *Elaeagnus umbellata* (Autumn olive), *Euonymus alata* (Winged spindletree), *Lespedeza cuneata* (Chinese bush-clover), *Ligustrum obtusifolium* (Japanese privet), *Ligustrum vulgare* (Common privet), *Lonicera japonica* (Japanese honeysuckle), *Lonicera morrowii* (Morrow's bush honeysuckle), *Lonicera tartarica* (Tartarian honeysuckle), *Lythrum salicaria* (Purple loosestrife), *Melilotus officinalis* (Yellow sweetclover), *Microstegium vimineum* (Japanese stiltgrass), *Myriophyllum spicatum* (Eurasian water-milfoil), *Phalaris arundinacea* (Reed canary grass), *Phragmites australis* (Common reed grass), *Polygonum cuspidatum* (Japanese knotweed), *Polygonum perfoliatum* (Mile-a-minute), *Potamogeton crispus* (Curly leaf pondweed), *Pueraria montana* (Kudzu), *Ranunculus ficaria* (Lesser celandine), *Rhamnus cathartica* (Common buckthorn), *Robinia pseudoacacia* (Black locust), *Rosa multiflora* (Multiflora rose), *Rubus phoenicolasius* (Wineberry), *Typha latifloia* (Broad-leaved cattail), *Typha angustifolia* (Narrowed leaved cattail).

- ❑ 4. Documentation that the site contains hydric soils or there is evidence of reduction occurring in the soil.
- ❑ 5. Documentation that demonstrates that the proposed hydrologic regime as specified in the mitigation proposal, which proves the mitigation site is a wetland has been satisfied. The documentation shall include when appropriate monitoring well data, stream gauge data, photographs and field observation notes collected throughout the monitoring period.

Monitoring reports shall be submitted to:

New Jersey Department of Environmental Protection
Division of Land Use Regulation
P.O. Box 439
Trenton, New Jersey 08625-0439
Attn: Diane Dow